

Response to Submissions Report

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Abbreviation List*

Abbreviation	Description
AA	Appropriate Assessment
AAD	Acoustic Deterrent Device
AADT	Annual Average Daily Traffic
AAPs	Areas of Archaeological Potential
ABP	An Bord Pleanála
AC	Alternating current
ACA	Architectural Conservation Areas
ACP	An Coimisiún Pleanála
AD	Anno Domini
ADD	Acoustic Deterrent Device
ADCP	Acoustic Doppler Current Profiler
AEoI	Adverse Effect on Integrity
AEP	Annual Exceedance Probability
AEZ	Archaeological Exclusion Zone
AH	Archaeological Heritage
AHV	Anchor Handling Vessel
AIP	Aeronautical Information Publication
AIS	Automatic Identification System
ALAN	Artificial Light at Night
ALARP	As Low As Reasonably Practicable
ALM	Aerodrome Licensing Memorandum
ANSP	Air Navigation Service Provider
ANSI	American National Standards Institute
AON	Apparently Occupied Nest
AQG	Air Quality Guidance
AQS	Air Quality Standards
ARE	Accelerating Renewable Energy
ARPA	Automatic Radar Plotting Aid
ASAM	Aeronautical Services Advisory Memorandum
ASR	Air Sensitive Receptor
ATC	Air Traffic Control
ATCs	Automatic Traffic Counts
ATCSMAC	ATC Surveillance Minimum Altitude Chart
AtoN	Aids to Navigation
ATS	Air Traffic Service
AWB	Artificial Surface Waterbodies

Abbreviation	Description
AWQR	Annual Water Quality Rating
BAC	Biological Assessment Criteria
BAP	Biodiversity Action Plan
BC	Benthic Community
BCI	Bat Conservation Ireland
BCT	Bat Conservation Trust
BDMPS	Biologically Defined Minimum Population Scale
BMW	Biodegradable Municipal Waste
BoCCI	Birds of Conservation Concern in Ireland
BRE	Building Research Establishment Group
BS	British Standard
BSBI	Botanical Society of Britain and Ireland
BSI	British Standard Institute
BTO	British Trust for Ornithology
BWI	BirdWatch Ireland
CA	Conservation Area
CAFÉ	Cleaner Air for Europe
CAP	Climate Action Plan
CARO	Climate Action Regional Office
CBA	Cost Benefit Analysis
CBD	Convention on Biological Diversity
CBF	Community Benefit Fund
CBGM	Cement Bound Granular Mixture
CBRA	Cable burial risk assessment
CCAP	Climate Change Action Plan
CCTV	Close-circuit television
CCUS	Carbon capture, utilisation and storage
CD	Chart datum
C&D	Construction and Demolition
CE	Circular Ecology
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CEMP	Construction Environmental Management Plan
CEN	European Committee for Standardisation
CESSM	Civil Engineering Standard Method of Measurement
CFE	Controlled Flow Excavation
CFP	Common Fisheries Policy
CGR	Counterfactual Population Growth Rate
CGS	County Geological Sites
CH	Cultural heritage

Abbreviation	Description
CHVP	Cultural Heritage Viewpoints
CIE	Córas Iompair Éireann
CIEEM	Chartered Institute of Ecology and Environmental Management
ChfA	Chartered Institute for Archaeologists
CIL	Commissioners of Irish Lights
CIP	Copenhagen Infrastructure Partners P/S
CIRIA	Construction Industry Research and Information Association
CIV	Cable Installation Vessel
CLO	Community Liaison Officer
CLS	Community Liaison Strategy
CNL	Construction Noise Levels
CNOSSOS	Common Noise Assessment Methods in Europe
CNT	Construction Noise Threshold
CMS	The Convention on the Conservation of Migratory Species
CO	Conservation Objective
CO2eq	Carbon Dioxide Equivalent
COMAH	Control of Major Accident Hazards Involving Dangerous Substances
COP	Conference of Parties
CORINE	Co-ordinated Information on the Environment
CP	Cathodic Protection
CPA	Coastal Planning Authorities
CPS	Counterfactual Population Size
CPUE	Catch per unit Effort
CPT	Cone Penetration Test
CRM	Collision Risk Modelling
CRTN	Calculation of road traffic noise
CRU	Commission for Regulation of Utilities
cSAC	Candidate Special Area of Conservation
CSIP	Cable Specification and Installation Plan
CSM	Conceptual Site Model
CSMMP	Construction Stage Mobility Management Plan
cSPA	Candidate Special Protection Area
CSO	Central Statistics Office
CSTP	Celtic Sea Trout Project
CSZ	Core Sustainance Zone
CTMP	Construction Traffic Management Plan
CTV	Crew Transfer Vessel
CV	Coefficient of Variance
CWMP	Construction Waste Management Plan

Abbreviation	Description
DAFM	Department of Agriculture, Food and the Marine
DAHG	Department of Arts, Heritage and Gaeltacht
DAHGI	Department of Arts, Heritage, Gaeltacht and the Islands
DART	Dublin Area Rapid Transport
DAS	Digital Aerial Survey
DAU	Development Applications Unit
dB	Decibel
DBT	Dibutyltin
DC	Direct current
DCC	Dublin City Council
DCEE	Department of Climate, Energy and the Environment
DCDP	Dublin City Development Plan 2022-2028
DCENR	Department of Communications, Energy and Natural Resources
DCF	Data Collection Framework
DCHG	Department of Culture, Heritage and the Gaeltacht
DCIHR	Dublin City Industrial Heritage Record
DDD	Drive Drill Drive
DDV	Drop-down Video
DEB	Dynamic Energy Budget
DCEE	Department of Climate, Energy and the Environment
DECLG	Department of the Environment, Community and Local Government
DEFRA	Department of Environment, Food and Rural Affairs (UK)
DEHLG	Department of Environment, Heritage and Local Government
DF	Design Flexibility
DHLGH	The Department of Housing, Local Government and Heritage
DMAP	National Designated Maritime Area Plan
DMRB	Design Manual for Roads and Bridges
DMRB	Design Manual for Roads and Bridges
DME	Distance Measuring Equipment
DoD	Department of Defence
DoT	Department of Transport
DP	Dynamic Positioning
DREMP	Dublin Region Energy Master Plan
DS	Do Something
DSM	Digital Surface Model
DSO	Distribution System Operator
DTAG	Digital Acoustic Recording Tag
DTM	Digital Terrain Model
DTTAS	Department of Transport, Tourism and Sport

Abbreviation	Description
EAP	Environmental Action Programme
EC	European Commission
ECC	Export Cable Corridor
ECMG	East Coast Monitoring Group
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
ED	Electoral District
EEA	European Economic Area
EEC	European Economic Community
EEZ	Exclusive Economic Zone
EFLA	European Foundation of Landscape Architecture
EFT	Emission Factor Toolkit
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EIS	Environmental Impact Statement
EL	Exploration Licence
EMC	Electromagnetic Compatibility
EMF	Electromagnetic Field
EMP	Environmental Management Plan
EOD	Explosive Ordnance
EPA	Environmental Protection Agency
EQS	Environmental Quality Standard
ERBD	Eastern River Basin District
ERCoP	Emergency Response Cooperation Plan
ERM	East Regional Model
ERP	Economic Recovery Plan
ESAS	European Seabirds at Sea
ESB	Electricity Supply Board (Ireland's DSO)
ESBN	Electricity Supply Board Network
ETS	Emission Trading Scheme
EU	European Union
EUPHA	European Public Health Association
EVMP	Environmental Vessel Management Plan
EWIC	East West Interconnector
FCC	Fingal County Council
FCS	Favourable Conservation Status
FLiDAR	Floating Light Detecting and Ranging
FLO	Fisheries Liaison Officer
FLOWW	Fisheries Disruption Settlements and Community Funds

Abbreviation	Description
FMMS	Fisheries Management and Mitigation Strategy
FPV	Fall Pipe Vessels
FRA	Flood Risk Assessment
FRM	Flood Risk Management
FSA	Formal Safety Assessment
FTE	Full Time Equivalent
GAA	Gaelic Athletic Association
GACP	Galvanic Anode Cathodic Protection
GCA	Grid Connection Assessment
GDA	Greater Dublin Area
GDRCoP	Greater Dublin Regional Code of Practice
GSDSDS	Greater Dublin Strategic Drainage Study
GEP	Good Ecological Potential
GES	Good Ecological Status
GGBFS	Ground Granulated Blast-Furnace Slag
GGBS	Ground Granulated Blast-Furnace Slag
GHG	Greenhouse Gas
GI	Ground Investigation
GIS	Geographic Information System
GIS	Gas Insulated Switchgear
GLC	Ground Level Concentrations
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GNI	Gas Networks Ireland
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GSI	Geological Survey Ireland
GT	Gross Tonnage
GVA	Gross Value Added
GW	Gigawatt
GWB	Groundwater Bodies
GWP	Global Warming Potential
ha	Hectares
HA	Hydrometric Area
HAT	Highest Astronomical Tide
HCA	UK Homes and Communities Agency
HDD	Horizontal Directional Drilling
HDPE	High Density Polyethylene
HDV	Heavy Duty Vehicle
HEV	Historic Environment Viewer

Abbreviation	Description
HF	High Frequency
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment
HLC	Historic Landscape Character
HLV	Heavy Lift Vessel
HMWB	Highly Modified Water Bodies
HP	High Pressure Gas Pipeline
hPa	Hectopascals
HSA	Health and Safety Authority
HSE	Health Service Executive
HTV	Heavy Transport Vehicle
HV	High Voltage
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
HWM	High Water Mark
Hz	Hertz
IAA	Irish Aviation Authority
IAIA	International Association for Impact Assessment
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IAQM	Institute of Air Quality Management
IC	Impressed Current
ICAO	International Civil Aviation Organization
ICE	Inventory Of Carbon and Energy Database
ICES	International Council for the Exploration of the Sea
ICCP	Impressed Current Cathodic Protection
ICF	Irish Concrete Federation
ICOMOS	International Council of Monuments and Sites
IEL	Industrial Emissions Licence
IEMA	Institute Of Environmental Management and Assessment
IES	Institute Of Environmental Sciences
IFI	Inland Fisheries Ireland
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
IGI	Institute Of Geologists of Ireland
IAC	Inter Array Cable
IMO	International Maritime Organization
INDCs	Intended Nationally Determined Contributions
INNS	Invasive Non-Native Species
IOA	Institute of Acoustics

Abbreviation	Description
IOF	Important Ornithological Features
IOM	Isle of Man
IPC	Integrated Pollution Control
IPCC	Intergovernmental Panel on Climate Change
IPHI	Institute Of Public Health in Ireland
IPI	Irish Planning Institute
IRCG	Irish Coast Guard
ISMA	Irish Sea Marine Assessment
ISMP	Invasive Species Management Plan
ISO	International Organization for Standardization
ITM	Irish Transverse Mercator
I&OU	Infrastructure and Other Users
IWDG	Irish Whale and Dolphin Group
IWeBS	Irish Wetland Bird Survey
JCP	Joint Cetacean Protocol
JNCC	Joint Nature Conservation Committee
JTCs	Junction Turning Counts
JUV	Jack-up Vessels
KER	Key Ecological Receptors
kg	Kilogram
kHz	Kilohertz
KIS-ORCA	Offshore Renewable & Cable Awareness
km	Kilometre
kt	Kilotonnes
kV	Kilovolt
kJ	Kilojoules
KPI	Key Performance Indicator
kW	Kilowatt
kWhr	Kilowatt-hour
LAM	Local Area Model
LAP	Local Area Plan
LAT	Lowest Astronomical Tide
LCC	Louth County Council
LEBM	Low Energy Bound Mix
LED	Light Emitting Diode
LEVs	Low Emission Vehicles
LF	Low Frequency
LGV	Light Goods Vehicle
LP	Low Pressure Gas Pipeline

Abbreviation	Description
LNG	Liquified Natural Gas
LMP	Lighting and Marking Plan
LOA	Length Overall
LoD	Limits of Deviation
LoLo	Lift-on/Lift-off
LoW	List of Waste
LSE	Likely Significant Effect
LV	Low Voltage
LVIA	Landscape and Visual Impact Assessment
LWM	Low Water Mark
m	Metres
m3	Cubic Meter
MAC	Maritime Area Consent
MAP	Maritime Area Planning
MAP Act	Maritime Area Planning Act
MARA	Maritime Area Regulatory Authority
MarESA	Marine Evidence Based Sensitivity Assessment
MarLIN	The Marine Life Information Network
MASP	Metropolitan Area Strategic Plan
MBBS	Multibeam Backscatter
MBES	Multi-Beam Echo Sounder
mBGL	Metres Below Ground Level
Mbs	Marine Beach Sands
MCA	Multi-Criteria Analysis
MCIB	Marine Casualty Investigation Board
MDS	Maximum Design Scenario
MCC	Meath County Council
MERP	Marine Ecosystems Research Programme
MFE	Mass Flow Excavation
mg / m3	Milligrams Per Cubic Metre
MGN	Marine Guidance Note
MHWN	Mean High Water Neap (Tides)
MHWS	Mean High Water Spring (Tides)
MI	Marine Institute
MINNS	Marine Invasive Non-Native Species
MLWN	Mean Low Water Neap (Tides)
MLWS	Mean Low Water Spring (Tides)
MMF	Mean Maximum Foraging Range
MMMP	Marine Mammal Mitigation Protocol

Abbreviation	Description
MMO	Marine Management Organisation
MMO	Marine Mammal Observer
MNR	Mean Neap (Tide) Range
mOD	Metres Above Ordnance Datum Malin Head
MP	Medium Pressure Gas Pipeline
MPA	Marine Protected Areas
MPCP	Marine Pollution Contingency Procedure
MPDM	Maritime Planning and Development Management Act
MRF	Materials Recovery Facility
m/s	Meters per Second
MSA	Million Standard Axles
MSFD	Marine Strategy Framework Directive
MSL	Mean Sea Level
MSO	Marine Survey Office
MSR	Mean Spring (Tide) Range
MSW	Municipal Solid Waste
Mt	Megatonnes
MU	Celtic and Irish Seas Management Unit
MV	Medium Voltage
MVA	Megavolt-Ampere
MW	Megawatt
N ₂ O	Nitrous Oxide
NAF	National Adaptation Framework
NAF	Nocturnal Activity Factor
NAS	Noise Abatement System
NBAP	National Biodiversity Action Plan
NBDC	National Biodiversity Data Centre
NBHF	Narrow-Band High Frequency
NDB	Non-Directional Beacon
NDC	National Determined Contributions
NDP	National Development Plan
NECP	National Energy and Climate Plan
NEDS	National Energy Demand Strategy
NETN	National Electricity Transmission Network
NFGWS	National Federation of Group Water Schemes
NG4	Noise Guidance Note
NH ₃	Ammonia
NHA	Natural Heritage Area
NI	Northern Ireland

Abbreviation	Description
NIAH	National Inventory of Architectural Heritage
NIEA	Northern Ireland Environment Agency
NIS	Natura Impact Statement
NISA	North Irish Sea Array
nm	Nautical Mile
NM	Noise Measurement
NM	Noise Monitoring
NMI	National Museum of Ireland
NMPF	National Marine Planning Framework
NMS	National Monuments Service
NMVOC	Non-Methane Volatile Organic Compounds
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notice to Airmen
NPF	National Planning Framework
NPO	National Policy Objective
NPWS	National Parks and Wildlife Services
NRA	Navigational Risk Assessment
NRA	National Roads Authority
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Projects
NSLs	Noise Sensitive Locations
NSO	National Strategic Outcomes
NSR	Noise Sensitive Receptors
NSTA	North Sea Transition Authority
NTA	National Transport Authority
NtMs	Notice To Mariners
NUC	Not Under Command
NWIS	North West Irish Sea
NWIS cSPA	North West Irish Sea Candidate Special Protection Area
O ₃	Ozone
OD	Outside Diameter
Offshore EMP	Offshore Environmental Management Plan
OMF	Operation And Maintenance Facility
OPC	Ordinary Portland Cement
OPERA	Operational Programme for the Exchange of Weather Radar Information
OPW	Office of Public Works

Abbreviation	Description
ORE	Offshore Renewable Energy
ORED	Offshore Renewable Energy Development Plan
OREI	Offshore Renewable Energy Installations
ORESS	Offshore Renewable Energy Support Scheme
OS	Ordnance Survey
OSI	Ordnance Survey Ireland
OSP	Offshore Substation Platform
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic (The Oslo Paris Convention)
OSV	Offshore Supply Vessels
OUV	Outstanding Universal Value
OWEZ	Offshore Wind Farm Egmond Aan Zee
OWF	Offshore Wind Farm
O&M	Operation And Maintenance
Ovigerous	Carrying or Bearing Eggs
Pa	Pascal
PAH	Polycyclic Aromatic Hydrocarbons
PAM	Passive Acoustic Monitoring
Pb	Lead
PC	Process Contribution
PCBs	Polychlorinated Biphenyls
PCOD	Population Consequences of Disturbance
PEC	Predicted Environmental Concentration
PEIR	Preliminary Environmental Information Report
PEL	Probable Effects Level
PfG	Programme for Government
PIANC	World Association for Waterborne Transport Infrastructure
PLL	Potential Loss of Life
PLONOR	Pose Little or No Risk to Environment
PM	Particulate Matter
pNHA	Proposed Natural Heritage Area
PPV	Peak Particle Velocity
PLGR	Pre-Lay Grapnel Run
PRFs	Potential Roost Features
ProPG	Professional Practice Guidance on Planning and Noise
PSA	Particle Size Analysis
PSAC	Portmarnock Sub Aqua Club
PSO	Public Service Obligation
PSR	Primary Surveillance Radar

Abbreviation	Description
PSZ	Public Safety Zone
PTS	Permanent Threshold Shift
PV	Solar Photo Voltaic
PVA	Population Viability Analysis
PVC	Polyvinyl Chloride
PWMS	Precautionary Working Method Statement
QI	Qualifying Interest
QoS	Quality Of Service
RA	Residential Area
RAF	Royal Air Force (UK)
RAM	Restricted In Ability to Manoeuvre
RAMS	Risk Assessment and Method Statement
RBD	River Basin District
RBMP	River Basin Management Plan
rBWD	Revised Bathing Water Directive (Directive 2006/7/Ec)
Rck	Bedrock Outcrop or Subcrop
RED III	Renewable Energy Directive (Eu) 2023/2413
REI	Renewable Energy Infrastructure
RES-E	Electricity Generated from Renewable Energy Sources
RESS	Renewable Electricity Support Scheme
RFC	Royal Flying Corps (UK)
RFI	Request For Further Information
RLB	Red Line Boundary
RIAA	Report to Inform Screening for Appropriate Assessment
RLoS	Radar Line of Sight
RNAS	Royal Navy Air Service (UK)
RNLI	Royal National Lifeboat Institution (UK)
RMP	Record Of Monuments and Places
RoRo	Roll-on/Roll-off
ROV	Remotely Operated Vehicles
RPA	Root Protection Area
RPO	Regional Policy Objectives
RPS	Record of Protected Structures
RSA	Road Safety Authority
RSES	Regional Spatial and Economic Strategy
RSL	Relative Sea Level
RWMPO	Regional Waste Management Planning Offices
SAC	Special Area of Conservation
SAR	Search and Rescue

Abbreviation	Description
SBJ	Suction Bucket Jackets
SBP	Acoustic Sub-Bottom Profilers
SCADA	Supervisory Control and Data Acquisition
SCANS	Small Cetaceans in European Atlantic Waters and the North Sea
SC-DMAP	South Coast Designated Maritime Area Plan
SCI	Special Conservation Interest
sCRM	Stochastic Collision Risk Model
SD	Standard Deviation
SDG	Sustainable Development Goal
SDR	Standardised Death Rate
SDZ	Strategic Development Zone
SEA	Strategic Environmental Assessment
SEAI	Sustainable Energy Authority of Ireland
SEL	Sound Exposure Level
SELcum	Cumulative Sound Exposure Level
SFC	Sustainable Fisheries Community
SFPA	Sea Fisheries Protection Authority
SHD	Strategic Housing Development
SI	Statutory Instruments
SSS	Side Scan Sonar
SISAA	Supporting Information for Screening for Appropriate Assessment
SLoO	Single Line of Orientation
SLVIA	Seascape, Landscape and Visual Impact Assessment
SMP	Seabird Monitoring Programme
SMR	Sites And Monuments Record
SNCB	Statutory Nature Conservation Body
SNH	Scottish Natural Heritage
SO ₂	Sulphur Dioxide
SO _x	Sulphur Oxides
SOLAS	Safety Of Life at Sea
SOV	Service Operation Vessels
SPA	Special Protection Area
SPL	Sound Pressure Level
SPL _{peak}	Peak Sound Pressure Level
SPM	Suspended Particulate Matter
SPS	Subsea Protection Systems
SPZ	Source Protection Zone
SSC	Suspended Sediment Concentration
SSCV	Semi-Submersible Crane Vessel

Abbreviation	Description
SSR	Secondary Surveillance Radar
STECF	Scientific, Technical and Economic Committee for Fisheries
SUA	Special Use Airspace
SuDS	Sustainable Drainage Systems
SF6	Sulphur Hexafluoride
SVC	Static VAR compensator
SWO	Storm Water Overflow
TAC	Total Allowable Catch
TBT	Tributyltin
TCA	Townscape Character Assessment
TCSsS	Till Derived From Cambrian Sandstones and Shales
TdlMr	Tidal Marsh
TDP	Transmission Development Plan
TEL	Threshold Effect Level
TGr	Till Derived from Granites
THC	Total Hydrocarbon Concentration
TICCIH	The International Committee for the Conservation of the Industrial Heritage
TII	Transport Infrastructure Ireland
TJB	Transition Joint Bay
TLPSsS	Till Derived from Lower Palaeozoic Sandstones and Shales
TLs	Till Derived from Limestones
TMp	Till Derived from Metamorphic Rock
TOC	Total Organic Carbon
TP	Transition Piece
TPO	Tree Preservation Order
TQz	Till Derived from Quartzites
TSHD	Trailer Suction Hopper Dredger
TSS	Traffic Separation Scheme
TTS	Temporary Threshold Shift
UCC	University College Cork
UCI	Upper Confidence Interval
Uisce Éireann	Irish Water
UK	United Kingdom
UKEA	United Kingdom Environment Agency
UKHA	United Kingdom Highways Agency
UKHO	United Kingdom Hydrographic Office
UKFEN	United Kingdom Fisheries Economic Network
UKCS	United Kingdom Continental Shelf
UNCLOS	United Nations Convention on the Law of the Sea

Abbreviation	Description
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UPS	Uninterruptible Power Supply
UV	Ultraviolet
UWWT	Urban Waste-Water Treatment
UXO	Unexploded Ordinance
VDV	Vibration Dose Value
VER	Valuable Ecological Receptor
VFR	Visual Flight Rules
VHF	Very High Frequency
VOCs	Volatile Organic Compound
VMP	Vessel Management Plan
VMS	Vessel Monitoring System
VP	Viewpoint
VRDP	Visual Representation of Development Proposals
VSLs	Vibration Sensitive Locations
WADT	Weekly Average Daily Traffic
WCP	Waste collection permit
WEEE	Waste Electrical and Electronic Equipment
WEI	Wind Energy Ireland
WFD	Water Framework Directive
WHO	World Health Organization
WHS	World Heritage Site
WSN	Water Supply Network
WTG	Wind Turbine Generator
WWTS	Wastewater Treatment System
ZAP	Zone of Archaeological Potential
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

*Abbreviations from the Addendum to the Environmental Impact Assessment Report and Addendum to the Natura Impact Statement.

1. Introduction

1.1 Introduction

The North Irish Sea Array (NISA) Offshore Windfarm (hereafter referred to as the proposed development) is an offshore wind farm located off the coast of Counties Dublin, Meath and Louth.

The proposed development will include offshore infrastructure (wind turbine generators (also referred to as WTGs or turbines) and their foundations, an offshore substation platform with foundation and subsea cabling) in the Irish Sea off the coast of Counties Dublin, Meath and Louth. The proposed development will also include onshore infrastructure (transition joint bays, onshore cables, a grid facility and connection to the national electricity transmission network) in County Dublin (Fingal County Council and Dublin City Council administrative areas).

The proposed development was submitted for approval to An Bord Pleanála on 7th June 2024 under Section 291 of the Planning and Development Act 2000, as amended (the “Planning Acts”) (Planning ref: 319866-24). The application was accompanied by an Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS).

For clarity since June 2025, An Bord Pleanála has become ‘An Coimisiún Pleanála’ following the Commencement Order for Part 17 of the Planning and Development Act 2024. Therefore, references herein to activities and correspondence prior to June 2025 will continue to reference An Bord Pleanála. Any correspondence or reference to An Bord Pleanála post June 2025 shall hereafter be referred to as ‘An Coimisiún Pleanála’.

The application and accompanying documents and drawings were made available for inspection and published in accordance with Section 291 of the Planning Acts for a period of eight weeks commencing 14th June 2024. Members of public and prescribed bodies were invited to make submissions and observations to An Bord Pleanála by 9th August 2024.

The submissions and observations received by An Bord Pleanála from members of the public and prescribed bodies, and the reports received from the coastal planning authorities and transboundary consultees were furnished by An Bord Pleanála to the North Irish Sea Array Windfarm Limited (hereafter referred to as the ‘Developer’).

By letter dated 10th April 2025, An Bord Pleanála invited the Developer, pursuant to Section 292(1)(c) of the Planning Acts to respond to the issues raised in the submissions and observations received by An Coimisiún Pleanála as part of the statutory consultation process. An Bord Pleanála’s letter stipulated that the response to submissions/observations should be received by An Bord Pleanála no later than 19th January 2026.

In its letter of 10th April 2025, An Bord Pleanála also sought further information (hereafter referred to as the Request for Further Information or RFI) from the Developer on a number of aspects of the proposed development. A response to the Request for Further Information Report has been separately prepared and is submitted in parallel with this document.

On 6th October 2025, the Developer issued a letter to An Coimisiún Pleanála seeking an extension to the timeline for submission of the requested information due to the extensive nature of the survey work and information requested by An Bord Pleanála. The Developer was subsequently, in correspondence dated 16th October 2025, granted an extension by An Coimisiún Pleanála to submit all information by 14th August 2026.

This report presents the response of the Developer to the submissions and observations made.

1.2 Overview of the proposed development

The offshore infrastructure located within the offshore development area (the area within the proposed development boundary seaward of the High-Water Mark (HWM)) includes:

- Offshore wind turbine generators (WTGs) and their foundations located within the array area;
- Inter-array cables, which transmit the electricity produced by the WTGs and connect the WTGs to the Offshore Substation Platform (OSP);
- An OSP and its foundations located within the array area; and
- Offshore export cable(s), located within the offshore cable export corridor (ECC) which will deliver the generated power from the OSP to shore.

Onshore infrastructure located within the onshore development area are listed below. This is where the offshore cables come ashore and change to onshore export cables, which eventually connect into the existing transmission network.

- Offshore export cable(s) to the landfall transition joint bays (TJBs);
- TJBs where the offshore and onshore export cables are joined;
- Onshore export cable(s) from the TJBs to the grid facility;
- A grid facility, comprising a compensation substation and a 220kV substation (Bremore Substation);
- Onshore cable(s) from the grid facility to the Belcamp substation; and
- A connection from the onshore cable(s) to the national electricity transmission network at Belcamp substation.

The proposed development includes two project options for consideration in the planning application. At detailed design post-consent stage, just one option will be chosen as the preferred option and subsequently constructed.

1.3 Structure of this report

This report is in seven (7) parts, as follows:

- Section 1: Introduction;
- Section 2: Overview of Submissions Received and Request for Further Information;
- Sections 3 – 5: Details of the issues raised and responses thereto;
- Section 6: A summary table outlining the issues and observations raised in the submissions made by members of the public and non-governmental organisations with references to the sections in the report where issues are addressed (prescribed body, coastal authorities and responses to transboundary consultees and other bodies are included as standalone sections in Section 4 and 5); and
- Section 7: Responses in respect of proposed conditions.

Appendices to support the information provided in this Response to Submissions Report are included in the appendix section at the end of this report.

2. Overview of Submissions Received and RFI

2.1 Overview of Submissions

A total of 59 submissions were received and accepted by An Bord Pleanála and subsequently provided to the Developer. The submissions have each been considered in detail and responses are provided in Sections 3 to 6 of this report. A list of these submissions is provided in Table 2.1.1.

Table 2.1.1 List of Submissions

No.	Name	No.	Name
01	Eugene McKeown	31	Bird Watch Ireland
02	Donal McCarthy	32	Wild Irish Defence CLG **
03	Brendan and Theresa Stack	33	Denis and Rachel O’Leary
04	Malahide Community Forum	34	Elin Payne
05	Brendan Fleming	35	Nephrops Fishermen and Producer Organisation**
06	Theresa Kerins	36	Sharon Burke
07	Balbriggan Sustainable Energy Community c/o Sarah Zimmerman	37	Orchid Homes Ltd and Geraldine Sweetman
08	Joe O’Brien TD	38	Niamh Colgan
09	Shamsa Doyle	39	Meath County Council*
10	John Smith and Bobby Jones	40	Fingal County Council*
11	Jennifer Mahon	41	Minister for Housing, Local Government and Heritage*
12	Jim and Phyllis McMahon	42	Maritime Area Regulatory Authority*
13	Donncha Gallagher	43	Development Applications Unit*
14	Brendan Regan	44	Irish Aviation Authority*
15	Elaine Whelan	45	Department of Transport – Irish Coast Guard*
16	Declan Halligan and Gerry Howley	46	Department of Transport*
17	Malachy Quinn	47	Foras na Mara Marine Institute*
18	Sustainable Windfarm Environmental Group**	48	National Parks and Wildlife Service*
19	Balbriggan Community Council	49	Commissioners of Irish Lights*
20	Irish Wildlife Trust**	50	An Taisce*
21	Gormanston Community Association CLG	51	Loughs Agency*
22	Golden Venture Fishing limited and Fanning Shellfish Limited	52	National Transport Authority*
23	Aoibhinn Tormey	53	Failte Ireland*
24	Blue Ireland Coalition CLG**	54	Department of Defence*
25	Peter and Anita Dice	55	Irish Whale and Dolphin Group (IWDG)**
26	Hampton Cove Resident’s Association	56	Louth County Council*
27	Corduff National School	57	Dublin City Council*
28	Patrick Keane	58	Transport Infrastructure Ireland**
29	David Healy	59	Isle of Man**

No.	Name	No.	Name
30	Bryn Edwards		

*Prescribed body and coastal authority.

**Transboundary consultees and other bodies.

The responses to submissions made by members of the public and non-governmental organisations are provided in Section 3, prescribed body and coastal authorities responses are included in Section 4 and responses to transboundary consultees and other bodies are included in Section 5 of this report. A summary table with the issues and observations raised by public and non-governmental organisations, and references to the sections in the report where issues are addressed, is provided in Section 6.

There is a high degree of overlap between many of the issues raised in the submissions/observations. As suggested by An Bord Pleanála in its letter of 10th April 2025, where the same issues are raised in a number of submissions, the Developer has provided a response on a thematic basis, in Section 3.

Of the submissions received from non-governmental organisations or bodies not included as Prescribed Bodies by An Bord Pleanála, a small number (i.e., Bird Watch Ireland, Irish Wildlife Trust and Transport Infrastructure Ireland) were lengthy and raised many issues. For that reason, these submissions are also addressed in full in Section 5.

Should An Coimisiún Pleanála be minded to grant approval for the proposed development, the coastal planning authorities and several prescribed bodies proposed, for An Coimisiún Pleanála's consideration, conditions to be attached to the approval. Section 7 of this report provides a full list of all recommended conditions to which the Developer has made a response.

2.2 Request for Further Information

As noted in Section 1.1 of this report, in the letter issued by An Bord Pleanála to the Developer on 10 April 2025, the Developer is required, under Section 291(1)(a) of the Planning Acts to provide the further information on specified matters within a period of 9 months. However, An Bord Pleanála acknowledged that, given the nature and extent of the information sought and in particular the time sensitive nature of any survey work that may arise in the marine environment, an extension of time may be required. As noted in Section 1.1 of this report, the Developer has been granted an extension by An Coimisiún Pleanála to submit all requested information no later than 14th August 2026.

The Developer has prepared a report which responds to the RFI alongside this Response to Submissions Report. Where observations raised in the submissions received (see Section 2.1) are also included in the RFI, we have addressed these issues in the Response to the Request for Further Information Report (to avoid undue repetition). In each such case, a reference is made herein to the relevant section of the Response to the Request for Further Information Report where the relevant information is provided.

In response to the RFI, the Developer has also prepared an Addendum to both the Environmental Impact Assessment Report and Natura Impact Statement which were submitted alongside the planning application on 7th June 2024.

This report should therefore be read in conjunction with the Response to the Request for Further Information Report and the Addendums to the Environmental Impact Assessment and Natura Impact Statement for a comprehensive response to all the submissions received by the Developer.

Note: Any cross reference to a chapter, section, table, image, figure or appendix within this Response to Submissions Report to the EIAR, is referring to the Addendum to the EIAR, unless explicitly stated otherwise. Any cross reference to anything included in the EIAR of 2024 will be labelled as such.

3. Themed Responses

3.1 Grid Facility

3.1.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the parties, shown in Table 3.1.1 in relation to the proposed grid facility at Bremore. A summary of the key points raised by these stakeholders is provided in Section 3.1.3. The response (Section 3.1.4) has been categorised into a number of sub-themes due to the varying points contained in the submissions.

Table 3.1.1 Submissions made in respect of the grid facility

No.	Name	No.	Name
07	Balbriggan Sustainable Energy Community	33	Denis and Rachel O’Leary
10	John Smith and Bobby Jones	37	Orchid Homes Ltd and Geraldine Sweetman (submitted by Downey Chartered Planners)
16	Declan Halligan and Gerry Howley	40	Fingal County Council*
25	Peter and Anita Dice	48	National Parks and Wildlife Service*

*In the case of Submissions No. 40 and 48, comments in relation to the grid facility are dealt with in Section 3.1.4 below where these observations are shared with the remaining submissions. Where either Fingal County Council or the National Parks and Wildlife Service raised unique observations relating to the grid facility, these are responded to individually in Sections 4.2 and 4.10 respectively.

It should be noted that a detailed description of the grid facility is provided in Section 7.4 of Chapter 7: Description of the Proposed Development – Onshore, of the 2024 EIAR. The proposed grid facility layout is shown in Image 7.3 of Section 7.4 and on Figure 7.2 of Volume 7 of the 2024 EIAR, with further detail (plans, layouts, elevations, sections etc) provided on the grid facility planning drawings. A grid facility landscape plan is also included in the planning drawings. Construction aspects are detailed in Chapter 9: Construction Strategy – Onshore, of the 2024 EIAR. The relevant planning drawings for the grid facility are as follows:

- 281240_ARP_ONS_GF_DR_BS_2000 and 281240_ARP_ONS_GF_DR_BS_2001
- 281240_ARP_ONS_GF_DR_CD_2000 and 281240_ARP_ONS_GF_DR_CD_1201
- 281240_ARP_ONS_GF_DR_PL_0001 - 281240_ARP_ONS_GF_DR_PL_0003
- 281240_ARP_ONS_GF_DR_PL_1000 - 281240_ARP_ONS_GF_DR_PL_1009
- 281240_MCR_ONS_GF_DR_YE_1010

Before responding to each of the sub-themes raised, it is helpful to recap on the need for the proposed grid facility and to outline the reasoning as to why the Bremore site was chosen as the preferred location for the proposed grid facility, as set out in Chapter 5: Consideration of Alternatives, of the 2024 EIAR and summarised in Section 3.1.2 below.

3.1.2 Need for the Grid Facility at Bremore

Section 5.7 of Chapter 5 of the 2024 EIAR provides details on the alternatives considered for the onshore infrastructure including the landfall site selection (Section 5.7.2) and grid facility site selection (Section 5.7.3).

As noted in Section 7.4.1 of Chapter 7 of the 2024 EIAR, the function of the grid facility “*will be to receive power delivered from the offshore substation platform via the offshore and onshore export cables and process it so that it is suitable for feeding into the electricity grid*”.

Section 5.7.3 of Chapter 5 of the 2024 EIAR provides details on why the Bremore site was chosen as the preferred location for the proposed grid facility and also notes that the fundamental design of the grid facility was specified by EirGrid as follows:

“It should be noted that once the preferred landfall location was identified by NISA and shared with EirGrid, the location and fundamental design of the grid facility were specified by EirGrid to the Developer and stipulated by the provisions of the GCA. EirGrid, in its role as Transmission System Operator (TSO), carried out studies of the transmission system to determine the most suitable location to connect renewable energy generation projects.

In this case, EirGrid determined that a location close to Bremore in north county Dublin is required for this purpose. The grid facility will comprise two substations the NISA 220kV Compensation Substation and the Bremore 220kV Substation.

EirGrid’s decision on the Bremore location was also driven by its requirement as the TSO to future proof the transmission network and to design the Bremore 220 kV Substation (part of the proposed grid facility) to accommodate potential future connections from other projects (e.g. other renewable energy generators, electricity demand customers or grid services infrastructure). As such, the proposed development was designed to comply with these requirements, and this is consistent with the approach taken in grid facility site selection”.

As noted in Section 7.7 of Chapter 7 of the 2024 EIAR, the Bremore substation (located within the grid facility) will be “under the ownership of ESB networks and operated by EirGrid, forming part of the Transmission System”.

Therefore, it was determined that a grid facility was required to be situated near the landfall site at Bremore to accommodate the integration of the offshore renewable energy generated by the proposed development and the National Electricity Transmission Network. The design of the grid facility has been specified by EirGrid.

Two potential grid facility sites at Bremore were initially considered as detailed in Section 5.7.3.1 of Chapter 5 of the 2024 EIAR. The preferred site, located to the west of the R132 was chosen as it was preferred from a land use zoning and landscape and visual perspective.

3.1.3 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the grid facility, which are dealt with as sub-themes below.

- Land use zoning and draft Flemington Local Area Plan¹ (LAP)
- Landscape and visual impact of the grid facility
- Design of the grid facility
- Noise impacts from the grid facility
- Biodiversity
- Population and human health
- Fire safety
- Surface water drainage

¹ The draft LAP was issued for consultation in September 2024 and was adopted by Fingal County Council in December 2024. The NISA planning application was lodged with An Bord Pleanála in June 2024.

3.1.4 Response to Key Points Raised

3.1.4.1 Land Use Zoning and draft Flemington LAP

The key points raised in relation to land use zoning and the Flemington LAP are summarised as follows:

- Submissions No. 16 and 33 question the suitability of a grid facility to be developed on lands zoned Rural (RU)
- Some of the submissions were made by parties who own lands to the immediate south of the proposed grid facility. These lands are included in the Flemington Local Area Plan (LAP), which was published as a draft for public consultation in September 2024 and adopted by Fingal County Council (FCC) in December 2024. These lands have been earmarked for residential development and are zoned Residential Area (RA) under the Fingal Development Plan 2023-2029. Submissions No. 10 and 37 recommend that further information is requested from the Developer to demonstrate consistency with the LAP lands and that potential impacts (such as visual, noise etc) from the grid facility development on the LAP lands should be considered

Response on zoning

As stated in Section 6.7.1.1 in the 2024 Planning Report which accompanied the planning application for the proposed development, the grid facility is zoned as Rural (RU) in the Fingal County Development Plan 2023-2029. The grid facility is defined as a “utility installation”. Section 6.7.1.1 of the 2024 Planning Report notes that ‘utility installations’ are listed as a permitted use within this zone. This is confirmed in the observations raised by FCC (Submission 40) as follows:

“The proposed grid facility is zoned 'RU' Rural in the Fingal Development Plan. The 'RU' zoning objective is to 'Protect and promote in a balanced way, the development of agriculture and rural related enterprise, biodiversity, the rural landscape, and the built and cultural heritage'. Utility installations are listed as permitted in principle under the 'RU' zoning. This is defined as "A structure composed of one or more pieces of equipment connected to or part of a structure and/ or a facility designed to provide a public utility service such as the provision of heat, electricity, telecommunications, water or sewage disposal and/or treatment".

In addition, Section 3 of the Fingal County Council submission (Submission 40) states that the “*proposed grid facility north of Balbriggan is located on lands zoned 'RU - Rural' where utility installations are permitted in principle. The proposal is therefore acceptable in this regard.*”

Therefore, the grid facility is considered suitable to be developed on lands zoned Rural (RU) and is in compliance with the objectives of the Fingal County Development Plan 2023-2029.

Response on Flemington LAP

The draft Flemington LAP was issued for consultation in September 2024 and was adopted by Fingal County Council in December 2024. The proposed development planning application was submitted in June 2024, before the statutory consultation for, and adoption of, the LAP.

As noted in Chapter 38: Cumulative and Inter-related Effects, of the 2024 EIAR, “*this EIAR has provided a description of the likely significant effects of the proposed development on the environment resulting from the cumulation of effects arising from “other existing and/or approved projects” as per the EIA Directive, taking into account any existing environmental issues relating to areas of particular environmental importance likely to be affected or the use of natural resources. The cumulative effects assessment (CEA) has specifically considered whether any of the identified projects in the local or wider area have the potential to exacerbate (i.e. alter the significance of) effects associated with the proposed development*”.

Section 38.2.1 of Chapter 38 of the 2024 EIAR notes “*This chapter considers only proposed developments, being the “permitted or planned projects” as noted in Section 3.7.3 of the EPA 2022 Guideline*”. Some projects which were not yet permitted were also included in the CEA and the reasons for including those are detailed in Section 38.2.1.2 of Chapter 38 of the 2024 EIAR. It is also important to note that when the planning application was submitted (June 2024), the draft LAP had not yet been issued for consultation.

Notwithstanding, the Request for Further Information (RFI) issued by An Bord Pleanála has requested that the developer “review the draft LAP (or adopted LAP, where updated at time of this observation) and update the submitted application documentation accordingly, having regard in particular to potential for visual impacts from the substation on the draft LAP lands, potential traffic implications given the proposed access to the LAP lands directly adjoins the proposed access to the substation, and potential noise implications from the substation on the adjoining residential zoned lands.”

With the further information now available from the adopted LAP, and in response to the RFI, updated application documentation including an updated assessment of the potential for visual impacts from the substation on the Flemington LAP (since it was adopted in December 2024) have been prepared and are included in the Response to the RFI document completed alongside this Response to Submission document.

No application for development has been submitted or approved by Fingal County Council to date within the LAP lands. With respect to any proposed future developments within the LAP area, the Developer is committed to ensuring that the proposed development is compatible with the land uses anticipated in the LAP.

The potential visual and noise impacts of the proposed development on the LAP lands are addressed in Sections 3.1.4.2 and 3.4.1.4, respectively, below and are detailed in the EIAR Addendum submitted with the Response to the RFI document. The potential visual and noise impacts of the proposed development on the LAP lands are addressed in Chapter 29 and Chapter 30 respectively of that EIAR.

The Developer also notes that the CEA has been revised in response to RFI Section 5 to incorporate the Nationally Strategic Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (NSIP, 2024). In line with the NSIP Guidance, Tier 3 Projects (the Tier 3 projects include those developments that have been identified in the relevant Development Plans and other plans and programmes as appropriate) have been included in the Onshore Long List (see Appendix A38.1). The Flemington LAP has been included as a Tier 3 project (Project ID #92) and has been assessed as part of the revised CEA.

Furthermore, additional information regarding potential impacts arising from the grid facility on the lands associated with the Flemington LAP is provided in Section 4.2 of this report, which deals with the Fingal County Council submission.

3.1.4.2 Landscape and Visual Impact of the grid facility

The key points raised in the submissions in relation to the landscape and visual impact of the grid facility (Submissions No. 10, 16, 25 and 37) are summarised as follows:

- *“The nature and scale of the grid facility is visually intrusive, will have an adverse effect on the character and integrity of the rural landscape.... This part of NISA’s infrastructure should be reconsidered and perhaps located in an already industrialised area.... there are no other buildings of this height in the area....”*
- *“The proposed substation building...17m will have a significantly negative effect on the future development of our clients’ lands and indeed, the wider LAP landbank, which our clients consider will severely impact their holdings from a visual and valuation perspective.”*
- *“The photomontages that accompany the application do not include any images from within the LAP lands themselves and as such there is no reasonable assessment of the visual impact that this compound will have on the deliverability of housing or indeed residential amenity of future residents of the Flemington lands”*

Response

The need for the grid facility at Bremore and the decision process which led to the selection of the proposed grid facility site are outlined in Section 3.1.2 herein.

It should be noted that several early-stage siting options for the grid facility were considered within the seaward sloping farmland to the east of the R132.

These lands are considered in the Fingal County Development Plan as ‘High Sensitivity’ landscape, zoned as ‘High Amenity’ and also in potentially direct view from a section of designated route along the R132 that looks over the coastal zone. Seascape, landscape and visual impact assessment concerns were therefore raised in relation to those siting options and the Developer agreed to pursue a siting option to the west of the R132, as currently proposed. Refer to Section 3.1.2 above in this report and also to Section 5.7.3.1 of Chapter 5: Consideration of Alternatives, of the 2024 EIAR.

The landscape and visual assessment is presented in Chapter 29: Seascape, Landscape and Visual. The landscape and visual impact assessment (LVIA) photomontages of the grid facility are presented in Volume 7B2 of the 2024 EIAR. Further information on the LVIA is provided in Appendix 29.1: Visual Impact Assessment at Representative Viewpoint Locations of the 2024 EIAR. The proposed landscaping of the lands surrounding the grid facility is presented in Drawing No: 281240_MCR_ONS_GF_DR_YE_1010. In response to the RFI, a higher standard of architectural finish on the substation buildings is now proposed (see further details below) and is included in the updated photomontages for the grid facility. These are presented in Volume 7C2 of the addendum EIAR.

Section 29.14 of Chapter 29 of the 2024 EIAR states that the “*grid facility is located within Fingal ‘Coastal’ unit Landscape Character Area (LCA). However, whilst this LCA stretches 3km inland, the Coastal ‘High Sensitivity’ landscape designation stops at the R132 coast road to the east of the grid facility. This marks the transition between sweeping coastal farmland and typical rural farmland and is considered to be an appropriate truncation for the High landscape sensitivity designation. Even to the east of the coast road, the landscape character is influenced by the north-western outskirts of Balbriggan and a recently completed sports ground with large clubhouse facility.*

On balance of the reasons outlined above, the sensitivity of the landscape to the west of this road is deemed to reduce to Medium-low. This also applies to the site of the grid facility itself, which is contained within farmed fields to the east of the R132 within the northern hinterland of Balbriggan.

Chapter 29 of the 2024 EIAR concludes that there are no residual visual impacts that are deemed to be significant in EIA terms.

With specific reference to the Flemington LAP lands and the potential landscape and visual effects from the proposed development, the Developer notes the concerns raised in submissions in this regard. The Flemington LAP has also been raised by An Bord Pleanála, in its Request for Further Information (RFI) and An Bord Pleanála has requested the applicant to “*review the draft LAP (or adopted LAP, where updated at time of this observation) and update the submitted application documentation accordingly, having regard in particular to potential for visual impacts from the substation on the draft LAP lands, potential traffic implications given the proposed access to the LAP lands directly adjoins the proposed access to the substation, and potential noise implications from the substation on the adjoining residential zoned lands*”.

In response to the RFI from An Bord Pleanála, and in full consideration of the submissions raised, some changes to the grid facility are now proposed. Additional noise mitigation is proposed for elements of equipment within the grid facility, as detailed below in Section 3.1.4.4.

For the section of boundary directly between the nearest grid facility substation and the Flemington LAP lands (the Bremore substation), large, semi-mature trees (30-40cm girth / 6-7m tall when planted) will also be introduced to fill gaps in the existing mature treeline to provide more substantial and consolidated screening. In addition, while cognisant of the functionality of the grid facility structures on site, and subject to final agreement with EirGrid and Fingal County Council, a higher standard of architectural finish is now incorporated into the external finishes proposed to the substation buildings (Planning Drawing ref. 281240-ARP-ONS-GF-DR-PL-1007 and 281240-ARP-ONS-GF-DR-PL-1007 included in the updated planning documentation). This blends more readily with the intervening vegetation in all seasons.

Updated application documentation including an updated assessment of the potential for visual impacts and impacts on residential amenity from the substation on the Flemington LAP (since it was adopted in December 2024) including these additional proposals have been prepared and are included in the Response to the RFI document completed alongside this Response to Submission document.

With the implementation of the additional mitigation measures described above, there are no significant operational phase effects predicted to arise from the proposed development on the Flemington LAP lands.

It is noted that there remains the potential for a significant construction phase noise impact due to the construction of the grid facility. However, the effect is temporary in nature and given there is no planning application submitted for the development of these lands, there remains the potential for this impact to be avoided entirely. It should be noted that as the LAP layout is still at early design stage and a planning application has yet to be lodged, future LAP design layouts can be cognisant of the grid facility layout in terms of the arrangement of open space and orientation of dwellings, thereby further reducing potential residual visual effects. The Developer is committed to ensuring that the proposed development is compatible with the land uses anticipated in the LAP.

Should residential housing within the Flemington LAP lands be developed as planned, visual impacts from the nearest of the substation structures will relate to partial views of the tall and bulky structure rising above the intervening treelined hedgerow. However, as noted in Chapter 29 of the EIAR that accompanies the Response to the RFI document, *“in relation to potential future views from the Flemington LAP lands, should they be developed as planned in the LAP layout, the newly introduced woodland thicket and semi-mature tree planting along the southern boundary of the Grid Facility site will serve as a more substantial visual screen and perceptual divide when viewed from the future LAP entrance avenue and the nearest dwellings to the Grid Facility. Residual visual effects will be reduced from Major to Major-moderate from the nearest portions of the LAP lands and reducing further with distance / screening by intervening buildings and vegetation, and also over time, as the proposed woodland thicket and semi-mature treeline continue to increase in volume and height. None of the residual visual impacts are deemed to be significant in EIA terms.”*

Updated photomontages of the grid facility have also been prepared and are presented in Volume 7C2 of the EIAR that accompanies the Response to the RFI document prepared in parallel with this Response to Submissions report.

The Developer also notes that the CEA has been revised in response to RFI Section 5 to incorporate the Nationally Strategic Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (NSIP, 2024). In line with the NSIP Guidance, Tier 3 Projects (the Tier 3 projects include those developments that have been identified in the relevant Development Plans and other plans and programmes as appropriate) have been included in the Onshore Long List (see Appendix A38.1). The Flemington LAP has been included as a Tier 3 project (Project ID #92) and has been assessed as part of the revised CEA.

Further information in relation to the viewpoint assessment for the grid facility is provided in Section 4.2 of this report in response to the FCC submission.

3.1.4.3 Design of the grid facility

Key points raised in the submissions in relation to the design of the grid facility are summarised as follows:

- Submission No. 25 is concerned about the height of the grid facility buildings and notes the height should be reduced or built into the ground. The submission notes further that *“the current proposal is 6 stories high and would dominate the surrounding area for miles. If that were built lower into the ground to have 3 stories below grade, for example, trees could be planted around the site to completely buffer the area from a then 3-story industrial eye sore and help retain the visual appeal of some of the nearby amenities of the Balbriggan community, an area Fingal County Council are spending a lot of money to improve”*
- Submission No. 16 states that *“It must also be questioned why two noisy diesel power generators are needed for the Grid Facility given the project is a sustainable “green” energy project.”*

Response on the height and positioning of the substations

The Compensation Substation Building and Bremore Substation Building are designed with a ground floor and first floor, as outlined in the planning drawings with a height of approximately 17m. The proposed grid facility is required to follow EirGrid Functional Specifications regarding the design of the buildings and equipment. The EirGrid Functional Specifications (Drawing No. OFD-SSS-503 of the planning drawings)

note that “*the dimensions of the overall building shall be designed to suit manufacture specific dimensions. Envelope around the switchgear shall be with manufacture recommendations for on-going operation, maintenance and replacement of HV plant.*”

The substation buildings incorporate foundations below ground level with the main structure/buildings above ground level, as illustrated on the planning drawing 281240-ARP-ONS-GF-DR-PL-1004. The EirGrid Functional Specifications require the substation buildings to be approximately 17m high given the equipment contained within. The Functional Specifications (EirGrid Drawing No. OFD-SSS-503) also outline the requirements for equipment to be installed up to 1m below surface level. As EirGrid is the national Transmission System Operator (TSO), it prescribes the building dimensions and layouts and imposes a strict requirement on Developers to adhere to its functional specifications and layouts. As such, there is very little room for change regarding these layouts or the ability to build significantly below ground level as proposed in Submission No. 25.

Response on requirement for noisy diesel-powered generators

As noted in Section 7.4.2 in Chapter 7 of the 2024 EIAR, “*for powering the auxiliary systems of the substation there are two alternative power supplies. There will be a 10kV or 20kV supply from the local distribution network to both substation compounds and standby diesel generators, that will be available for operation in the event the normal auxiliary supply is lost.*” The diesel generators will only be used in the case of an emergency or for brief durations for routine testing. Routine testing will be undertaken during daytime periods for approximately one hour, once a month.

In addition, the Developer notes that the diesel generators are now enclosed within weatherproof, acoustic enclosures (see below) which will further reduce potential noise impacts from the grid facility.

The assessment of noise and vibration from the grid facility is presented in Chapter 30: Noise and Vibration in the EIAR and is discussed further in Section 3.1.4.4 of this report below.

3.1.4.4 Noise impacts from the grid facility

The key points raised in Submissions No. 16, 33 and 37 in relation to noise are summarised as follows:

- Noise effects of the diesel generators from grid facility on surrounding area
- Potential noise impacts from the grid facility development on the LAP lands should be considered

Response on the noise effects from the diesel generators

The assessment of construction noise and vibration from the grid facility is presented in Chapter 30: Noise and Vibration of the 2024 EIAR. No significant residual noise and vibration effects are predicted at existing noise sensitive receptors during the construction phase of the proposed grid facility.

The assessment of operational noise from the grid facility is also presented in Chapter 30: Noise and Vibration in the 2024 EIAR. Noise sensitive receptors in proximity to the proposed grid facility are presented in Image 30.3 and Table 30.12 of Section 30.3.2 in Chapter 30 of the 2024 EIAR and reproduced in Image 3.1.1 of this report below.



Image 3.1.1 Noise sensitive receptors (NSRs) in proximity to grid facility and landfall site and the onshore development area shown in red, with approximate footprint of the grid facility shown in dark blue

As noted in Section 30.5.7.3 of Chapter 30 of the 2024 EIAR, “3D modelling of the noise has been undertaken in SoundPLAN (version 8.2), which uses the ISO 9613-2 Propagation Method for the propagation of outdoor noise.” The following operational scenarios modelled for the assessment of the grid facility include:

- Normal operation which does not include the diesel generator as it will not be used during normal operation;
- Emergency operation, which includes all noise sources from the ‘normal operation’ scenario as well as back-up emergency diesel generators that will be operational during a power failure to ensure the continued operation of the proposed development through power failures and the like; and
- Emergency generator testing, which will include all noise sources from the ‘normal operation’ scenario as well as the emergency back-up diesel generators but assessed against daytime noise limits.

In response to RFI Section 13 (e), the Developer has also provided an updated assessment of the diesel generators for new noise sensitive receptors associated with the Flemington LAP. As part of the assessment, acoustic enclosures have now been included around the diesel generators at the Bremore substation (the substation closest to future Flemington LAP receptors).

With this added mitigation, there are no significant residual operational phase effects from the diesel generators (arising from the operational scenarios identified above).

Response on the potential noise impacts to receptors in Flemington LAP

Issues raised with respect to the potential noise impacts of the proposed grid facility with respect to sensitive receptors within the Flemington LAP have been fully addressed in the Response to the Request for Further Information report, prepared alongside this Response to Submissions report.

The EIAR Addendum that accompanies that Response to RFI document, provides further information in Chapter 30 which includes the following additional mitigation measures to reduce potential noise impacts to receptors in Flemington LAP:

- *“A partial enclosure, 3 side-walls and roof with a minimum sound insulation performance of Rw30, is assumed on all shunt reactors and shunt reactor coolers. Alternatively lower-noise units with maximum sound power levels for shunt reactors of 78dBA alongside maximum sound power levels for shunt reactor coolers of 76dBA could also be used; and*
- *A 3-sided noise barrier has been included around the harmonic filter reactors to their south, east, and west sides. The barrier is solid and free from air gaps, and is modelled as 1 m above the top of the harmonic filter reactors; and*
- *A solid noise barrier with a minimum height of 1.8 m above the top of the generator at the Bremore substation (closest to the LAP) on the 2 exposed sides (i.e., blocking line of sight from the generator to the LAP receptors).”*

The revised assessment in Chapter 30 concludes that there are no residual operational phase noise impacts arising from the proposed development.

3.1.4.5 Biodiversity

The key points raised in the submissions in relation to biodiversity at the grid facility are summarised as follows:

- Submission No. 7 notes the potential impacts on hedgerows; *“Balbriggan has lost kilometres of native hedgerow...infrastructure should aim to incorporate existing hedgerows into planning designs and replanting must only use native species and plants grown in Ireland. We welcome the plan to retain and enhance existing hedgerow, woodland and meadows around the Grid Facility as set out in the landscape plan”*
- Submission No. 9 notes the *“upheaval to the...wildlife during the lengthy construction phase would be unacceptable.”*

It is noted that the National Parks and Wildlife Service made an observation in relation to the biodiversity enhancement planting throughout the proposed development. The response to this submission is provided separately in Section 4.10 of this report. Fingal County Council also stated that the Developer should *“provide details of proposed tree and hedgerow removal and compensatory planting in order to ensure that there is no net canopy (or biodiversity) loss as a result of the development.”* See Section 4.2.3.10 of this report for further information on potential impacts to hedgerows as a result of the proposed development.

Response on Impacts on hedgerows

The assessment of the proposed development on biodiversity (onshore – or landward of the high-water mark) is presented in Chapter 23: Biodiversity of the 2024 EIAR. Refer also to accompanying Figures 23.1 to 23.52 in Volume 7A and Appendix 23.1-23.11 in Volume 10 of the 2024 EIAR. Refer also to the grid facility landscape plan included in the planning drawings. The Developer notes that updated biodiversity figures have also been prepared and are included in Volume 7A of the Addendum to the EIAR (which accompanies the Response to the RFI document) as Figures A23.1 to A23.32.

The assessment of the proposed development on onshore biodiversity has been undertaken in accordance with best practice guidance *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (2018), a document prepared by the Chartered Institute of Ecology and Environmental Management (CIEEM). The assessment is in compliance with the EIA Directive and has been undertaken using best scientific evidence and by competent experts in the field of ecology as detailed in Appendix A1.1 Competent Experts.

Impacts on hedgerow from the proposed development are set out in the Section 23.5.2.2 of Chapter 23: Biodiversity of the 2024 EIAR, which contains the assessment of potential effects on hedgerows including temporary and permanent habitat loss and fragmentation, degradation of habitats arising from dust deposition and spread of non-native invasive species.

In relation to impacts on hedgerows at the grid facility, Section 23.5.2.2 of Chapter 23 of the 2024 EIAR notes that, *“one hedgerow at the grid facility, totalling a length of c. 160m, will be removed to facilitate the onshore infrastructure and will result in permanent habitat loss at this location.”* While hedgerow removal has been minimised throughout the design of the proposed development and periphery hedgerows at the grid facility will not be impacted, it was not reasonably practicable to avoid the removal of a maximum of 160m of hedgerow at this location. Measures to mitigate against habitat loss of hedgerows at the grid facility are included in Section 23.6.1.2 in Chapter 23 of the 2024 EIAR which include new hedgerow planting of 166m of native hedgerow species. A further 400m of native hedgerow species will also be planted at lands within the Developer’s control at Blakes Cross North, c. 12km south of the grid facility.

Additional measures to mitigate disturbance and damage to breeding birds during vegetation removal are also provided in Section 23.6.1.2. These state, *“In order to avoid disturbance to breeding birds, their nests, eggs and/or their unflown young, as protected under the Wildlife Acts, all works involving the removal of vegetation, not just trees and hedgerows but also grassland habitat suitable for ground nesting birds, will be undertaken outside of the breeding bird nesting season (1 March to 31 August inclusive).”*

It is acknowledged that where seasonal restrictions cannot be observed, additional mitigation measures as set out in Section 23.6.1.9 of the 2024 EIAR will be implemented. These state *“Only where this seasonal restriction cannot be observed, a breeding bird survey will be undertaken during the appropriate survey season (between early March and late June, and as late as August for late nesting birds) by an ecologist with experience undertaking breeding bird surveys in order to confirm whether birds are nesting within suitable habitat affected by or immediately adjacent to. Where nesting birds are encountered during surveys, the removal of trees, hedgerows or suitable grassland habitat will be delayed until after the nesting season (1 March to 31 August inclusive).”*

It is acknowledged and accounted for in the assessment of potential effects that due to the age and maturity of the hedgerows being removed, like for like cannot be replanted. While reinstatement of hedgerows and treelines will occur, reinstatement to their original condition is not reasonably practicable.

Section 23.6.2.2 of the 2024 EIAR includes a monitoring schedule for hedgerows post-construction. Section 23.7.1 and 23.7.2 of the 2024 EIAR contain the assessment of residual effects on hedgerows which concludes that while mitigation measures will reduce and alleviate likely significant effects on hedgerows, a short-term, reversible likely significant residual effect at a local geographical scale has been identified until replacement planting is established at the grid facility.

For clarification:

- *Short term* is defined as up to 5 years where after new hedgerow planting should meet ‘Adequate’ or ‘Favourable’ criteria as set out in Heritage Council’s Hedgerow Appraisal System, see Section 2.3.1 of Appendix 23.10 of the 2024 EIAR
- *Reversible* is where recovery is possible or effect is counteracted by mitigation, see Section 23.2.6 of Chapter 23 of the 2024 EIAR
- *Local geographical scale* refers to an effect on a locally important species, semi-natural habitat or feature of high biodiversity in a local context, typically referring to the area within the site and immediate surrounding area, see Section 23.2.6 of Chapter 23 of the 2024 EIAR

Issues raised with respect to potential impacts on hedgerows have also been provided in the Response to the RFI document, prepared alongside this Response to Submissions report.

Response on Construction impacts on wildlife

Potential impacts on wildlife arising from disturbance during the construction phase of the onshore elements of the proposed development, including the grid facility, have been assessed in Section 23.5.2 in Chapter 23 of the 2024 EIAR.

Section 23.6.1 of Chapter 23 of the 2024 EIAR details mitigation measures to reduce and alleviate likely significant effects, where identified, and includes standard best practice construction methods and species-specific measures in line with best practice guidance documents. Section 23.7.1 of Chapter 23 of the 2024 EIAR provides a summary of potential effects (pre-mitigation) and residual effects (post-mitigation) and concludes that while mitigation measures will reduce and alleviate likely significant effects, some temporary residual effects may occur during the construction phase that cannot be fully mitigated against. These include temporary habitat loss of lowland depositing rivers until the dry works areas are reinstated, temporary habitat loss of hedgerows and treelines until replacement planting is re-established, short-term habitat loss for breeding birds until replacement planting is re-established, and temporary habitat loss for aquatic species until the dry works areas are reinstated. These effects are noted in the assessment as being temporary to short-term, reversible likely significant residual effects.

3.1.4.6 Fire safety

Submission No. 16 notes that “*the potential fire safety of the grid facility needs to be considered in depth and the ability of the local fire services to deal with any large-scale disasters.*”

Response

The risk of fire and/or other major accidents from the proposed development, including the grid facility and other onshore infrastructure, was fully assessed as part of the planning application. Chapter 34: Major Accidents and Disasters of the 2024 EIAR deals with risk events that have a low likelihood of occurrence but have a potentially high consequence for the environment, human health, infrastructure and/or cultural heritage. The site-specific risk assessment identifies and quantifies risks focusing on unplanned, but possible and plausible events occurring during the construction, operation and decommissioning of the proposed development. The following steps were undertaken as part of the site-specific risk assessment:

- Risk event identification
- Risk classification, likelihood, and consequence
- Risk evaluation

The risk of major accidents and/or disasters at the grid facility in relation to fire were assessed in Chapter 34 of the 2024 EIAR. The risk event that was identified in relation to operation of the grid facility and a potential fire and/or explosion is presented in Section 34.5.3 of Chapter 34 of the 2024 EIAR as follows:

- *O7: Fire and/or explosion in onshore infrastructure with a secondary effect of fire suppressant powder reaching nearby receptors (e.g. watercourse, groundwater, soil)*

The above risk event was fully assessed in Section 34.5.5 and assigned a likelihood rating of 2 and consequence rating of 2. The classification of ratings is as described in the Department of Environment, Heritage and Local Government (DEHLG) *A Guide to Risk Assessment in Major Emergency Management* (2010). Further information on the description of likelihood and consequence ratings is provided in Table 34.2 and Table 34.3 of Chapter 34 of the 2024 EIAR.

Table 34.8 in Section 34.5.5 provides the justification for the above ratings. The basis for the likelihood rating of 2 (Very Unlikely) and consequence rating of 2 (Limited) is presented in Table 3.1.2 below.

Table 3.1.2: Risk Assessment of Risk Event ‘O7: Fire and/or explosion in onshore infrastructure with a secondary effect of fire suppressant powder reaching nearby receptors (e.g. watercourse, groundwater, soil). Extracted from Table 34.8 of the 2024 EIAR.

Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence
2	A fire and/or explosion in the onshore environment during the operational phase is considered ‘very unlikely’. The potential risk relates primarily to the grid facility. Prior to the commissioning of the proposed development, the contractor will be required to ensure that all fire safety and detection equipment and systems have been designed and installed to industry good practice. During commissioning all systems will be validated. It is noted that fire suppression systems at the grid facility station will be non-water based. Personnel undertaking inspections and maintenance works will be fully trained in safe working procedures. Appropriate operations personnel will be trained as fire marshals.	2	Given that the grid facility will be unmanned, operated remotely and due to its proximity from residential properties the consequence of a fire explosion is “limited” with a limited number of people affected and a few serious injuries with hospitalisation and medical treatment required. The secondary effect of the firefighting materials entering watercourse would likely result in simple contamination with localised effect and short duration. Should contamination of soil occur, there would be localised effects of short duration, which could be remediated. Should contamination of surface water within the grid facility occur, this would be contained within the drainage system, tested, and disposed of appropriately without causing pollution to surface waters.

As noted in Section 34.2.6.5 of the 2024 EIAR “*in accordance with the DEHLG 2010 guidance, a risk matrix was used to determine the level of significance of each risk event.*” The risk assessment in Section 34.5.5 concluded that the risk of fire and/or explosion at the grid facility is a ‘Low Risk’ event.

In terms of the Flemington LAP and its potential future new residential neighbourhood, the likelihood of the event will not change, as the presence of Flemington LAP would have no effect on event occurring, but the consequence is further considered in the cumulative effects assessment (Section 38.2.3.25 of Chapter 38). However, even if (conservatively) the consequence increases from a ranking of 2 (Limited) to 3 (Serious, i.e. significant number of people impacted), the risk of fire and/or explosion at the grid facility score remains ‘Low Risk’.

To ensure that this risk is minimised as far as reasonably practicable, as stated in Section 34.4 of Chapter 34: Major Accidents and Disasters in the 2024 EIAR: “*the proposed development has been designed in line with good industry practice and, mitigation against the risk of major accidents and/or disasters will be embedded through the design.*”

This also includes, but is not limited to, the construction and operation of the proposed development in accordance with the relevant building regulations, health and safety legislation and guidance. The design will be in compliance with EirGrid functional specifications. In accordance with Building Control (Amendment) Regulations (BCAR) Article 11 S.I. No. 496/1997 - Building Control Regulations, 1997, Part 3, a valid Fire Safety Certificate (FSC) will be required from Fingal County Council prior to commencement of construction of the grid facility.

The potential fire safety at grid facility has been fully assessed as part of the planning application and is further reduced with the embedded mitigation inherent in the design of the grid facility. Therefore, the assessment provided in Chapter 34 of the 2024 EIAR appropriately concludes that there is no risk of significant effects arising from a fire at the grid facility.

3.1.4.7 Surface water drainage

The key point raised in relation to surface water drainage is:

- Submission No. 7 recommends that “*surface water drainage to an existing ditch in the north western part of the site, which drains to existing roadside drainage ditch is avoided. Recommends that the site is assessed for SUDS as additional planting may attenuate pollutants.*”

Response

Section 7.4.3.1 of Chapter 7 of the 2024 EIAR notes that “*the surface water drainage at the grid facility will discharge to an existing ditch located to the northwest of the site. Due to existing site levels, a small portion of the site near the entrance to the grid facility will discharge locally to the existing roadside drainage network.*”

Section 7.4.3.1 of Chapter 7 of the 2024 EIAR further notes that “*surface water drainage measures have been designed to ensure that the operational surface water runoff from the site will be restricted to match existing greenfield runoff rates via a flow control device (e.g. Hydrobrake). Attenuation in the form of an attenuation basin will be provided upstream of the flow control device to cater for instances where the instantaneous runoff rate from the site exceeds the restricted runoff rate. The attenuation basin has been sized to cater for all run-off from the grid facility site, with an allowance of 20% for climate change, and restricting outflows to greenfield run-off rates of 2l/ha/sec, in accordance with the Greater Dublin Regional Code of Practice for Drainage Works².*”

Section 5.2.1 of the Flood Risk Assessment (Appendix 22.1 of Volume 10 of the 2024 EIAR) describes the existing topography of the grid facility site. The site is described as follows: “*the central northern section of the grid facility exhibits the highest elevations, reaching approximately 33.5 mOD, with a gradual slope extending towards the northwest, leading to agricultural land, and the southeast, eventually descending to the R132 road.*” Therefore, the design of the surface water runoff system matches the existing surface water drainage route.

The design of the surface water run-off system ensures that existing greenfield runoff rates will be maintained. Whilst the submission does not directly reference an increased risk of flooding events, the risk of flooding events on neighbouring fields has been assessed in Section 5.5.2 of the Appendix 22.1 of the 2024 EIAR. Appendix 22.1 notes “*Operational runoff will be controlled to match existing rates using a flow control device and an attenuation basin will store and attenuate excess runoff. The attenuation basin is designed to attenuate a 1 in 100-year rainfall event, limiting runoff to existing greenfield rates.*”

This will ensure that runoff from the grid facility will not overwhelm the ditch in the north-western part of the site or cause flooding in other neighbouring fields.

It is also noted that in Section 3.10 of FCC’s submission (Submission No. 40), it determined that the surface water drainage strategy is considered acceptable. Section 3.11 of Submission No. 40 also concludes that the proposal is considered acceptable in terms of flood risk.

In relation to Sustainable Urban Drainage (SuDs) principles referenced in Submission No. 7, SuDs principles have been incorporated throughout the design of the grid facility site. As noted in Section 22.5.3 of Chapter 22: Water, in the EIAR, “*the surface water drainage systems of the grid facility has been designed in accordance with SuDs principles and includes an attenuation basin. Surface water runoff from the drainage systems will be limited to greenfield runoff rates and thus the impact on flood risk is imperceptible and not significant.*”

The attenuation basin has been designed in accordance with SuDs principles to ensure that water quality is maintained and there are no additional non-attenuated pollutants present. Chapter 22 of the 2024 EIAR notes in Section 22.5.3 that “*water quality will be managed by applying a treatment train approach in line with (SuDS principles. Filter drains will provide an at source treatment stage for runoff from areas of hard standing. A hydrocarbon interceptor will be provided upstream of the attenuation basin as a secondary*

² Greater Dublin Regional Code of Practice for Drainage Works, V-06: <https://www.dublincity.ie/residential/environment/water-and-wastewater/greater-dublin-regional-code-practice>

treatment stage. Fuel tanks will be located in concrete bunds to ensure any spillages do not inadvertently enter the surface water network.”

Therefore, the design of the grid facility sufficiently ensures that existing greenfield condition surface water runoff rates will be maintained and there will be no significant effects from a flooding or water quality perspective as a result of the grid facility.

3.1.5 Conclusion

The issues raised in the submissions in relation to the grid facility have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR.

3.2 Onshore Cable Route

3.2.1 Introduction

This chapter provides a response to submissions made to An Bord Pleanála by the following parties listed in Table 3.2.1, in relation to the selection of the route for the onshore cables and the impacts of construction of these onshore cables. The response has been categorised into a number of sub-themes to address the various points raised in the submissions:

Table 3.2.1 Submissions made in respect of the onshore cable route

No.	Name	No.	Name
02	Donal McCarthy – on behalf of O’Hanlon’s Residents Association, Malahide	23	Councillor Aoibhinn Tormey
04	Malahide Community Forum	26	Hampton Cove Residents Association
05	Brendan Fleming	27	Corduff National School
07	Balbriggan Sustainable Energy Community	29	Councillor David Healy
09	Shamsa Doyle	36	Sharon Burke
14	Brendan Regan	40	Fingal County Council
17	Malachy Quinn	52	National Transport Authority
19	Balbriggan Community Council		

These submissions all refer to the potential impacts of the onshore cables between the landfall at Bremore and the connection to the existing electricity transmission network at Belcamp.

Each of the concerns and observations raised is addressed below. Much of the concern raised relates to the onshore cable route selection process, particularly in the environs of Malahide and Balbriggan.

Before responding to each of the sub-themes raised, it is helpful to recap on the site selection process undertaken for the onshore cable route as set out in Chapter 5: Consideration of Alternatives in the 2024 EIAR which accompanied the consent application. We have also provided a summary of the proposed construction strategy, which is detailed in Chapter 9: Construction Strategy - Onshore of the 2024 EIAR.

3.2.2 Cable Route Selection Process

The selection of the onshore cable route is described in detail in Chapter 5 of the 2024 EIAR. The selection process and the identification of the preferred route, was prepared to comply with Article 5(1)(d) and Part 2 of Annex IV of the EIA Directive which identifies that the following is required in an EIAR:

“A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.”

In respect of the onshore cable route, once the landfall, grid facility and connection point to the existing transmission network (Belcamp substation) were confirmed, it was necessary to identify reasonable alternative routes between the grid facility at Bremore and Belcamp substation. This route selection process is set out in detail in Section 5.7.4 of the EIAR.

A number of critical constraints (basis of design – see Section 5.7.4.2 of the EIAR) influenced the identification of reasonable alternatives, including the following:

- EirGrid requirements (Sections 4.3 and 4.9 of the EirGrid Functional Specifications [CDS-GFS-00-001-R1] in particular), including:
 - “Underground cables shall as a standard, be routed within the reserve of public roads.

- *If it is absolutely necessary and no other reasonably practical option exists, the Customer may propose routing cables on private land, subject to a design review and acceptance by EirGrid; and*
- *[...] The routing of [...] cables through third party lands shall only be considered if all other options have been exhausted (to the satisfaction of EirGrid). ”*
- An early decision was made to avoid crossing both Rogerstown and Malahide Estuaries due to complex constructability and environmental factors, so all routes were required to be west of the estuaries; and
- Early consultation with Transport Infrastructure Ireland (TII) ruled out any options for laying cables along the M1, although as any feasible cable route would have to come west of both estuaries, at least one crossing of the M1 would be required.

Following consideration of all factors outlined above, the study area as set out in Section 5.7.4.3 of the EIAR, comprised public roads between Bremore and Belcamp, either side of the M1 and west of Rogerstown and Malahide Estuaries.

As described in Section 5.7.4 of the EIAR, where possible, the shortest and most direct routes were considered. Section 5.7.4 also details other design considerations, such as existing and planned services in the road (for example Metrolink) which were also taken into consideration in the site selection process.

Section 5.7.4 of the EIAR also sets out the identification of the reasonable alternative route options and the detailed assessment that was undertaken including consideration of environmental factors, through a multi-criteria comparative assessment. This assessment also included consultation with stakeholders, further design development and ground truthing, which then enabled the final cable routes to be identified and progressed.

This process complied fully with the requirements of the EIA Directive, as set out above.

3.2.3 Cable Route Construction Strategy

As detailed above, the constraints identified in the cable selection process required the cable to be laid within built up areas to connect the grid facility in Bremore to the grid connection point in Belcamp. As a result, the Developer carefully considered the construction strategy so as to minimise to the extent possible, impacts to residential areas, busy roads and areas with lots of buried utilities. Particular consideration was given to traffic management and minimising, to the extent possible, disturbance to the communities along the cable route corridor.

The construction strategy is detailed within Chapter 9 of the 2024 EIAR. The overall construction programme for the onshore cable works is estimated as twenty-four (24) months, with (as described in Section 9.3.3 of Chapter 9) *“some activities, at different locations, taking place in parallel. However, for the majority of the cable route, the duration of works will be much less than 24 months.”*

It is proposed that the main cable trenching, duct laying and reinstatement will be done in rolling short sections of approximately 200m. The sequencing and phasing of the works will, prior to construction, take account of the key constraints along each route section. The rate of progress will depend on aspects such as the extent of buried utilities, road widths, the traffic management along each section (i.e. whether two-way traffic or single lane traffic is being maintained, or full road closures are required), but in general along roads where traffic is being maintained, progress is anticipated to be in the range of 30 – 60 m/day, where no obstructions or constraints are encountered (see Section 3.2.5.4 of this report for further information).

Over most of the cable route, the construction works will be done while maintaining single lane traffic flows on the roads along the route, using single lane (partial road) closures and signalised traffic management. As detailed in Section 9.5.5.5 of Chapter 9 of the 2024 EIAR, these lane closures (and any full road closures required) will be *“sequenced to minimise the impact on the local road network and residents.”* In addition, signage for alternative diversion routes will be provided to help alleviate traffic congestion. Throughout, access to properties, businesses, schools, amenities, as well as cyclist and pedestrian access, along these routes, will be maintained.

In some locations, full road closures will be required. As detailed in Chapter 24 Traffic and Transportation of the 2024 EIAR (Section 24.4.2.3), the *“full road closures have been identified along narrower roads where*

the construction width is limited and where it would not be possible to lay the cable while safely maintaining partial traffic flows.

In the case of full road closures, local property access will still be maintained for car, active travel (pedestrians and cyclists) and service/emergency vehicles throughout, through the contractor's implementation of safe traffic management measures. Local diversion routes have been identified to maintain local community access by car and active modes. Strategic diversion routes have also been identified to mitigate the impact on local roads and will be recommended for general 'through' traffic where possible." These diversion routes are set out in Appendix 24.1 in Volume 10 of the 2024 EIAR.

In terms of the diversion routes and as detailed in Section 24.4.2.3, "those living along the road closure section will be able to access their properties throughout the road closure. It is envisaged that the majority of local traffic with an origin or destination within close proximity to the road closure will likely use the signed local diversion routes whilst the majority of traffic travelling from farther afield will be intercepted at the nearest 'decision point' with diversion signage to direct them along the strategic diversion route where possible."

It is also appreciated that reducing traffic to single lane (single lane/partial road closures) and the full road closures, will also have an impact on public transport (bus) routes. To that end, as detailed in Section 24.4.2.3, *"bus diversion routes and bus stop relocations have been identified to ensure access to bus services is reasonably maintained where possible"*. Again, these diversion routes are set out in Appendix 24.1 in Volume 10 of the 2024 EIAR.

The Contractor will endeavour to ensure that both single lane road closures and full road closures will be for the minimum time feasible. In respect of the full road closures in particular, it is proposed, as detailed in Section 24.6.1.3 to *"limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route, as an additional mitigation measure. The addition of multiple crews working simultaneously will add to the efficiency of the construction work. By incorporating this additional mitigation measure the duration of full road closures will be limited to between 1 and 4 weeks, depending on the route section."*

Finally, it is worth noting that in developing the detailed construction strategy, the Developer will make every effort to further reduce any impacts as far as reasonably practicable. As specifically referenced in the Request for Further Information (RFI) from An Coimisiún Pleanála, it was noted that the scale and duration of onshore road closures proposed to facilitate the development were a concern for a number of observers and for Fingal County Council. The Developer has engaged with Fingal County Council in this regard and the issues raised by An Coimisiún Pleanála as well as the agreed mitigation measures arising from the consultation with the Council are addressed in the Response to the RFI document prepared in parallel with this submission response document.

3.2.4 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the onshore cable route, which are categorised as sub-themes below.

- Design basis for onshore cable route
- Onshore cable route in Malahide
- Onshore cable route in Balbriggan
- Road closures and disruption during construction
- Diversion routes
- Phasing of construction around Corduff National School
- Biodiversity
- Mapping
- Electromagnetic Fields (EMF)

As noted above, the issues raised by An Coimisiún Pleanála in its RFI have been addressed separately in the response to the RFI document

3.2.5 Response to Key Issues Raised

3.2.5.1 Design basis of onshore cable route

Submission Nos. 2, 26 and 29 state that little justification was provided to rule out two alternative options, including the potential routing of the cable along the M1 motorway between Balbriggan and Clonshaugh. Submission No. 29 states that the Developer “*simply says that Transport Infrastructure Ireland won't agree to its use. They do not analyse the environmental impact of this route. The following is at p. 5-43 of the EIAR:*

‘M1 Motorway- it is TII's policy not to permit high-voltage electrical cables to be routed along motorways. Thus, a route along the M1 was disregarded as a feasible option’”

Submission No. 29 further states that the “*the other route which appears to have been ruled out, is the use of a sea cable southwards to the area off Portmarnock beach. From there, the cable could, subject to the necessary analysis, potentially share a route inland to Clonshaugh with the proposed effluent pipeline from the proposed sewage treatment plant known as Greater Dublin Drainage Project.*”

Furthermore, Submissions No. 2, 4, 5 and 23 noted that the onshore cable route should be off-road, through greenfield areas and not on the public road. Submission No. 2 also stated that they believe “*Eirgrid are hoping to route a similar type of cable through industrial and agricultural lands to Belcamp substation, thereby reducing the impact on motorists, bus operators and delivery trucks, and, of course, emergency vehicles.*”

Response

In relation to routing the cables off-road, Section 5.7.4.2 of Chapter 5: Alternatives, of the 2024 EIAR states that the key design objectives have been informed by the EirGrid Functional Specifications (CDS-GFS-00-001-R1) as follows: “*Underground cables shall, as a standard, be routed within the reserve of public roads. If it is absolutely necessary and no other reasonably practical option exists, routing cables on private lands may be proposed, subject to a design review and acceptance by EirGrid*” and “*The routing of cables through private lands shall only be considered if all other options have been exhausted (to the satisfaction of EirGrid).*”

Routing the cables off-road, where not absolutely necessary, in contravention of EirGrid’s Specification, was not regarded as a reasonable alternative and was not considered by the Developer.

As noted in Section 5.7.4.2 of Chapter 5 of the 2024 EIAR, TII does not permit high-voltage electrical cables to be routed along motorways. This was re-iterated in pre-application consultation with TII and confirmed via email. TII noted “*TII position in relation to motorways and proposed services, is that motorway crossings are facilitated by TII. However, access is not provided along motorways. Therefore, the request to run a 220kV cable along M1 cannot be accommodated.*” Therefore, routing the cables along the M1, when TII explicitly stated that they would not accommodate it, was not regarded as a reasonable alternative and was not considered by the Developer for further consideration including environmental assessment.

In particular, Submission No. 5 is concerned with the perceived weighting of environmental constraints in comparing alternative routes between Estuary Roundabout and Belcamp (classified as ‘Section ZB’ in Chapter 5 of the 2024 EIAR). The three route options (Z5 – Z7) for Section ZB are illustrated in Image 3.2.1.

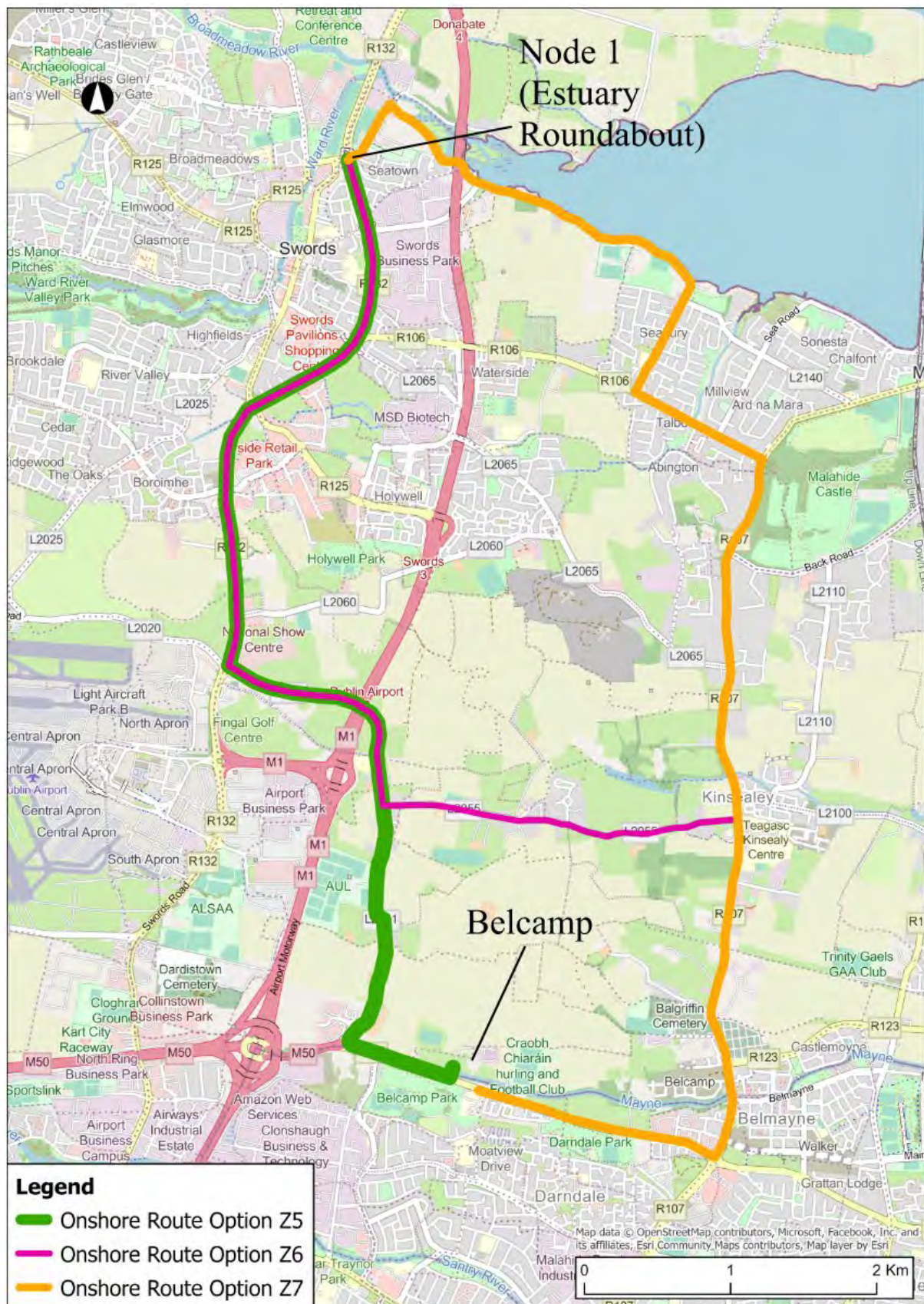


Image 3.2.1 Onshore cable route options Z5-Z7 (Section ZB) (Image 5.23 of Chapter 5 of the 2024 EIAR)

For clarity, no weightings have been applied to assessment of alternatives. As detailed in Section 5.7.4.6 of the EIAR, the assessment was a comparative assessment.

As detailed in that section of the EIAR, “the emerging preferred route being *“the route deemed the most technically suitable and environmentally acceptable whilst also being cost effective. The assessment of the cable route options is summarised in a matrix that covers each assessment criteria identified above. Criteria were graded using a colour-coded system described in Table 5.5 below.”* The colour coding ranged from green – low potential impact, to black – significant impact or fatal flaw. A grey colour coding was used where the criteria did not apply to any particular section.

As detailed in Section 5.7.4.6, a range of technical, environmental and cost criteria were assessed with route options graded (colour coded) in accordance with the system described in Table 5.5. For many of the criteria, given the location of the various cable routes along public roads, from a criterion perspective, there was little to differentiate in terms of the potential for significant effect and as a result, route length and cost were significant factors.

The submission goes on to state that little consideration was given to community impacts. In Section 5.7.4.6 of the EIAR, it is noted in relation to Section ZB that, *“whilst none of the cable route options pass through village/town centres, all of them pass-through built-up areas due to the suburban nature of the study area in section ZB. All routes were classified amber accordingly.”*

Therefore, community impact was considered as a key environmental constraint for consideration in comparing alternative routes prior to selecting the preferred cable route. However, given the location of the grid connection point at Belcamp in North Dublin City, temporary impacts to communities were unavoidable. To this end, the Developer endeavoured as much as feasible to reduce impacts to communities throughout the route selection process.

Submission No. 5 further notes that the weighting for centres of population for Z7 should be weighted as “red” in comparison to Route Options Z5 and Z6 due to Route Option Z7 traversing more built-up areas.

It is worth noting the sequencing of the route selection process in this regard. Following the initial assessment, as identified in Section 5.7.4.7 of the Chapter 5 of the 2024 EIAR, Route Option Z5 was identified as the emerging preferred option ahead of Route Option Z7. However, as noted in Section 5.7.4.10 in relation to Route Option Z5 (and by extension, Z6), as *“consultation with stakeholders and EIA studies continued, details emerged about parallel projects in development, which resulted in the need to reconsider this route afresh. The key reasons for this were in respect of consultation with the developers of MetroLink and the Aviation Fuel Pipeline... It was identified that this route would have significant lengths in parallel with the MetroLink project along the R132. The Developer team undertook extensive consultation with MetroLink during the cable routing stage between 2021 and 2022 (see Appendix 1.2 in Volume 2 of the EIAR for further details). At the time of consultations, the proposed MetroLink project was with An Bord Pleanála for planning approval. During those consultations, it emerged that there would be significant conflicts with key infrastructure planned for MetroLink rail track along the R132, including stations, existing services diversions, etc. MetroLink was very concerned about the impact of any such conflicts on both projects.”*

Following the consultations with MetroLink and the Aviation Fuel Pipeline project teams, Route Option Z7 became the only reasonable route which achieved the project objectives whilst complying with EirGrid specifications. Therefore, whilst Route Option Z7 does traverse through a more densely populated area in comparison with Route Options Z5 and Z6, the Developer had to discount both of the latter route options as reasonable alternatives due to the conflicts identified above with other significant infrastructure projects.

The Developer would also note that whilst the East Meath-North Dublin Grid Upgrade referenced in Submission No. 2 does include routing the cable through greenfield and industrial areas, the majority of the cable route is similarly located within the road network. To inform the preferred route for the East Meath-North Dublin Grid Upgrade project, Jacobs Engineering Ireland Limited (2023) prepared *“Step 4B – Route Options and Evaluation Report¹”* which states the following principles which guided the design of the route:

- *Avoid motorways*
- *Maximise the use of regional and local roads*

¹ <https://cms.eirgrid.ie/sites/default/files/publications/EMND-4B-Report-September-2023.pdf>

- *Avoid town centres and industrial estates*
- *Avoid going off-road, through private land and through agricultural land where possible*
- *Avoid sensitive natural and built heritage locations*
- *Minimise impact on communities where possible; and*
- *Minimise the overall length of the route*

Therefore, the design of the East Meath-North Dublin Grid Upgrade project followed a similar set of guiding design principles as the proposed development.

In respect of the offshore cable and associated landfall (and how that impacts the onshore cable route selection – i.e. why the offshore cable did not come onshore at Portmarnock), please see the response provided in Section 3.3.3.2 of this report which responds to issues raised in respect of the landfall selection process.

3.2.5.2 Onshore cable route in Malahide

A number of submissions raised concern in respect of the cable route between Lissenhall/Broadmeadow Estuary and Belcamp, as follows:

- There were specific requests (Submissions No. 2, 4, 5 and 23) for the onshore cable route to be re-located and routed through agricultural and industrial lands as much as possible
- Submission No. 4 notes that the alternative route proposed within its submission offers environmental benefits and cost saving potential
- Submission No. 4 notes “*there are no compelling technical reasons why the cable should be routed along public roads*”

Response

The assessment of route options is set out in detail in Section 5.7.4 of the EIAR and is also summarised in Section 3.2.2 above. One of the key constraints associated with the route selection process was the need to route the cables, wherever feasible, within the public road as per the EirGrid Function Specifications CDS-GFS-00-001-R1) described in Section 3.2.2 above. Malahide Community Forum (MCF) in its submission (Submission No.4) references the fact that the Developer has complied with the EirGrid 220kV and 400kV Underground Cable Functional Specification (OFS-CAB-101-R2), but states that “*there are in fact no compelling technical reasons why high voltage (HV) cables should be routed along public roads*” and also references the practice in the UK, where it suggests that “*the routing of such cables along public roads is clearly not permitted where alternative cross country routes are possible.*”

Guidelines set out by the National Grid in the UK (including *Our Approach to the Design and Routeing of New Electricity Transmission Lines, Route Corridor Identification, and Options Identification and Selection Process*) allows high voltage cables to be laid either in the public road or in private lands as long as the appropriate permissions are obtained. This guidance in the UK does not explicitly state a preference for inline or offline routes but rather focuses on the least impactful option from an environmental perspective. It is therefore not accurate to state that the routing of cables in public roads in the UK is not permitted where alternative off-road routes are available.

Further, Section 4.3 of the EirGrid Functional Specification (OFS-CAB-101-R2) specifies that “*Underground cables shall, as a standard, be routed within the reserve of public roads. If it is absolutely necessary and no other reasonably practical options exists, the Customer may propose routing cables on private land, the design have to be submitted to EirGrid for review.*”

Where a customer proposes to route a high voltage cable through private land that is owned by a third party then, in such circumstances, the Customer will be required to undertake a detailed feasibility study that describes all of the options considered and explains to EirGrid why the routing of the cable off public road cannot be avoided and how maintenance on EirGrid's asset can be achieved.”

The MCF submission also appends the Electricity Infrastructure Development – Co-operation Agreement to note that one of the principles of this document is that “*EirGrid will fully assess route options, including alternatives to public road where appropriate, in order to optimise schemes.*” However, it is worth noting that the first three key principles of this document state:

- *“All parties acknowledge that underground routing along public roads infrastructure, where practical, is a key enabler of the EirGrid's Shaping Our Electricity Future.*
- *All stakeholders are committed to working constructively towards accommodating the electricity transmission infrastructure, provided that significant roads impacts are objectively identified and addressed.*
- *Early engagement has been identified as a key requirement whereby roads issues and impacts are identified and addressed from the outset of each project.”*

Within the study area as set out in Section 5.7.4 of Chapter 5 in the 2024 EIAR, and with the other constraints as set out within the EIAR, including other services within the road and other projects planned in the area (such as Metrolink), feasible options for the cable route were limited. However, a number of feasible options were identified and assessed, as documented in Chapter 5 and Appendix 5.1 of the 2024 EIAR. Given the above and in particular the EirGrid Functional Specifications which clearly state that the routing HV cables on private lands is only acceptable where no other reasonably practical option exists, the Developer did not consider off-road options, unless there was no other viable alternative (i.e. M1 crossing and some watercourse crossings).

It is acknowledged that while the approach of routing cables on the road network avoids (for the most part) the potential for significant short term (construction) and long term (operational) effects on factors such as biodiversity and archaeology, this approach can result in the potential for significant short term (construction) effects, particularly on local communities through increased traffic, disruption, etc.

The Developer has fully assessed these effects as documented within Chapter 24: Traffic and Transportation and Chapter 32: Population and Human Health of the 2024 EIAR and has identified that there is the potential for significant, temporary effects in relation to traffic related impacts during the construction phase of the proposed development.

Notwithstanding, following consultation with MCF (Submission no.4) at the pre-planning stage, and to specifically address the concerns raised during this consultation, an additional route appraisal was undertaken to assess potential alternative off-road routes from Estuary Road to Belcamp, to identify if such alternatives could be a feasible option the Developer could consider. This report is provided in Appendix 5.1: Malahide Community Forum Offline Option of the EIAR. The route proposed by Submission No. 4 is presented in Image 5.26 of Section 5.7.4.11 of Chapter 5 of the 2024 EIAR.

As detailed in Appendix 5.1 of the 2024 EIAR, the route appraisal assessed the offline route in three sectors as follows:

- Sector 1 – Reason for route to Estuary Road.
- Sector 2 – Estuary Road to Baskin Lane.
- Sector 3 – Baskin Lane to Belcamp Substation.

Sectors 2 and 3 are of relevance to the alternative route presented in Submission No. 4. The study area for Sector 2 is presented in Figure 2 of Appendix 5.1 of the 2024 EIAR. Feltrim Quarry is centrally located within the study area. The study area assessed potential alternative cable route corridors to the east and west of Feltrim Quarry which align with the proposed route put forward by Submission No. 4 (Image 5.2.6 of Section 5.7.4.11 of Chapter 5 of the 2024 EIAR). The assessment included consideration against a number of factors, including cost, environmental and technical factors.

With regard to Sector 2, the results of the assessment in Appendix 5.1 concluded “*a number of significant constraints have been identified between Malahide Road and Baskin Lane which impact the feasibility of the overall route. The general impact of the suggested route on the area has been determined to be more significant than that of the current proposed route along Estuary Road.*”

The impacts are considered to be far greater than those temporary impacts and disturbances in terms of possible road restrictions which can be managed with good practice and mitigation. Additionally, the proposed alternative area would contravene the EirGrid Specification requirements for the cable to be located within the public road. There is no reasonable justification for the route not to adhere to the requirements set out in this specification.”

All of the above demonstrates a clear, consistent and robust assessment of alternatives was undertaken by the Developer in reaching its decision on the final cable route. Although feasible cable routes were identified along public roads, an assessment of other feasible options within private lands, as proposed by MCF was also undertaken. The assessment of all route options included consideration of environmental factors, which considered the potential for significant effects throughout the project lifecycle, including construction and operation. The conclusion of this assessment, as documented herein and in Chapter 5 and Appendix 5.1, was that the route option selected was appropriate and reasonable; while also complying with Eirgrid requirements and therefore this option was selected by the Developer.

It is also worth noting that there was early engagement with Transport Infrastructure Ireland, Fingal County Council, Dublin City Council and EirGrid to inform the route selection, as well as engagement with MCF. This early engagement is documented in Appendix 1.2 (Consultation Report) of the 2024 EIAR.

3.2.5.3 Onshore cable route in Balbriggan

Specific concerns have been raised in respect of the Balbriggan area, as follows:

- With regards to the cycle lane currently being installed in Balbriggan (Harry Reynolds Road), Submission No. 7 notes that *“cable laying should focus on the road area rather than recently installed cycle lanes and paths.”*
- Submission No. 17 notes that the onshore cable route along Harry Reynolds Road *“will result in this road being re-dug a second time in recent years... At present the Harry Reynolds Road is being upgraded to include new paths and cycle paths at a cost of €8 million.”* Submission No. 19 further notes that the *“impact of the laying of the cable will be hugely disruptive”* and re-iterates the points raised in Submission No. 17.

Response

The assessment of route options is set out in detail in Section 5.7.4 of Chapter 5 of the 2024 EIAR and is summarised in Section 3.2.2 above. One of the key constraints associated with the route selection process was the need to route the cables, wherever possible, within the public road. Within the study area, with the constraints as set out within the EIAR, including other services within the road and other projects planned in the area, feasible options for the cable route from Bremore to Belcamp were limited.

As described in Section 5.7.4.4 of Chapter 5 of the 2024 EIAR, a detailed assessment of reasonable alternatives for the cable route in Zone ZA (study area between the grid facility at Bremore and Estuary Roundabout – Node 1, which includes Balbriggan and its environs (see Image 3.2.2 below)) was undertaken. This identified an emerging preferred route, Z2, at the end of the feasibility study. As the design evolved and further technical information became available, it became clear that there were considerable challenges in terms of constructability and construction traffic management for this option, which involved the routing of the onshore cable along very narrow local and unmarked roads, to the west of the M1, particularly the section between the L5150 (Dermotstown Road) and Balheary Road, before rejoining the R125.

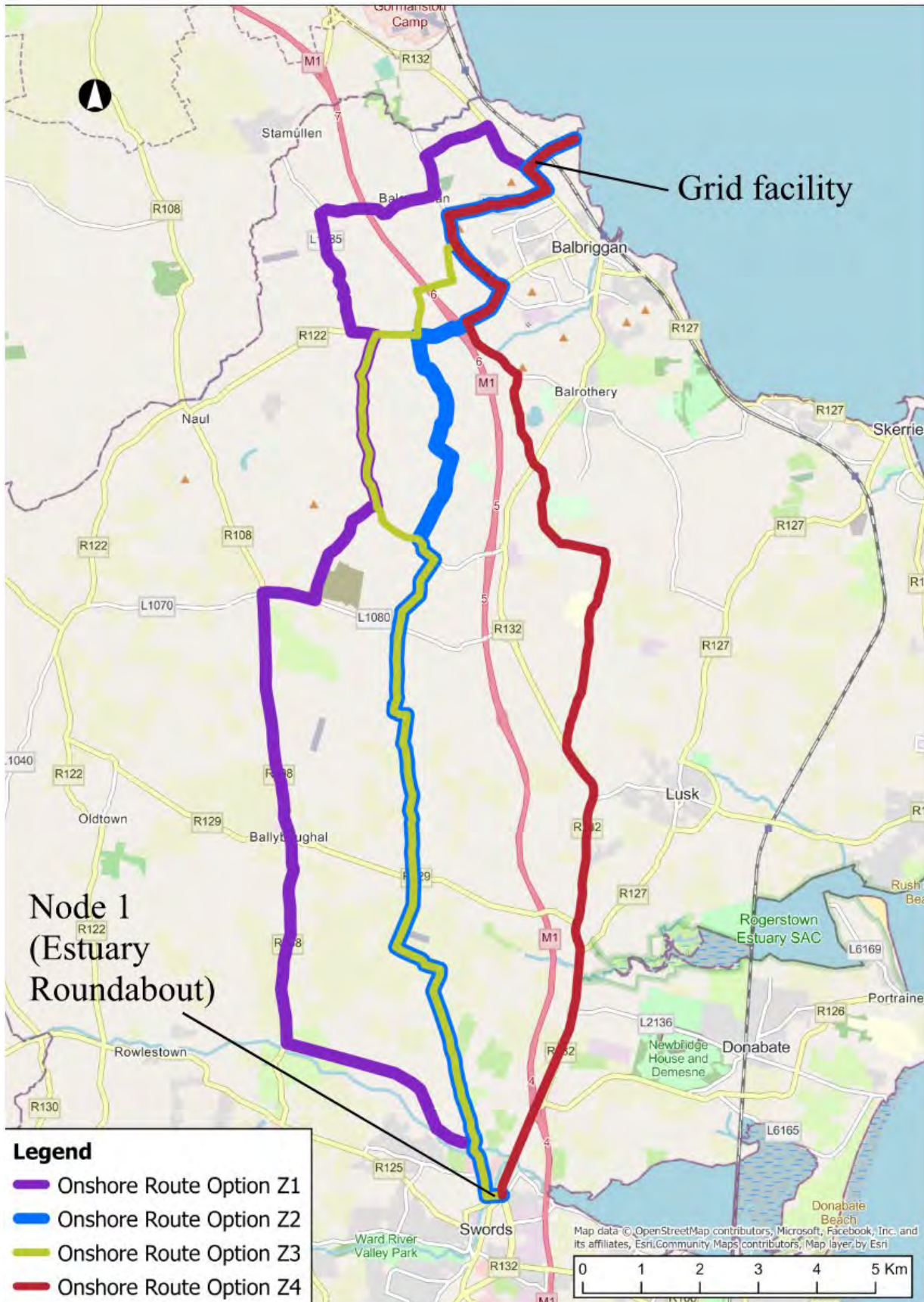


Image 3.2.2 Onshore cable route options Z1-Z4 (Section ZA) (extracted from Image 5.22 of Chapter 5 of the 2024 EIAR)

Consequently, as detailed in Section 5.7.4.8 of the EIAR, a route utilising more of the R132 was reconsidered, given that much of this road has a wide carriageway with verges and therefore is capable of accommodating larger volumes of traffic.

To that end, a new route option was identified and assessed. The new route option had no significant disadvantages or fatal flaws when compared to the Z2 route, was the shortest and had the benefit of being more able to accommodate the construction requirements, being a wider road. This route was therefore selected as the preferred route between the grid facility and Estuary roundabout.

Once this preferred option had been defined, it was necessary to consider the cable route around the area of Balbriggan, such that potential impacts on the town could be minimised. Two route options were considered during the design development, being the Balbriggan Outer Ring Road and the Balbriggan Inner Relief Road. Again, a multi-criteria assessment (including technical and environmental aspects) was carried out and this identified the Balbriggan Inner Relief Road as the preferred option, primarily due to consideration of constructability and route length, as detailed in Section 5.7.4.9 of Chapter 5 of the 2024 EIAR.

The particular concerns raised in the submissions relate to the proposed routing of the cable along the R132 and Harry Reynolds Road, in light of recent construction works in the area.

It is noted that, since the submission of the planning application and as directed by An Bord Pleanála (now An Coimisiún Pleanála) in its request for further information (RFI), under Item 19 therein, we have continued to engage with Fingal County Council. Through this consultation and through the advanced design development, the Developer has prepared an indicative phasing plan and some additional mitigation measures, which further mitigate impacts on the traffic network arising from the proposed development. Further details on the indicative phasing plan are provided in the EIAR Addendum that accompanies the RFI response, within the Construction Traffic Management Plan (CTMP) in Appendix A of Appendix A9.1 of the EIAR Addendum.

As the project moves into the post-consent phase (if consented by An Coimisiún Pleanála) and the finalisation of the design and contractor engagement, this indicative construction phasing plan will be refined to reflect the most effective and efficient approach. The phasing plan can only be finalised following ground-truthing of the proposed alignment and the appropriate construction planning by the appointed contractor(s).

It is noted that proposed and planned developments (at the time of the planning application), including the active travel scheme along the Inner Relief Road were considered in the EIAR and are referenced therein, in Section 5.7.4.9. Since submitting the planning application, as referenced above, we have continued to engage with Fingal County Council, to ensure we have the most up to date information on all relevant active travel schemes (including the Harry Reynolds Road active travel scheme which is referenced in the submission, and which is now complete) and have ensured that these have been addressed appropriately in the EIAR Addendum (which accompanies the RFI response). The Developer remains committed to ongoing engagement with local authorities to minimise impacts to active travel schemes and to ensure all infrastructure will be replaced upon completion of construction.

Submission No. 7 specifically requests that the cable route should be in the road carriageway, rather than in the new pedestrian and cycle paths in this area. It is noted that the Developer has sought consent for a cable route corridor, which is wider than the minimum construction requirements, to allow for avoidance of existing utilities, minimising traffic disruption and to maintain the health and safety of all residents, visitors and construction workers. One of the reasons for selecting this route, was the greater flexibility in routing the cable provided by the wider road. The Developer will at all times endeavour to select the route alignment within the corridor which has the least impact while remaining technically feasible. The indicative phasing plan included in the EIAR Addendum (see CTMP in Appendix A of Appendix A9.1 of the EIAR Addendum), provides further information on the indicative location for the cables within the cable route corridor (see Table 3-1 therein), which in the case of Harry Reynolds Road is within the carriageway. The final location is subject to ground truthing, and if it is not feasible to avoid temporary disruption to the cycle lanes during construction, suitable temporary diversions will be provided.

The Developer has engaged with utility owners (ESB, EirGrid, GNI, Uisce Éireann, Fingal County Council, Dublin City Council) to obtain agreements for interfacing and crossing their utilities. The Developer has also engaged with utility owners to obtain as-constructed information of their assets and carried out intrusive and non-intrusive investigations to verify the as constructed information. The proposed cable location within the public road is based on the information provided by utility owners and the investigations carried out and this is detailed in the indicative phasing plan. However, the final location of the cable in the public road will be determined by further ground truthing investigations carried out by the appointed contractor(s) prior to construction.

Submissions No. 17 and 19 noted the potential for community impacts from digging up the R132 and Harry Reynolds Road, particularly in light of the recent and ongoing construction works associated with the sewerage scheme and the active travel project.

The proposed cable route runs through Balbriggan along the R132, turns west and south along Harry Reynolds Road and rejoins the R132 just south of Balbriggan.

As detailed above, disruption for the local community will be minimised as much as feasible throughout construction. A full road closure is proposed for a short section of the R132 north of Balbriggan, for a period of 1-2 weeks. Local and strategic diversion routes will be in place for the duration of the full road closure. A single lane (partial road closure) is proposed for Harry Reynolds Road for an estimated 15-week period. This will comprise sequential partial closures along the full section. South of Balbriggan, there will be a single lane (partial) closure of the R132 as the cable route proceeds along this route, over a full duration of 99 weeks. For the single lane (partial) closures, two-way traffic flows will be maintained using traffic management, i.e. a stop/go system. Access to local properties will also be maintained at all times for cars, pedestrians and cyclists and service/emergency vehicles through the contractor's implementation of safe traffic management measures. Local diversions will be in place to help alleviate the impact on traffic.

As detailed above, an indicative phasing plan has been prepared and additional mitigation measures proposed to further mitigate the potential effects during construction (see CTMP in Appendix A of Appendix A9.1 of the EIAR Addendum).

Of note, the following additional measures are now proposed:

- The design as it has developed now envisages that, in general, the sequential single lane closures can be reduced from c. 200-300 m (2024 EIAR) to c. 150-200m. This reduction should help to alleviate the impact of the partial road closures.
- During daytime working hours, and particularly to manage peak traffic time flows - all single lane closures which have traffic lights deployed to manage the lane closure traffic flows, will have a Traffic Management Engineer deployed on site to monitor and regulate traffic flows at each traffic light head as required in order to mitigate and prevent unnecessary tailbacks either side of the lane closure.

Notwithstanding these measures, it is acknowledged throughout the EIAR that there is the potential for significant effects during the construction phase. In Chapter 24 Traffic and Transportation of the 2024 EIAR the single lane (partial) and full road closures in this area will have a negative, significant, temporary impact for the construction phase.

Chapter 32 of the 2024 EIAR also assesses the potential effects of the proposed development during the construction phase on population, in terms of aspects such as accessibility, active travel, neighbourhood quality, green space and employment. This assessment has been carried out in accordance with best practice guidance, as detailed in Section 32.2.2 of Chapter 32: Population and Human Health in the EIAR.

It is acknowledged in Chapter 32, that the affected routes in this area are *“relied on by the local community in and around Balbriggan to access employment sites, local services and facilities in Balbriggan. Affected users will include the whole community, including sensitive groups such as children, older people and people with disabilities”* and that *“in respect of the proposed cable route construction works, it notes that where the route passes through populated areas such as in Balbriggan, communities will experience temporary, noticeable changes in amenity in proximity to the works.”*

As noted above, further engagement with Fingal County Council has culminated in an agreed indicative phasing plan which is included in the EIAR Addendum which accompanies the RFI response (see CTMP in Appendix A of Appendix A9.1 of the EIAR Addendum). This indicative phasing plan will be further developed and finalised by the developer and its appointed contractor(s) in consultation with Fingal County Council and other relevant stakeholders, prior to the commencement of the construction phase. Engagement with the local authority will continue through all subsequent phases of the project.

As noted in Section 8.1.2 of the Onshore Construction Environmental Management Plan (CEMP) (Appendix 9.1 of the 2024 EIAR), the Developer will also appoint a dedicated Community Liaison Officer (CLO) to engage with communities to communicate all local diversions and road closures throughout the construction phase. Section 8.1.2 of the Onshore CEMP further notes that *“the Developer, with the support of the contractor(s) will be required to prepare a Community Liaison Plan, which will include details of how the local community, road users and affected residents will be notified in advance of the scheduling of major works, any temporary traffic diversions and the progress of the construction works.”*

Further information on the community impacts associated with the construction of the onshore cable route is provided in Section 3.2.5.9 of this report.

3.2.5.4 Road closures and disruption during construction

The submissions raised general concerns in respect of the onshore cable route, including the following:

1. Submission No. 2 states that the *“proposed routing and consequent partial and full closure of large sections of heavily trafficked roads would inconvenience many thousands of people due to increased traffic levels in Malahide. Road closures will significantly impact public transport and delivery services and also affect the supply of emergency vehicles to large areas of the northern suburban area.”*
2. Submissions No. 4 and 5 state that the duration of closures and rates of progression are speculative given the density of local underground services and uncertainty of data.
3. Submissions No. 4 and 5 state that access to schools along the R124 will be severely affected. In particular, the submission states *“the R124 serves three major schools viz. St Andrews primary school, Oliver Plunkett's primary school and Malahide Community School, Pobal Scoil fosa. Together these have a student population of c. 2750 and teacher numbers of over 250. As a result, the R124 is already subject to severe traffic congestion at school opening and closing times. Thus, this proposed diversion route is also totally unrealistic.”*
4. Submission No. 2 states that *“the negative economic and social impact will be very significant and widely spread.”*
5. Submission No. 5 states that in Chapter 32 of the EIAR, *“in respect of the duration of increased HGV flows that for the purpose of the T&T assessment a max duration of 24 months in all locations was assumed. However, it is stated that this differs from the number of weeks of disruption stated throughout the EIAR; where in most cases, the impact is assessed as negative/significant/temporary.”*

A Construction Traffic Management Plan (CTMP) was prepared and was included as Appendix A of the Construction Environmental Management Plan (CEMP), in Appendix 9.1 of the 2024 EIAR. This CTMP set out the measures which have been identified to minimise the potential adverse effects during construction.

As noted above, since the submission of the planning application, we have continued to engage with Fingal County Council. Through this consultation and through the advanced design development, the Developer has agreed an indicative phasing plan and some additional mitigation measures with Fingal County Council, which further mitigate impacts on the traffic network arising from the proposed development. Further details on the indicative phasing plan are provided in the updated CTMP in Appendix A of Appendix A9.1 in the EIAR Addendum which is being submitted with the RFI response. Of particular relevance (over and above the additional measures noted under Section 3.2.5.3 above) is the additional mitigation measure that commits the Developer to undertake Sections 12 and 13 (Swords Road and Malahide Rd, close to Malahide Castle) outside of peak concert season (June and July) unless otherwise agreed with FCC.

The CTMP will be further developed in consultation with the local authorities and An Garda Síochána prior to commencement of construction and will be fully implemented by the Contractor to ensure that the disruption is kept to the absolute minimum during the construction phase.

Appendix C of the Onshore CEMP (Appendix 9.1 of the 2024 EIAR) was to include a Communication Management Plan, which sets out the communication protocol for delivery of the onshore construction across the landfall, the onshore grid facility and across the full extent of the cable route.

The Developer has identified that this appendix was erroneously omitted from the planning application documentation, due to an inadvertent oversight. The appendix is now included in the EIAR Addendum which has been prepared in response to the Request for Further Information issued by An Bord Pleanála.

Response to Point 1 - Inconvenience caused by road closures in the Malahide area and generally along the cable route

The Developer has followed appropriate guidance and best practice in undertaking the impact assessment, including the EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports, May 2022, the Traffic and Transport Assessment Guidelines from TII, May 2014 and the TII Project Appraisal Guidelines. Section 24.2.4 of Chapter 24 of the 2024 EIAR sets out the methodology for assessment of impacts. With respect to the duration and phasing of the works (as detailed in Section 9.3.3 of Chapter 9: Construction Strategy – Onshore of the 2024 EIAR), the assessment examined the scenario which had the likelihood of generating the greatest magnitude of impact. Where adverse effects were identified, suitable mitigation measures, where feasible were identified, including those identified in Section 24.6 of Chapter 24 of the 2024 EIAR.

Where either single lane or full road closures are required, suitable diversion routes are identified and shown in Appendix 24.1 of the 2024 EIAR.

The traffic impact assessment (Chapter 24 of the 2024 EIAR) identified that the increases in traffic volumes along the local and strategic diversion routes following full road closures will be in excess of 25% and that the impact on road capacity was therefore considered significant. It also identified that the duration of single lane (partial) road closures is likely to be in excess of 4 weeks and that the duration of this impact on local diversion routes was also considered significant (Section 24.5.2.5 and 24.5.2.6 of Chapter 24: Traffic and Transportation).

It is proposed to limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route. The addition of multiple crews working simultaneously will add to the efficiency of the construction work. Whilst the additional crews will reduce the duration of road closures, the impact on road capacity will remain significant (Section 24.6.1.4 of the EIAR). The residual effect, therefore, during the construction phase, is acknowledged in Section 24.7.3 of the EIAR as being a negative significant, temporary impact.

For those locations where full road closures are required, bus diversion routes and bus stop relocations have been identified to ensure access to bus services is reasonably maintained where feasible. For those locations where single lane (partial road) closures are required, buses will be prioritised at stop/go locations where feasible (as detailed in Section 24.4.2.3 in the EIAR).

Specifically in respect of bus services, and as detailed in Section 24.6.1.4 of the EIAR, it is proposed in order to reduce the likelihood of bus services incurring delays, that bus services be diverted, on a temporary basis from routes which are subject to partial road closure, to local diversion routes (Section 24.6.1.4). As set out in Section 3.9 of the CTMP (Appendix A of Appendix 9.1 of the 2024 EIAR) in the case of partial closures, the “*Contractor shall adhere to the bus diversion routes and bus stop relocations, in case of partial and full road closures, as well as the bus prioritisation measures.*”

With regard to the construction phasing for the cable route, the Developer has also noted the submissions of both Fingal County Council and Dublin City Council (see Section 4.2 and Section 4.18 of this report respectively for further details), which both refer to the scale of the proposed road closures and the disruption that these could cause. As noted above, we have continued to engage in particular with Fingal County Council following receipt of the RFI, and have, in consultation with the Council, prepared an indicative phasing plan for the proposed construction phase, which is included in the updated CTMP (see Appendix A of the CEMP in Appendix A9.1 of the EIAR Addendum). Further mitigation measures have been identified within this indicative phasing plan, to further mitigate the potential effects during construction.

Response to Point 2 on the speculative nature of the progression rates presented

In respect of Point 2 above, as noted in Section 9.3.3 of Chapter 9 in the 2024 EIAR, “*installation of the onshore cable will be undertaken on a rolling basis. Where no obstacles or constraints exist within or near the onshore cable route, it is expected that progress rates for the trench excavation and installation of ducts will be up to:*

- 80m/day in farmland and on road sections with full road closure.
- 60m/day on roads with single lane closure; and
- 30m/day on roads maintaining two-way traffic.

These progress rates may reduce where obstructions and underground utility services are encountered. In particularly congested areas (i.e. significant utilities presence or where any utilities may need to be re-located), the progress rates will likely reduce further but progress rates in these areas have been considered in the overall construction programme.”

It is acknowledged that these installation rates are indicative. However, the progress rates are based on the considerable construction industry experience of installing high voltage cables in roads of the Developer’s project team and external consultants. Further detail in respect of the proposed phasing of construction is provided in the indicative phasing plan prepared in consultation with Fingal County Council in response to the request for further information (Item 19 therein) issued by An Bord Pleanála. This indicative phasing plan is included in the updated CTMP (Appendix A of Appendix A9.1 of the EIAR Addendum).

Response to Point 3 on school impacts along R124

As noted in Section 24.2.3 of Chapter 24 of the 2024 EIAR, *“in the case of full road closures local property access will be maintained for car, active travel (pedestrians and cyclists) and service/emergency vehicles throughout, through the contractor’s implementation of safe traffic management measures.”* Therefore, access will be maintained for these facilities (including schools) throughout the construction phase. The Developer is also committed to further engagement throughout the construction phase with all relevant schools (including most particularly Corduff National School, St Nicholas of Myra National School, St Molagas National School and Malahide/Portmarnock Educate Together National School which are along the cable route) to reduce negative impacts as much as practicable. We do note, as per the submission that *“the R124 serves three major schools viz. St Andrews primary school, Oliver Plunkett’s primary school and Malahide Community School, Pobal Scoil fosa”* and that diversion of traffic along roads which serve these schools, will be disruptive, during the construction phase.

As noted in Section 8.1.2 of the Onshore Construction Environmental Management Plan (CEMP) (Appendix 9.1 of the 2024 EIAR), the Developer will appoint a dedicated Community Liaison Officer (CLO) to engage with communities to communicate all local diversions and road closures throughout the construction phase. Section 8.1.2 of the Onshore CEMP further notes that *“the Developer, with the support of the contractor(s) will be required to prepare a Community Liaison Plan, which will include details of how the local community, road users and affected residents will be notified in advance of the scheduling of major works, any temporary traffic diversions and the progress of the construction works.”* The Developer is committed to engaging with school communities in advance of, and during construction, to minimise impacts where possible.

Response on Point 4 - the social and economic impacts of road closures

The socio-economic assessment of the proposed development through construction, operation and decommissioning is presented in Chapter 33: Socio-economic, Tourism and Recreation of the 2024 EIAR. The social impacts of the proposed development on local communities are addressed in Section 3.2.5.9 of this report. With regard to suggested negative impacts associated with the construction of the proposed development on local and regional economies, Section 33.5.2.1 of Chapter 33 of the 2024 EIAR notes that *“it is anticipated that the construction phase will employ approximately 740 and 1,360 full time equivalent (FTE) direct and indirect jobs respectively.”* The assessment considers additionality factors including leakage (where resources or economic benefits ‘leak’ out of the local economy) and displacement (the potential shifting of existing jobs rather than the creation of new ones). Section 33.5.2.1 further notes that *“after adjusting for these additionality factors...the total net direct FTE jobs are estimated to be 416 regionally. These are the jobs directly involved in the construction phase.”*

To calculate net indirect employment (jobs that are created as a result of the economic activity generated by the direct employment), similar steps are followed as above to account for additionality factors. This results in a net indirect figure of 765 FTE jobs.”

This results in a total number of net FTE jobs in the region of approximately 1,181 jobs during the construction phase. This is assessed as providing a positive, short-term and significant impact to employment during the construction phase.

Section 33.5.2.1 notes that *“it is estimated that the total amount of Gross Value Added (GVA) generated will be approximately €59,495,675 which includes direct and indirect jobs. The GVA has been calculated by multiplying newly created jobs in the construction phase with the GVA per worker in the construction sector which has been calculated using data from Central Statistics Office (CSO).”*

Chapter 33 of the 2024 EIAR concludes that there will be a significant, short-term and positive impact on GVA generation during the construction phase throughout the region.

Furthermore, whilst the Community Benefit Fund is assessed as an operational phase impact (see Section 33.5.3.2 of the EIAR for the full assessment of the positive, significant and long-term impact of the Community Benefit Fund), it is noted that *“the Community Benefit Fund will be approximately €4 million per annum for 20 years and commences as soon as construction starts.”* This fund will be created to *“give residents a significant opportunity to bring about transformative and positive change to their local community. This fund will allow communities to develop new and existing initiatives in their own areas, support existing local amenities and clubs, develop environmental and energy efficiency schemes, and improve local industries including fishing industries within the region.”*

Therefore, whilst it is acknowledged that there will be temporary negative impacts to communities from a traffic perspective, (see Section 3.2.5.9 of this report) overall there will be a positive and significant impact on local and regional economies as a result of the construction of the proposed development.

Response on Point 5 - the presentation of construction impact durations in the EIAR

The critical impact, from a traffic and transportation assessment perspective, is the impact of single lane (partial) and full road closures, particularly on diversion routes. The impact of road closures on diversion routes was found to be significant and adverse in many cases as the diverted traffic may lead to increases in traffic volumes along these routes of more than 25%. Road closures would also have a significant impact on some bus services due to the duration of some road closures expected to exceed 2 weeks.

The duration of the road closures will depend on which section of the cable route is being constructed. Road closures will be rolling along the section of the cable route being constructed. The full road closures range from 1 to 4 weeks. The single lane (partial road) closures range from 5 to 99 weeks. The impact of these single lane (partial) road closures was assessed based on the duration of the closure. The impact was found to be significant adverse in all cases as all single lane (partial) road closures were proposed to be in excess of 4 weeks.

The request for further information from An Bord Pleanála, under Item 19 therein, sought further engagement between the Developer and Fingal County Council in respect of the proposed phasing of the construction phase. The Developer has engaged with Fingal County Council in the intervening period and has prepared, in consultation with Fingal County Council, an indicative phasing plan, as described in Section 3.2.5.3 above. This includes further detail on the phasing and additional mitigation measures now proposed to further reduce the impact during construction. This indicative phasing plan was also presented to Dublin City Council. The Developer is committed to continuing to engage with both Fingal County Council and Dublin City Council throughout the project to reduce the duration of road closures and subsequent traffic impacts.

3.2.5.5 Diversion Routes

A number of points raised in respect of the proposed diversion routes during construction are as follows:

1. Submission No. 2 notes that the *“diversion routes will result in unsuitably big vehicles using minor roads, thereby increasing the risk of accidents and further road blockages.”*
2. Submission No. 4 notes that *“there would be severe traffic congestion during school opening and closing times on the diversion routes.”*

3. Submission No. 4 notes that there has been no assessment of capacity constraints on diversion routes and that substandard roads are proposed for diversions, etc. It was also noted that traffic volumes are very significant, with diversion routes (especially around Malahide) being unsuitable for additional traffic volumes (sub-standard horizontal and vertical alignments)
4. Submission No. 5 notes that the bus diversion routes *“are not suitable, leaving thousands of people without reasonable access. In relation to Seabury and Malahide Road (north) it is stated that “there are no significant impacts on bus services.” (Page 32.19). This is clearly not the case.”*
5. Submission No. 5 notes that *“increased numbers of HGVs on diversion routes predicted to exceed 50% in most cases.”*

Response to Point 1 - large vehicles on minor roads

Two types of diversion routes have been identified for general traffic where road closures, all of which will be temporary, are proposed. Strategic diversion routes, expected to be used by most traffic, were identified by locating the shortest alternative route on a regional road (denoted by an R in the road number, e.g., R124) between the start and end points of the proposed road closure. Suitable local diversion routes were identified by locating two-way alternative local roads between the start and end points of the proposed road closure. Local diversion routes have been identified to maintain local community accessibility by car and active modes.

In most cases more than one local diversion route was identified which would distribute the locally diverted traffic, thereby limiting congestion as much as feasible. The strategic diversion routes will limit the volume of diverted through-traffic using local diversion routes (Section 24.4.2.3 and Appendix 24.1).

Diversion routes will be managed according to the CTMP (see Appendix A of the Onshore CEMP in Appendix A9.1 of the EIAR).

Access routes suitable for heavy vehicles have been identified for all of the construction compounds and for construction traffic accessing the cable route. These are described in Sections 24.4.2.1 and 24.4.2.2 of Chapter 24 of the EIAR. Approximately 300 abnormally large loads will be delivered to the proposed project over the 2-year construction period. The provisions for these are described in Section 24.4.2.4 of the EIAR.

The Developer will submit all required documentation in accordance with TII guidance, and in consultation both with TII, local authorities and other relevant stakeholders, in a timely manner prior to commencement. The Developer will also ensure that all necessary consents/permits are in place in advance of transportation of such EALs.

The Developer notes S.I. No. 147/2009 - Road Traffic (Specialised Vehicle Permits) Regulations 2009 and the requirement to comply with all relevant TII publications in this regard, including any Road Safety Audits required, as well as compliance with AM-STR-06048 (with respect to the structural assessment of structures along the route). All relevant approvals/consents/permits will be sought from the local authorities prior to any ‘EAL’ deliveries, in consultation with TII and other relevant stakeholders as required. The Developer is also committed to continuing its engagement with TII throughout.

Response on Point 2 - traffic congestion during school opening and closing times on the diversion routes

The traffic impact assessment found that the increases in traffic volumes along the local and strategic diversion routes following full road closures will be in excess of 25% and the impact on road capacity was therefore considered significant and adverse. The duration of partial road closures is likely to be in excess of 4 weeks and the duration of this impact on local diversion routes was also considered significant, albeit temporary (see Section 24.5.2.5 and Section 24.5.2.6 of the EIAR).

It was proposed to limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route, as an additional mitigation measure. The addition of multiple crews working simultaneously will add to the efficiency of the construction work. Whilst the additional crews will reduce the duration of road closures, the impact on road capacity will remain significant (Section 24.6.1.4 of the 2024 EIAR and the EIAR Addendum that accompanies the RFI response). Section 24.7.3 of the 2024 EIAR (and EIAR Addendum) notes that this will therefore result in a residual significant, but temporary effect. In terms of primary construction compound delivery routes and construction traffic access

routes along the cable route, all construction vehicles will avoid school areas at drop off and collection times as far as feasible.

As noted in Section 3.2.5.3 above, the Developer has engaged with Fingal County Council in the intervening period and has prepared, in consultation with Fingal County Council, an indicative phasing plan. This includes further detail on the phasing and additional mitigation measures now proposed to further reduce the impact during construction, see Appendix A (CTMP) of Appendix A9.1 of the EIAR Addendum submitted in response to the RFI.

Further, as noted in Section 8.1.2 of the Onshore Construction Environmental Management Plan (CEMP) (Appendix 9.1 of the 2024 EIAR), the Developer will appoint a dedicated Community Liaison Officer (CLO) to engage with communities to communicate all local diversions and road closures throughout the construction phase. Section 8.1.2 of the Onshore CEMP further notes that *“the Developer, with the support of the contractor(s) will be required to prepare a Community Liaison Plan, which will include details of how the local community, road users and affected residents will be notified in advance of the scheduling of major works, any temporary traffic diversions and the progress of the construction works.”* The Developer is committed to engaging with school communities in advance of, and during construction, to minimise impacts where possible.

Response on Point 3 - capacity constraints on diversion routes

Section 24.2.4 of the EIAR defined a methodology to assess the impact of full road closures on the road capacity of local and strategic diversion routes, as guided by the Traffic and Transport Assessment Guidelines from Transport Infrastructure Ireland, published in May 2014. It is acknowledged that many diversion routes currently experience capacity constraints, especially during peak hours. However, in most cases, more than one local diversion route was identified which would distribute the locally diverted traffic, thereby limiting congestion as much as feasible.

Response on Point 4 - bus service diversion routes

The EIAR has identified significant impacts on bus services in both Chapters 24: Traffic and Transportation and Chapter 32: Population and Human Health of the EIAR. For the purposes of the assessment in Chapter 24 of the 2024 EIAR, the likely suitable bus diversion routes in the case of full road closures were identified by locating the shortest alternative local road between the start and end points of the proposed road closure, also taking into account road width. Bus services currently operating along routes proposed for single lane (partial road) closures will also be diverted towards local diversion routes, as an additional mitigation measure. The appropriate bus route is to be confirmed by the operator (Section 24.6.1.3).

With regards to Seabury and Malahide Road (north), Section 32.5.2.2 of the EIAR notes that there are *“significant traffic and transportation impacts on local and strategic diversion routes within the area.”*

Section 32.5.2.2 also states that as a result of the traffic disruption and the *“close proximity of the affected roads and the density of communities in the area, as well as the presence of key services such as Malahide Station and Malahide Medical Centres, is likely to result in significant adverse effects on access for these communities.”*

The Developer has appropriately assessed the impacts the temporary disruptions will have on the local communities in line with the EPA Guidelines. In this assessment, the sensitivity of receptors in this area was assessed as high, and the magnitude of impact on accessibility and journey patterns is assessed as medium. Therefore, the population effect in Seabury and Malahide Road (north) is assessed as temporary, negative and significant.

With regard to the proposed diversion routes for the 42 and 42n bus services between Malahide and Dublin City it should be noted that while bus diversion routes are proposed, the final determination on the most appropriate diversion will be by the bus operator. The recommendation in Chapter 24 of the 2024 EIAR is that the 42 and 42n bus service should be diverted back onto the Malahide Road (R106) after turning around at the Malahide Road / Swords Road roundabout west of the M1.

The Developer will make every effort, in further developing the construction strategy and the CTMP, prior to, and during construction, to further reduce these impacts. The CTMP will be further developed in consultation with all relevant authorities.

Response to Point 5 - predicted increase in HGV traffic on diversion routes

The Traffic Impact Assessment did not quantify the projected increase in HGVs on diversion routes as a result of the proposed road closures. Instead, the projected increase in Annual Average Daily Traffic (AADT) (which includes all traffic, including HGVs) was quantified and it was found that the AADT is likely to increase by more than 25% in most cases.

3.2.5.6 Phasing of construction around Corduff National School

A submission by the Board of Management of Corduff National School (Submission No. 27) has raised specific points in respect of the onshore cable route in the vicinity of the school as follows:

- The routing of the cable past the school and the impact of the proposed road closure.
- Increased traffic from parking to be provided at Blakes Cross construction compound.

Response

Submission No. 27 states that works were underway and nearing completion (at the time of the submission) on the R132 road, changing the layout, installing both a northbound and southbound shared cycle lane from Ballough to Blakes Cross. The school is concerned about additional roadworks, following these works, with the associated disruption. The school is also concerned that this recent road re-design narrows the road, decreases parking and the drop-off zone for the school and notes that road conditions are treacherous outside the school for the school community. With regards this new layout, the school notes that the “*NISA Traffic Data Collection Surveys of 31/03/2022 and 20/09/2022 (Section 24.2.2) were conducted prior to this significant change in the R132 road layout and function. The information in Table 24.17 on the ‘Characteristics of the Road Infrastructure Route Sections’ ... is no longer accurate for the R132 at Corduff NS.*”

Finally, the school notes the recent poor experience it has had during the current road works and requests that any construction associated with the proposed development in the vicinity of the school is done outside of school hours.

As detailed above, the Developer acknowledges the potential for significant, temporary effects on traffic and transportation during the construction stage of the project. In respect of the traffic survey, the Developer notes that, in response to the RFI and to ensure that an up-to-date baseline, additional traffic surveys have been undertaken which has resulted in an updated traffic impact assessment. The results of the 2025 updated traffic surveys and associated traffic impact assessment have been provided in the response to the Request for Further information, prepared alongside this submission response report.

The Developer has engaged with Fingal County Council in the intervening period and has prepared, in consultation with Fingal County Council, an indicative phasing plan, as described in Section 3.2.5.3 above. This includes further detail on the phasing and additional mitigation measures now proposed to further reduce the impact during construction (see Appendix A (CTMP) of Appendix A9.1 of the EIAR Addendum submitted in response to the RFI). In particular, one of the additional mitigation measures included therein is to undertake work in the area surrounding Corduff National school during the school summer holidays. It is also noted in Section 8.1.2 of the Onshore Construction Environmental Management Plan (CEMP) (Appendix 9.1 of the 2024 EIAR), that the Developer will appoint a dedicated Community Liaison Officer (CLO) to engage with communities to communicate all local diversions and road closures throughout the construction phase. Section 8.1.2 of the Onshore CEMP further notes that “*the Developer, with the support of the contractor(s) will be required to prepare a Community Liaison Plan, which will include details of how the local community, road users and affected residents will be notified in advance of the scheduling of major works, any temporary traffic diversions and the progress of the construction works.*” The Developer is committed to engaging with school communities in advance of, and during construction, to minimise impacts where possible.

3.2.5.7 Biodiversity along the cable route

The key issues raised in the responses in relation to biodiversity along the onshore cable route include:

- Submission No. 9 notes that “*upheaval to wildlife during the lengthy construction phase would be unacceptable.*”
- Submission No. 36 notes that “*the Cable route crosses over known kingfisher territory in Malahide.*”

Response on the construction impacts on wildlife

Potential impacts on wildlife arising from disturbance during the construction phase of the onshore elements of the proposed development, including the onshore cable route, have been assessed in Chapter 23 of the 2024 EIAR. The assessment has been undertaken in accordance with best practice guidance *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (2018), a document prepared by the Chartered Institute of Ecology and Environmental Management (CIEEM). The assessment is in compliance with the EIA Directive. The assessment has been undertaken using best scientific evidence and by competent experts in the field of ecology as detailed in Appendix 1.1 of the 2024 EIAR.

Potential effects arising during the construction phase on wildlife and biodiversity are assessed in Section 23.5.2 in Chapter 23 of the 2024 EIAR. Section 23.6.1 details mitigation measures to reduce and alleviate likely significant effects, where identified, and includes standard best practice construction methods and species-specific measures in line with best practice guidance documents (see Section 23.2.2 of Chapter 23 of the 2024 EIAR).

Section 23.7.1 of the EIAR provides a summary of potential effects (pre-mitigation) and predicted effect (post-mitigation) and concludes that while mitigation measures will reduce and alleviate likely significant effects, some temporary residual effects may occur during the construction phase that cannot be fully mitigated against. These include temporary habitat loss of lowland depositing rivers until the dry works areas are reinstated, temporary habitat loss of hedgerows and treelines until replacement planting is re-established, short-term habitat loss for breeding birds until replacement planting is re-established, and temporary habitat loss for aquatic species until the dry works areas are reinstated. These effects are short-term and reversible.

Section 23.7.2 of the EIAR also provides a summary of residual operational effects and concludes that “*no likely significant effects were identified on terrestrial ecology occurring landward of the HWM and on Important Ecological Features as a result from the operational phase of the onshore infrastructure and onshore cable route of the proposed development. Therefore, no operational phase residual effects occur.*”

Section 23.7.2 of the EIAR also notes that due to the biodiversity enhancement planting at Blakes Cross North and at the grid facility, there will be a positive, long-term effect on biodiversity and terrestrial ecology.

Response on potential interactions with kingfisher territory

Submission No. 36 states that the onshore cable route will “*cross over a known kingfisher territory at Malahide.*” Section 23.3.3 of Chapter 23 of the 2024 EIAR notes that surveys undertaken for the development recorded the territory along the Broadmeadow River, upstream of Malahide Estuary, see EIAR Chapter 23 Section 23.3.3, and notes in Table 23.15 that the onshore cable route will cross over the territory at this location.

As noted in Table 9.6 of Chapter 9 of the 2024 EIAR, the proposed crossing options for Wx16 (Broadmeadow River) are in-line open cut trench and in-line HDD. Neither of these options will result in any direct habitat loss that would impact the kingfisher territory in the area in which they were spotted during breeding bird surveys (full results of which are available in Appendix 23.7 of the 2024 EIAR). Assessment of potential effects on kingfisher included disturbance during construction in Section 23.5.2.8.

This concluded that in the absence of mitigation measures, construction of the onshore infrastructure of the proposed development, will result in a negative, temporary (i.e. disturbance experienced during the construction phase) and reversible (i.e. on completion of disturbance) likely significant effect at a local geographical scale on breeding birds including kingfisher.

Mitigation measures are proposed in the EIAR for the protection of breeding birds from disturbance and are set out in Section 23.6.1.9. This includes seasonal restrictions on vegetation removal outside the breeding bird season where nesting birds are encountered. Section 23.7.1 then identifies the residual effects (following implementation of mitigation) on breeding birds, including kingfisher, in relation to construction phase

disturbance. It concludes that any remaining likely significant effect would be imperceptible at any geographical scale, and therefore, no likely significant residual effect is expected from the onshore cable route, and other onshore infrastructure.

Submission No. 36 also raised points on migratory bird species (including Brent Geese), short-eared owls and the coverage of the ornithology survey. These points are responded to separately in Sections 3.11.3.2 and 3.3.3.4 respectively.

3.2.5.8 Query on the application mapping

Submission No. 14 raised specific concerns in respect of the onshore infrastructure as presented on the drawings. It notes:

“Hence, I request An Bord Pleanála to arrange an ORAL HEARING as the comprehensive detailed Statkraft NISA Planning Application (in particular the A2. large scale Maps and Drawings) will be available.

Other reasons for an oral hearing is the issue of the difficulty of attempting to connect or piece together on a computer or laptop screen the offshore export cable route map, infrastructure, temporary and permanent access and service roads etc.

Also, the proposed cable route between the onshore infrastructure at Balbriggan to Belcamp is not particularly well outlined on the Planning Application Maps because of the omission of the Town land and Street names on these maps.”

Submission No. 14 also notes that *“the Statkraft NISA Planning Application uses the words proposed, temporary and transition on drawings Maps and in the write-ups which accompany their Planning Application.*

This is not normal for Planning Applications as it includes variables which deviate from that which is accepted in a normal Planning Application.

From a layman's perspective this creates uncertainty which will hopefully be explained thoroughly if an Oral Hearing is granted.”

Response

In the first instance, the Developer notes that all the planning application documentation as noted in the public newspaper notices, site notices and project website, including the large-scale maps and drawings were available in hard copy to be viewed at the following locations throughout the statutory consultation period:

- The planning offices of An Bord Pleanála, 64 Marlborough Street, Dublin 1.
- The offices of Dublin City Council, Planning Department, Civic Offices, Wood Quay, Dublin 8.
- The offices of Fingal County Council, Planning and Strategic Infrastructure Department, County Hall, Main Street, Swords, Co. Dublin.
- The offices of Meath County Council, Planning Department, Buvinda House, Dublin Road, Navan, Co. Meath.
- The offices of Louth County Council, Planning Department, Millenium Centre, Dundalk, Co. Louth.

All planning drawings and maps have been prepared in accordance with relevant best practice and legislative requirements, including the Planning and Development Regulations, 2001, as amended and the Planning and Development (Maritime Development) Regulations, 2023. Drawing No. 281240-ARP-S0-XX-DR-PL-1098 provides an overview of the onshore and offshore elements of the project. Drawing No. 281240-ARP-ONS-CR-DR-PL-1100 is a key plan of the onshore cable route. Each route map then has the relevant portion of route shown on a drawing and on an aerial photograph, to ensure the viewer can orient themselves to the location within the wider geographical context.

Finally, the Developer notes that the use of words such as ‘proposed’ and ‘temporary’ is normal accepted practice for planning drawings and accompanying documents and is not considered in any way to deviate from what is good practice in a normal planning application. The Project elements are described as

‘proposed’ as they do not have planning permission. Certain elements are described as ‘temporary’ as they are required only for the construction phase and will be removed, and the site reinstated, following completion of construction. The use of the word ‘transition’ in the context of the proposed development is in respect of the transition joint bay as this is the transition point between the offshore and the onshore export cables.

3.2.5.9 *Impacts on local communities*

- Submission No. 5 noted that *“the cost to the community in terms of impact does not appear to have been addressed in any meaningful way.”*

Response

Impacts on local communities during the construction of the onshore cable route have been comprehensively assessed in Chapter 32 of the 2024 EIAR. The scope of this assessment includes:

- Impacts on the accessibility of local services and community facilities due to construction traffic and full / partial road closures, affecting drivers, users of bus services, walkers and cyclists.
- Impacts on neighbourhood amenity arising from the combined effects of noise, air emissions, visual impacts and traffic disruption.
- Health and wellbeing effects arising from the above impacts, including consideration of vulnerable groups.

The assessment of impacts on accessibility and journey patterns during construction is reported in the Population assessment, Section 32.5.2.2 of the 2024 EIAR and is informed by the assessment of Traffic and Transportation impacts in Chapter 24. Particular attention is paid to full, or partial (single lane) closure of roads used by rural and suburban communities to access employment sites, local services and facilities. Temporary significant negative effects have been identified for communities in Balbriggan, rural areas of Fingal, Malahide and surrounding areas (including Seabury, Kinsealy and Portmarnock, and communities along Malahide Road). The assessment takes account of the specific services and facilities that will be impacted, such as train stations, medical centres, schools and local shops.

Chapter 32 also states that *“Mitigation measures are detailed throughout the EIAR to minimise effects on the local population and communities during the construction phase, including in particular, in Chapter 27: Air Quality, Chapter 30: Noise and Vibration, Chapter 24: Traffic and Transportation, and Chapter 29: Seascape, Landscape and Visual. This includes embedded measures within the residual assessments on which the population and human health assessment is based and includes:*

- *The implementation of an Onshore Construction Environmental Management Plan (CEMP) – in Appendix 9.1 in Volume 8 of the EIAR.*
- *The erection of directional and information signage where paths are temporarily closed.*
- *The provision of information to local householders and the wider community in a phased approach before construction begins and iteratively as the construction progresses via direct mail campaigns, social media alerts and frequent updates via a dedicated news section on the proposed development website (www.northernseaarray.ie).*
- *The ongoing provision of a dedicated community liaison officer to manage community relations, be available via mobile phone and email to provide a link between the community and the developer throughout the construction phase.*
- *The preparation of an emergency response plan to cover foreseeable risks.*
- *Due to the temporary nature of impacts on accessibility and journey patterns, the effects on health and wellbeing have been assessed as moderate negative (not significant). However, the assessment notes that certain groups will be particularly vulnerable, including older people, children, people on low incomes, and people with health problems or disabilities.”*

Even with these mitigation measures, Chapter 32 of the 2024 EIAR acknowledges a residual negative, temporary and significant effect on accessibility and journey patterns in Balbriggan during the construction phase.

The request for further information from An Bord Pleanála, under Item 19 therein, sought further engagement between the Developer and Fingal County Council in respect of the proposed phasing of the construction phase. The Developer has engaged with Fingal County Council in the intervening period and has prepared, in consultation with Fingal County Council, an indicative phasing plan, as described in Section 3.2.5.3 above. This includes further detail on the phasing and additional mitigation measures now proposed to further reduce the impact during construction. The Developer is committed to continuing to engage with Fingal County Council throughout the project to reduce the duration of road closures and subsequent traffic impacts.

The EIAR did not identify significant adverse residual noise, dust or visual effects along the onshore cable route. The Population assessment noted that the works on roads will proceed at a rate of 30-80m/day and therefore, in any given location, the duration of environmental impacts will be temporary.

Where the route passes through populated areas, such as in Balbriggan, Seabury and the communities along Malahide Road, the Population assessment noted that communities will experience noticeable changes in amenity in proximity to the works and this was assessed as a temporary, negative, slight (not significant) impact.

3.2.5.10 Electromagnetic Fields (EMF)

Submission No. 5 raised specific concerns in respect of EMF. It notes:

“Ongoing research worldwide indicates that despite some scepticism there is so far no conclusive evidence to prove or to disprove this alleged health hazard. I request An Bord Pleanála to give this consideration particularly in respect of the 30km cables proposed between Balbriggan and Belcamp which are routed through densely populated residential areas.”

Response

As described in section 32.5.3.2 of the Population and Human Health chapter, in terms of public exposure to electromagnetic fields (EMF), Irish Government policy is to comply with the 1998 International Commission on Non-Ionising Radiation Protection (ICNIRP) Guidelines which form the basis of the EU EMF 1999 Recommendations. To ensure compliance with the ICNIRP guidelines, the Developer undertook an assessment of EMF exposure. The assessment is provided in Appendix 32.1 of the 2024 EIAR.

The greatest potential exposure for the population to EMF from the onshore infrastructure of the proposed development is in the closest possible proximity to the 220kV onshore cable route. These cables will be trenched predominately under local roads. Appendix 32.1 of the 2024 EIAR considers a person standing directly above the cable routes as the scenario most likely to generate the greatest magnitude of impact as an exposure scenario, with the results shown on Figure 1 of Appendix 32.1. For most of the cable route, a trefoil cabling arrangement will be used and the potential EMF exposure levels to such a person is in the range of 5-20 micro-Teslas. Some short, localised sections of the cable route will use a flat cable arrangement and the EMF exposure levels to a person standing directly above these would be in the range 45-60 micro-Teslas.

In all circumstances, the EMF levels would be comfortably below the threshold value of 100 micro-Teslas set out in the ICNIRP guidelines. No adverse impacts on human health are therefore predicted due to EMF from the cables.

The EMF from high-voltage cables could potentially interfere with very sensitive domestic appliances. There is no potential for interference beyond 8m from the onshore cables, as set out in Table 4 of Appendix 32.1 of the EIAR. As noted in Section 8.1 of Appendix 32.1 of the 2024 EIAR, “where the as-built onshore cable route comes within 8m of residential properties, exceedances will be prevented by a combination of cable arrangements and/or shielding of the cables”.

This embedded mitigation will ensure there will be no adverse impacts on domestic appliances from EMF. The effect on health and wellbeing from EMF is therefore assessed as imperceptible. The EMF assessment is included in Appendix 32.1 of the 2024 EIAR.

3.2.6 Conclusion

The issues raised in the submissions in relation to the onshore cable route have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR.

It is acknowledged that impacts on traffic and on local communities as a result of the construction phase of this project, are, in some locations, temporary, significant and adverse. To the extent feasible, given the constraints set at the outset in terms of route selection and those identified through further design development, the Developer has endeavoured to mitigate impacts, particularly in terms of reducing the duration of full road closures by assigning multiple crews to minimise construction durations.

In response to the RFI (Item 19), the Developer engaged with Fingal County Council and in consultation with the Council, has developed an indicative phasing plan which sets out further detail in respect of the phasing of the cable route construction works, as well as additional mitigation measures now proposed to further mitigate the potential effects during construction. This indicative phasing plan is included in the RFI response (see the updated CTMP in Appendix A of Appendix A9.1 of the EIAR Addendum submitted with the RFI response).

The CTMP will be further developed by the Contractor prior to, and during construction, in consultation with the local authorities and An Garda Síochána and all practicable steps will be taken to minimise construction impacts on local communities.

3.3 Landfall Area

3.3.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the following parties, shown in Table 3.3.1 in relation to the landfall area situated north of Balbriggan. A summary of the key points raised by these stakeholders is provided in Section 3.3.3. The response (Section 3.3.3) has been categorised into a number of sub-themes due to the varying points contained in the submissions.

Table 3.3.1 Submissions made in respect of the landfall area

No.	Name	No.	Name
03	Brendan and Theresa Stack	26	Hampton Cove Resident's Association
07	Balbriggan Sustainable Energy Community	29	David Healy
11	Jennifer Mahon	36	Sharon Burke
19	Balbriggan Community Council	40	Fingal County Council
21	Gormanston Community Association CLG		

Note, the response on the landfall area to Fingal County Council is provided in Section 4.2, along with the response to other items they have raised.

The site identified for the landfall is located north of Balbriggan and is immediately south of Bremore Point in the townland of Bremore in North County Dublin. A detailed description of the landfall site is provided in Section 7.3 of Chapter 7: Description of the Proposed Development – Onshore, of the 2024 EIAR. Additional context for the seaward aspects of the landfall site is provided in Section 6.9 of Chapter 6 – Description of the Proposed Development – Offshore. The location of the landfall site is shown in Image 7.3 of Section 7.4 and on Figure 7.1 of Volume 7A of the 2024 EIAR.

This section addresses points raised in relevant submissions to aspects landward of the high-water mark (HWM) as described in Chapter 7 of the 2024 EIAR.

3.3.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the landfall, which are dealt with as sub-themes below.

- Footprint of the proposed development at landfall;
- Alternative landfall locations;
- Archaeology;
- Biodiversity; and
- Suitability of Bells Lane for construction access.

The Developer notes that there are several submissions that have raised concerns around coastal erosion at the landfall. These concerns are responded to separately in Sections 3.8 and 4.2.3.7 of this report.

3.3.3 Response to Key Issues Raised

3.3.3.1 Footprint of the proposed development at landfall

Submission No. 36 states that “At no time in any of the presentations completed by the applicant were there maps showing where exactly the cabling was going to come in, therefore the public were not adequately advised of this and did not know if it affected an area that they wanted to protect. The applicant cannot simply be vague about this and say this will be decided later on in consultation with others.”

Response

The Developer understands the concern raised in this submission but notes that in Section 7.2.2 of Chapter 7 of the 2024 EIAR, the Developer “has defined a proposed development boundary which provides some necessary local flexibility regarding the placement of project infrastructure. Whilst in some locations this means that the proposed development boundary is larger than the likely final construction footprint, this approach provides confidence that the proposed development will be constructable entirely within the proposed development boundary.”

This provides sufficient information of the area in which the cable makes landfall, as the EIAR confirms it will be constructable entirely within the proposed development boundary in this area (See Image 3.3.1 which shows the Landfall Site boundary (east of the R132)).



Image 3.3.1 Onshore Infrastructure at Landfall Site and Grid Facility (Figure 7.2 of the 2024 EIAR)

As noted in Section 9.2 of Chapter 9: Construction Strategy – Onshore of the 2024 EIAR, “For the purposes of the EIAR and planning consent, it is assumed that the proposed development will be located anywhere within the proposed development boundary. To that end, the construction footprint required for the onshore infrastructure is smaller than the proposed development boundary extent. The EIAR has been authored in line with this approach and presents an assessment of significant effects resulting from the construction, operation and decommissioning of the proposed development within the proposed development boundary.”

Section 9.2 of Chapter 9 also notes “where flexibility relates to the final location of onshore infrastructure, the construction strategy described is applicable irrespective of where the infrastructure is finally located within the proposed development boundary. Existing known constraints within the proposed development boundary which will be avoided by the construction footprint are detailed within the relevant EIAR assessment chapters.”

Further details on the information provided to the public at the public consultation events, prior to submission, is provided in Section 3.6.3.3 of this report.

3.3.3.2 Alternative landfall locations

Key points raised in relation to the need for alternative landfall locations include:

- Submission No. 26 states that “*Greenfield sites’ should be used for bringing cables ashore and transformer infrastructure should be built well away from residential areas, schools etc. There are ample such locations both north and south of Balbriggan, Drogheda and Skerries.*”
- Submission No. 29 states that the EIAR did not provide an assessment for the use of a sea cable off Portmarnock beach. This landfall area would allow the routing of the cable inland to Clonsaugh along the route of the proposed Greater Dublin Drainage Project.

Response on alternative landfall locations

Section 5.5 of Chapter 5: Consideration of Alternatives, of the 2024 EIAR describes the initial site selection framework and evolution of the proposed development which resulted in determining that the offshore development area would be located in the North Irish Sea off the coasts of Counties Dublin, Meath and Louth. Sections 5.5.6 and 5.5.7 of Chapter 5 of the 2024 EIAR provide details on the constraints analysis undertaken to inform the confirmation of the preferred array location.

Section 5.5.2 of Chapter 5 of the 2024 EIAR notes that EirGrid determined that the existing Belcamp 220kV substation, located in north county Dublin would be the most suitable location to connect into the grid.

To deliver the power generated offshore from the North Irish Sea off the coasts of Counties Dublin, Meath and Louth to the transmission network at Belcamp, there is a need for onshore infrastructure. Section 5.7.2 of Chapter 5 of the 2024 EIAR describes the reasonable alternatives studied during the evolution of the landfall site selection process and the main reasons for the site selected, taking into account the effects on the environment.

Before landfall sites could be assessed, it was necessary to identify the key constraints (basis of design) associated with the landfall which enabled the identification of feasible landfall options that could be considered.

A key driver for selection of landfall location was proximity to the array and also proximity to Belcamp. Section 5.7.2 of the 2024 EIAR sets out the landfall site selection process and the factors which were considered in this regard. To that end, a number of landfall options were considered, from south of Skerries to Bremore Point.

These are described in Section 5.7.2.2 of Chapter 5 of the 2024 EIAR as follows (and shown on Image 3.3.2 below):

- Landfall 1 – Bremore Point
- Landfall 2 – Skerries North
- Landfall 3 – Skerries South



Image 3.3.2 Location of Landfall Site Options (Image 5.15 of Chapter 5 of the 2024 EIAR)

Section 5.7.2.3 of Chapter 5 of the 2024 EIAR presents the results of a comparative assessment of the three potential landfall sites. This comparative assessment included technical, landowner and environmental criteria.

Landfall 1 was ultimately selected as the preferred option as noted in Section 5.7.2.3 of the 2024 EIAR which states *“Landfall 1 was considered the most preferable as it had the least constraints at this early stage of the project. From a technical and constructability perspective, there were no significant constraints identified – there was plenty of space available at the landfall and the topography was appropriate, with an almost level approach from the beach to the landfall site.”*

With regard to Landfall 2, Section 5.7.2.3 of the 2024 EIAR noted that. *“Landfall 2 had a number of technical and constructability constraints given the cliff heights in the vicinity, the narrow local roads and the potential substation locations.”*

With regard to Landfall 3, Section 5.7.2.3 of the 2024 EIAR noted that, *“Landfall 3 was ruled out as there were a number of significant constraints associated with the landfall. In particular, at this early stage of the project, the fact that to reach this landfall, there was a requirement for the offshore export cables to pass through both Rockabill SPA and Rockabill to Dalkey Island SAC was identified as a key constraint.”*

Section 5.7.2.1 of the 2024 EIAR provides a list of key constraints in choosing the landfall site. The key considerations of relevance to landfall locations south of Landfall 3 include *“avoiding designated sites where practicable”* and *“proximity to the array offshore”*. Potential landfalls south of Landfall 3 would have been further from the array area and would have involved unnecessary interactions with designated sites. Consequently, landfalls south of Landfall 3 were not considered reasonable alternatives.

The location of the landfall site, onshore export cable route (linking the landfall site with the grid facility) and the grid facility are situated in greenfield sites. The zoning of the grid facility is 'RU' in the Fingal County Development Plan 2022-2028 and as noted by Fingal County Council in Section 4.2.3.3.2 of this report, is considered acceptable from a zoning perspective.

Submission 29 indicated that the landfall area would allow the routing of the cable inland to Clonshaugh along the route of the proposed Greater Dublin Drainage Project. The proposed wastewater treatment plant (WwTP) for the Greater Dublin Drainage scheme is located at Clonshaugh and includes an outfall from the proposed WwTP eastwards discharging to the sea south of Portmarnock. However, as noted above, landfall locations to the south of Landfall 3 are not considered to be reasonable alternatives (requirement for the offshore export cables to pass through both Rockabill SPA and Rockabill to Dalkey Island SAC was identified as a key constraint). Therefore, there is no obligation under the legislation to include alternatives that were not considered to be 'reasonable' within the EIAR and inclusion of the landfall in this area, as indicated in Submission 29, is not deemed to be reasonable.

Submissions made with regards to alternative locations for the grid facility or the onshore cable route are assessed separately in this report in Sections 3.1.2 and 3.2.2, respectively.

3.3.3.3 *Impacts on Archaeological sites at the landfall site*

The key points in relation to archaeology, architectural and cultural heritage at the landfall site include:

- Submission No. 21 states that Appendix 25.4 of the 2024 EIAR is "*labelled as 'Draft' which indicates that it is a work in progress. It can have no relevance if only a draft document.*"
- Submission No. 11 and 19 state that the Bremore Passage Tombs are located in close proximity to the landfall site and have been standing for more than 5,000 years.
- Submission No. 21 states that Appendix 25.4 of the 2024 EIAR says that "*the onshore archaeology, architectural and cultural heritage assessment has been conducted with the assumption that the onshore cables will be located anywhere within the landfall/ grid facility site and all archaeological features identified in this area have the potential to be impacted. This simply again cannot be allowed to happen. Too vague on what could have devastating consequences and where people in the area are still in the dark as to where such cables will or will not go.*"
- Submission No. 26 and 36 state that the landfall site and parts of the grid facility have the potential to "*encroach upon important historical/archaeological sites e.g. a raised beach from c. 3 million years ago, Neolithic monuments, ancient graveyards and a commemorative grave from a shipwreck in mid 1800s.*"

It is noted that potential archaeological, architectural and cultural heritage effects arising from the proposed development are addressed in Chapter 18: Offshore Archaeology and Cultural Heritage and in Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage in the 2024 EIAR. These assessments have been undertaken in accordance with best practice guidance as set out in Sections 18.2.3 and 25.2.3 of Chapters 18 and 25 of the 2024 EIAR, respectively. The assessments are in compliance with the EIA Directive and have been undertaken using best scientific evidence and by competent experts in the field of archaeology as detailed in Appendix 1.1 of the 2024 EIAR.

The construction phase effects of the proposed development on landfall archaeology are presented in Section 25.5.2.1 of Chapter 25 of the 2024 EIAR. It was assessed that the proposed construction at the landfall area "*will not result in any direct construction impacts on recorded archaeological or architectural sites.*"

In this context 'recorded' means sites or structures that are already listed as recorded monuments, protected structures or listed in the National Inventory of Architectural Heritage (NIAH).

Impacts on receptors landward of the High-Water Mark (HWM) are assessed in Chapter 25 and those seaward of the HWM in Chapter 18 of the 2024 EIAR. This section of the report is concerned with submissions made in relation to those receptors landward of the HWM.

Response on the Draft Cultural Heritage and Mitigation Strategy (Appendix 25.4 of the 2024 EIAR)

As noted in Section 25.6.1.3 of Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage in the EIAR “*A draft Cultural Heritage Mitigation Strategy detailing the required mitigation measures (including definitions of same) has been appended to this EIAR (Appendix 25.4). This document will remain a live document and will require updating by the relevant heritage contractors during the course of the project at pre-construction and construction stages.*” All proposed mitigation measures detailed in the draft Cultural Heritage Mitigation Strategy are also set out in full in Section 25.6.1 of Chapter 25 in the 2024 EIAR.

As explained in Section 25.3 of Appendix 25.4, the Developer “*proposed the following cultural heritage mitigation strategy, to be updated where required at detailed design and construction stage. The draft mitigation strategy is prepared as part of the planning application, in order to provide statutory heritage consultees to submit observations on same and in order to inform An Bord Pleanála in determining conditions that may be attached to any planning approval.*” The draft Cultural Heritage and Mitigation Strategy was issued to all statutory heritage consultees as part of the planning application process, including the National Monuments Section of the Department of Housing, Local Government and Heritage and relevant Local Authority Heritage Departments.

Should permission be granted, the conditions relating to onshore archaeology, architectural and cultural heritage attached by An Coimisiún Pleanála to the permission, will be incorporated into the cultural heritage strategy pre-construction. Section 25.3 of Appendix 25.4 also states that “*The Cultural Heritage Strategy is a live iterative document, and it will continue to evolve on a phased basis to ensure that it remains appropriate and effective in managing cultural heritage risk up to and including the various construction and operational phases.*”

Given the above, it is considered entirely appropriate that the noted Appendix was titled ‘draft’ at this stage, so that any requirements of the prescribed bodies during statutory consultation and An Coimisiún Pleanála by way of conditions should it be minded to grant permission) could be included in the final strategy. An Bord Pleanála, in its request for further information (RFI) has requested that the Developer “*confirm if this is the most up-to-date report available and to update said report in relation to any issues arising as a result of the observation of the DAU and other observations.*” This has been dealt with separately in the response to RFI Section 1 (b) in the RFI Response Report prepared alongside this submission response report.

Section 4.9.3.3 of this report outlines the Developer’s response to the recommended conditions included in the National Monuments Service Submission in relation to onshore archaeology.

Response on the Bremore Passage Tombs

As noted in Section 25.2.2 of Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage in the EIAR, the study area for the archaeological and cultural heritage assessment is the onshore development area and an area measuring 250m from the edge of the onshore development area landward of the HWM. Section 25.3.2.1 of Chapter 25 of the 2024 EIAR notes that “*a passage tomb cemetery is located at Bremore (DU002-001001-5), c. 410m north of the proposed development area.*”

Due to the distance of the tombs from the proposed construction works (c. 410m north of the proposed development area), there will be no impact on the tombs during the construction phase.

Chapter 25 of the 2024 EIAR considers potential impacts from the offshore WTGs on the setting of cultural heritage sites and concludes that whilst the sensitivity of the Bremore Passage Tombs is Very High, there is a low magnitude of impact from both Project Option 1 and Project Option 2.

Therefore, there is a moderate significance of effect from the proposed development on the Bremore Passage Tombs during the operational phase which is not significant in EIA terms (see Table 25.17 of Chapter 25 in the 2024 EIAR). Further, there will also be no visual impact from the infrastructure at the landfall site as there will be no visible above ground infrastructure.

Therefore, the EIAR has fully assessed the potential impacts of the proposed development on the Bremore Passage Tombs and has concluded that there are no likely significant effects arising in either the construction or operational phase.

Response on the construction footprint at the landfall site

As noted in Section 3.3.3.1 of this report, and in Section 25.2.6.1 of the EIAR, at the landfall site, the construction footprint required to bring the offshore export cables ashore and subsequently connect to the grid facility will be smaller than the proposed development boundary. The onshore archaeology, architectural and cultural heritage assessment has been conducted with the assumption that the onshore cables will be located anywhere within the landfall site boundary and all archaeological features (see section 25.3.15, 25.3.17 and 25.3.18 of the EIAR) within this boundary have the potential to be impacted. It is also possible that some or all of these archaeological sites identified, will be avoided.

The above approach was discussed and agreed with the National Monuments Service with summary details of pre-application engagement provided in Appendix 1.2 of the 2024 EIAR.

The conclusion of the assessment of the potential archaeological, architectural and cultural heritage impacts at the landfall site is not that every potential receptor will be impacted. Rather, it is that all potential receptors are assessed on the basis that they could be affected. The proposed further testing at the landfall site will ensure that there are no likely significant residual effects on receptors located there.

Response on potential impacts to archaeological receptors at the landfall site

Section 25.3 of Chapter 25 of the 2024 EIAR describes the archaeological baseline environment of the proposed development, including the landfall area. To further inform the baseline assessment of the landfall area, Section 25.3.18 of Chapter 25 of the 2024 EIAR notes “*a programme of archaeological test trenching was carried out within the proposed landfall site and grid facility site to inform this assessment in March 2023 (Whitaker 2023, Licence Ref.: 23E0149). The report is presented in full in Appendix 25.3 of Volume 10...The test trenching confirmed that the majority of the potential archaeological anomalies recorded during the geophysical surveys were archaeological in nature (AA1-11)The 11 identified archaeological areas, all of which possess high sensitivity, comprise the following.*

- AA1 Enclosure;
- AA2 Burnt mound activity;
- AA3 Field system;
- AA4 Burnt mound activity;
- AA5 Enclosure;
- AA6 Burnt mound activity;
- AA7 Burnt mound activity;
- AA8 Burnt mound activity;
- AA9 Burnt mound activity;
- AA10 Burnt mound activity; and
- AA11 Kiln”

Of the 11 areas identified above, 7 No. of these are contained within the landfall area. The construction phase effects of the proposed development on landfall archaeology are presented in Section 25.5.2.1 of Chapter 25 of the 2024 EIAR. It was assessed that the proposed construction at the landfall area “*will not result in any direct construction impacts on recorded archaeological or architectural sites.*”

In this context ‘recorded’ means sites or structures that are already listed as recorded monuments, protected structures or listed in the NIAH. Of the seven sites uncovered during the archaeological geophysics and test-trenching, Section 25.5.2.1 of the 2024 EIAR notes, “*it is possible that ground disturbances associated with the construction of the onshore development area will result in direct, negative impacts on the archaeological remains.*

The scenario with the greatest potential impact means that it is possible that all seven archaeological sites will be affected. Alternatively, all or some of the sites, may be preserved in-situ.”

However, the mitigation measures presented in Section 25.6.1.1 of Chapter 25 of the 2024 EIAR note that preservation in-situ of archaeological remains is the preferred method by which to conserve the archaeological resource. *“To that end, every effort will be made during detailed design to avoid directly affecting the identified archaeological areas within the landfall site (AA5, 6, 7, 8, 9, 10, 11).”*

Following detailed design, a further programme of archaeological test trenching will be carried out within the refined development footprint with the aim of identifying any smaller archaeological remains that may survive within the onshore development area, which were not identified during geophysical survey or the first phase of archaeological testing. If it is not possible to avoid direct impacts on the archaeological resource, the archaeological remains will be preserved by record prior to the commencement of construction. This will be carried out under licence, as issued by the National Monuments Service of the Department of Housing, Local Government and Heritage. Full provision, within the programme of works, will be made for the resolution of any archaeological remains, both on site and during the post excavation process.

The Sailor’s Grave (WA1001) is assessed in Chapter 18 of the 2024 EIAR and Chapter 25 of the 2025 EIAR (CH040). Both assessments conclude that there are no likely significant effects on this receptor from either direct or indirect disturbances.

The assessment presented in Chapter 25 of the EIAR concludes that there are no residual significant effects on any of the archaeological features at the landfall site.

3.3.3.4 Biodiversity

The key issues raised in the submissions in relation to biodiversity at the landfall area include:

- Regarding potential impacts on River Nanny Estuary and Shore SPA, Submission No. 03 states *“there has been only a brief mention of the Boyne/Blackwater SAC and SPA and none of the Nanny SPA Area which stretches from Bettystown to Irishtown (adjacent to Gormanstown).”*
- Regarding potential impacts on hedgerows, Submission No. 7 states that *“Balbriggan has lost kilometres of native hedgerow owing to residential and commercial development. Cable landfall, associated infrastructure and grid facility infrastructure should aim to incorporate existing hedgerows into planning designs and replanting must only use native species and plants grown in Ireland.”* Submission No. 7 also notes that they *“welcome the plan to retain and enhance existing hedgerow, woodland and meadows around the Grid Facility as set out in the landscape plan.”*
- With regards to construction impacts on wildlife, Submission No. 7 states that *“the cable landfall area provides important habitat for the Red listed Yellowhammer and vegetation clearance should be avoided.”* Submission No. 11 states that *“we have a flock of over 1000 migrating Curlews which are under threat, that visit the fields at Cardy Rock beside the proposed site. They potentially can no longer access this site, because of the disruption.”*
- Regarding the survey coverage, Submission No. 21 states that *“the surveys do not appear to be multi seasonal which would cover different migratory birds, but also from our perspective they would appear to have a focus on Gormanston Beach and not the immediate hinterland e.g. there is no mention of the short-eared owl which nests directly beside the subject area.”* Submission No. 36 states that *“There is also no mention of the short-eared owl who nests directly beside the subject area and which area they say they had assessed on land from Balbriggan to the mouth of the Delvin for bird species.”*

Response to River Nanny Estuary and Shore SPA

River Nanny Estuary and Shore SPA [004158] is discussed in Section 23.3.2 of Chapter 23 Biodiversity. It is included in Table 23.10 ‘Summary of European designated sites occurring within 15km of the onshore development area, and those with identified connectivity to the onshore development area’. In terms of connectivity with the onshore infrastructure of the proposed development, it is indicated that there is no hydrological, or other, connectivity between the onshore infrastructure of the proposed development and this SPA. However, mobile Site of Community Importance (SCI) species associated with the SPA may use lands within or adjacent to the onshore infrastructure of the proposed development (for example, golden plover are known to move significant distances of up to 12km between fields during the winter period), so River Nanny Estuary and Shore SPA [004158] was identified as having connectivity with the onshore infrastructure.

Potential Effects to European sites (including Nanny Estuary) is included in Section 23.5 and indicates “*Significance of effect: In the absence of mitigation, negative, temporary to short-term (i.e. for the period of the construction activity), reversible likely significant effects arising from disturbance and displacement impacts on fauna of national sites are predicted at a local geographical scale on national sites.*” Table 23.20 indicates the residual effect (following mitigation listed in Section 23.7) as “*any remaining likely significant effect would be imperceptible at any geographical scale. No likely significant residual effect.*”

Response on the impact on hedgerows

In relation to impacts on hedgerow at the landfall area as raised by Submission No. 7, the locations of the permanent wayleaves, horizontal directional drilling (HDD) contractor compounds and the route of the onshore export cable have been chosen to minimise hedgerow removal throughout.

A maximum of 34m of hedgerow will be removed at the landfall area during construction (i.e. two hedgerows intersected by a 17m working corridor) with 18m of this replanted with shallow rooted native vegetation (i.e. replanting either side of an 8m exclusion zone over the cable itself).

Impacts on hedgerows from the proposed development are set out in Section 23.5.2.2 of Chapter 23 of the 2024 EIAR which presents the assessment of potential effects on hedgerows including temporary and permanent habitat loss and fragmentation, degradation of habitats arising from dust deposition and spread of non-native invasive species. It is acknowledged and accounted for in the assessment of potential effects that due to the age and maturity of the hedgerows being removed, like for like cannot be replanted. While reinstatement of hedgerows and treelines will occur, reinstatement to their original condition is not reasonably practicable. Section 23.6.1.2 and 23.6.1.3 of the EIAR details mitigation and enhancement measures including replanting of native hedgerow species only and Section 23.6.2.2 of the EIAR includes a monitoring schedule for hedgerows post-construction. Section 23.7.1 and 23.7.2 of the EIAR presents the assessment of residual effects on hedgerows which concludes that while mitigation measures will reduce and alleviate likely significant effects on hedgerows, a short-term, reversible likely significant residual effect at a local geographical scale has been identified until replacement planting is established at the grid facility.

For clarification,

- *short term* is defined as up to 5 years where after new hedgerow planting should meet ‘Adequate’ or ‘Favourable’ criteria as set out in Heritage Council’s Hedgerow Appraisal System, see Section 2.3.1 of Appendix 23.10 of the 2024 EIAR
- *reversible* is where recovery is possible or effect is counteracted by mitigation, see Section 23.2.6 of Chapter 23 of the 2024 EIAR.
- *local geographical scale* refers to an effect on a locally important species, semi-natural habitat or feature of high biodiversity in a local context, typically referring to the area within the proposed development boundary and immediate surrounding area, see Section 23.2.6 of Chapter 23 of the 2024 EIAR.

With respect to the landfall, An Bord Pleanála, in its RFI has asked the Developer to “*clarify what, if anything, will be visible above ground at the landfall site when the development is complete*” and to “*elaborate on proposed groundworks and landscaping works in sheet 03 and 04 of 64.*” These issues are dealt with in the response to the RFI, prepared alongside this submission response report.

Response on the construction impacts on wildlife

Potential impacts on wildlife arising from disturbance during the construction phase of the onshore elements of the proposed development have been assessed in Section 23.5.2 in Chapter 23 of the 2024 EIAR. The assessment has been undertaken in accordance with best practice guidance *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (2018), a document prepared by the Chartered Institute of Ecology and Environmental Management (CIEEM). The assessment is in compliance with the EIA Directive. The assessment has been undertaken using best scientific evidence and by competent experts in the field of ecology as detailed in Appendix 1.1 of Volume 8 of the 2024 EIAR: Competent Experts.

Concerns in relation to yellowhammer and habitat removal at the landfall were raised in Submission No. 7. Assessment of potential effects on yellowhammer including habitat removal during construction are assessed in Section 23.5.2.8 of Chapter 23 of the 2024 EIAR. The assessment concluded, *“in the absence of mitigation, that the construction of the onshore infrastructure of the proposed development will result in a negative, temporary (i.e. disturbance experienced during the construction phase) to medium-term (i.e. until habitats have been reinstated and returned to as close to their original state as practicable), reversible likely significant effect at a local geographical scale on Red-listed yellowhammer.”*

Mitigation measures for the protection of yellowhammer from habitat loss are set out in Section 23.6.1.9 of the 2024 EIAR and include seasonal restrictions on vegetation removal outside the breeding bird season where displaying yellowhammer are observed and habitat enhancement for yellowhammer including hedgerow planting, minimal management of species rich grassland and unmown grass strips.

Section 23.7.1 and 23.7.2 of the EIAR contains the assessment of residual effects on yellowhammer in relation to habitat loss which concludes that while mitigation measures will reduce and alleviate likely significant effects on yellowhammer, a *“short-term, reversible likely significant residual effect at a local geographical scale has been identified until habitats are reinstated, and replacement planting is established at the landfall area.”*

Submission No. 11 also notes that curlews may potentially be unable to visit fields at Cardy Rock. Although the submission does not quote a grid co-ordinate for the location of the fields, from photos included in the submission, it appears that the fields at Cardy Rock are outside the proposed development boundary to the southwest of the landfall area, are c. 55m from the nearest point of the proposed development boundary, and are separated by scrub, a mature hedgerow and the Belfast to Dublin railway line. The likely significant effects on wintering waterbird populations occurring at the landfall area, including curlew, have been assessed in Section 23.5.2.9 of Chapter 23 of the 2024 EIAR, and in the NIS where they relate to SPA populations.

The populations assessed in Section 23.5.2.9 were identified by the field surveys summarised in Section 23.3.3.1 of the EIAR which states *“flocks recorded foraging in fields at the grid facility and landfall site, and at Malahide Estuary. A maximum of 91 curlew were recorded roosting/feeding in arable fields at the landfall site.”* Mitigation measures at the landfall area will be implemented to minimise disturbance during construction on wintering waterbirds including curlew as detailed in Section 23.6.1.10 of the 2024 EIAR Chapter 23, and in the NIS. These measures will include *“restricted construction lighting, the erection of noise barriers at HDD compounds, presence of an Ecological Clerk of Works (ECoW) and toolbox talks to contractors to communicate the sensitive nature of the area for wintering waterbirds.”* The conclusion of the assessment of construction phase residual effects on wintering waterbirds, in Section 23.7.1 of the EIAR, states the predicted effect post-mitigation will be *“imperceptible at any geographical scale and there will be no likely significant residual effect.”*

It is also important to note that in relation to curlews at Cardy Rock, the proposed development does not require access at the ‘Bell’s Lane’ next to Cardy Rock (referred to in Submission No. 11). Further information on this is provided below in Section 3.3.3.5 of this Report.

It is noted that RFI 1 (b) states:

“The scientific information provided as part of the planning application documentation should be based on up-to-date survey reports and data. Accordingly, the applicant is requested to confirm/provide justification/verification that the information submitted in support of the planning application remains relevant and appropriate at the point of submitting further information or to update same as required.”

Therefore, as indicated in Chapter 23 Biodiversity Addendum, a review of the baseline environment has been undertaken to comply with RFI 1 (b).

As part of the updated breeding bird surveys, additional red-listed species that were recorded during update surveys. Curlew were recorded flying at the landfall site. However, the significance of effect on breeding birds remains the same as assessed in the 2024 EIAR, i.e. negative, temporary to medium-term reversible likely significant effect at a local geographical scale on Red-listed yellowhammer and meadow pipit. For all other breeding birds, a negative, temporary and reversible likely significant effect at a local geographical scale.

As part of the wintering bird surveys peak counts of black-tailed godwit and lapwing increased at the landfall site. However, the significance of effect on wintering waterbirds remains the same as assessed in the 2024 EIAR, i.e. a negative, temporary to short-term reversible likely significant effect at a local geographical scale.

Response on the survey coverage relating to short-eared owl

In Submission nos. 21 and 36, concerns have been raised in relation to survey coverage where records exist for short-eared owl at the landfall area, and response no. 36 raises concerns in relation to the seasonality of surveys.

Short-eared owl are extremely rare breeders in Ireland. They breed in upland habitats. This type of habitat is not represented within the proposed development. Short-eared owl are, however, a winter visitor to Ireland. Any records of short-eared owl in the vicinity of the proposed development are in the winter period. The most recent record was in 2011. Refer to Table 1 in Appendix 23.3, National Biodiversity Data Centre records for notable or protected bird species with potential to occur within the onshore development area. This indicates that short-eared owl do not nest or breed at the landfall location. No short-eared owl were observed during breeding bird surveys or wintering bird surveys at the landfall area, or any other location within the respective survey area which extended to the grid facility and onshore cable route. As indicated in Table 3.3.2 breeding bird surveys and wintering bird surveys were undertaken in 2021, 2022, 2023 and 2024.

Table 3.3.2 Overview of Ecological Surveys undertaken at the Proposed Development

Survey type	2021 survey dates	2022 survey dates	2023 survey dates	2024 survey dates
Breeding Bird Surveys	08/06/2021 10/06/2021 11/06/2021 14/06/2021	11/04/2022 25/04/2022 28/04/2022 15/05/2022 23/05/2022 26/05/2022	07/06/2023 08/06/2023	03/07/2024 04/07/2024 31/07/2024 01/08/2024
Wintering Waterbird Surveys	20/10/2021 23/10/2021 29/10/2021 30/10/2021 11/11/2021 17/11/2021 19/11/2021 13/12/2021 14/12/2021 17/12/2021 23/12/2021 28/12/2021	11/01/2022 17/01/2022 18/01/2022 25/01/2022 14/02/2022 28/02/2022 10/03/2022 15/03/2022	30/10/2023 21/11/2023 12/12/2023	05/01/2024 06/01/2024 22/02/2024 18/03/2024 19/03/2024

It is important to note that, as outlined in Section 23.2.3 of Chapter 23 of the 2024 EIAR, “at two locations the ecological study area extended beyond the onshore development area to adjacent lands at the landfall site and the nearest areas of Malahide Estuary... The study area was extended to cover the zone of influence (ZoI) of the onshore development area, and where appropriate, to cover nearby ecological features to confirm the presence of, for instance, a protected species resting place (e.g. badger sett) which would inform the use by badger of the area within the onshore development area at that location. The ZoI is defined as the area within which ecological features may be affected by changes resulting from the onshore infrastructure of the proposed development, an area which is likely to extend outside of the onshore development e.g. water quality impacts arising from construction can travel a distance downstream from the onshore development area.”

Therefore, a buffer was applied to the breeding birds and wintering waterbirds surveys, as well as the desktop studies (also refer to Figure 23.1 of the 2024 EIAR for the extent of the study area at the landfall).

No records of short-eared owls were identified on the National Biodiversity Data Centre records within the past ten years, or in any of the surveys undertaken to inform the baseline.

In relation to the seasonality of surveys, surveys were undertaken during the optimal survey period for target species as outlined in Section 23.2.4.2 of Chapter 23 of the 2024 EIAR. For wintering waterbirds, non-breeding season surveys were undertaken between October and March, and breeding season bird surveys were undertaken between April and June. In addition, in response to RFI 1 (b) updated surveys have been undertaken to provide an up to-date baseline (2024 and 2025), as detailed in Section 23.2.4.2 of Chapter 23 Biodiversity Addendum.

3.3.3.5 Suitability of Bells Lane for Temporary and Permanent Access

Submission No. 7 states that “*Bell's Lane is a highly valued habitat area and community amenity, which is heavily used by local walkers.*” Submission No. 11 states “*the access road intended for construction access will remove the ability of the public to enjoy their local amenity*”. This submission is accompanied by a figure reproduced below as Image 3.3.3 for information.

Additionally, Submission No. 19 notes “*however, we see from the site notice that it proposed to have 'permanent access to the landfall site for maintenance purposes will be from the junction of the R132 and Bells Lane'. Bells Lane is a public right of way. It is a busy Lane where people walk to the beach, if all or part of this lane is closed off it would cause great distress to the Community. It would also have a knock-on effect to Bremeore Castle, Cardy Rock residents and a Creche facility.*”



Image 3.3.3 Image of public access to Bremeore Beach as noted in Submission No. 11

Response to Access at Bell's Lane

It is noted in Section 7.4.6 of Chapter 7 of the 2024 EIAR that “*permanent access to the landfall site for maintenance purposes will be from the junction of the R132 and Bell's Lane - where a bituminous bellmouth will be formed to facilitate safe vehicular access along Bell's Lane - then along Bell's Lane to a point just to the east of the Dublin to Belfast railway line. From this point, permanent access tracks will be constructed to the Railway HDD entry site and to the landfall TJBs.*”

The lane proposed for construction and maintenance access at the landfall, as presented and assessed in the EIAR, is a different laneway than that referenced in the various submissions. The ‘Bell's Lane’ referenced in the submissions is situated south of the Cardy Rock Crescent and R132 Junction, and construction and permanent access will not be required at this location. The lane proposed for access in the EIAR is located to the east of the R132 at the northernmost end of the proposed development boundary. It is unnamed on OS mapping but named ‘Bell's Lane’ on Open Street Map (illustrated in Image 3.3.4). For clarity, the proposed construction and maintenance access at the landfall will now be referred to as the Landfall Access Road.



Image 3.3.4 Location of Bell's Lane as described in Chapter 7 of the 2024 EIAR (Source: <https://www.openstreetmap.org/export#map=16/53.62381/-6.19052>)

The permanent access tracks proposed for maintenance purposes at the landfall site and to be used throughout the construction phase are detailed on drawing 281240-ARP-ONS-CR-DR-PL-1101 and shown on Image 3.3.5.



Image 3.3.5 Overview of the Landfall and Grid Facility Locations in the context of Bells Lane

Access for the public will not be prevented throughout the lifecycle of the proposed development to the lane south of Cardy Rock Crescent. Therefore, there will be no construction or operational phase impacts to the existing pathway used by locals to access Bremore Beach located south of the proposed development as identified with a blue line in Image 3.3.5 above.

For the purpose of clarity, in Chapter 7 Description of the Proposed Development Addendum, the lane proposed for construction and maintenance is no longer referred to as ‘Bell’s Lane’ and is now referred to as the ‘Landfall Access Road’:

“Permanent access to the landfall site for maintenance purposes will be from the junction of the R132 and the Landfall Access Road. The Landfall Access Road is located at the northern extent of the onshore development area at the junction of the R132 indicated on Image A7.2. A bituminous bellmouth will be formed here to facilitate safe vehicular access along the Landfall Access Road - then along the Landfall Access Road to a point just to the east of the Dublin to Belfast railway line.”

3.3.4 Conclusion

The points raised in the submissions in relation to the landfall site have been fully considered. The conclusions in the relevant impact assessments remain as set out in the EIAR.

3.4 Seascape, Landscape and Visual

3.4.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the following parties, in relation to Seascape, Landscape and Visual Impacts.

Table 3.4.1: Submissions made in respect of the turbine array and seascape, landscape and visual

No.	Name	No.	Name
03	Brendan and Theresa Stack	25	Peter and Anita Dice
06	Theresa Kerins	26	Hampton Cove Resident's Association
09	Shamsa Doyle	30	Bryn Edwards
12	Jim and Phyllis McMahon	33	Denis and Rachel O'Leary
13	Donncha Gallagher	34	Elin Payne
14	Brendan Regan	35	Nephrops Fishermen and Producer Organisation
15	Elaine Whelan	36	Sharon Burke
16	Declan Halligan and Gerry Howley	38	Niamh Colgan
17	Malachy Quinn	39	Meath County Council*
18	Sustainable Windfarm Environmental Group (SWEG)	40	Fingal County Council*
21	Gormanston Community Association CLG	53	Faillte Ireland*
24	Blue Ireland Coalition CLG	56	Louth County Council*

*Prescribed body responses are dealt with separately within their respective sections within this report

3.4.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the WTG array and Seascape, Landscape and Visual Impact Assessment (SLVIA), which are dealt with as sub-themes below. These were:

- Photomontages presented at the public consultation meetings and in the EIAR were not an accurate representation of the final design.
- Visual impacts on coastal receptors due to the proximity of the turbines and the disruption of scenic views.
- Concern about visual effects and associated effects on the health and wellbeing of residents.
- Impact on character of landscape; and
- Cumulative Effects with Phase One Projects.

3.4.3 Response to Key Issues Raised

3.4.3.1 Context

The 2024 EIAR presents a comprehensive seascape, landscape and visual assessment (SLVIA) on both project options presented in the Developer's planning application. This is included in Chapter 29: Seascape Landscape and Visual. Appendix 29.1 of the 2024 EIAR contains a Visual Impact Assessment at Representative Viewpoint Locations and Appendix 29.2 of the 2024 EIAR presents the Cumulative Visual Impact Assessment at Representative Viewpoint Locations.

Four books of SLVIA photomontages also accompanied the 2024 EIAR as follows:

- Book 1 of 4: Project Option 1 (Viewpoints (VPs) 1-23)

- Book 2 of 4: Project Option 1 (VPs 24-47)
- Book 3 of 4: Project Option 2 (VPs 1-23)
- Book 4 of 4: Project Option 2 (VPs 24-47)

Section 29.10 of Chapter 29 of the 2024 EIAR notes that ‘*the operational phase seascape effects from the WTGs and OSP within the array area were assessed on the basis of those Seascape Character Areas from the Regional Seascape Character Assessment (2020) along with the underlying coastal Landscape Character Areas from the relevant County Development Plans.*’ Section 29.10 of the 2024 EIAR concludes that there are no significant impacts in EIA terms from any of the representative viewpoints assessed.

It is noted that, in order to respond to the request for further information (RFI) received from An Bord Pleanála, third-party submissions and continued public and stakeholder consultation, design refinements to the proposed turbine layout have been proposed. These design refinements are addressed in the Response to the Request for Further Information Report which has been prepared in parallel with this Response to Submissions Report. The Response to the Request for Further Information Report is accompanied by an EIAR Addendum (hereafter referred to as the EIAR) which fully addresses the proposed design refinements (see Appendix A5.1 of the EIAR for further details of these design refinements) as well as addressing the items raised in the RFI.

The photomontages prepared for the EIAR have also been updated to reflect the design refinements proposed, specifically the updated turbine layouts for Project Option 1 and 2 and to address other aspects of the RFI (see Appendix A5.1 of the EIAR Addendum for further information on these design refinements).

3.4.3.2 Photomontages presented at the public consultation meetings and in the EIAR were not an accurate representation of the final design.

Submission No. 25 states “*the wind turbines shown on pages 65 and 66 are NOT representative of their actual size and they specifically omit showing Rockabill lighthouse as a comparison and instead only show a limited arc of the horizon. This is a dishonest portrayal of the visual impact.*”

Submission No. 15 states “*It has also been noted that [the Developer’s] advertising photographs are inaccurately scaled which is alarming in itself and does not inspire confidence.*”

Submission No. 18 states “*the height representations of turbines in Statkraft’ photo montages were significantly under-scaled by 15-30%. To prove this point, we selected a photo montage viewed from Skerries from NISA’s website, which included Rockabill lighthouse as a known object with known height and known distance to shore...The result of the calculations was that the nearest turbine in the option 2 array would appear 3.45 times the height of Rockabill lighthouse for the 316m high turbines and 3.15 times the height of Rockabill lighthouse for the 290m high turbines. Refined calculations with an observer height of 8m as per the photo montage resulted in an even larger ratio of 3.49.*

As can be seen in the image below [see Image 3.4.1 in this report], which is an exact copy from the NISA website with our annotations, the actual ratio shown between the closest turbine (the left-most) and Rockabill lighthouse is 3 times, which is an underrepresentation by about 16%.”

Submission No. 25 states that ‘*the visuals shown in their submissions are **not** accurate to the heights of the turbines they are now proposing or are likely to propose in the future.*’

Submission No. 30 states ‘*public consultation events, held in Bracken Court Balbriggan, did not give the public an accurate scaled view of the visual impact this array would have when viewed from Skerries or Balbriggan, and we would urge the company to hold further public consultations where the true scale and visual impact are fully explained to the public.*’

Several submissions also stated that the photomontages presented at pre-application consultation do not represent the correct scale of the proposed WTGs at the viewing distances indicated from the viewpoints.

As discussed above, submission No. 18 examined the photomontages and provided calculations using Rockabill Lighthouse as a gauge.

Response

Many of the submissions raise a concern that, because of the proposed WTG dimensions, they should appear larger than they do in the photomontages. The Developer understands that this is a common concern for wind energy development submissions. However, it is important to consider the turbine dimensions in terms of their broad context i.e. beyond 12km offshore. Further, as noted in Section 3.6.3.3 of this report, the photomontages prepared for the multiple Virtual Consultation Rooms and Public Consultation Events evolved alongside the design progression of the proposed development. At each event, the photomontages prepared accurately reflected the design at the time. The final Virtual Consultation Room was launched on 10 April 2024, and the final round of public consultation was carried out from 9 April 2024 to 17 April 2024. The photomontages presented in these events reflect the final photomontages included in the 2024 planning application.

The proposed WTG number and dimensions have not changed between the 2024 EIAR and the 2026 application, including turbine height and rotor diameter. While the layouts have been refined (see Appendix A5.1), these changes are not material in the context of the visual assessment and do not result in any change to the residual effects identified in the 2024 EIAR. Accordingly, the conclusions of the 2024 EIAR that there are no significant operational effects arising from the visual assessment of the proposed development remains unchanged.

As detailed in Section 29.2.2 of the 2024 EIAR, the photomontages have been produced in accordance with the SNH (NatureScot), Visual Representation of Wind Farms Guidance, Version 2.2 (SNH, 2017a), which is the industry standard in the UK and Ireland.

The verifiable photomontage methodology involves modelling the turbines and placing them at the correct scale and location within a digital terrain model of the entire study area that is then matched to baseline photography in a sequenced and highly accurate process. Although it is not necessary to use man-made features (with a known height) such as Rockabill lighthouse as a reference in this process, it was used in this instance as part of good practice verification rigour and particularly to ensure that the lateral viewing angle of the WTG arrays was precise.

To fully address concerns that the proposed WTGs are accurately depicted, a sequence of process images has been produced to show the steps in the photomontage process that ensure scale and positional accuracy. The same process is then shown in relation to the existing Arklow Bank offshore WTGs to confirm its accuracy (See Appendix 3.4.1 of this report). The process involves merging a spatially accurate Digital Terrain Model (DTM) with a spatially accurate and precisely placed 3D model of the development. Then, the photographic detail captured at each representative viewpoint location is replicated digitally to generate equivalent photoreal renders (snapshots) of the model that can be precisely matched to the baseline photography. The placement of the proposed WTGs within the baseline photographic image is aided by a simple wireline image, which also matches the parameters of the captured photography, and serves as a go-between with the digital and the real world. The process relies on precise coordinates / dimensions for the viewer location and the proposed development, and the resulting outputs are all computer generated using established guideline-based / best practice methods.

In relation to the mathematical models that were prepared to assess the accuracy of the photomontages, it is acknowledged that they were fully correct in terms of their calculation of the vertical angle the WTG blade tips needed to be presented above the sea horizon from Skerries. However, the heights were calibrated against the nearest lateral turbine to Rockabill Lighthouse, which happens to be one of the turbines furthest from the viewer (in the east of the array) – not the nearest turbine to the viewer. The nearest turbine to the viewer is the 6th turbine to the left of Rockabill Lighthouse when viewed from Skerries. When using this closest turbine to calibrate heights, both the mathematics and the photomontages give the same answer thereby highlighting that the photomontages are correctly scaled.

Regarding Submission No. 25's point that the "*wind turbines shown on pages 65 and 66 are NOT representative of their actual size and they specifically omit showing Rockabill Lighthouse as a comparison*", the lighthouse was not omitted, it was simply that the lighthouse lay to the right of the image frame when the wind farm was centred in the required visual field (as per relevant guidance). The comparison of the

Rockabill Lighthouse and the WTGs is included in Submission No. 18 and is included in Image 3.4.1 below. Furthermore, Rockabill Lighthouse is clearly visible at other VPs (i.e., VP25 and VP26, Book 2 of 4: Project Option 1 and Book 4 of 4: Project Option 2 of the 2024 EIAR) that were not shown on pages 65 and 66 of the Non-Technical Summary (to which Submission No. 25 refers).



Image 3.4.1: Photomontage Calculations from Submission No. 18 (pg. 63)

3.4.3.3 Visual impact to coast due to turbine proximity

A number of the submissions (Submissions No. 03, 06, 09, 13, 14, 15, 24, 26, 34, 36, and 38) suggest that the turbines were too close to shore and too tall. Various distances from the coastline, such as 22km, 25km, 30km were proposed as reflecting the requirement or norm in other countries to reduce the visual impacts on the coast due to their proximity.

Submission No. 13 also stated that the preferred height to distance ratio is 2:100 and field of view angle is 50 degrees (limit before the wind farm begins to look imposing). Submission No. 13 assessed this for both project options and proposed an alternative layout which involves moving the turbine array a further 5 km from Balbriggan (shape is kept the same).

Additionally, the submissions noted above raised key points in relation to the disruption of scenic views. Namely that the size and positioning of wind turbines in both Project Option 1 and Project Option 2 will have detrimental effects on the SLVIA of the sensitive Fingal coastline.

Response on visual impact to coastline

The visual impact assessment of the two project options that is contained in Appendix 29.1 and summarised in Section 29.5.6 of Chapter 29 of the 2024 EIAR concludes that the proposed development will not result in any significant effects in EIA terms. By implication, this indicates that the WTGs are not deemed to be too large or the arrays too extensive for this seascape setting including from the Fingal coastline. It is important to reiterate that the significance of seascape effects is a function of weighing the sensitivity of the receiving seascape setting against the magnitude of impact arising from the proposed development. The sensitivity of coastal landscape and seascape units is assessed in section 29.5.6 of the 2024 EIAR and these seascape sensitivity judgements are generally at the higher end of the spectrum (High and High-medium). This closely corresponds to the classifications of the relevant Planning Authorities and accounts for distinctive coastal features in the northern and southern extents of the study area, but also the presence of shipping and marine industries within this portion of the Irish Sea.

Likewise, the sensitivity of visual receptors (viewers) is assessed in Appendix 29.1 of the 2024 EIAR and summarised in Section 29.5.6.1 of Chapter 29 and these sensitivity judgements are weighed against the magnitude of visual impacts arising from the proposed development to determine overall significance.

In relation to the scale in relation to distance and lateral extent of the proposed WTGs, specific reference is made to Submission No. 13 which expresses opinions that are both positive and negative in relation to particular views of the proposed WTGs. Submission No. 13 notes a personal preference for offshore turbines to be contained within a lateral extent of less than 50 degrees of included viewing angle and with a height to distance ratio of 2:100. It should be noted that this personal preference does not form part of any relevant guidance for offshore wind farm design.

Nonetheless, from the majority of receptors within the study area, the proposed development complies with the aesthetic parameters listed within the submission. Even from the closest onshore receptor of Skerries (12.9km from the nearest turbine), the maximum lateral extent of Project Option 1 is less than 52 degrees

and the apparent height to distance ratio (using the submitter's methodology) of the taller Option turbines (Option 2 with a blade tip height of 311m to 316m) is 2.4. These results are marginally greater than the submitter's personal preferences. It is contended that having undertaken an assessment of both project options (see section 29.5.6.1 of Chapter 29 of the 2024 EIAR) that the mathematical approach to offshore wind farm aesthetics within Submission No. 13 is not calibrated to the reality of the variation in visual impact between the two project options. Whereas Submission No. 13 suggests that in the view from Skerries, the smaller turbines of Project Option 1 represent "*just about the limit before the turbines look imposing. The Larger turbines would look very dominant*". However, the findings outlined in Section 29.5.6.1 of Chapter 29 of the 2024 EIAR indicate that there is no material difference in visual impact between the two project options even though the difference in WTG height and array density can be discerned.

Ultimately, visual impact assessment is about many more contextual factors than just the mathematical relationship between turbine height vs distance and included viewing angle, otherwise it could be confined to an algorithm. In this instance, significant visual impacts were considered not to occur. The methodology used in the assessment as described in Section 29.2.2 of the 2024 EIAR is the standard methodology used by SLVIA specialists in Ireland.

The location and site selection and refinement process for the proposed development is described in full in Chapter 5 in the 2024 EIAR. As noted in Section 3.7.3.1 of this report, the Developer notes that there is no standard set back distance from the coastline for offshore wind farms. As noted in several submissions, there is a misunderstanding that windfarms in the EU are set 22km from the coastline as a form of 'baseline' practice. However, some examples in other EU countries where the wind farms are closer than 22km include:

- Middelgrunden Wind Farm in Denmark (3.5km).
- Vesterhav Nord and Vesterhavet Syd in Denmark (5.5km).
- Nysed Wind Farm in Denmark (10km).
- Korsnaes Wind Farm in Finland (13km); and
- Hollandse Kust Zuid and Nord in the Netherlands (18km)

Wind Energy Ireland noted in their '*Briefing paper on proposals to block fixed-bottom offshore wind turbines*' that "*as of the end of 2023, there are 12 GW of offshore wind capacity installed in Europe located within 22 km of the coastline.*"^{7[Wind Europe]} *This accounts for 35 per cent of today's installed European offshore wind capacity. There are an additional 20 GW under construction, with permits or in the planning system within the same distance.*"

Further information on the siting of the turbines is included in Sections 3.7.3.1 and 3.7.3.2 of this report.

Response on the disruption of scenic views

Forty-seven representative viewpoints were assessed as part of the SLVIA (See Chapter 29 and Appendix 29.1 of the 2024 EIAR). The viewpoints represent a range of receptor types from the categories set out in section 29.2.4.5, which include *Key Views (from features of national or international importance); Designated Scenic Routes and Views; Centres of Population; Major Routes; and Amenity, heritage, and tourism features*. The representative viewpoints stretch from the mountains and coastline of County Down in the north of the study area (as defined in Section 29.2.3 of Chapter 29 of the 2024 EIAR) to south County Dublin and Wicklow in the south of the study area. In relation to designated scenic views, Section 29.3.3.1 of Chapter 29 of the 2024 EIAR sets out all scenic designations within the study area (from County Development Plans) and determines relevance to the assessment before scoping them in or out of further assessment.

For those that are scoped in for further assessment, the relevant representative SLVIA viewpoint is identified, noting that in some cases one SLVIA viewpoint represents a cluster of scenic designations with similar visual exposure and view characteristics.

An additional five viewpoints (VP) have been provided in Chapter 29 in response to RFI Section 13 (b). Two of these are within the Brú na Bóinne complex and support the original VP18, which was the single / original representative viewpoint from this receptor. Other additional viewpoints are added which relate to views from Gormanstown Castle (VP56), the Hill of Skryne (VP57) and the Hill of Tara (VP58) as requested by Meath County Council. Note that VP57 and VP58 are outside of the 40km radius principal study area but are assessed in both the main assessment and cumulative assessment given that they were specifically requested as part of the RFI.

The visual impact assessment at each representative viewpoint is contained in Appendix 29.1 of the 2024 EIAR and summarised within Section 29.5.6 of Chapter 29 of the 2024 EIAR. It is accepted that the proposed WTGs represent a negative visual intrusion on the seaward skyline as viewed from all of the representative viewpoints that have at least some visibilities of them. However, due to considerations of scale, distance and context, none are deemed to incur visual impacts that are significant in EIA terms. Notwithstanding the height dimensions of both Project Option 1 and Project Option 2 WTGs, the distance away from shore-based visual receptors is greater than 12.7km from the nearest WTG. As such, the nearest WTG rises less than 1.5 degrees of vertical viewing angle above the sea horizon, once earth curvature is accounted for.

The lateral extent (width) of the array area is also a visual impact consideration in the SLVIA. In this regard, the consolidated Project Option 1 and Project Option 2 arrays never exceed 60 degrees of included viewing angle even when seen directly off the coastline and they are predominantly seen within an open sea context with a reasonable proportion of uninterrupted sea horizon to either side. This represents a marginal increase above the field of view angle of 50 degrees suggested in Submission No. 13 and represents only one sixth (17%) of full 360-degree panoramic visibility.

Therefore, the proposed WTGs are not considered to be spatially or visually dominant in relation to onshore receptors. Nor are they deemed to be excessively scaled within the predominantly broad and simple open-sea-horizon viewing context of this part of the east coast, which also contains productive shipping and ferry lanes. As a result, the conclusions set out in Section 29.5.5 and 29.5.6 of Chapter 29 of the 2024 EIAR that there are not considered to be any significant visual effects arising from the offshore elements of the proposed development remain the same.

3.4.3.4 Visual Effects and Associated Health and Wellbeing of Residents

Submission No. 3 states that the WTGs *‘will negatively impact the hundreds of thousands of people (this is the relatively crowded East Coast of Ireland) who see the coast views, whether residents, visitors, and who avail of the many beaches, to enjoy the vast expanse of sea and sky, and the absence of disruptive sounds which is such a benefit to health.’*

Submission No. 9 states that *‘the industrial view on the horizon will be very destructive to the health, wellbeing of the people of our village [Laytown]’*

Concerns were raised in submissions regarding effects on the wellbeing of the community as a result of impacts from the turbines on coastal and sea views.

Response

Effects on health and wellbeing arising directly from visual impacts are assessed in Chapter 32 of the 2024 EIAR. As noted in Section 32.2.4.2 of Chapter 32 – Population and Human Health, the SLVIA considers effects on *‘groups for whom visual impacts may contribute to wellbeing, such as: residents at home; people engaged in outdoor recreation, including use of public rights of way; and communities where views contribute to the landscape setting enjoyed by residents in the area. The assessment criteria are based on the value associated with views, including factors such as tranquillity, perceived naturalness, and sense of place.’*

The health assessment also considered visual effects as a contributing factor in environmental amenity (in combination with other environmental factors such as noise, traffic and air emissions). This assessment considered potential effects on health and quality of life associated with changes in:

- People's attachment to and enjoyment of their local environment, its perceived quality and distinctive characteristics; and
- The quality and tranquillity of green and blue space including parks, rural public rights of way, beaches and coastal walks.

Health effects were assessed at the population (as opposed to individual) level. This means that the 2024 EIAR does not assess whether a specific individual might have a personal and subjective reaction to the development but instead considers the reaction of a population group as a whole. Therefore, while all personal and individual views are valid and well expressed in the submissions received, the 2024 EIAR does not assess on the basis of these personal views. The assessment of significance was undertaken using professional judgement by experienced EIA practitioners, having regard to the sensitivity of the receiving environment and the magnitude of predicted impacts, in accordance with established industry-standard IEMA assessment criteria (see Appendix 1.1 of the 2024 EIAR).¹

While the turbines would be visible on the horizon from coastal and inland viewpoints, the SLVIA concluded that the turbines would not result in significant adverse visual impacts in EIA terms. The Population assessment (2024 EIAR Chapter 32 – Population and Human Health) concluded that the overall impacts on amenity during operation of the proposed development would be negligible. A negligible magnitude of amenity impact is not considered likely to significantly reduce perceptions of the quality of the local environment or detract from the health benefits derived from green and blue spaces, including beaches and coastal walks. On this basis, no significant health effects arising from amenity impacts during operation were reported in the 2024 EIAR.

In relation to Submission No. 3 regarding ‘...residents, visitors, and who avail of the many beaches, to enjoy the vast expanse of sea and sky, absence of disruptive sounds, which is a benefit to health’, the noise assessment presented in Chapter 30 concludes that there are no likely significant effects predicted for the offshore WTGs. Noise from WTGs is predicted to be 18 dBL_{Aeq} at Skerries Harbour (the nearest sensitive receptor) during the operational phase of the project, which is significantly below with the Environmental Protection Agency NG4² noise limit of 45 dBA, as well as the ETSUR-97³ noise limit of 35 dBA. Additional information on potential effects to the health and wellbeing of residents is provided in Section 3.2.5.9

3.4.3.5 Impact on landscape character

Submission No. 35 states “The County Development Plans along this coastline from where the wind farm would be visible all contain landscape character areas that have high sensitivity. This would appear to reflect the significant negative impact the wind farm will have on the most sensitive locations of the coastline. This coastline also, with the rich historical and cultural heritage of the inlands, forms part of the Ireland's Ancient East initiative of Failte Ireland. We note that there is no consideration of this aspect within this chapter of the EIAR”.

Response

The sensitivity of County Council Landscape Character Areas along the coastline has been accounted for in Chapter 29 of the 2024 EIAR and it has contributed to the assessment of the sensitivity of the receiving landscape / seascape.

However, the sensitivity of the landscape alone does not determine a ‘significant negative impact’ as this is only one part of the assessment. The assessment of significance is determined by combining judgements relating to both sensitivity and impact magnitude as per section 29.2.4 of the 2024 EIAR. This can result in a

¹ Institute of Environmental Management and Assessment (IEMA) (2022) Guide to Determining Significance for Human Health in Environmental Impact Assessment

² Guidance Note for Noise: Licence Applications, Survey, and Assessments in Relation to Scheduled Activities (NG4), Environmental Protection Agency

³ Energy Technology Support Unit: The assessment and rating of noise from wind farm, UK Department for Trade & Industry

balancing or moderating of the overall significance of effect when the receptor sensitivity is in the higher range and the magnitude of impact is in the lower range due to distance or disparate context. Alternatively, the magnitude of impact may be in the higher range and the sensitivity in the lower range. In this instance, sensitivity of coastal landscape receptors is generally considered to be in the higher range, but due to the distance offshore, the array area generally contributes to mid and lower order magnitude of impact. Consequently, it was concluded that significant effects on landscape /seascape will not occur.

In respect of the potential effects on tourism from the proposed development (e.g. Ireland's Ancient East), it is noted that potential tourism effects are addressed in Chapter 33: Socioeconomic, Tourism and Recreation of the 2024 EIAR. A response to the submission by Fáilte Ireland is also provided in Section 4.15 herein.

In addition, Fáilte Ireland's *Report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape* confirms that "for those who noticed Renewable Energy Infrastructure [REI] at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident". The Report further confirmed that "For two in three visitors, [REI] did not factor into their decision making when choosing their destination" and "Among those aware of [REI], 61% report no impact on enjoyment of landscape."

It is also noted that the RFI issued by An Bord Pleanála, identified items of relevance to archaeological heritage, which are addressed in the Response to the Request for Further Information Report, which is submitted in parallel with this Response to Submissions Report. In particular, to address RFI Section 13 (b), additional viewpoints have been prepared at Brú na Bóinne (V18a and VP18b), Gormanston Castle (VP56), Hill of Skryne (VP57) and Hill of Tara (VP58). These photomontages are presented in the EIAR Addendum which accompanies the Response to the Request for Further Information Report.

3.4.3.6 Effect on Property values

Regarding the potential negative effect on property values, Submission No. 25 states that *'People will move away rather than wait for such industrialization to take effect. The properties being dumped on the market will greatly reduce the generational wealth of the area, not just in financial terms, but in our community amenities and destroy the natural beauty that exists today. No one wants a sea view that is dominated by a wind farm of such scale (the largest turbines ever built) stretching across the horizon. No one. It is a deterioration of the area and will lower our property values.'*

Submission No. 18 also notes that they are also concerned about *'the negative economic impact on property prices and change of atmosphere from an unspoilt marine town to having an industrialised vista of very large proportions ever present nearshore.'*

Response

A socio-economic assessment of the potential impacts of the proposed development is presented in Chapter 33: Socioeconomic, Tourism and Recreation of the 2024 EIAR. Socio-economic, tourism and recreation are addressed in Chapter 33 as elements of the environmental factor, population, which is listed in Article 3 and Annex IV of the EIA Directive.

As noted in Section 33.2.1 of the 2024 EIAR, *'The socio-economic impacts of the proposed development are considered at varying spatial levels according to the nature of the effects considered. The potential economic impacts arising from the proposed development (i.e. employment and GVA generation) are considered at regional level which comprises the Eastern and Midland Region in Ireland.'* Socio-economic, tourism and recreation are addressed in Chapter 33 of the 2024 EIAR as elements of the environmental factor, population, which is listed in Article 3 and Annex IV of the EIA Directive.

Socio-economic impacts are considered at a population level rather than at an individual receptor level in the 2024 EIAR. This complies with the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022), which states *'the transposing legislation does not require assessment of land-use planning, demographic issues or detailed socioeconomic analysis'*.

Studies in Denmark (Jensen et al., 2018) have noted that while there are negative impacts to real estate properties from onshore windfarms, there is no significant effect from offshore windfarms on properties with a view of the windfarms from the house itself, or from the nearby beaches⁴.

Section 3.4.3.3 of this report states that there are not considered to be any significant visual effects arising from the offshore elements of the proposed development. Consequently, significant negative effects on property values are not likely to occur.

3.4.3.7 Nighttime light pollution

Submissions 03, 09, 14 and 38 raise concerns in relation to light pollution.

Submission no. 03 states the “*flashing lights caused by rotating blades will affect the health of those onshore*” whilst submission no. 09 notes “*the flashing lights and noise created by the massive turbines will have a huge effect on the people of our village*” (Laytown).

Submission no 14 states “*nighttime warning lighting and lightning protection are a serious issue for seashore communities, aircraft and migratory and native bird species*”.

Submission no 38 states that the “*lights on each blade of the turbines during darkness hours will most likely add greatly to the light pollution in areas that typically have very small amounts of light pollution along the north County Dublin and Meath coastline. The Northern Lights are regularly seen from Bremore Beach due to its enclosed situation away from the lights of Drogheda and Balbriggan*”.

Response

It should be noted that lighting is not affixed to the moving blades of the WTGs, but only to the fixed nacelle (aviation navigation) and base of the tower (nautical navigation) (see Image 3.4.2 for an overview of the typical WTG components).

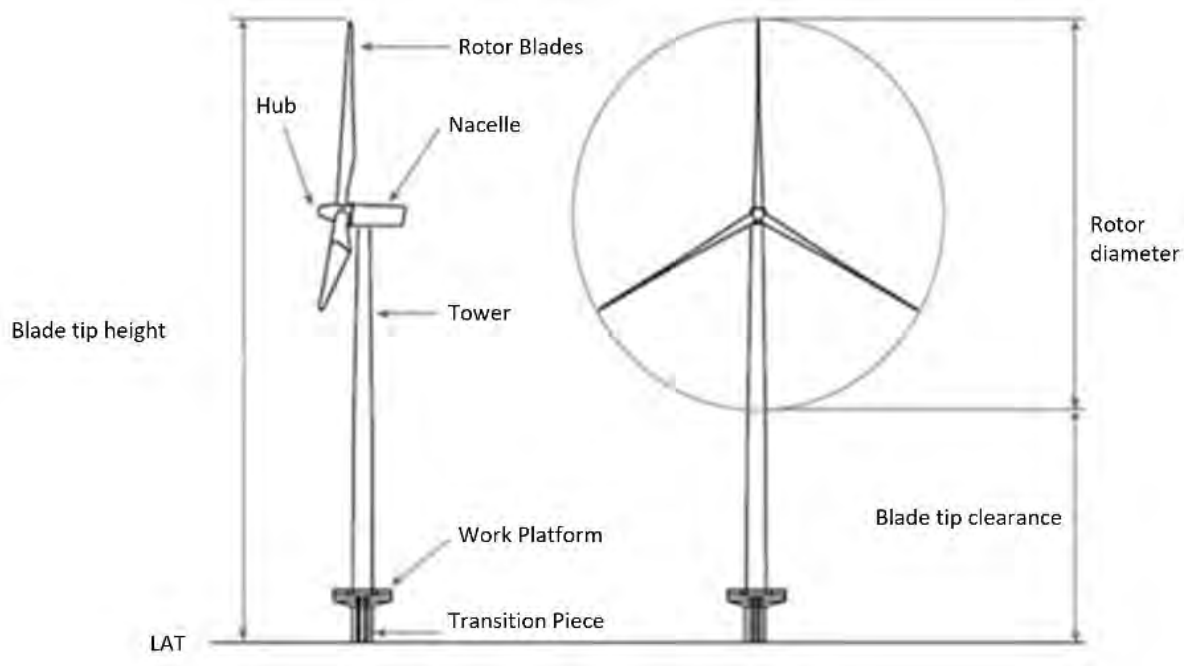


Image 3.4.2: Typical WTG Components - not to scale (Source: Arup) (Extracted from Image 6.3 of Chapter 6 of the 2024 EIAR)

Night-time visual effects from WTG lighting are addressed within Section 29.5.6.4 of Chapter 29 of the 2024 EIAR.

⁴ Jensen et al., 2018 *The impact of on-shore and off-shore wind turbine farms on property prices* (<https://doi.org/10.1016/j.enpol.2018.01.046>)

The WTG lighting will consist of marine lighting near the base of the towers of significant peripheral WTGs and aviation lighting will be located at the nacelle of significant peripheral WTGs. The lighting system will be designed and installed to meet all regulatory and safety guidelines, and the Developer has committed to designing and constructing the proposed development in a way that meets the requirements of the IAA and the Commissioners of Irish Lights (CIL). Whilst the marine lighting only needs to be visible to 2 nautical miles, the aviation lighting is more intense - between 2000 cd and 200 cd depending on visibility conditions. As noted in Section 29.5.6.4 of Chapter 29 of the 2024 EIAR, a 200 cd lighting was simulated because it is only in clear conditions that lighting will be visible from shore based receptors and although lighting intensity will be increased as visibility conditions diminish, it will only be to maintain an equivalent lighting intensity (see full lighting details in Chapter 19 - Aviation and Radar of the 2024 EIAR).

As noted in Section 29.5.6.4 of Chapter 29 of the 2024 EIAR, four of the VPs used for daytime photomontages were used for the preparation of nighttime photomontages to illustrate the likely significant effects of WTG lighting within the array area (VP13, VP24, VP25 and VP32). These were selected on the basis of providing a range of viewing distances and angles, but also to represent locations that might be visited at night or have surrounding residences who have similar nighttime views. The nighttime photomontages provide the relevant seaward view, and a full 360-degree panorama is also inset to illustrate the nature of the baseline lighting conditions that surround the viewer at each location.

Relative to other parts of the Irish coastline, the baseline lighting levels for the study area are not deemed to be particularly low based on the 'International Light Pollution Map' on the 'Dark Skies Ireland' website. Furthermore, it is very difficult to discern the proposed WTG lighting at the viewing distances involved and it is therefore determined that no significant visual effects from lighting will occur.

The results of the nighttime visual impact assessment are contained in Appendix 29.1 of the 2024 EIAR. The significance of effect ranges between Slight / Negative at VP13, VP 24 and VP25 to Imperceptible / Neutral at VP32. For those locations where a Slight / Negative effect occurs, the WTG lighting will read as small pinpricks of light in the far distance, albeit of varying intensities and apparent heights due to relative distances to the peripheral WTGs that host lights.

Nighttime views from both project options were prepared and there is no material difference in the effects. It is considered that there will not be any significant nighttime effects emanating from WTG lighting.

Information on the impacts to migratory and native bird species as a result of night-time lighting is included in Section 3.13.3.3.1.

3.4.3.8 Cumulative Effects with Phase One Projects

Submission No. 35 states *'that a critical aspect of the landscape and visual impact assessment will be the cumulative impact of the concurrent Phase 1 schemes that are at planning stage including the Oriel Wind Farm that is proposed to the north. The scale and magnitude of development now proposed would result in an entirely inappropriate form of development in this coastal landscape and seascape when considered with other concurrent projects and would be detrimental to the tourism industry that forms an important economic driver in the area.'*

Response

Cumulative effects with other Phase One offshore wind projects are assessed using the same representative viewpoints as used in the main / standalone visual impact assessment of the proposed development within the 40km radius principal study area. The cumulative study area is further extended to 60km which brings in another 10 specific cumulative viewpoints between 40km and 60km. The extension to 60km for the cumulative study area is in line with the Scottish Natural Heritage (SNH) 2012 Guidance Document 'Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape'.

Only Phase One developments that fall within 60km of the proposed development are considered in the cumulative assessment and these include:

- Oriel Array - 16km north of the proposed development array area consisting of c. 25 turbines.

- Dublin Array- 36km south of the proposed development array area consisting of c. 48 turbines.
- Codling Wind Park - 53km South of the proposed development array area consisting of c. 75 turbines.

The cumulative assessment at representative viewpoints is contained in Appendix 29.2 of the 2024 EIAR and summarised in Section 29.9 of Chapter 29. This considers the contribution of the proposed development to the overall cumulative effect and while it is acknowledged that there will be a significant cumulative effect in the southern extents of the cumulative study area, the contribution of the proposed development is very limited, and it is not considered to materially contribute to the potential for significant cumulative effects. Section 29.9 of the 2024 EIAR notes that *“notwithstanding the Negligible or Low-negligible contribution of the proposed development to the overall cumulative effect from these southerly viewpoints (VP36 to VP47), it is acknowledged that a significant cumulative effect is generated at these viewpoints.”*

As a result, the conclusions of the CEA undertaken in Section 38.2.3 of Chapter 38: Cumulative and Inter-Related Effects in the 2024 EIAR that presents an outcome of *“no likely significant cumulative effects for the impacts assessed on receptors associated with landscape and visual”* remains the same.

As noted above, the Response to the Request for Further Information Report is accompanied by an EIAR Addendum (the EIAR) which includes an updated CEA to address the RFI received from An Bord Pleanála. This Request for Further Information Report is submitted in parallel with this Response to Submissions Report.

3.4.4 Conclusion

The issues raised in the submissions in relation to the SLVIA impacts of the offshore infrastructure of the proposed development have been fully considered. Having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR which are that no significant visual effects arising from the offshore elements of the proposed development will arise.

As detailed herein, all items raised in the RFI from An Bord Pleanála have been addressed in the Response to the Request for Further Information Report which has been prepared in parallel with this Response to Submissions Report. The Response to the Request for Further Information Report is accompanied by an EIAR Addendum (the EIAR).

Appendix 3.4.1 Photomontage Preparation and Verification Sequence

27.0 deg

1 of 18 shots captured at 20 degree intervals used to create a 360 degree panorama from this viewpoint
This shot was captured with a 50mm lens on a full frame digital camera (as specified in the guidelines)
This gives each shot a field of view of 27.0 x 39.6 degrees

39.6 deg



Photograph stitching process to generate 360 degree panorama

360 deg

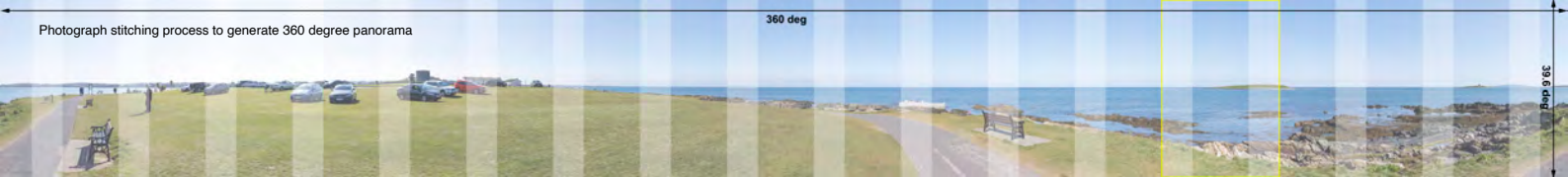
39.6 deg



Photograph stitching process to generate 360 degree panorama

360 deg

39.6 deg



Incorporation of digital wireline image generated from spatially accurate 3D model



Overlay of the wireline image on baseline panoramic image (vertical degrees shown for reference but not required as part of placement process)



[illegible]

Measure Distance

Planar

Metric

Result

Distance

Segment (km)	Path (km)	Sum (km)
12.75	12.75	12.75

Path Net Bearing: 64°

Path Net Distance: 12.75 km

Nearest WTG in relation to nearest viewpoint (VP24 at Skerries)



Nearest WTG as seen in VP24 verifiable photomontage (note that it is not the nearest lateral turbine to Rockabill Lighthouse)



Screening effect of earth curvature calculation (note that this is not required for accurate image placement as earth curvature is already inherent in the digital 3D model)



Vertical degrees above horizon of nearest WTG relative to Rockabill Lighthouse



12.75km

+10
+9
+8
+7
+6
+5
+4
+3
+2
+1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10

...or trigonometry in right triangle

Given...

☒ two sides

☐ angle α and one side

☐ angle β and one side

Side length a

315.5

Side length b

12.75 km

Side length c

12.754 km

Angle α

1.4175 deg

Angle β

88.58 deg

Accurately place wireline image



Accurately place photo-real render of WTGs using the wireline image reference



53.5 degree (lateral extent) crop of panoramic image - true to real scale when held at arm's length in the field



Measure Distance ✕

 Planar Metric

Result  

Distance

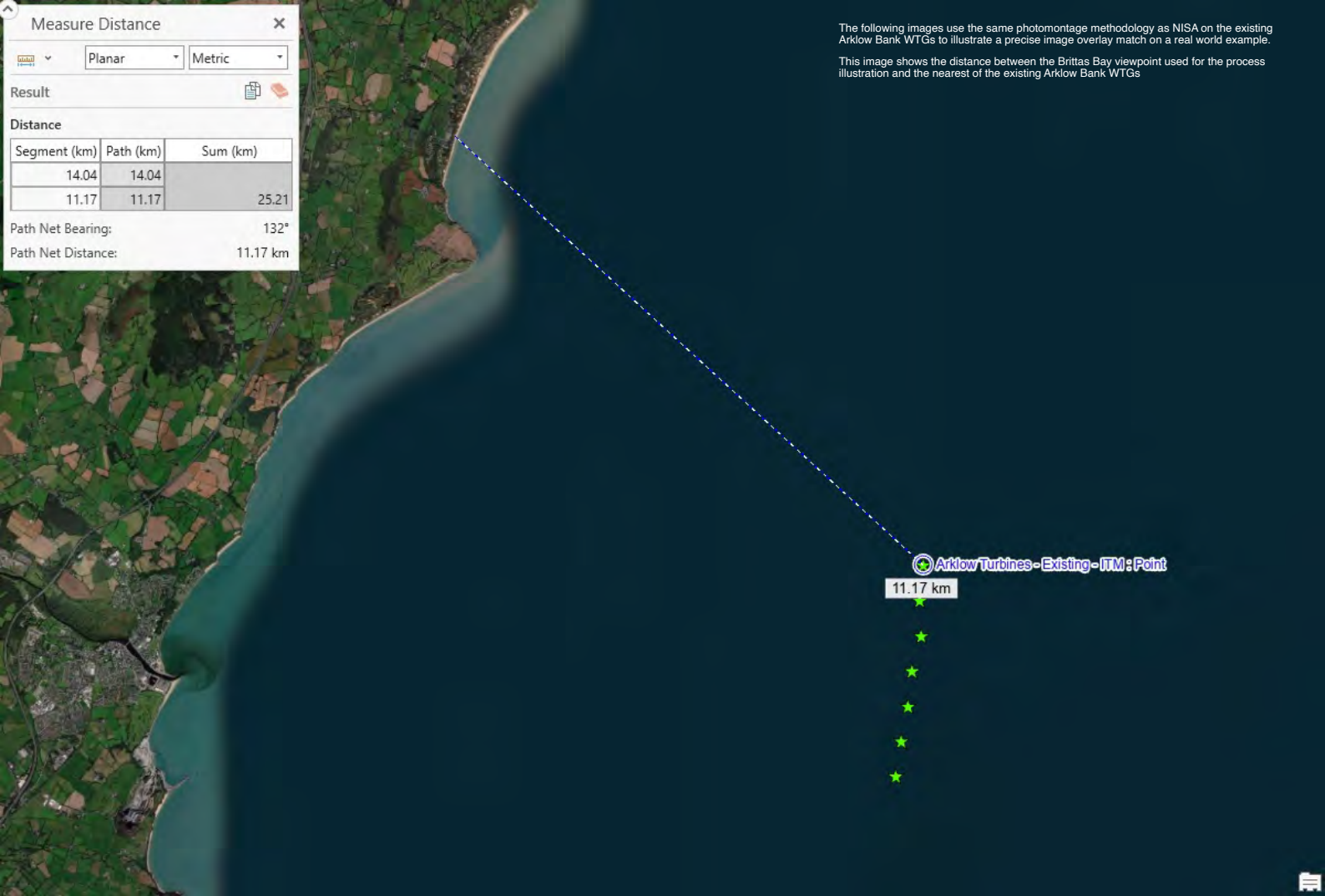
Segment (km)	Path (km)	Sum (km)
14.04	14.04	
11.17	11.17	25.21

Path Net Bearing: 132°

Path Net Distance: 11.17 km

The following images use the same photomontage methodology as NISA on the existing Arklow Bank WTGs to illustrate a precise image overlay match on a real world example.

This image shows the distance between the Brittas Bay viewpoint used for the process illustration and the nearest of the existing Arklow Bank WTGs



Baseline image of existing Arklow Bank WTGs from Brittas Bay



Reference image of existing Arklow Bank WTGs from Brittas Bay



Existing WTG details and nearest WTG to Brittas Bay viewpoint

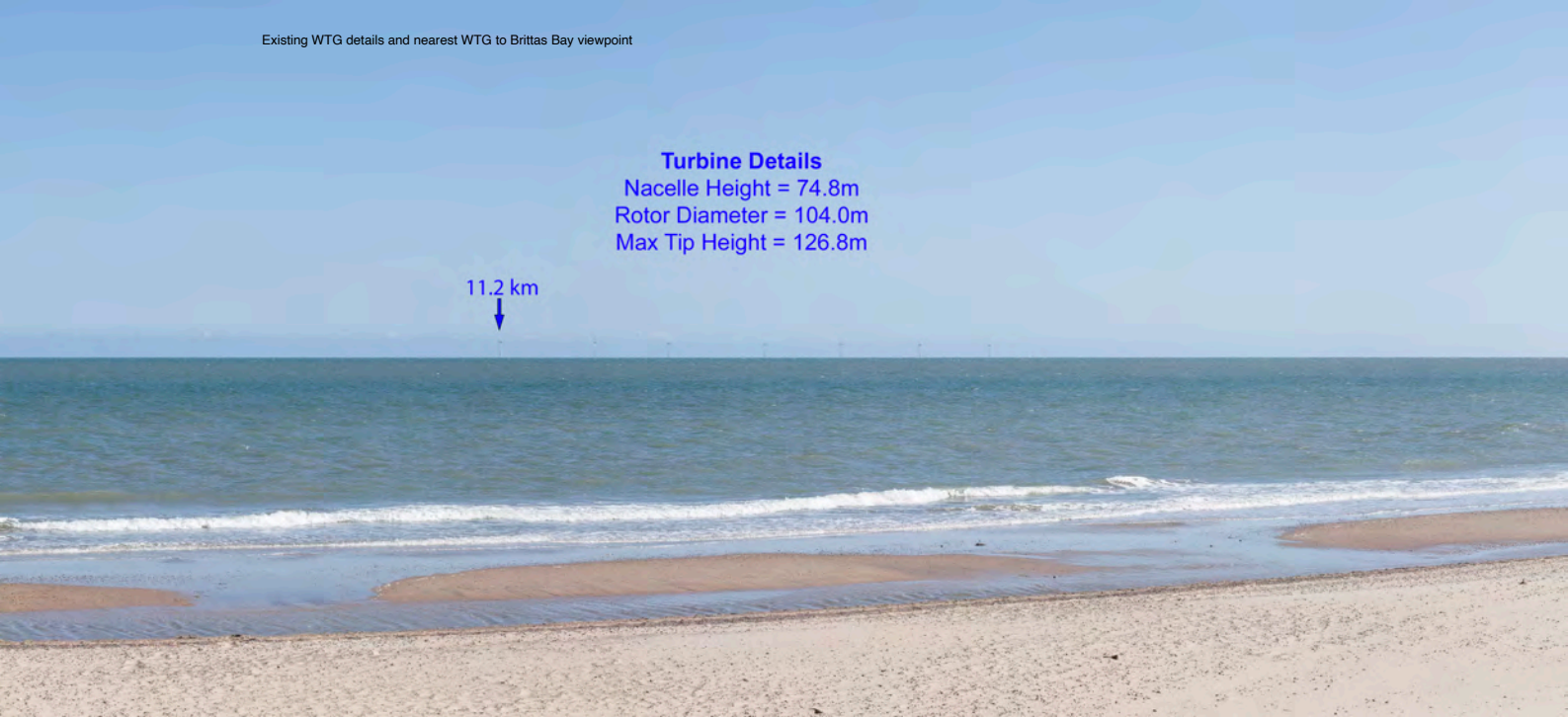
Turbine Details

Nacelle Height = 74.8m

Rotor Diameter = 104.0m

Max Tip Height = 126.8m

11.2 km



Corresponding wireline image to baseline image above - modelled to exact dimensions and distance

Modelled Turbine Details

Nacelle Height = 74.8m

Rotor Diameter = 104.0m

Max Tip Height = 126.8m

11.2 km



Wireline overlay of baseline image with identical WTG dimension and viewing distance parameters - A precise match in terms of scale representation



Scottish Natural Heritage

Visual Representation of Wind Farms

Guidance



Version 2.2

February 2017



The Residential Zoned Land Tax

Update: Annual draft maps just published. Check if it applies to you.



Learn more



Riailtas na hÉireann
Government of Ireland

The Residential Zoned Land Tax

Update: Annual draft maps just published. Check if it applies to you.



Learn more



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Last updated: May 22, 2024

Earth Curvature Calculator

Created by **Bogna Szyk**

Reviewed by **Steven Wooding** and **Jack Bowater**

255 people find this calculator helpful



255 Share Cite

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This Earth curvature calculator allows you to **determine how much of a distant object is obscured by the Earth's curvature**. So, if you ever wanted to estimate the total height of a target that is partially hidden behind the horizon, now you can. You will also be able to find out **how far you can see before the Earth curves** – that is, what is your distance to the horizon.

Don't worry if you don't know what the curvature of Earth is yet – simply keep reading to learn all the necessary information!

Distance to the object ⓘ

12.75 km

Eyesight level ⓘ

8 m

Distance to horizon ⓘ

10.1 km

Obscured object part ⓘ

0.55265 m

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3.5 Tourism, Recreation and Amenity

3.5.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the following parties, in relation to the potential impact of the proposed development on tourism, recreation and amenity. A number of submissions raised points regarding potential impacts on tourist and recreational amenity with several submissions including personal experiences of daily coastal walks or cycling alongside well-trodden paths.

Table 3.5.1 Submissions made in respect of tourism, recreation and amenity

No.	Name	No.	Name
03	Brendan and Teresa Stack	19	Balbriggan Community Council
07	Balbriggan Sustainable Energy Community	25	Peter and Anita Dice
09	Shamsa Doyle	34	Elin Payne
11	Jennifer Mahon	36	Sharon Burke
14	Brendan Regan	38	Niamh Colgan
15	Elaine Whelan	39	Meath County Council*
17	Malachy Quinn	53	Fáilte Ireland*
18	Sustainable Windfarm Environmental Group		

*Prescribed body responses are included in Section 4 of this report.

3.5.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the tourism, recreation and amenity assessment, as follows, each of which has been dealt with as sub-themes herein:

- Visual impact will result in a negative impact to tourism and residential amenity in the region;
- Recreational activities will be negatively impacted by the WTGs;
- Cable installation should avoid cycle lanes and other established amenities;
- Impacts on historical destinations (Martello Tower, Bremore Castle and Balbriggan Baths);
- Impacts on Ireland's Ancient East; and
- Walking trails near landfall area.

3.5.3 Response to Key Points Raised

3.5.3.1 Visual impact on tourism and amenity in the region

A number of submissions (Submission No. 3, 9, 15, 17, 18, 25 and 34) state that the height and proximity of the wind turbines to shore will have a negative visual impact on tourism and amenity across the east coast of Ireland. These submissions also state specific impacts will be experienced along the coasts of County Meath and Fingal at locations including Laytown, Bettystown, Skerries, Balbriggan and Julianstown.

Response

In Chapter 29 of the 2024 EIAR, the impact of the proposed development on seascape, landscape and visual amenity was assessed. Viewpoints (VPs) were selected which represented views along the east coast from County Down in Northern Ireland to County Wicklow, including popular amenity and recreational locations

including (but not limited to) Laytown Beach (VP17), Gormanston Beach (VP20), Balbriggan Beach (VP21), Ardgillan Castle Grounds (VP 23), Red Island Skerries (VP24), Donabate Beach (VP28), Portmarnock Beach (VP30) and Howth Head (VP33). Photomontages were prepared for the 2024 EIAR to illustrate the impact of the proposed development from these locations. The assessment (see Table 3.5.2 below) concluded that there will be no significant effects on the seascape, landscape or visual amenity arising from the proposed development. It is important to note that as per Section 29.2.4 of Chapter 29 of the 2024 EIAR, only impact significance of major and above are considered to be significant in EIA terms. Major-moderate and below are not deemed to be significant effects in EIA terms.

Table 3.5.2 Operational Phase Visual Effects for Viewpoints (Extracted from Table 29.39 of Chapter 29 of the 2024 EIAR)

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Effect
VP17 Amenity Area, Laytown	High-medium	Medium-low	Moderate / Negative / Long-term
VP20 Gormanston Beach	High-medium	Medium-low	Moderate / Negative / Long-term
VP21 Balbriggan Beach	High-medium	Medium	Moderate / Negative / Long-term
VP23 Ardgillan Castle Grounds	High	Medium	Major-moderate / Negative / Long-term
VP24 Amenity Area Skerries	High-medium	Medium	Major-moderate / Negative / Long-term
VP28 Donabate Beach	High-medium		Moderate-slight/ Negative / Long-term
VP30 Portmarnock Beach	High-medium	Medium-low	Moderate-slight/ Negative / Long-term
VP33 Howth Head	High	Medium-low	Moderate-slight/ Negative / Long-term

Consequently, in the absence of significant effects on seascape, landscape and visual amenity, the assessment in Chapter 33: Socioeconomics, Tourism and Recreation, concluded that there will be no likely significant effects caused by the offshore development on tourism within the region.

This conclusion is reinforced by recent studies in the UK (Glasson et al., 2022, Hatch 2022 and BiGGar Economics, 2020) which concluded that offshore wind farms have had no correlating significant negative impact on tourism in their respective regions. An additional study (BiGGar Economics 2021) on the potential

impacts of wind energy on the tourism sector concluded that in certain areas of Scotland, those areas within the vicinity of windfarms experienced a boost in tourism employment statistics. Section 33.5.3.3 of the EIAR noted that *“It is anticipated that there may be opportunities for marine tourism which will allow tourists to visit the offshore development area.”*

In establishing the baseline for the tourism assessment in Fingal, Section 33.3.9 of Chapter 33 of the 2024 EIAR specifically references the Fingal Tourism Strategy 2024-2029 and Ireland’s Ancient East in Co. Meath. As significant effects from the proposed development on tourism are not likely, the objectives of the Fingal Tourism Strategy 2024-2029 and receptors within Ireland’s Ancient East will not be hindered by the proposed development.

In addition, since the submission of the planning application, further research has been undertaken in this area by Fáilte Ireland in their report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape, currently being drafted (findings of which were shared with the Developer). The research shows that for those who noticed Renewable Energy Infrastructure at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident, and that for two in three visitors, Renewable Energy Infrastructure did not factor into their decision making when choosing their destination. For those aware of Renewable Energy Infrastructure, 61% report no impact on enjoyment of landscape. Therefore, it can reasonably be concluded that it is unlikely that the presence of the offshore infrastructure will negatively impact the Irish tourism industry.

It is noted that in its submission, Fingal County Council (Submission No. 40) highlighted that *“the proposal is most clearly visible along the northern edge of the Fingal coast, at the viewpoints at Balbriggan, Ardgillan, Skerries and Loughshinny. Based on the details submitted, Fingal County Council considers that the proposal would not impinge in any significant way on the landscape in Fingal county and thus would not be contrary to objective GINHO59, which is to ensure that ‘new development does not impinge in any significant way on the character, integrity and distinctiveness of highly sensitive areas and does not detract from the scenic value of the area.’”*

Therefore, as there are no likely significant negative effects on seascape, landscape or visual amenity, it is concluded that the proposed development will not result in any significant negative effect on amenity.

It is noted that the RFI issued by An Bord Pleanála raised a number of items which are relevant to this submission response and which the Developer has addressed in its Response to the Request for Further Information Report, which is submitted in parallel with this Response to Submissions Report. In particular, to address RFI Section 13 (b), additional viewpoints have been prepared at Brú na Bóinne (VP18a and VP18b), Gormanston Castle (VP56), Hill of Skryne (VP57) and Hill of Tara (VP58). These photomontages are presented in the EIAR the Response to the Request for Further Information Report.

The photomontages prepared for the 2024 EIAR have also been updated to reflect the design refinements proposed to address other aspects of the RFI (see Appendix A5.1 of the EIAR Addendum for further information on these design refinements).

The Developer also notes that the assessment of operational phase impacts of the proposed development on tourism has been updated following consultation with Fáilte Ireland in 2026 to incorporate impacts on the experiential concept of a “sense of place”.

Full details of these changes are provided in the Response to the Request for Further Information Report and the EIAR Addendum that accompanies that report.

3.5.3.2 *Recreational activities will be negatively impacted by the WTGs*

Submissions No. 18 and 36 state that the coastal waters surrounding the proposed development are used by small fishing boats, sailing boats, currachs and paragliders. Specifically, Submission No. 18 states that *“the annual 3-Island Challenge currach race run by the local Currachaí na Sceirí club is presented as a tourism product to rowers in the USA. These rowers may not necessarily wish to go to a supposedly unspoiled area north of Dublin that is over dominated by mis-scaled turbines.”*

In addition, Submission No. 3 states that the visual impact of the WTGs will negatively affect the Laytown races by stating *“the distinguishing and perhaps unique feature of Bettystown/Laytown is the wide expanse of*

beach and sky revealed at low tide, and much celebrated by its residents, visitors, and indeed with the world famous Laytown Races.”

Response

Construction and operational impacts on marine recreational activities in terms of recreational sailing, diving, other water sports and angling within the proposed development boundary are addressed in Sections 20.5.2.3 and 20.5.2.4 of Chapter 20: Infrastructure and Other Users in the 2024 EIAR. Section 20.5.2.3 of the EIAR concluded that there was the potential for slight effects (which are not considered significant in EIA terms) from direct displacement or access impacts on marine recreational activities from increased vessel movements and the use of advisory safety zones to recreational sailing, angling and other water sports.

Section 20.5.2.4 concluded that there was the potential for slight effects from indirect disturbance or displacement impact from construction activities due to the physical presence of infrastructure (i.e., WTGs) during operations. Further information on the potential impacts to marine recreational activities is presented in Section 3.5.3.2 herein.

It is important to note that all construction activities and potential disruptions will be communicated in advance to impacted community groups by way of a dedicated community liaison team. Details of the communications strategy for offshore works are included in Section 7 of the Offshore EMP (Appendix 6.1 of the 2024 EIAR) and for onshore works in Section 8 of the CEMP (Appendix 9.1 of the 2024 EIAR). In relation to potential effects arising from the onshore construction, Section 33.5.2.2 of Chapter 33 of the 2024 EIAR notes that *“during the HDD operations at the landfall site when the offshore export cable is transitioning to the onshore export cable, access to the section of Bremore Beach within the proposed development boundary will be curtailed for up to four months. This is to ensure that public safety is maintained whilst the HDD operations underneath the beach are ongoing.”*

With regard to onshore activities However, Section 33.6.1 of the EIAR notes that mitigation measures are proposed which includes the maintenance of pedestrian access to Bremore Beach to the south of the proposed development boundary at the landfall site to allow for public enjoyment of the remainder of the southern section of Bremore Beach. Consequently, there will be a short-term, not significant and negative effect on recreation arising from the restriction at Bremore Beach, during the construction phase. There will not be any restrictions in place on any beaches outside of the proposed development boundary..

Section 33.5.3.4 of Chapter 33 of the 2024 EIAR notes *“there will be no significant operational phase effects from a seascape, landscape or visual perspective (onshore and offshore) on recreational activities as reported in the Seascape, Landscape and Visual chapter”*. This conclusion also applies to any potential impacts to the Laytown races which occur outside of the proposed development boundary.

Section 33.5.3.5 of the EIAR concludes that there will be neutral, long-term and not significant effects on tourism or recreational, community and social facilities throughout the operational phase of the proposed development. Therefore, there are no significant effects arising from the proposed development which will impact any of the activities mentioned in the submissions.

As referenced in Section 3.5.3.1 above, the RFI from An Bord Pleanála has resulted in some changes to the proposed development which have been fully assessed in an EIAR Addendum and addressed in the Response to the Request for Further Information Report which is submitted in parallel to this Response to Submissions Report.

3.5.3.3 Cable installation should avoid cycle lanes and other established amenities

With regards to the cycle lane currently being installed in Balbriggan (Harry Reynolds Road), Submission No. 7 states that *“[c]able laying should focus on the road area rather than recently installed cycle lanes and paths.”*

Response

As noted in Section 3.2.5.3 of this report, wherever possible, the Developer will endeavour to select the route alignment within the corridor which has the least impacts while remaining technically feasible. If it is not

possible to avoid temporary disruption to the cycle lane during construction, temporary impacts will be experienced. However, any disruptions will be on a rolling basis of approximately 200m in length in any given location.

Any construction impacts to cycle lanes will be reinstated following completion of works at those locations.

Therefore, impacts to amenities will be reduced as far as possible and will be temporary in nature. Section 33.5.2.4 of Chapter 33 of the 2024 EIAR concluded that there are no likely significant negative effects arising from the construction of the proposed development to recreational facilities during the onshore construction phase.

It is also noted that the RFI from An Bord Pleanála requested the Developer to consult further with Fingal County Council, particularly in respect of potential effects from increased traffic and disruption during the construction phase of the onshore cable route. This is addressed in the Response to the Request for Further Information Report and the EIAR Addendum which are submitted in parallel with this Response to Submissions Report. This is also addressed in Section 3.2.5.3 of this Report. In particular, it is noted that an indicative phasing plan has been prepared for the onshore cable route in consultation with Fingal County Council.

3.5.3.4 Impacts on historical destinations (Martello Tower, Bremore Castle and Balbriggan Baths)

Submission No. 38 and 19 state that the proposed development will have a negative effect on Bremore Castle. Submission No. 38 also states that *“the Martello Tower and the Baths at the Balbriggan end of the beach add further attractiveness to this beach. The visual impact of these large turbines threatens the scenic value of this important Balbriggan amenity.”*

Response

Table 25.3 of Chapter 25 of the 2024 EIAR explains the criteria for the determination of the magnitude of the impact on a cultural heritage feature. A ‘low’ magnitude of impact is *‘An impact which causes changes in the character of the environment, such as a visual impact, which are not high or very high and do not directly impact or affect an archaeological or cultural heritage feature or monument. A beneficial or positive impact that causes some minor or temporary enhancement of the character of an upstanding archaeological or cultural heritage structure or feature which, although positive, is unlikely to be readily noticeable.’* Table 25.4 presents the determination of the significance of the impact. The significance of an impact of low magnitude on a feature of high sensitivity is ‘moderate – slight’.

Section 25.5.3.4 of Chapter 25 addresses the potential impacts of the WTGs on the setting of cultural heritage features in the study area. Table 25.17 in Section 25.5.3.4 of Chapter 25 of the 2024 EIAR summarises the outcome of this assessment. “Setting” with regards to archaeological, architectural, and cultural heritage site/structures can be defined as follows: *The setting of a heritage structure, site or area is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character.* The assessment identified 63 heritage sites with a direct association with the coast or have international significance and were designated a Cultural Heritage View Point (CHVP) number. The Martello Tower at Balbriggan and the Balbriggan Baths were included in this assessment.

Section 25.3.19 of Chapter 25 of the 2024 EIAR notes that *“archaeological, architectural, and cultural heritage sites or structures within any portions of the landscape, where the [zone of theoretical viewing] ZTV mapping indicates that there will be no visibility, have been screened out.”*

The Martello Tower at Balbriggan (CHVP16) is situated approximately 16.4km from the array area. The impact at this viewpoint was assessed as a slight operational phase impact, which is not significant in EIA terms. The setting of the Balbriggan Baths is represented by CHVP17. The impact at this viewpoint was assessed as a slight operational phase impact, which is not significance in EIA terms. Both of these assessments are included in Table 25.17 of Chapter 25 of the 2024 EIAR and extracted into Table 3.5.3 below.

Table 3.5.3 Potential impacts arising from the operation of the WTGs and OSP on CHVP16 and CHVP 17 (Extracted from Table 25.17 of Chapter 25 of the 2024 EIAR)

Ref.:	Description	Distance from Array	Sensitivity of Receptor	Array Layout	Impact Type	Magnitude of Impact	Significance of Effect
CHVP16	Martello Tower and Boat House	16.4km	High	Project Option 1	Indirect, negative, long term	Low	Slight
				Project Option 2	Indirect, negative, long term	Low	Slight
CHVP17	Balbriggan Harbour and Lighthouse	15.5km	High	Project Option 1	Indirect, negative, long term	Low	Slight
				Project Option 2	Indirect, negative, long term	Low	Slight

Chapter 29 of the 2024 EIAR assessed operational phase visual impacts at 55 representative viewpoints. Viewpoint (VP) 21 at Balbriggan Beach is the closest to Bremore Castle. The proposed development was assessed as having a moderate, negative and long-term effect which is not significant in EIA terms. No significant effects were considered likely to the area surrounding Bremore Castle from an SLVIA perspective.

Chapter 33 of the 2024 EIAR also concluded that there are no significant effects on onshore tourism receptors from the proposed development. Bremore Castle was included in the baseline environment and was therefore included in this assessment.

The Developer notes, as referenced in Section 3.5.3.4 above, that an updated assessment of potential impacts arising from the proposed development on the cultural setting of heritage receptors is provided in Chapter 25 of the EIAR Addendum. However, the conclusions remain unchanged from the EIAR as presented in Table 3.5.3 above.

Updated assessments have also been prepared for Chapter 29 and Chapter 33 to address the RFI and are presented in the EIAR Addendum which accompanies the Response to the Request for Further Information Report. The conclusions of these updated assessments remain unchanged. In addition, Chapter 33 has been updated to include an assessment on the experiential concept of a sense of place. This assessment also concluded that there are no significant effects on the sense of place associated with onshore receptors.

Therefore, there are no predicted significant effects on the listed historical destinations as a result of the proposed development.

3.5.3.5 Impacts on Ireland's Ancient East

Submission No. 14 states that *“the coastline of Meath and North County Fingal have a host of unexcavated megalithic mounds leading all the way from the coast inland to the Newgrange monument, a world heritage site.*

Tourism provides hundreds of jobs in the coastal resorts and at these historic sites. The protection of this historic part of Ireland, its tourist industry and farmland employment has been largely overlooked in the NISA Planning Application.”

Response

The potential impacts on tourism receptors, including the historical sites mentioned in Submission No. 14 were specifically addressed in Section 33.5 of Chapter 33 of the 2024 EIAR. As noted in Section 33.5.3.3 of the EIAR, *“There will be no significant operational phase visual, landscape or seascape effects (onshore and offshore) on tourism receptors as reported in the Seascape, Landscape and Visual chapter.”*

As noted in Sections 3.5.3.1 and 4.15.3.2 of this report, there are no likely significant effects on tourism due to potential visual impacts from the proposed development. Section 4.1.2.3.6 addresses the potential impacts to Brú na Bóinne, Hill of Tara, Hill of Slane and Skyrne Church from the proposed development and notes there are no likely significant impacts on these receptors.

In relation to potential archaeological receptors at the landfall site and those further afield including the Bremore Passage tombs, Section 3.3.3.3 addresses these features and notes that there are no likely impacts on these receptors as a result of the construction of the proposed development.

The Developer notes that following consultation with Fáilte Ireland and in response to RFI Section 13 (b), additional photomontages have been prepared for receptors within Ireland’s Ancient East and are included in the EIAR Addendum which accompanies the Response to the Request for Further Information Report. Chapter 29 of the EIAR Addendum confirms that there are no significant operational phase effects on receptors within Ireland’s Ancient East. Additionally, Section 25.5.3.4 of Chapter 25 includes a standalone assessment on the UNESCO World Heritage Site (WHS) of Brú na Bóinne which concludes:

“In relation to the core area of the Brú na Bóinne WHS, the proposed offshore infrastructure will have overall very limited visibility. This is due to the distance of the proposed infrastructure and the intervening topography and existing screening.

The verified viewpoints have shown that from the principal monuments within the Brú na Bóinne WHS, there are either no visible turbines or, at most, imperceptible blade tips which will be screened by landform and vegetation.

It should be noted that the orientation of the WHS monuments and their sightlines are inward, across the Boyne Valley; they do not extend toward the eastern coastal plain or the Irish Sea...

In summary there will be no magnitude of change to the OUV and as such there will be no impacts on the UNESCO Brú na Bóinne WHS.”

Therefore, no tourism receptors within Ireland’s Ancient East are anticipated to be significantly negatively affected.

3.5.3.6 Walking Paths at Landfall

Submission No. 15 states that they *“walk from Balbriggan to Gormanstown using the coastal route almost every day, and the evidence is there of paths worn down by other like-minded walkers. This is a natural walkway that gives pleasure to many and is part of the proposed Fingal Coastal Way.”*

Submission No. 7, 11 and 38 also note that Bell’s Lane is a highly valued community amenity which is heavily used by locals.

Response

Section 33.5.2.2 of the EIAR notes that *“during the HDD operations at the landfall site when the offshore export cable is transitioning to the onshore export cable, access to the section of Bremore Beach within the proposed development boundary will be curtailed for up to four months. This is to ensure that public safety is maintained whilst the HDD operations underneath the beach are ongoing. There will be no construction activities on the beach itself.”* The EIAR concluded that the overall level of significance of impacts arising from the onshore development area construction on recreation is slight, which is not significant in EIA terms.

Additionally, Section 33.6.1 of the EIAR notes that *“pedestrian access to Bremore Beach will be maintained to the south of the proposed development boundary at the landfall site to allow for public enjoyment of the remainder of the southern section of Bremore Beach.”*

Section 3.3.3.5 of this report notes that the Bell's Lane referenced in the EIAR is at the northern limits of the proposed development boundary and not adjacent to Cardy Rocks which is the 'Bell's Lane' to which the submissions above refer. The 'Bell's Lane' referred to in the EIAR, in relation to the proposed development, and the laneway adjacent to the Cardy Rocks are illustrated in Image 3.3.4 and 3.3.5 of this report.

As explained in Section 7.3.3 of Chapter 7 of the 2024 EIAR, two transition joint bays (TJBs) will be located at the landfall. The TJBs will be located at least 80m inland from the beach and will not impact on the beach itself.

The TJBs will be underground concrete chambers, which, after cable installation, will be reinstated to the original surface, with marker posts and an access road being the only permanent above ground infrastructure at the landfall.

Therefore, the operational phase of the proposed development will not negatively impact the public's enjoyment of coastal walking trails as all infrastructure will be situated below ground level as the TJBs will be located at least 50m inland from the coastal walking trail (see Section 7.3.3 of Chapter 7 of the 2024 EIAR).

3.5.4 Conclusion

The issues raised in the submissions in relation to tourism, recreation and amenity have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR. These conclusions are further supported by research carried out in the UK which has demonstrated a positive effect from offshore wind farms on local tourism economies, and updated research conducted by Fáilte Ireland which demonstrate little correlation between offshore renewable energy developments and negative impacts on tourism receptors.

It is further noted that the photomontages have been updated, and additional photomontages have been added, to address key aspects of the RFI received from An Bord Pleanála. These, together with updated assessments are included in the EIAR Addendum which has been prepared to accompany with Response to the Request for Further Information Report, which is submitted in parallel with this Response to Submissions Report.

3.6 Public consultation

3.6.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the parties listed in Table 3.6.1 in relation to the consultation process. The response (Section 3.6.3) has been categorised into a number of sub-themes to address the various points contained in the submissions:

Table 3.6.1: Submissions made in respect of the public consultation

No.	Name	No.	Name
14	Brendan Regan	24	Blue Ireland Coalition
15	Elaine Whelan	25	Peter and Anita Dice
17	Malachy Quinn	26	Hampton Cove Residents' Association
16	Declan Halligan and Gerry Howley	30	Bryn Edwards (c/o People Before Profit Fingal)
19	Balbriggan Community Council	33	Denis and Rachel O'Leary
21	Gormanston Community Association		

3.6.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the public consultations, which are dealt with as sub-themes below.

- Inadequate advertising of public consultation;
- Purpose of public consultation;
- Incorrect information presented during consultation;
- Request for additional consultation; and
- Duration of public consultation.

3.6.3 Response to Key Points Raised

3.6.3.1 *Inadequate advertising of public consultation prior to submission of the application*

Submission No. 14 states that there was no national advertising of the public consultation, undertaken by the Developer prior to the submission of the application, in national newspapers or on national radio and TV stations.

Response

Full details of the NISA Community Engagement and Public Consultation process is provided in Appendix 1.2 of the 2024 EIAR.

The community liaison strategy for the project, which includes the public consultation events, was based on the *Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement* (DECC, 2016). The code's core fundamentals are to engage with the local community in an open, honest, and transparent manner with the aim of providing clear information on a project, and for getting feedback from the local community to be used to inform the design and development process.

Three rounds of Public Consultation Events were undertaken between June 2023 and April 2024. These events are an important step in the community consultation process to ensure transparency for the proposed development's design and to facilitate a dialogue with the local community.

The public consultation events were advertised in local newspapers and promoted within local communities ahead of time to ensure there was awareness they were taking place.

The promotion of these events included advertising in five local newspapers across Dublin, Meath and Louth and an additional digital reach achieved with the advertisement running on the social media and digital editions of publications, if available.

The local newspaper advertising was complemented by other channels including:

- A local poster campaign to promote events in coastal towns from Clogherhead to Howth launching up to two weeks ahead of the events
- Direct engagement with key community stakeholders and influencers up to two weeks ahead of the event
- Publication on the project website up to three weeks ahead of the event.

Furthermore, whilst the Developer acknowledges the concern voiced in Submission No. 14 regarding the advertising of public consultations, it is important to note that these were non-statutory public consultation events. As such, there is no requirement in the Planning and Development Act or Planning and Development Regulations to advertise pre-submission public consultation nationally. There was also no direction from An Bord Pleanála to do so in the pre-application meetings undertaken (details of which are available in Section 5 of Appendix 1.2 of the 2024 EIAR). It is also noted that there is no reference to a requirement for national advertisements within the Code of Practice for Wind Energy Development in Ireland: Guidelines for Community Engagement. The advertisements of the public consultation events were undertaken in accordance with the above Code of Practice which, with its emphasis on engagement with the local community, does not require national advertisement of non-statutory public consultation events.

Further information on the advertisement of the public consultation events is provided in Section 2.5 of Appendix 1.2 of the 2024 EIAR.

3.6.3.2 Purpose of public consultation undertaken prior to the submission of the application

Submission No 14 and 26 questioned the purpose of the public consultations. The key issues raised in relation the purpose of public consultation include:

- Submission No 14 states that public consultations were only arranged to promote the proposed development, with no opportunity provided for separate public meeting, as requested
- Submission No 26 notes that the Hampton Cove Residents Association “*was very well represented at the Public Consultations on NISA. Also, a member of our committee was cold called by Statkraft very early in the process and canvassed for views and opinions at two informal meetings. Our member submitted written comments and questions including concerns about distance from shore and where cables would come ashore (by email) to Statkraft, and resubmitted same at the final Public Consultation. Statkraft claimed to have addressed the questions and concerns in the Consultations but did not provide the requested written response. Now in the submitted proposal, the distances from shore are considerably less than the emerging standard, and the cables are landing for Transformer processing in a dense, built-up area. Regrettably and understandably based on what has transpired in the proposals-it seems that the Consultations may have been a box-ticking exercise.*”

Response on the purpose of the public consultations

The purpose of the Public Consultation Events was to build awareness of the proposed development as well as to facilitate open discussion and feedback between the team and members of the local community.

Full details of the NISA Community Engagement and non-statutory Public Consultation process is available to view in Appendix 1.2 of the 2024 EIAR.

Response to Statkraft did not provide a written response to concerns raised

All formal written requests for project information or concerns around the project design which were received were facilitated and responded to by the team with best endeavours.

Further opportunities to discuss concerns were available via the public consultation events or via 1:1 engagement with the project's community liaison officer. Should planning permission be granted, the Developer will conduct further public consultation events to provide information to the local communities.

See Section 3.7.3.1 of this report for information regarding the distances of offshore infrastructure to shore. Section 3.3.3.2 includes information regarding the assessment of alternative landfall locations.

3.6.3.3 *Incorrect information presented during consultation undertaken prior to the submission of the application*

A number of submissions (Submission No 15, 16, 17, 19, 21, 25, 33) state that incorrect information was presented during the public consultations. The key points raised in relation to the presentation of information include:

1. Submission No 15 states that *"they originally presented plans for 30 turbines of 250/276m height, then changed to 49 turbines of 290m and finally as per their current proposal 35 turbines of 316m high and closer to our shore"*. Submission No 17 notes that *"both the options presented by NISA in the planning application were not discussed at its public consultations"*. Submission No 19 states that *"at no stage were all the options made available to us. We feel this is in contravention of the Aarhus Convention..."*. Submission No 21 stated that the options presented in the planning application appear to be considerably in excess of what was originally presented in the photomontages presented at the public consultations. Submission No 25 stated that *"the size and number of the structures has changed regularly as evidenced by the series of community meetings...we strongly believe that NISA team cannot be trusted..."*. Submission No. 16 and No. 33 both state that *"In regard to the offshore turbines we note that their proposed height has increased a number of times between the initial public consultation and the eventual planning submission to the Bord and that their location has moved closer to the shoreline."*
2. Submission No 15 states that *"their advertising photographs are inaccurately scaled which is alarming in itself and does not inspire confidence"*.
3. Submission 30 states that *"the public consultation events, held in Bracken Court Balbriggan, did not give the public an accurate scaled view of the visual impact this array would have when viewed from Skerries or Balbriggan...."*
4. Submission No 14 noted that *"very little detailed documentation apart from the NISA Project Booklet for Q3 2023 was only available at the Autumn 2023 public walk-in consultations. A folding A3 size leaflet was available to take away at subsequent public consultations"*.

Response to point 1 regarding the presentation of Project Options

In response to Submissions no 15, 17, 21 and 25, the project design was evolving between June 2023 and April 2024. The information presented at each consultation event was an accurate representation of the project's proposed design at that moment in time. The most appropriate layouts were presented based on several influences including the ground conditions and the marine environment. The project design evolved as survey works and technological advances were made which influenced revisions to the project design. These updates were presented as they were available to the public via the series of public consultation events.

The Aarhus Convention provides for public participation in decisions on specific matters. The Convention's requirements in this regard have been integrated into the Irish planning system. In the case of the proposed development, members of the public had the opportunity to submit observations on the application to An Bord Pleanála, prior to the Bord making a decision, as required by the Convention.

Response to point 2 regarding the photomontages advertised

In response to Submission 15, the photomontages created for the project were created using an industry standard process in compliance with the relevant guidelines. The WTGs have been surveyed to within 10cm of the relevant viewpoint location. Appendix 3.4.1 of this report has been prepared to demonstrate the process undertaken to ensure the correctness of photomontages.

This process has been applied throughout the evolution of the project and is applied to all photomontages that have been presented at the public consultation events.

Response to point 3 regarding a lack of an accurate scaled view of visual impacts

In response to Submission 30, photomontages were available to view at the event held at the Bracken Court on 10 April, 2024, and online via a Virtual Consultation Room. The photomontages were captured from twelve different vantage points and were a subset of those submitted in Volume 7B1, SLVIA Photomontages Offshore Wind Farm of the 2024 EIAR.

The photomontages presented at the multiple Virtual Consultation Rooms and Public Consultation Events evolved alongside the design progression of the proposed development. At each event, the photomontages presented accurately reflected the design at the time.

The final Virtual Consultation Room was launched on 10 April, 2024, alongside the last public consultation event at the Bracken Hotel in Balbriggan. The photomontages presented in these events reflect the final photomontages included in the planning application.

The project design incorporated into the planning application was presented in public consultation events as detailed in Section 2 of Appendix 1.2 of the 2024 EIAR. See Section 3.4.3.2 of this report for further information on the visual impact assessment and scaling of the photomontages.

Response to point 4 regarding the information booklets

At each round of non-statutory public consultation events, brochures and information leaflets were produced and provided to attendees. As noted in Section 2.7 of Appendix 1.2 of the 2024 EIAR, *“A 12-page project brochure was created to support the public consultation events in June 2023. This brochure was available to download from the Virtual Consultation Room with an additional 400 copies shared with communities over the course of the events and subsequent meetings by the project team’s CLO.*

Along with the detail on the proposed development’s design, this brochure contained information about climate change and fossil fuel dependency to provide context on why the proposed development was being considered. Furthermore, the booklet outlined how the proposed development could bring benefits to the local area and sought feedback from community members with a QR code directing people back to the website’s engagement and survey page.

...

A four-page full colour information leaflet was produced to coincide with the second round of public consultation events. This took feedback from the local community onboard whereby they requested a summary of the proposed development’s details with a link to the website to find out more.

...

An updated information leaflet was created to coincide with the third round of public consultation events.

...

As well as being distributed during the consultation events, this leaflet was delivered to 5,790 homes in the Malahide area. This was to ensure maximum awareness of the onshore infrastructure element of the proposed development.”

Copies of the information brochure and leaflets were included in Appendix A of Appendix 1.2 of the 2024 EIAR.

3.6.3.4 Request for additional consultations

Submission no 14 noted that *“at all four meetings which I attended, I requested that the NISA community liaison officer and the support staff to arrange a public meeting in City North Hotel, Gormanstown to inform and answer question about the proposed NISA project in a public forum. Regretfully, this was politely refused initially and subsequently ignored.”* Submission 30 notes that *“we would urge the company to hold further public consultations where the true scale and visual impact are fully explained to the public”*

Response

In response to Submission No 14, Sections 2.3, 2.4 and 2.7 of Appendix 1.2, of the 2024 EIAR outline the resources created to support the awareness and understanding of the project throughout the community.

As explained in Section 3.6.3.1 above, the community liaison strategy for the project, which includes the public consultation events, was based on the *Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement* (DECC, 2016).

Furthermore, three rounds of non-statutory public consultation events were conducted to allow any evolutions to the project design, which came about as a result of the ongoing survey works, to be presented to the public in an open and transparent forum. The locations of the public consultation events were selected to fairly cover the geography of the impacted communities and ensure one of the locations were accessible. When approached to conduct additional Public Consultation Events, this scheduling was discussed in-person. An additional Public Event in Gormanston was not facilitated by the developer at the request of one community member as it was not deemed necessary given the proximity to the Balbriggan Public Consultation Events (5km and accessible by Irish Rail). The project's approach to public consultation focusses on responding to representative community organisations or a significant volume of community members rather than single requests. Furthermore, a series of smaller meeting formats took place between the team over the course of several years to ensure that all community concerns were addressed in the most appropriate forum.

These events spanned as far north as Clogherhead in Co. Louth to as far south as Howth in North Co. Dublin. These were supported by regular 1:1 engagement with local community groups as outlined in Section 2.2.2 of Appendix 1.2 of the 2024 EIAR. At all these events and interactions, the most up to date project information was presented and discussed.

Additional meetings, phone calls and emails with community groups and/or a representative from their organisation took place both before, during and after the various consultation events. This proactive outreach was part of the wider community engagement process to ensure widespread awareness and understanding of the project. Section 2.6 of Appendix 1.2 of the 2024 EIAR notes *“the public consultation events also served as a platform to schedule further tailored information clinics with community groups which felt they would benefit from such a session. These sessions enabled the community liaison team to raise further awareness of the proposed development. These sessions included a presentation from a select group of the project team and facilitated discussion about the development and the various elements that could have the greatest impact on their community.”*

The developer's community liaison team remains available to discuss community concerns and should planning permission be granted, the developer will conduct further public consultation events to provide information to the local communities.

3.6.3.5 Duration of Public Consultation, following submission of the application

Submission No. 21 states that *“given the lack of reasonable notice concerning significant aspects of this development, the time frame allowed for observations and objections being very short for a development of national importance, we are of the opinion a full public hearing should be convened to require the developer the opportunity to provide an accurate and up to date presentation of the visual, environmental and archaeological impact of this project, and thereby afford a notion of natural justice to those with valid vested interests.”*

Response

Section 292 (3) (a) (VI) of the Planning and Development Act 2000 (as amended) sets out the minimum timeframe for consultation by stating that:

“(A) a copy of the application,

(B) a copy of any such environmental impact assessment report, and

(C) a copy of any such Natura impact statement,

has been published on the internet website created by him or her for the purpose of the application, and may be inspected free of charge or purchased on payment of such fee (which shall not be more than the reasonable cost of making such copy or copies) as may be specified in the notice at such times and places and during such period (which shall not be less than eight weeks) as is specified in the notice.”

The timeframe provided for submitting observations on the proposed development to An Bord Pleanála complied with the statutory requirements set out in Irish legislation.

3.6.4 Conclusion

The Developer acknowledges the concern regarding the effectiveness of public consultations undertaken. The Developer has carried out extensive public consultation throughout the development of this application, acknowledging the importance of engagement with the public in projects of this nature. Throughout the development process the views of the public were sought on an ongoing basis and, where possible, these views have informed the design of the construction timeframe, methods, location, layout and operations of the project.

The public consultations were undertaken in good faith, in compliance with the Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement. The project design was evolving between June 2023 and April 2024 when the public consultations were held. The information presented at each consultation was accurate representation of the project’s proposed design at that moment in time. The photomontages and images presented at the public consultations and in the EIAR were prepared to the best industry standard.

3.7 Proposed Development

3.7.1 Introduction

This chapter provides a response to submissions made to An Coimisiún Pleanála by the following parties (Table 3.7.1) and incorporates responses to points made in submissions regarding the proposed development which did not naturally sit within any other themed response in this report. The response has been categorised into a number of sub-themes due to the varying points contained in the submissions:

Table 3.7.1 Submissions made in respect of the Proposed Development

No.	Name	No.	Name
1	Eugene McKeown	30	Bryn Edwards - People Before Profit Fingal
6	Theresa Kerins	32	Wild Irish Defence CLG - Peter Sweetman*
9	Shamsa Doyle	34	Elin Payne
14	Brendan Regan	35	Nephrops Fishermen and Producer Organisations*
15	Elaine Whelan	36	Sharon Burke
17	Malachy Quinn	42	Maritime Area Regulatory Authority*
18	Sustainable Windfarm Environmental Group*	47	Foras na Mara - Marine Institute (MI)*
19	Balbriggan Community Council	49	Commissioners of Irish Lights*
20	Irish Wildlife Trust*	50	An Taisce*
22	Golden Venture Fishing Limited and Fanning Shellfish Limited*	54	Department of Defence*
24	Blue Ireland Coalition CLG*	56	Louth County Council*
26	Hampton Cove Residents' Association		

*In the case of Submissions No. 18, 20, 22, 24, 32, 35, 42, 47, 49, 50, 54 and 56, comments are dealt with separately within their respective sections within this report.

3.7.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to the proposed development, which are dealt with as sub-themes below.

- Site selection and location of offshore infrastructure;
- EU Directives and marine spatial planning;
- Alternative technologies;
- Carbon sequestration;
- Airborne noise from offshore infrastructure;
- Resource and waste management;
- East Coast Monitoring Group;
- Socio-economic considerations;
- Consideration of Activities Requiring Consent (ARC)s; and
- Ownership of Wind farm.

3.7.3 Response to Key Issues Raised

3.7.3.1 Site selection and location of offshore infrastructure

Several submissions have concerns about aspects of the site selection process for the offshore infrastructure of the proposed development:

Submission No. 34 states that the proposed development is “*too big and too close to shore*” and calls for Government to prove through independent research that there are no alternative sites further offshore which may present less risks to the marine and coastal environment. Submission No. 6 states “*Considering the proposed two years of constant excavation and building works Statkraft and CIP must site the turbines in line with practice that is internationally accepted and so at least 22 km from the nearest part of the coastline.*” This sentiment is shared by Submission Nos. 9, 19, 26 and 36.

Submission No. 30 states that “*this array, like others, is developer-led and seems to prioritise locations and turbine placement based on onshore grid availability and NOT best environmental outcomes or least damaging impact.*” This sentiment is shared by Submission No. 34 who states that “*this project is located on an environmentally inappropriate site and risks causing damage to this coastline and its associated Natura 2000 species and habitats (the North Irish Sea SPA, the Rockabill SPA and the Skerries Islands SPAs).*”

Submission No. 36 has concerns that there is adequate wind resource at the site; “*Compared to wind on the west coast, the east coast has relatively light winds. Moreover, what wind the east coast has, would be out much further than the proposed distance of the turbines.*”

Response to site selection and location

The approach to developing offshore renewable projects changed from a “developer” to “plan” lead approach in March 2023 with the publication of the Department of the Environment, Climate and Communications (now the Department of Climate, Energy and the Environment (DCEE)) (DECC Policy statement titled ‘Accelerating Ireland’s Offshore Energy Programme, Policy Statement on the Framework for Phase Two Offshore Wind.’). The changes made are only applicable to Phase Two projects, which must now be constructed within a Designated Maritime Area Plan (D-MAP) identified by the state. Prior to this the identification of suitable sites for development of offshore renewable energy was not plan led. Developers undertook site selection and feasibility exercises, using third-party reports and data, to identify the most appropriate locations for the siting of offshore wind farms.

The location and site selection and refinement process for the proposed development is described in full in Chapter 5 Consideration of Alternatives of the 2024 EIAR. The site selection process commenced in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in this EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

Third party studies that were undertaken to assist the site selection process, as detailed in Chapter 5 of the 2024 EIAR, include;

- The Irish Marine Study Assessment - Gaelectric and University College Cork (2008) - an integrated geological and marine desktop study of the Irish Sea in the Irish Economic Exclusion Zone (EEZ) between Dunmore East (Co. Waterford) and Carlingford Lough (Co Louth), from a minimum distance of 5km from the coast to a maximum water depth of 60m,
- The Irish Sea Marine Assessment (2009) - to provide integrated seabed and sub-seabed mapping data of the areas identified in the desktop study of the Irish Sea and to assist in a fundamental understanding and evolution of the seabed.
- The IMAR Study (2009) – a desktop study to identify key constraints.
- Constraints analysis undertaken by the Developer, considering;
 - Technical considerations of the metocean, wind, and seabed characteristics

- Overlapping Foreshore licences
- Distance to shore (visibility perception from the coast) - siting of infrastructure at the furthest distance practicable from the coast
- Designated Sites
- Shipping and navigational features
- Commercial fisheries activity
- Proximity of the onshore electrical and grid infrastructure
- Potential interaction with civil and military aviation and Radar and military danger areas
- Proximity to the energy demand centres e.g. larger population centres where the electricity will be required
- Onshore grid constraints and upgrade requirements
- Economic efficiency for the Irish electricity consumer
- Bathymetry - water depths not exceeding 60m and
- Avoidance of existing offshore cables and pipelines
- Wind resource

Following the above site selection process, the preferred location and extent of the proposed development offshore development area were identified, which was deemed to be both environmentally acceptable as well as commercially viable, this formed the boundaries of the area identified in the Maritime Area Consent (MAC) application.

Further refinements made to reduce the MAC boundary are listed in Section 5.6.1.1 Environmental Considerations and 5.6.1.2 Offshore Development Area – Environmental Comparison (Ornithology) in Chapter 5 of the 2024 EIAR. The offshore development area reflects only 36% of the MAC extents.

Figure 3.7.1 below shows the robust process that has been undertaken to identify and refine the proposed development site.

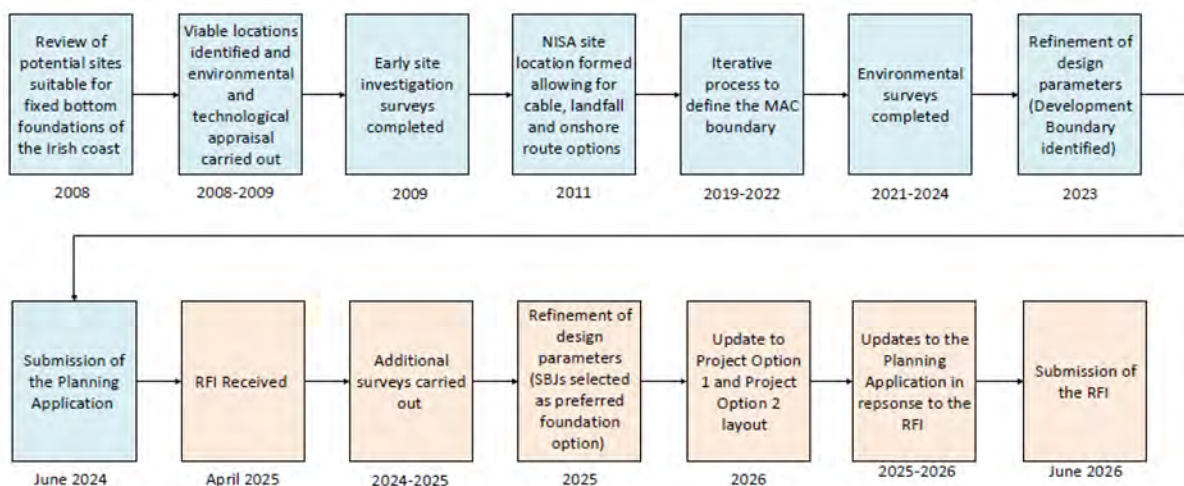


Figure 3.7.1 Project refinement process

With regard to the Natura 2000 network; site selection processes usually have a number of criteria and avoidance of sites designated under the Habitats Directive is typically one of those criteria. The Habitats Directive does not preclude the giving of consent for a project in/on a designated site.

However, it is noted that An Coimisiún Pleanála, in its RFI Section 6, requests additional information in relation to the assessment of site alternatives and suitability of the site for development in the recently designated North-west Irish Sea (NWIS) cSPA.

When the NWIS cSPA was announced in 2023, the Developer and its ecological experts had a very considerable body of ecological survey data for the site and surrounding area. These data were the basis for the assessment in the NIS of the potential effects of the project on the cSPA, and other European sites in its zone of influence. The NIS concluded that the proposed development will not have any adverse effect on the integrity of the cSPA, or any other European sites, either alone or in combination with any other plan or project. Further information is included in the NIS and in Chapter 15: Offshore Ornithology (hereafter referred to as the “Offshore Ornithology chapter”) of this 2024 EIAR. Refer to the RFI Response Document in which this request is addressed.

In regard to the proximity of the turbines and location of the array to the coast, the Developer is not aware of any internationally accepted distances. In order to deliver fixed bottom wind farms, turbines currently need to be installed in water depths of no greater than approx. 60m. Therefore, the water depth dictates the potential locations of wind farms such as the proposed development (e.g. foundations that are directly fixed to the seabed). In the EU there is no known set back distance from the coastline, and this is dealt with at a country-by-country level. Some examples in other EU countries where wind farms are closer than 22km (as referenced in the submission) are:

- Middelgrunden Wind Farm in Denmark (3.5km); Vesterhav Nord and Vesterhav Syd in Denmark (5.5km); Nysed Wind Farm in Denmark (10km); Korsnaes Wind Farm in Finland (13km); and
- Hollandse Kust Zuid and Nord in the Netherlands (18km)

An assessment on visual impacts is presented in Chapter 29: Seascape, Landscape and Visual of the 2024 EIAR. This assessment has been carried out by an independent consultant and considers the impacts, of the proposed development alone as well as the other known offshore projects. The assessment carried out and its impacts have been reviewed by the closest local planning authorities (Meath County Council, Louth County Council, Fingal County Council and Dublin City Council), all of which are in general agreement with the assessment.

Chapters 10 to 26 of the 2024 EIAR assess the impacts on the environment and the ecology in the area. A summary of mitigation to minimise the proposed development’s impacts on the environment are also included in Chapter 36: Mitigation, Monitoring and Likely Significant Residual Effects of the 2024 EIAR. A detailed assessment on all Natura 2000 sites where connectivity between the proposed development and site has been deemed likely, has also been carried out. This is presented in the Natura Impact Statement (NIS).

3.7.3.2 EU Directives and marine spatial planning

Submission No. 30 provides comments on page 2 of their submission in relation to the Maritime Spatial Planning Directive and the consideration of requirements under other EU Directives. Submission No. 30 states *“The EU’s Maritime Spatial Planning Directive (2014) places a requirement that the state prepare ecosystem-based plans for their marine areas by 2021. Allowing such developer-led projects to proceed with no overall attempt to ascertain the cumulative impacts on bird and marine life of multiple such projects is a flagrant breach of such a directive, as well as a dereliction of duty to protect already under-pressure species.”*

Submission No. 30 also requests *“We would ask the Bord to consider whether the processing of this application, given the fact that the site was developer-chosen and in the absence of an ecosystems approach to marine spatial planning, may mean that multiple EU directives have been disregarded by the state in this process, including the Marine Strategy Framework Directive (2008/56/EC), the Birds Directive (2009/147/EC), the Habitats Directive (92/43/EEC), the Strategic Environmental Assessment Directive (2001/42/EC), the Environmental Impact Assessment Directive (2011/92/EU), and the EU Maritime Spatial Planning Directive (2014/89/EU).”*

Response on EU Directives and marine spatial planning

The proposed development has long been considered in the context of Ireland's maritime spatial planning and has been advanced in accordance with all relevant International, National and Regional legislation, directives and guidelines. An overview of maritime spatial planning in Ireland is outlined below, with specific references outlining the proposed development's consideration in this context.

As referred to in Section 3.4.1 of Chapter 3: Legal and Policy Framework of the 2024 EIAR, the Maritime Spatial Planning (MSP) Directive (2014/89/EU) was adopted in July 2014, establishing a framework for maritime spatial planning. This required member states to establish and implement maritime spatial planning, taking into account land-sea interactions and was to be produced in accordance with institutional and governance levels determined by the member state. When establishing and implementing maritime spatial planning, member states were required by the MSP Directive to consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector. The MSP Directive required member states to use their maritime spatial plans to aim to contribute to the sustainable development of energy sectors at sea, of maritime transport, of the fisheries and aquaculture sectors, and to the preservation, protection and improvement of the environment, including resilience to climate change impacts. Whilst the MSP Directive set general ground rules in terms of criteria to be addressed, it was open for member states to determine how the different objectives were reflected and weighted in their maritime spatial plans. Member states were required to prepare such plans by 31 March 2021.

The National Marine Planning Framework:

Ireland transposed the MSP Directive through Part 5 of the Planning and Development (Amendment) Act 2018, with its transposition restated once the Maritime Area Planning Act, 2021 (the MAP Act) came into effect. This established the legal basis and broad framework for Ireland to implement the MSP Directive through the development of a maritime spatial plan. Ireland established its first National Marine Planning Framework (NMPF) in 2021. The NMPF is in full compliance with relevant legal environmental requirements, a Strategic Environmental Assessment (SEA), a Natura Impact Statement (NIS) and an Appropriate Assessment (AA) have also been carried out as part of the preparation of the NMPF. This is to ensure that the national objectives and outcomes respond to the sensitivities and requirements of the wider natural environment. The proposed development is also subject to EIA and AA under the same directives, and a SISAA and NIS have been provided to the competent authority in this regard. The proposed development concluded no adverse effect on integrity on any protected site within the study area.

The NMPF supports the development of offshore renewable energy (ORE) in Ireland, to, inter alia: significantly reduce greenhouse gas emissions and accelerate the move to cleaner energy in line with national and EU policy; increase the sustainable use of ORE use of Ireland's extensive marine resource; support Ireland's decarbonisation journey through increased use of ORE while delivering significant and sustained benefits; and provide enhanced security of energy supply for Ireland in accordance with the Climate Action Plan. The proposed development's compliance with the NMPF is outlined in the NMPF Compliance Report at Appendix A3.1 EIAR of its planning application.

The Developer provides a Marine Strategy Framework Directive (MSFD) Assessment (Appendix A3.2 MSFD Assessment) to present the Developer's assessment of the potential impacts of the proposed development on the MSFD criteria D6C4, and D6C5, D11C1 and D11C2. The conclusion of the assessment determined that the proposed development will not result in a deterioration of the current overall status of the Celtic Sea North Inner MRU or broad habitat types therein or jeopardise the attainment of Good Ecological Status.

A synopsis report of ecosystem functions and services has been provided in Appendix A3.3 Ecosystem Functions and Services Assessment, which considers the full range of ecosystem services set out in the report 'Valuing Ireland's Blue Ecosystem Services' (SEMRU of NUI Galway, 2018). The outcome of individual receptor assessments concluded no material impact on ecosystem services, and no impediment to the ability of normal ecosystem functions and services to function, resulting from the proposed development.

A revised and robust cumulative effects assessment, which considered the methodology and template provided in the Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK, September 2024 (NSIP, 2024), has been prepared (see Chapter 38: Cumulative and Inter-Related Effects).

3.7.3.3 *Alternative technologies*

A number of submissions make comment on alternative technologies to fixed bottom offshore wind. Submission No. 26 favours the use of floating turbine technology located in deeper water, and this is also suggested by Submission No. 30. Submission No. 14 proposes tidal turbines may be considered, whilst Submission No. 6 suggests new technology as an alternative to the offshore proposed development “*Modern technology has been developed that is far less disruptive such as "Oscillating Poles" which do not have the turbine blades which cause death and injury to migratory birds. These oscillating poles would probably cause less disturbance to marine life too. Nor do they need the "flashing" lights required on the turbines due to the rotating blades.*”

Response on alternative technologies

The Developer has identified, described and evaluated reasonable alternatives within its EIAR, outlining the main reasons for the option chosen and taking into account the effects of the project on the environment. A robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives of the 2024 EIAR.

One of the Developer’s key objectives, as seen in Chapter 3: Legal and Policy Framework, is to help the Irish Government meet its renewable targets of 5GW of offshore wind by 2030. This is heightened by the fact that there are limited suitable fixed-bottom offshore wind sites available in Irish waters, while much of the remaining offshore resource is dependent on floating offshore wind technology. Reaching this target would not be possible if relying on floating offshore wind, which still requires major changes to the supply chain, manufacturing and fabrication as well as upgrades to ports and harbour infrastructure to deliver floating offshore wind turbines at scale. Floating offshore wind infrastructure with a large footprint for anchor on the seabed, presents a significant navigational and fishing hazard. Other alternative technologies such as tidal and oscillating poles, although subject to feasibility studies and pilot projects, are not expected to become commercially viable in the near future.

Ireland's legally binding emissions targets can only be achieved with an offshore wind industry capable of delivering 5GW of renewable energy by 2030. Until the early 2030s, all new offshore wind farms in Ireland are expected to use fixed-bottom turbines.

3.7.3.4 *Carbon sequestration*

Submission No. 30 states the lack of assessment of the proposed development’s impact on the offshore area’s ability to act as a carbon sink. Submission No. 19 notes; “*We believe that drilling will disturb the carbon sequestration, and this will be lost over the period of the operational life of the turbines over the period of 35 years.*”

Response on carbon sequestration

Chapter 28: Climate of the 2024 EIAR discusses the potential impact of the development on carbon sequestration through all phases of the proposed development’s lifecycle.

Section 28.5.3.1 of Chapter 28: Climate in the 2024 EIAR demonstrates that the proposed development would have a net significant beneficial impact on the climate. Over its life cycle, the proposed development has the potential to displace ~13,821,528 of CO₂ eq² from the (largely carbon-based) traditional energy mix in the grid.

3.7.3.5 *Airborne Noise from Offshore Infrastructure*

A number of submissions have included concerns regarding the airborne noise of the wind turbine generators (WTG). Submission No. 1 raises the following points:

The EIAR does not adequately describe the effect of airborne noise on the environment. Further information should be provided by the developer. The EIAR does not:

- 1. present the method of calculation used for wind turbine noise*
- 2. present any supporting documentation for the sound power level (source level) of the wind turbines. A ‘representative level’ could mean anything;*

3. state whether any uncertainty factor...has been used in the calculations.

Response to Point 1 - Method of calculation used for wind turbine noise

The method of calculation used for wind turbine noise is set out in Section 30.2.5.7 of Chapter 30: Noise and Vibration of the 2024 EIAR, namely that noise propagation of wind turbine noise is calculated using the methodology contained in ISO 9613-2:1996 *Acoustics – Attenuation of sound during propagation outdoors - Part 2: General method of calculation*.

Section 30.2.5.7 of Chapter 30: Noise and Vibration of the 2024 EIAR states that: “An assessment of operational noise from the offshore wind turbines to onshore residential receptors has been carried out using the outdoor noise propagation method ISO 9613-2, which provides a calculation method suitable for such predictions. The method considers geometric spreading, atmospheric (air) absorption and the effect of hard ground/water on noise propagation. The calculated noise levels have been assessed against both the thresholds set out in NG4 and against the thresholds set out in ETSU R-97”.

This calculation method is in accordance with advice set out in *Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)*: 2011, published by the Environmental Protection Agency, and the *Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise*: 2013, published by the Institute of Acoustics (IOA).

However, the Developer notes that further modelling in line with the methodology outlined in BEK nr 135 has been undertaken to provide additional information on the operational airborne noise from the proposed WTGs.

Specifically, following the response to RFI Section 21 (a) and 21 (b), the Developer has undertaken further modelling of the airborne noise effects of the WTG on onshore receptors. Section 30.5.7.1 of Chapter 30 of the 2024 EIAR provides this response by noting:

- “The offshore wind farm has been modelled in 3D in SoundPLANnoise 9.0, which implements the methodology in BEK nr 135.
- The following information has been used to input into the model:
- Sound power levels of WTGs (as per Table 3.8.2).
- Terrain (assumed flat between the WTG and nearest sensitive receptor at Skerries Harbour);
- Ground absorption has been modelled as hard (i.e., the water is assumed to be completely reflective);
- The hub height of the WTGs is 165 m;
- The rotor diameter of the WTGs is 250 m;
- The reference wind speed is 11 m/s; and
- Noise levels are predicted at 2 m above ground level.
- Based on these assumptions, noise from WTGs is predicted to be 16 dBL_{Aeq} at Skerries Harbour (the nearest sensitive receptor). This noise level is compliant with the NG4 noise limit of 45 dBA, as well as the ETSU R-97 noise limit of 35 dBA.
- A sensitivity check has also been carried out on the operational noise from the OSP, which is in compliance with the NG4 noise limit of 45 dBA and the ETSU R-97 noise limit of 35 dBA at the nearest noise sensitive receptor.”

This represents a decrease of predicted noise levels from the WTG operations considered in the 2024 EIAR which noted that “allowing for the above correction, the predicted noise levels from the WTG operations at the nearest onshore residential receptors are 34dBL_{Aeq} / 32dBL_{A90}.”

These calculated noise levels have been assessed against both the thresholds set out in *Guidance Note for Noise: Licence Applications, Survey, and Assessments in Relation to Scheduled Activities (NG4)*: 2016 published by the Environmental Protection Agency and against the thresholds set out in *Good Practice*

Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise: 2013, published by the Institute of Acoustics (IOA) ETSU R-97.

The calculated noise levels remain below the threshold levels for potential effects set out in NG4 (45dB_{L_{Aeq}}) and ETSU R-97 (35dB_{L_{A90}}) and therefore the assessment outcome that no likely significant effects are predicted as a result of operational WTG noise is maintained.

It should be noted that this assessment assumes all turbine noise originates from the closest turbine location to shore, a scenario in which a greatest potential turbine noise levels are considered, thus providing confidence that the threshold levels for potential effects would not be exceeded.

Finally, it is acknowledged that because the specific make and model of WTGs which will be installed is not yet known, a representative sound power level has been used as the basis of the EIAR assessment. When the final WTG model has been selected, the sound power levels will be compared to those used in this assessment to confirm compliance with relevant guidelines and legislation.

Response to Point 2 - Supporting documentation for the sound power level of the WTGs

Section 30.5.7.1 of the EIAR sets out that “the sound power level assumed for each turbine is 115dB_{L_w}. This level is based on the manufacturer’s data of maximum A-weighted sound power level of a turbine of a similar size to that expected to be used in the proposed development.

For completeness, the octave band sound power levels used are presented in Table A30.10 below. These sound power levels are the highest (maximum) reported levels for the representative turbine, occurring at hub height wind speeds of 11m/s and above. For reference, the representative turbine has a cut-in wind speed of 3 m/s and a cut-out wind speed of 31 m/s.”

Table 3.7.2 Maximum turbine sound power levels in octave bands (63Hz to 8000Hz) for wind speeds 11m/s and above

Octave band sound power levels, L _w , dB								A-weighted sound power level, dBA
63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	
126	121	118	112	106	106	101	90	115

Response to Point 3 -The uncertainty factor and warranted power levels

Before discussing uncertainties and warranted power levels, an administrative error is acknowledged in the 2024 EIAR, namely that the noise levels in the turbine noise assessment (in Section 30.5.7.1 of the EIAR) reported as follows:

“The predicted noise level from the WTG operations to shore is 32dB(A), L_{Aeq} / 29dB(A)_{L_{A90}}.”

Should have been reported as:

“The predicted noise level from the WTG operations to shore is 32dB(A), L_{Aeq} / **30dB(A)**_{L_{A90}}.”

It is important to note that the amendment to 30dB(A)_{L_{A90}} does not represent a significant difference.

Regarding uncertainties in calculation, it is acknowledged that it is not certain that the sound power data presented in Table 3.7.2 is warranted data. As per best practice guidance contained within the *Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise: 2013*, published by the Institute of Acoustics (IOA), an allowance for uncertainty of +2dB should be applied to unwarranted WTG sound power levels.

Point 4 – Additional information

In addition, Submission No. 1 also requests the following additional information:

- Maximum sound power level data for all candidate turbines proposed in the EIAR in octave bands from 63 Hz to 8000 Hz at a range of wind speeds;
- The cut-in wind speed of the candidate turbines;
- The wind speed at which the candidate turbines reach maximum output;

- d. The cut-out windspeed of the candidate turbines;
- e. The maximum sound power level data of the candidate turbines from the cut-in wind speed to the wind speed they reach maximum output at 1 m/s intervals; and
- f. A declaration as to whether the sound power levels are warranted sound power levels or not

Response to Point 4 - Additional information requested

The maximum turbine sound power level data in octave bands from 63 Hz to 8000 Hz is provided in Table 3.7.2 above. These highest sound power levels for the representative turbine (at operating wind speeds of 11m/s and above) were used to assess the scenario which would generate the greatest magnitude of impact from a noise and vibration perspective in the EIAR. As the threshold of potential impacts is not breached at these higher wind speeds, sound power level data for lower wind speeds is not relevant and has therefore not been provided.

The cut-in and cut-out wind speeds for the turbines are not relevant to the noise assessment as the assessment has assumed the highest sound power noise levels available from the turbine data.

3.7.3.6 Resources and waste management

The Developer notes that issues have been raised by Submission No. 15 and Submission No. 36 on the following key points in relation to resources and waste management:

Point 1 - The lack of materials available to construct the turbines

Submission No. 36 states under Section 8 of their submission: *“Future materials shortage or supply disruptions could prove to be a risk, given the low substitutability for many raw materials, especially those in high-tech applications.... It would be a grave concern that the applicant would be granted permission and build the windfarm causing untold damage as per earlier comments, only for it not to be feasible to be used in the future due to lack of materials”*.

Response to Point 1 - The lack of materials

The EIAR fully assessed the resource use required for the construction of both the offshore and offshore infrastructure in Sections 31.5.2.3 and 31.5.3.3 of Chapter 31 of the 2024 EIAR respectively. A breakdown of materials required for the offshore infrastructure is also included in Table 31.8 of Chapter 31 of the 2024 EIAR.

With regard to the materials required for the WTGs themselves, Section 31.5.2.3 notes that *“due to the specialist design of WTGs and the lack of a native supply chain for offshore wind in Ireland, these materials will be sourced internationally. Other materials including subsea inter-array and export cables will be sourced both nationally and internationally. Steel, concrete, grouting and rocks used in the construction and installation of the offshore foundations will be sourced locally and nationally, with a ready supply available.”*

Regarding the materials required for the construction of the onshore infrastructure, Section 31.5.3.3 of Chapter 31 of the 2024 EIAR notes *“the majority of construction materials will be locally and nationally sourced, with a ready supply available. As the materials required for the construction phase of the proposed development are generally readily available and the quantities of the materials required constitute a small proportion of the quantities produced per annum in Ireland, the potential effect associated with onshore resource use, in the absence of mitigation, is negative, slight and permanent, which is not significant in EIA terms.”*

Therefore, the “lack of materials” available to construct the turbines has been fully assessed within the EIAR and no significant negative effects have been identified.

Point 2 - The amount of waste generated which is not recyclable

Submission No. 36 states under Section 8 of their submission: *“Applying circular economy approaches, along the life cycle of installations, is of key importance”*.

Response to Point 2 - The amount of waste generated which is not recyclable

The approach to waste management during decommissioning is set out in Chapter 31: Resource and Waste Management of the 2024 EIAR. In Section 31.5.5; Decommissioning in Chapter 31 of the 2024 EIAR.

All construction and demolition waste and waste electrical and electronic equipment (WEEE) generated during all phases of the offshore proposed development area will be returned to port and delivered to an authorised recycling, recovery or disposal facility that holds a certificate of registration, waste facility permit and / or EPA waste licence. All relevant waste management legislation in force at the time of the decommissioning works will be adhered to in the management and transportation of any WEEE generated (Section 31.5.5; Decommissioning in Chapter 31 of the 2024 EIAR).

It is also important to note that circular economy principles have been embedded throughout the design of the proposed development and have informed the construction, operational and decommissioning assessments of the proposed development. These are outlined in Section 31.2.1 and 31.2.7 of Chapter 31 of the 2024 EIAR. At all lifecycle stages of the proposed development, the waste hierarchy (see Image 3.7.2 below) will be adhered to.



Figure 3.7.2 Waste Hierarchy as set out in the Waste Framework Directive (Source: European Commission) (Extracted from Image 31.2 of Chapter 31 of the 2024 EIAR)

Point 3 - The destination of waste materials

Submission No. 36 asks under Section 8 of their submission: *“Where will its waste go?”*

Submission No. 15 asks under the third paragraph of their submission: *“There is no mention of consideration to what happens to the turbines after this period ends as this is their lifespan. The long-term environmental and economic impacts of such a project need to be considered.”*

Response to Point 3 - The destination of waste materials

The approach to waste management during decommissioning is set out in Chapter 31: Resource and Waste Management of the 2024 EAIR. In Section 31.5.5 in Chapter 31 of the 2024 EAIR, “*The operational life of the proposed development is anticipated to be up to 35 years. Once the proposed development has reached the end of its operational life, a decision will be made regarding decommissioning. A Rehabilitation Schedule will be prepared taking into consideration the latest technological advances as well as legislative and environmental requirements at the time of decommissioning.*”

A Rehabilitation Schedule is provided in Appendix A6.2 of the 2024 EIA. The Rehabilitation Schedule outlines the obligations the proposed development has in relation to decommissioning and rehabilitation of the marine environment within the Maritime Area Consent (MAC) boundary, as set out in the Maritime Area Planning Act 2021 (‘MAP Act’), and a high-level summary of the proposed development’s approach to decommissioning and rehabilitation.

The Rehabilitation Schedule is a live document that will continue to be updated as the proposed development design is finalised.

The decommissioning of the wind farm and its key components will be carried out under the best practices at that point of time. The Developer is currently considering that the end of life, decommissioning and waste management will follow the Environment, Social and Governance (ESG) strategy of Statkraft and CIP. This strategy focusses on maximising waste circularity into developments to minimise use of raw materials and maximise reuse/ recycling and recovery of any materials used. Disposal of materials is the last option. Currently the Developer is considering that all installed infrastructure will be removed by cutting to 1 - 2m below seabed levels, as per current best practice.

With regards to construction waste, the management of waste material is presented in Section 31.5.2 and Section 31.5.3 of the 2024 EIA for Offshore and Onshore waste streams respectively. Operational phase waste management is assessed in Section 31.5.4 of Chapter 31 of the 2024 EIA. There are no likely significant effects arising from a resource and waste perspective from either onshore or offshore waste streams. Further information on residual effects is provided in Section 31.7 of Chapter 31.

3.7.3.7 East Coast Monitoring Group

The key issues raised in relation to public engagement include Submission No. 30 recommending that any monitoring group for the Phase One applications includes “*voices from local communities, fisheries, local authorities and environmental groups*”

Response to monitoring group for the Phase One applications

The East Coast Phase One offshore wind projects (the proposed development (NISA), Oriel Wind Farm, Dublin Array Offshore Wind Farm, Codling Wind Park, and Arklow Bank Wind Park 2) recognise the potential need for, and benefits of, strategic monitoring initiatives to support their consent applications. Given the complex ecology and mobility of certain marine receptors, a coordinated approach offers the greatest strategic value and reflects established good practice in other jurisdictions, including Scotland and England. To support this, the proposed developments have established the East Coast Monitoring Group (ECMG).

The ECMG is committed to continued collaboration within the group and with relevant statutory and technical stakeholders to identify and implement appropriate strategic monitoring initiatives. Monitoring undertaken by the East Coast Phase One projects will be guided by the conclusions of the EIA process, with a focus on validation and evidence gathering. It is anticipated that, following consent, the ECMG and relevant stakeholders, including where relevant local authorities and environmental groups, will work together to agree monitoring objectives, methods, and expected outcomes.

Any need for project-specific monitoring, participation in strategic initiatives, and the level of contribution to joint proposals will remain proportionate to the outcomes of each proposed development’s EIA.

Further, the Developer has established a Sustainable Fisheries Community (SFC) which includes voices from the fisheries communities throughout Ireland.

The initiative is being steered and influenced by members of the fishing community, administered by an independent 3rd party and is supported by the proposed development which has already allocated significant funding for this purpose.

3.7.3.8 Socio-economic considerations

National Economic considerations

Several submissions have concerns about aspects of the economics of the proposed development.

Submission Nos. 15 and 17 are concerned that the energy produced will not provide a good price for Ireland. Submission No. 17 states *“The idea of our government just getting 2% on the 40yr seabed lease and a fixed guaranteed price of 86euro/mw is paid to the operator will lead to us paying for shortfalls if energy prices dip whilst profits being returned to Norway and Denmark as we pay for the upgrade to the Grid through the Public service levy.”*

Response to national economic considerations

The proposed development is being delivered by a joint venture between Statkraft and Copenhagen Infrastructure Partners, both bringing extensive experience in the development and delivery of renewable energy developments.

As is covered in Chapter 5: Consideration of Alternatives of the 2024 EIAR, as the proposed development is for an offshore wind farm with fixed foundations, it will deliver low cost, renewable electricity to ensure the Irish Government meet its legally binding targets.

In addition, the proposed development will yield €5million annually for the Irish exchequer as a result of the annual seabed lease and the O-RESS mandated Community Benefit Fund will deliver up to €4million annually - giving residents of the proposed development area the opportunity to bring about transformative and positive change to their local community.

3.7.3.9 Consideration of ARCs

Submission No. 19 states under the title of ‘Environmental Impact’ within their submission: *“The North-West Irish Sea SPA requires consent – ARC 30 Any activity intend to disturb birds, including by mechanical, air, gas, wind powered or audible means – when works are being considered.”*

Response to consideration of ARCs

An ARC is the abbreviation for “activity requiring consent”. It is a specific activity designated pursuant to the Birds and Natural Habitats Regulations 2011, as amended which cannot be carried out within a Natura 2000 site without first obtaining the prior consent of the Minister for Housing, Local Government and Heritage (‘the Minister’) or by another relevant public authority. This obligation to obtain a prior consent includes the consent (planning permission) granted by a planning authority or An Coimisiún Pleanála under the Planning and Development Act 2000, as amended. All of the works carried out as part of the proposed development will be carried out pursuant to a consent granted by An Coimisiún Pleanála pursuant to section 293 of the Planning Acts and therefore no separate or additional consent from the Minister is required in respect of any ARC.

3.7.3.10 Ownership

Submission No. 26 states that *“There is no or insufficient clarity in the proposal regarding ongoing maintenance of the windfarm over its 35 year lifespan, obsolescence and the responsibility for decommissioning and removal of end-of-life turbines; similarly, with regard to ownership and rights to sell on the windfarm during its working life - our members would like to see pre-conditions in any planning permission given that would protect contracted high standards across all operational and maintenance responsibilities - in the event of a change of ownership.”*

Response to Ownership

The operation and maintenance of the proposed development during the operational phase is addressed in Section 6.10 in Chapter 6 of the 2024 EIAR and in Section 7.6 in Chapter 7 of the 2024 EIAR.

The proposed development is being delivered by a joint venture between Statkraft and Copenhagen Infrastructure Partners. Further information on the Developer is provided in Section 1.4 of Chapter 1 Introduction of the 2024 EIAR. The Developer is the holder of a Maritime Area Consent (MAC), granted for the occupation of a maritime area for the permitted maritime usage, namely the construction and operation of an Offshore Wind Farm and associated infrastructure, including decommissioning and other works. There are specific requirements and conditions within the MAC which relate to ownership, decommissioning and any potential sale of the Offshore Wind Farm. Should permission be granted, the owner of the development will be bound by the conditions attached to the planning permission and the MAC. In the event of a future ownership change, the new owner will be bound by the planning conditions and conditions in the MAC.

Maintenance

The details regarding the operation and maintenance phase of the offshore and onshore infrastructure are outlined in Section 6.10 of Chapter 6 of the 2024 EIAR and Section 7.6 of Chapter 7 of the 2024 EIAR respectively.

It is in the owner's best interest to ensure that the development, should it receive consent, is maintained to the highest standards to guarantee consistent energy output.

The proposed development is being designed with a detailed operations and maintenance plan in mind. The developers are also beholden to the agreements and contracts entered with the transmission asset owners – on and offshore - to uphold the operational standard of all assets and infrastructure.

Decommissioning

The details regarding the decommissioning activities of the offshore and onshore infrastructure are described in Section 6.11 of Chapter 6 and Section 7.7 of Chapter 7 of the 2024 EIAR respectively.

As is highlighted in Section 11 of Chapter 6: Decommissioning of the 2024 EIAR, the Maritime Area Planning Act 2021 sets out an obligation on the holder of a Marine Area Consent (MAC) to decommission or re-use offshore infrastructure as part of its rehabilitation of the maritime area that is the subject of the MAC, once the proposed development has reached the end of its operational life. It is anticipated that all structures above the seabed will be completely removed.

3.7.4 Conclusion

The points raised in the submissions in relation to the proposed development have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR and the NIS.

3.8 Marine Geology, Oceanography and Physical Processes

3.8.1 Introduction

This chapter provides a response to submissions made to An Bord Pleanála in relation to the theme of Marine Geology, Oceanography and Physical Processes.

Table 3.8.1 Submissions made in respect of physical processes

No.	Name	No.	Name
18	Sustainable Windfarm Environmental Group (SWEG)*	32	Wild Irish Defence CLG*
24	Blue Ireland Coalition CLG*	40	Fingal Council*
26	Hampton Cove Resident's Association	51	Lough's Agency*
30	Bryn Edwards – People Before Profit Fingal	-	-

*In the case of Submissions No. 18, 24, 32, 40, and 51 comments are dealt with separately within their respective sections within this report.

For reference, aspects relating to marine geology, oceanography and physical processes are detailed within the following chapter:

- Chapter 10: Marine Geology, Oceanography and Physical Processes of the 2024 EIAR.

3.8.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to Marine Geology, Oceanography and Physical Processes, which are dealt with as sub-themes below.

- Coastal erosion; and
- Changes in sediment movement.
- Where submissions have made reference to concern regarding the coastline, responses are provided in Section 3.2 Onshore Cable Route and 3.3 Landfall Area of this report.

3.8.3 Response to Key Points Raised

3.8.3.1 Coastal erosion

Submission 26 highlighted concerns about exacerbation of coastal erosion due to vibrations and alterations to flow patterns and sand bed movements. They state in their submission “*Marine-based turbines should be located at 25km+ distance from shore - concerns include loss of amenity and current high quality aesthetic*, excessive size and height of turbines if closer to shore, exacerbation of coastal erosion (vibrations and alterations to flow patterns and sand bed movements), and negative impacts on biodiversity- ref. newly designated Marine Special Protection Area North East.*”

Response to Coastal erosion

Inter-annual natural variation in coastal erosion is part of baseline behaviour in the area and is expected to continue irrespective of any offshore wind developments. Section 10.3.5.8, Chapter 10 identifies that periods of contemporary erosion are primarily attributable to storm events (i.e. acute erosion attributable to short term events) rather than gradual and progressive erosion (chronic erosion).

Section 10.3.7.2, of Chapter 10 discusses the role of stormy periods of waves in driving coastal erosion and identifies that the majority (48%) of waves arrive at the proposed development from the south-south-east (SSE), and only 9% arrive from the east-north-east (ENE) which is the shortest direction from the proposed development to the adjacent coastline (and thus having a higher potential for wave modifications in the lee of the proposed wind farm).

The potential effect from the proposed development on modifying storm waves is reviewed in Chapter 10 Section 10.5.3.4, *Impact 12 - Physical changes to the coastline from a modification in storm waves due to array-scale blockage*. Calibrated wave models have been used to help quantify moderations to wave conditions passing through the array area and onward to the coastline compared to equivalent baseline conditions. Within Volume 7A, Figures A10.13 and A10.14 present the reduction in wave heights for the two representative wave directions (ENE and SSE) stated above. Whilst there is a small, predicted reduction in wave heights in the immediate lee of the proposed development, this effect quickly dissipates over the far-field towards the adjacent coastline. As waves approach the shallow water fronting the coastline, the greatest moderation to wave heights at this location is due to naturally occurring shoaling effects. Therefore, there is limited potential for the proposed development to impact wave heights against the coastline due to array-scale wave blockage.

Furthermore, additional sensitivity testing to demonstrate the effects of coupled wind-wave modelling on the morphodynamic response to the coastline has been carried out. Section 4.4 of Appendix A10.3: Supporting Assessment Sensitivity Studies investigates the impact of the proposed development on coastal longshore sediment transport during various wave events and concludes that modifications to coastal longshore sediment transport are effectively nil for typical wave conditions and small or very small for less frequent extreme conditions.

In summary, the modelling (comprising of the original 2024 EIAR and the additional sensitivity testing for the 2026 update (Appendix A10.3)) has demonstrated minimal changes in wave and longshore drift conditions between the baseline and the wave blockage scenario, and a very similar level of change is identified between the baseline and the wind and wave blockage scenario.

A calibrated hydrodynamic model (as detailed in Section 4 of Appendix A10.2: Marine Physical Processes Numerical Modelling) has also been used to predict changes in tidal flows from baseline conditions which is reviewed in Chapter 10, Section 10.5.3.5, *Impact 13 – Physical changes to marine processes receptors from modification of tides due to array-scale blockage*. In general, predicted changes to tidal flows remain within the array area as localised wake related effects which occur in the direction of flood and ebb flows which are essentially parallel to the adjacent coastline. Therefore, there is no pathway for changes in flow conditions between the offshore wind farm and the adjacent coastline.

Based on the consideration of predicted changes to both wave and tidal flows due to the proposed development, alongside additional investigations of modifications to coastal longshore sediment transport, there are expected to be no discernible changes to coastal erosion. Furthermore, we do not recognise the suggestion or relevance to locate offshore wind farms at 25+km from the coastline in any present industry guidance related to marine processes.

3.8.3.2 Changes in sediment movement

Submission 30 is concerned that large volumes of material will collect at the bases of the turbines such as at Arklow. The submission states, *“the existing offshore wind farm at Arklow was granted a Dumping at Sea license in 2017 for the use of a sea plough to remove 99,999 tonnes of material that had accumulated around the bases of the turbines, which were constructed with monopile foundations. Given that this situation involved a relatively small number of turbines of much smaller size than those proposed in the NISA project, it is likely that much greater volumes of material will accumulate at the turbine sites in NISA.”*

Response to Changes in sediment movement

Publicly available information from the EPA (Environmental Protection Agency) on the Dumping at Sea Licence for Arklow Bank states that it is a provision to dredge the shallow eastern side of Arklow Bank. This is to permit the safe navigation of maintenance and service vessels directly accessing the offshore wind turbines and dispose of a maximum of 99,999 tonnes of material at a location to the east of the bank, as required, through to 2025.

The situation is unique to Arklow given that the existing turbines are located on the crest of a shallow sandbank that is known to be highly dynamic with a variable seabed level linked to the natural migration of sandwaves.

In contrast, the proposed development is on a relatively flat, featureless and stable area of seabed composed of finer sediments. There is no sand resource, and flows are insufficient to form a mobile seabed, consequently there is no local occurrence of sandwaves or sandbanks which would require similar dredging requirements as Arklow. Local water depths at the proposed development are also far greater (33 to 63 m below LAT) (see Section 10.3.4.1, Chapter 10) than at Arklow Bank (shallowing to less than 0.5m below CD). The stable seabed defining the array area of the proposed development has no propensity to accumulate sediment at the base of turbines, rather the marine physical process of local scouring will prevent any accumulation and requires scour protection to maintain a stable seabed for foundations (Section 10.5.3.5, Impact 13 – Physical changes to marine processes receptors from modification of tides due to array-scale blockage, Chapter 10). Our understanding of the issues relevant to the proposed development is supported by detailed surveys (metocean, geophysical and geotechnical surveys), literature reviews, as well as comprehensive wave and tidal modelling which examines how the offshore wind farm affects marine and coastal processes. This modelling concludes there is no changes that would affect the stability of the local seabed.

3.8.4 Conclusion

The points raised in the submissions in relation to physical processes have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR.

3.9 Fish and Shellfish Ecology

3.9.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the following parties, in relation to potential effects of the proposed development on fish and shellfish ecological interests. The response has been categorised into sub-themes due to the varying points contained in the submissions.

Table 3.9.1: Submissions made in respect of Fish and Shellfish Ecology

No.	Name	No.	Name
9	Shamsa Doyle	24	Blue Ireland Coalition*
15	Elaine Whelan	25	Peter and Anita Dice
17	Malachy Quinn	30	Bryn Edwards
18	Sustainable Windfarm Environmental Group (SWEG)*	35	Nephrops Fishermen and Producer Organisations*
19	Balbriggan Community Council	47	Foras na Mara Marine Institute*
		59	Isle of Man Government*

*In the case of Submissions No. 18, 24, 35, 47 and 59 comments are dealt with separately within their respective sections within this report.

For reference, aspects relating to Fish and Shellfish Ecology are detailed within the following documents of the Environmental Impact Assessment Report (EIAR):

- Chapter 13: Fish and Shellfish Ecology; and
- Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation.

3.9.2 Summary of the Key Points Raised by Stakeholders

The submissions raised the following key points in relation to Fish and Shellfish Ecology, which are responded to under the following sub-themes below:

- Effects from underwater noise;
- Effects from electro-magnetic fields; and
- Effects on marine biodiversity linked to fish and shellfish ecology.

3.9.3 Response to Key Issues Raised

3.9.3.1 *Effects from underwater noise*

Submission No. 19 raises concerns surrounding the potential impact of underwater noise on marine mammals and basking sharks, stating “*The effect of the Turbines on marine life includes site disturbance, the inability for them to access their normal breeding ground...which in turn would have a significant impact on their life.*” Submission No. 25 shares these concerns, emphasising the long-distance travel of underwater noise, stating “*As noise carries extremely long distances under water, continued exposure to the noise from the turbines and/or from the pile driving during construction or maintenance will continue to impact and injure marine life for generations.*”

Response to Effects from underwater noise on fish and shellfish species

The likely effects of underwater noise on fish and shellfish ecology were identified and fully assessed in Sections 13.5.2.4 (Impact 4) 13.5.4.4 (Impact 14) and Section 13.9.6 (Cumulative Impact 3) of Chapter 13 of the 2024 EIAR. These sections addressed both impulsive sounds generated during piling and the detonation of Unexploded Ordnance (UXO) and non-impulsive sounds from activities such as dredging, drilling and vessel traffic. Design refinements (outlined in Appendix A5.1: Design Refinements, Chapter 6 Description of the Proposed Development Offshore and Chapter 8 Construction Strategy - Offshore of the Environmental Impact Assessment Report (EIAR)) have been implemented in response to the RFI, third-party submissions and continued public and stakeholder consultation. As a result, monopile foundations and therefore piling, are no longer included in the construction strategy for the Wind Turbine Generator (WTG) and Offshore Substation Platform (OSP) foundations. Subsequently, WTGs are now proposed to be installed on Suction Bucket Jacket (SBJ) foundations, while the OSP will be mounted on jacket foundations with either drilled pin piles or suction bucket foundations. Suction buckets are a low underwater noise foundation installation method that have been successfully used on other wind farms, such as Seagreen in Scotland. Amendments are therefore required to Sections 13.5.2.4 (Impact 4) 13.5.4.4 (Impact 14) and Section 13.9.6 (Cumulative Impact 3) of Chapter 13 Fish and Shellfish Ecology of the 2024 EIAR; these are captured in the update to Chapter 13 Fish and Shellfish Ecology.

The underwater noise impact assessment was carried out using established methodologies and standard practices commonly applied to offshore wind developments in UK waters. Impact ranges were determined using the quantitative and qualitative thresholds recommended by Popper et al. (2014), as detailed in Appendix A14.1: Underwater Noise Modelling Report. These thresholds represent current best-practice sound-exposure criteria for fish and have therefore been applied throughout the impact assessment. In the absence of established thresholds for shellfish, a comprehensive review of peer reviewed literature was undertaken to inform the assessment. The Developer is confident that this approach provides a robust and appropriate assessment of underwater noise effects on fish and shellfish.

In accordance with the design refinements, the largest underwater noise impact ranges would likely result from UXO clearance activities and mitigation has been proposed. General construction noise arising from the installation of suction bucket foundations is comparable to background vessel noise levels¹ and the drilling of OSP platform foundations and vessel movements would all generate low levels of continuous noise throughout the construction phase. In addition, non-impulse sounds would be generated during geophysical and geotechnical surveys, which would take place during the construction phase. Non-impulse sound refers to continuous or steady sound such as that from vessels and/or machinery, as opposed to short, high-energy pulses generated during piling. Non-impulsive sound is typically lower in intensity and is not considered a significant source of noise in the context of marine mammals or fish impacts. With the absence of piling from the project design, this reflects a significant reduction in the underwater noise generated during the construction phase. Subsequently, the residual significance of effects for all fish and shellfish receptors and is at most slight (adverse), which is not significant in EIA terms.

The Developer has implemented a number of mitigation measures to reduce impacts on marine life, including on fish and shellfish, as outlined in Table A13.6 of Chapter 13. Notably, the clearance of UXO will follow a mitigation hierarchy, with high order detonation only applied as a last resort. In the event that high order clearance is required, the Developer has committed to the implementation of Noise Abatement System (NAS) e.g. bubble curtains or similar. In addition, if UXO detonations are required for clearance, detonations will not occur within the same 24-hour window as piling operations, and where there may be clusters of UXO requiring detonation, these UXO will not be detonated at the same time.

The Developer notes that concerns were raised in Submission No. 19 in relation to underwater noise effects on basking sharks. The Developer would like to refer to the impact assessments for Group 1 fish presented throughout Section 13.5.2.4 (Impact 4), and Section 13.5.4.4 (Impact 14), which include basking shark (under elasmobranchs). As detailed in Chapter 13, it is concluded that neither impulsive sounds (from activities such as UXO clearance) nor non-impulsive sounds (from activities such as vessel noise or drilling of foundations) generated during construction and decommissioning of the proposed development will result in significant effects to basking shark.

¹ A low level of underwater noise will be generated from the vacuum pumps used to extract water from within the bucket

In Section 11 (g) of the RFI, An Bord Pleanála requested the Developer to update the EIAR to consider disturbance to marine receptors fish, basking shark and sea turtles from underwater noise generated by wind turbines during the operational phase of the proposed development, this has subsequently been assessed in Section 13.5.3.7 (Impact 15) of Chapter 13, with a conclusion of (at most) slight (adverse) effects on fish, basking shark and sea turtles, which is not significant in EIA terms.

The Developer notes the concern raised in Submission No. 25, that underwater noise can travel long distances and may therefore result in continued exposure and injury to marine life. It is important to clarify that piling has been removed from the proposed development design, and no piling is proposed for the installation of WTG foundations. As such, one of the principal high-intensity impulsive noise sources originally associated with the construction phase of the development is no longer part of the proposed development design. Notwithstanding this, the underwater noise assessment explicitly considers the propagation characteristics of both impulsive (e.g. from UXO clearance) and non-impulsive sound sources (e.g. vessel noise, drilling of foundations), including their potential to travel over long distances. The assessment of the magnitude of effect for each activity gives due consideration to the predicted spatial extent of noise, and notably the temporal characteristics of each noise source, including the duration, frequency, repetition and the intermittency of noise emissions. The assessment also gives due consideration to the timing of activities in relation to key sensitive life-history events for fish and shellfish, including spawning and migration. Where relevant, the potential for overlap between construction activities and these biologically important periods has been evaluated, and the conclusions of the assessment reflect this.

It is also important to note that the impacts of underwater noise on marine mammals have been thoroughly assessed in Chapter 14, Marine Mammal Ecology following the design refinements, and any related queries are addressed in Section 3.10 (Marine Mammal Ecology & Underwater Noise).

3.9.3.2 Effects from electro-magnetic fields

Submission No. 30 states “*Wind park infrastructure and operation could also affect the movement and navigation of other marine species, including species of fish, crabs, and shellfish. These species are particularly sensitive to electro or magnetic fields, and their disruption could have far-reaching consequences on marine ecosystems.*”

Response to Effects from electro-magnetic fields

The effects of electro-magnetic fields (EMF) on fish and shellfish species are identified and fully assessed in Section 13.5.3.6 of Chapter 13 of the EIAR for the proposed development alone and in Section 13.9.8 of Chapter 13 of the EIAR for potential EMF effects in-combination with other plans and developments.

The sensitivity of various marine species (e.g. marine turtle, fish, elasmobranch and shellfish) to EMF generated by subsea electricity cables has been assessed in Table 13.30 within Chapter 13 of the 2024 EIAR. The sensitivity assessments have been prepared using current evidence including peer-reviewed literature. It is noted that the available evidence suggests that EMF may affect electro- and magneto-sensitive species directly, potentially leading to behavioural and physiological changes, with the type and strength of effects depending on the species considered. It is further noted in Table 13.30 of Chapter 13 of the 2024 EIAR that no significant changes to populations and/or distributions of fish and shellfish species have so far been recorded as a result of EMF generated from subsea cables and that any behavioural changes in diadromous species are unlikely to affect migratory patterns and behaviour in the long-term.

The transmission properties of EMF in the marine environment are detailed in Section 13.5.3.6 of Chapter 13 of the EIAR. It is noted that whilst EMF will be emitted throughout the operational phase of the proposed development when the cables are carrying a current, generated EMF are likely to be detectable above background levels only near the cables (i.e. within < 10 m each side of the cables), with empirical studies indicating that biologically meaningful detection or behavioural responses by sensitive receptors within 1–2m of a subsea cable (buried at 1m). Therefore, it was determined that any potential effects on marine turtles, fish, elasmobranch and shellfish species will be localised and will at most be of slight (adverse) significance, which is considered to be not significant in EIA terms.

Table A13.6 within Chapter 13 of the EIAR details the mitigation measures that will be implemented as part of the proposed offshore development in relation to fish and shellfish ecology.

Specifically, in relation to the effects of EMF, export and inter-array cables will be buried where practicable to ensure they are not exposed by sediment movements, as outlined in Section 8.3.10 of the Offshore Construction Strategy. In cases where cable burial is not feasible, additional cable protection measures such as rock placement or mattresses will be applied to achieve adequate cable protection. Up to 20% of cable length is expected to need protection either during initial installation, or throughout the operational phase of the proposed development (Chapter 8). Cable burial or cable protection increases the distance between the cables and electro- and magneto-sensitive receptors, thereby reducing the received EMF (from attenuation of the EMF).

The Developer is confident that the EIAR provides a robust assessment of impacts from EMF on fish and shellfish. An extensive review of the most up-to-date literature and data sources has been undertaken to ensure the assessment reflects the most accurate information and latest knowledge.

3.9.3.3 Effects on marine biodiversity linked to fish and shellfish ecology

Concerns were raised by Submission Nos. 9, No. 15, and No. 17 on the potential for significant effects on marine biodiversity.

Submission No. 9 states, “*The effect on seabirds and sea life, especially fish...would be catastrophic.*”

Submission No. 15 states, “*It is in my opinion that the small island of Ireland cannot afford to become a guinea pig for larger and closer to shore turbines as the impact to marine and avian life is unproven... so I ask for your consideration of best practice for our communities and our avian and marine life.*” Submission No. 17 states, “*The location of the windfarms at present will negatively affect the biodiversity of the sea at such a proximity to the coastline.*”

Response to Effects on marine biodiversity linked to fish and shellfish ecology

The EIAR includes a number of technical chapters that consider the impacts on different species, their behaviour, ecology and habitats. This includes benthic subtidal and intertidal ecology (Chapter 12), fish and shellfish ecology (Chapter 13), marine mammals (Chapter 14) and offshore ornithology (Chapter 15). Each of these chapters include an assessment by competent technical specialists of relevant identified receptors that may be impacted by the proposed development. In accordance with best practice, the assessments presented in each chapter are informed by ecological information from a combination of existing literature and project-specific and regional data sets and by robust professional experience and judgement. The Developer therefore believes that the EIAR provides a comprehensive, evidence-based assessment of the species present and the potential impacts of the proposed development.

Information on the ecology and distribution of fish and shellfish in and around the offshore development area is presented in Appendix 13.1: Fish and Shellfish Ecology Baseline Characterisation of the 2024 EIAR. As requested in the RFI, the technical baseline has been updated to incorporate the most recent data collected during regional and site-specific surveys, ensuring that the fish and shellfish information remain relevant and up to date, this is reflected in Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation. The impacts of the proposed development on fish and shellfish are identified and fully assessed in Chapter 13: Fish and Shellfish Ecology of the EIAR. An extensive review of the most up-to-date literature and data sources (including site-specific survey data) has been undertaken to ensure the assessment reflects the most accurate information and the latest knowledge. In response to the RFI, a number of design refinements have been proposed (Appendix A5.1 Design Refinements), these refinements, and the resulting updates to the fish and shellfish assessment, have been captured in Chapter 13. The assessment concludes that the proposed development would at most result in slight (adverse) effects to fish and shellfish, which is not significant in EIA terms. Accordingly, the conclusions of the EIAR demonstrate that the proposed development does not pose a significant risk to fish or shellfish populations, and the evidence does not support the suggestion that effects would be catastrophic.

3.9.4 Conclusion

The points raised in the submissions in relation to fish and shellfish ecology have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR.

3.10 Marine mammals

3.10.1 Introduction

This chapter provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the following parties, in relation to potential effects of the proposed development on marine mammal interests. The response has been categorised into a number of sub-themes due to the varying points contained in the submissions.

Table 3.10.1 Submissions made in respect of marine mammals

No.	Name	No.	Name
9	Shamsa Doyle	35	Nephrops Fishermen and Producer Organisations*
18	Sustainable Windfarm Environmental Group*	36	Sharon Burke
19	Balbriggan Community Council	47	Foras na Mara Marine Institute*
24	Blue Ireland Coalition*	48	National Parks & Wildlife Service (NPWS) *
25	Peter and Anita Dice	50	An Taisce*
32	Wild Irish Defence CLG - Peter Sweetman*	55	Irish Whale and Dolphin Group*
		59	Isle of Man Government*

*In the case of Submissions No. 18, 24, 32, 35, 47, 48, 50, 55 and 59, comments in relation to marine mammals are dealt with in their own individual responses outside of this themed response.

3.10.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to marine mammals, which are dealt with as sub-themes below.

- Underwater noise;
- Appropriateness of the mitigation measures;
- Uncertainties within the Marine Mammal Mitigation Protocol (MMMP); and
- Unexploded Ordnance (UXO) clearance impacts.

Effects on Marine Biodiversity Linked to Marine Mammal Ecology.

3.10.3 Response to Key Points Raised

3.10.3.1 Underwater noise

The key issues raised by the submissions in relation to underwater noise include:

- Modelling methods and fleeing;
- PTS thresholds;
- Sub-bottom profiler (SBP) noise levels;
- Underwater noise from piling; and
- Underwater noise during operation.

Point 1 – Modelling methods and fleeing

In the first paragraph in response to heading 2, Submission No. 36 queries “*where will they flee too*” in respect to the assessment which states that marine mammals will flee in response to loud underwater noise. Further, it states “*As the fishermen will be pushed out, such seals, porpoises, sharks and whales may just then get caught in nets and be killed or die of starvation or exhaustion in trying to flee*”.

Response to Point 1 – Modelling methods and fleeing

With respect to concerns regarding fleeing, it may be helpful to clarify the principle. Fleeing in noise modelling is the action of swimming away from a noise source, which is a behaviour that is expected to occur in marine mammals (Kastelein *et al.*, 2018). In effect, this means individuals are not remaining stationary in the model. This is intended to make the modelling more realistic in terms of the actions of the receptor species as a result of noise exposure, and does not mean that the individuals will permanently leave an entire region, and studies have shown that animals return to the impacted area after impacting activities cease (Tougaard *et al.* 2009; Brandt *et al.* 2012; Dahne *et al.* 2013; Diederichs *et al.* 2009; Brandt *et al.* 2011, Russell *et al.* 2016; Brandt *et al.* 2018) (see Section 2.2.1 of Appendix 14.1 of the 2024 EIAR).

Importantly, following further design refinement in response to the RFI, Wind Turbine Generators (WTGs) are now proposed with jacket foundations installed with suction buckets, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets (Refer to Appendix A5.1 Design Refinements). As a result, pile driving is no longer required and has been removed from the NIS, the EIAR and the MMMP.

Point 2 – PTS thresholds

Submission No. 36 states “*if they stay in the impact area, they will suffer immediate onset PTS permanent hearing loss*” and that the assessment “*cannot possibly know exactly at what levels PTS will occur in these species.*”

Response to Point 2 – PTS thresholds

The assessment of PTS in Chapter 14 is precautionary, using the NMFS (2024) recommended PTS-onset threshold, which is a 40 dB threshold shift. There is considerable detailed research published in scientific literature and reputable journals, which is referenced in the assessment and that has been used to provide conclusions based on the best available data (including, but not limited to Southall *et al.* (2019), NMFS (2024)). The NMFS (2024) guidance on auditory injury thresholds in marine mammals is based on compilation, interpretation, and synthesis of the scientific literature, which represents the best understanding of auditory injury at the current time. (please note, NMFS 2024 was not available for the 2024 EIA submission, which used the Southall et al 2019 thresholds that were the best available at the time).

Importantly, following further design refinement in response to the RFI, WTGs are now proposed with jacket foundations installed with suction buckets, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets (refer to Appendix A5.1 Design Refinements). As a result, pile driving is no longer required and has been removed from the NIS, EIAR and MMMP.

The updated MMMP (Appendix A14.5), outlines mitigation measures to minimise the risk of PTS arising in marine mammals from underwater noise from pre-construction geophysical surveys and UXO clearance and is intended to reduce the risk of auditory injury (PTS) to a negligible level. At no point will there be any unmitigated pre-construction geophysical surveys or UXO clearance.

Point 3 - Sub-Bottom Profiler (SBP) noise levels

In the 6th paragraph on page 4, Submission No. 36 states that “*For harbour porpoise, the predicted SBP source levels exceed the PTS-onset threshold and as such, use of this equipment has the potential to cause PTS*”.

In the 7th paragraph of the same page, Submission No. 36 states “*For seals and minke whales, only the upper limits of potential sources levels are expected to exceed the PTS-onset thresholds. Whilst it is possible that the use of this equipment could operate at source levels below the PTS-onset thresholds for these species, at this stage of the proposed development it is difficult to determine whether that will be the case.*”

Noise modelling for pipeline surveys have previously indicated PTS-onset in minke whales within 5 m of the source when SBP pingers operate with a sound source of 220 dB re 1 µPa (SPL_{peak}; Shell 2017), and ~10 m for seals (Department for Business Energy & Industrial Strategy 2019). ”

In the 8th paragraph of the same page, Submission No. 36 also states that the text in the assessment around SBPs, in relation to the risk to the harbour porpoise, is “*pure conjecture as the applicant’s report admits it is difficult to determine.*”

Response to Point 3 – SBP noise levels

For harbour porpoise (defined as a Very High Frequency (VHF) cetacean), the predicted SBP source levels exceed the PTS-onset threshold and as such, the use of this equipment has the potential to cause PTS and this is acknowledged in Section 14.5.2.1 of Chapter 14 of the 2024 EIAR. The Department of Business, Energy and Industrial Strategy (BEIS (2020)) has indicated that for SBPs, the PTS onset is likely to occur within 17 to 23m from the use of this equipment at source levels of 267dB re 1µPa (SPL_{peak}). Albeit with a high degree of uncertainty, BEIS (2019) suggested that SBPs used in high-resolution geophysical surveys have a very low potential for injury, and JNCC (2025) guidance states that parametric SBPs “*operate at high frequencies that fall outside the hearing frequencies of marine mammals, and have a rapid attenuation of sound within the marine environment (the primary signal)*” and that mitigation is not required for surveys using parametric sub-bottom profiling devices if: 1) the SBP is the only device in use, 2) the SBP is hull mounted or deployed over the side of the vessel (not towed) or 3) the beam width is <5°.

Following the update in the hearing ranges published since the EIA submission (NMFS, 2024), the source levels of SBP (210–220dB re 1µPa SPL_{peak}) are below the SPL_{pk} PTS-onset thresholds for minke whale (222 dB), dolphins (202 dB) and seals (223 dB). It is concluded that there would be no risk of PTS onset to minke whale and any of the assessed dolphin or seal species from the use of SBP equipment.

Appendix A14.5: MMMP has been revised to align with DAHG (2014) guidance. Clear commitments have been made to mitigation measures for geophysical surveys to minimise the risk of PTS, including:

- 500 m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes;
- Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone; and
- Ramp-up of equipment where possible.

Point 4 – Underwater noise from piling

Submission No. 25 states in its second point that: “*The Negative effect on Marine Mammals during construction is partially highlighted in section 11 [Non-technical Summary (NTS)] of the original submission. Past and ongoing research performed on such installations show that construction will impact marine mammals, there is mounting evidence that the damage continues during long term operation in the regions. Such installations will drive our native sea life away from the Irish coastal waters. As noise carries extremely long distances under water, continued exposure to the noise from the turbines and/or from the pile driving during construction or maintenance will continue to impact and injure marine life for generations. It is cruel and long lasting and not acceptable. We strenuously object to this installation.*”

Submission No.19 has similar concerns on the potential effects from underwater noise during construction: “*The grey seals/dolphins/basking sharks which have been surveyed off this coast will be hugely affected during the construction; they are protection under the Wildlife Act 2023...*”

Response to Point 4 – Underwater noise from piling

Submission No. 19 and No. 25 raise concerns regarding the noise levels from pile driving. Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jackets (SBJ), and OSPs with jacket foundations installed with SBJ or drilled pin piles. Therefore, pile driving will not take place during construction (or any other phase).

The Applicant acknowledges that construction noise can result in temporary disturbance to marine mammals, however, the scientific data collated to date shows that marine mammals are not completely displaced from the area during construction works, and that they return once the key noisy activities (e.g. piling) have ceased (e.g. Russell et al 2016 for seals and Benhemma-Le Gall et al 2021 and Brandt et al 2018 for porpoise).

The potential for auditory injury and disturbance has been extensively assessed in a quantitative assessment in the EIA and NIS.

Point 5 – Underwater noise during operation

The 5th paragraph on the same page within Submission No. 19 states “*The effect of the Turbines on marine life includes site disturbance, the inability for them to access their normal breeding ground, the noise levels affecting their sonar ability, which in turn would have a significant impact on their life.*”

Response to Point 4 and 5 - Underwater noise during operation

Submission No. 19 and No. 25 raise concerns regarding the noise levels from operational turbines on marine life. Response to this query is also included in the Response to the RFI document (RFI Section 10h) completed alongside this Response to Submission document.

The Developer confirms that an assessment of disturbance from operational noise has been added (see Section 14.5.3.5 Impact 24: Disturbance from operational noise) in Chapter 14: Marine Mammal Ecology.

In summary: Operational noise is primarily low frequency and the primary acoustic energy from operational bottom-fixed WTGs is likely to be below the region of greatest sensitivity for most marine mammal species considered here. In terms of potential ecological effects, Bellmann et al. (2023) highlighted the low-frequency nature of WTG noise and corroborated that such noise cannot be perceived by harbour porpoises, even at distances of 100m from the WTG. Other species with more sensitive hearing at lower frequencies, such as seals and minke whales, would be able to perceive such noise. As presented in the underwater noise modelling report (Appendix A14.1), marine mammals may experience behavioural disturbance (using the precautionary level B harassment 120dB SPL_{rms} threshold) within 150m from an operational geared-drive WTG. Additionally, the presence of species such as harbour porpoise, grey seal and harbour seals around operational bottom-fixed foundations has been widely documented (Scheidat et al., 2011, Delefosse et al., 2020, Fernandez-Betelu et al., 2024, Russell et al., 2014).

3.10.3.2 Appropriateness of mitigation measures

Submission No. 36 highlights in the third paragraph of point 2: “The mitigation steps cited are simply not good enough, untold damage will occur. They cannot possibly know exactly at what levels PTS will occur in these species. While they say they will have to observe for such mammals in the area, simple observation is simply not satisfactory, human error and mammals under water means that mammals will die as a result of this, if this proposal goes ahead.”

Response to Appropriateness of mitigation measures

Response to this query is also included in the Response to the RFI document (RFI Section 10o and 10p) completed alongside this Response to Submission document.

The auditory injury thresholds outlined in NMFS (2024), which underpin the assessment, are recognised as conservative. As such, the assessment may be interpreted as representing the greatest magnitude of impact using the recommended PTS-onset threshold.

Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jackets (SBJ), and OSPs with jacket foundations installed with SBJ or drilled pin piles. Therefore, pile driving will not take place during construction.

For other impulsive noise sources with a potential to result in PTS (UXO clearance and geophysical surveys), best practice mitigation measures have been developed to minimise the risk of auditory injury. The MMMP has been updated following the EIAR submission and is presented as Appendix A14.5: MMMP of the EIAR. Clear commitments have been made to mitigation measures that align with DAHG (2014) guidance:

- Geophysical surveys:
 - 500m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes;
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone; and
 - Ramp-up of equipment where possible.

- UXO clearance – low order:
 - 1,000m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes; and
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone.
- UXO clearance – high order:
 - Only used as a last resort if low order clearance attempts fail
 - 1,000m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes;
 - Use of ADD to deter marine mammals out of the monitored zone where predicted PTS ranges exceed 1km;
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone; and
 - Use of bubble curtain.

The MMMP is a live document and as such, will be further revised and updated pre-construction so it is based on the most up-to-date guidance available at the time (e.g. updated DAHG (2014) guidance).

3.10.3.3 *Uncertainties within the MMMP*

In the 4th paragraph under point 2 of Submission No. 36, it is stated that “Noise Abatement Systems (NAS) may be used to minimise the risk of injury”. “This is too vague and not acceptable”.

Further, Submission No. 36 states that “Bubble curtains are mentioned as an option which can be somewhat effective in reducing noise in the water but again the report doesn't say for definite that they will be used if necessary.”

Submission No. 36 quotes from Section 6.2 Summary of PTS Risk of the MMMP of the 2024 EIAR “Table 6-1 summarises the impact ranges for the various FHGs against various charge weights. The Developer has committed to this MMMP to reduce the risk of physical trauma or PTS-onset as far as reasonably practicable.” The submission goes on to question, “It says the developer has committed. How has he done that? Has it signed a legally binding contract not to? As far as reasonably practicable has a wide vague meaning.”

Response to Uncertainties within the MMMP

Response to this query is also included in the Response to the RFI document (RFI Section 10 (o) and 10 (p)) completed alongside this Response to Submission document.

Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jacket (SBJ) foundations, and OSPs with jacket foundations installed with SBJ or drilled pin piles. Therefore, pile driving will not take place during construction.

For other impulsive noise sources with a potential to result in PTS (UXO clearance and geophysical surveys), mitigation measures have been developed to minimise the risk of auditory injury, as outlined above. The MMMP has been updated following the EIAR submission and is presented as Appendix A14.5 in the EIAR. Clear commitments have been made to mitigation measures that align with DAHG (2014) guidance. The measures included in the MMMP are included with the purpose of securing the relevant commitments.

The MMMP is a live document and as such, will be further revised and updated pre-construction so it is based on the most up-to-date guidance available at the time (e.g. updated DAHG (2014) guidance).

3.10.3.4 *UXO clearance impacts*

In the final paragraph on page four of Submission No. 36, quotes from the MMMP of the 2024 EIAR “6. UXO mitigation Methodology 6.1 Introduction This section of the MMMP has been developed for the purpose of mitigating the risk of physical trauma and auditory injury (PTS) to marine mammals by the

proposed UXO clearance activities....The Department of Art, Heritage and Gaeltacht guidance to manage the risk to marine mammals from manmade sound sources in Irish waters (DAHG, 2014) does not specifically cover UXO; however, it does provide guidance on blasting. Reference is also made to the JNCC guidelines for minimising the risk of disturbance and injury to marine mammals whilst using explosives (JNCC, 2010; 2021; 2023b) as well as best practices from other wind farms in other jurisdictions.” Submission No. 36 states “*This is a huge unknown and is not covered within the Department of Art, Heritage and Gaeltacht guidance, therefore it should not be allowed to proceed.”*

Response to UXO clearance impacts

It is correct that the guidance to manage the risk to marine mammals from manmade sound sources in Irish waters (DAHG, 2014) does not cover UXO clearance. However, the Developer has referred to other jurisdictions and their relevant guidance and best practice for UXO clearance (JNCC, 2025). By referring to these other jurisdictions, the Developer has aligned its approach with widely accepted industry standards, ensuring that best practice is applied in the absence of Irish guidance.

It should be noted that overall, there is a low risk of UXOs being present within the proposed development array area and export cable corridor. A detailed UXO survey will be completed prior to construction. In line with the industry standard and UK Government and devolved administrations joint position statement (DEFRA *et al.*, 2025), the preferred clearance method is to remove or deflagrate the UXO. If this is not possible, then high-order detonation will be a last resort method. If the high-order clearance is required, a Noise Abatement System (NAS) (e.g. bubble curtain or similar) will be used.

3.10.3.5 Effects on marine biodiversity linked to marine mammal ecology

Concerns were raised by Submission No. 9, on the potential for significant effects on marine biodiversity. Submission No. 9 states, “*The effect on seabirds and sealife, especially fish, whales, dolphins would be catastrophic.”*

Response to Effects on marine biodiversity linked to marine mammal ecology

The EIAR includes a number of technical chapters that consider the impacts on different species, their behaviour, ecology and habitats. This includes benthic subtidal and intertidal ecology (Chapter 12), fish and shellfish ecology (Chapter 13), marine mammals (Chapter 14) and offshore ornithology (Chapter 15). Each of these chapters includes an assessment of relevant identified receptors that may be impacted by the proposed development. The assessments presented in each chapter are informed by ecological information from a combination of existing literature and project-specific and regional data sets. The Developer therefore considers that the EIAR adequately assesses the wide range of marine biodiversity present in the area.

Information on the ecology and distribution of marine mammals in and around the offshore development area is presented in Appendix A14.2: Marine Mammal Baseline Characterisation of the EIAR. The impacts of the proposed development on marine mammals are identified and fully assessed in Chapter 14: Marine Mammal Ecology of the EIAR. An extensive review of the most up-to-date literature and data sources has been undertaken to ensure the assessment reflects the most accurate information and the latest knowledge, in accordance with RFI Section 1 (b). The assessments conclude that the proposed development would at most result in slight (adverse) effects to marine mammals, which is not significant in EIA terms.

3.10.4 Conclusion

The points raised in the submissions in relation to marine mammals have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR and the NIS. The Developer maintains the conclusion of no significant effects for all species assessed in the EIAR and no AEoI for all QIs within the SACs assessed in the NIS.

3.11 Offshore and Intertidal Ornithology

3.11.1 Introduction

This section provides a response to Submissions made to An Bord Pleanála by the following parties, in relation to offshore and intertidal ornithology with the original maritime area consent (MAC) boundary plus buffer and export cable corridor (ECC) plus buffer, as outlined during the initial scoping stage of the proposed development. The response has been categorised into a number of sub-themes due to the varying points contained in the Submissions:

Table 3.11.1 Submission Nos made in respect of offshore and intertidal ornithology

No.	Name	No.	Name
3	Brendan and Theresa Stack	25	Peter and Anita Dice
6	Theresa Kerins	30	Bryn Edwards - People Before Profit Fingal
7	Balbriggan Sustainable Energy Community CLG	31	Bird Watch Ireland*
8	Joe O'Brien	35	Nephrops Fishermen and Producer Organisations*
9	Shamsa Doyle	36	Sharon Burke
11	Jennifer Mahon	38	Niamh Colgan
14	Brendan Regan	47	Foras na Mara Marine Institute*
15	Elaine Whelan	48	National Parks and Wildlife Service*
17	Malachy Quinn	50	An Taisce*
18	Sustainable Windfarm Environmental Group*	55	Irish Whale and Dolphin Group*
20	Irish Wildlife Trust*	56	Louth County Council*
24	Blue Ireland Coalition*	59	Isle of Man Government

* In the case of Submissions No. 18, 20, 24, 31, 35, 47, 48, 50, 55, 56 and 59, comments are dealt with separately within their respective sections within this report.

It is noted that a description of the proposed array area is provided in Chapter 6: Description of the Proposed development – Offshore of the EIAR.

For reference, aspects relating to offshore and intertidal ornithology are detailed within the following chapter:

- Chapter 15: Offshore and Intertidal Ornithology;
- Appendix A15.1: Offshore and Intertidal Ornithology Technical Baseline;
- Appendix A15.2: MRSea Modelling for Offshore Ornithology;
- Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment;
- Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment;
- Appendix A15.5: Offshore Ornithology Displacement Analysis;
- Appendix A15.6: Offshore Ornithology Population Viability Analysis;
- Appendix A15.7: Migratory Bird Survey Report 2026; and
- Appendix A15.8: Offshore and Intertidal Ornithology Apportioning.

3.11.2 Summary of the Key Points Raised by Stakeholders

The Submissions raised a number of distinct points in relation to offshore and intertidal ornithology, which are dealt with as sub-themes below.

- Rockabill SPA - Roseate tern;
- Data gaps;
- Migratory species;
- Method of assessment; and
- Cumulative assessment.

3.11.3 Response to Key Points Raised

3.11.3.1 Data gaps

The key issues raised in relation data gaps include:

Point 1 – Species using SPA

Submission No. 30 states that *“At the very minimum, we believe the proposers must conduct more detailed surveys and tracking of species that use the SPA to nest and forage. While some species were tracked (Kittiwake, Shag, Guillemot and Razorbill), we believe this list to be inadequate and a fuller survey and assessment of all species affected should be ordered.”*

Response to Point 1 – Species using SPA

The Developer notes the concerns identified regarding data gaps. However, the Developer considers the baseline data collected for the proposed development to robustly inform the assessment of likely significant effects on ornithological receptors. Baseline data for the array and its 4km buffer zone was collected over 29 months, producing a substantial dataset that characterises the baseline environment across multiple years and three full breeding seasons, capturing both seasonal and inter annual variation in abundance and distribution of all bird species present within the proposed development and 4km buffer. Both the data collection methodology and the analysis align with industry guidance in the UK and Ireland (Parker *et al.*, 2022a; NatureScot, 2023: Guidance Note 2; DCCAE, 2018), and the data collection period exceeds the recommended duration to ensure appropriateness and reliability.

In addition to the original 29 months of Digital Aerial Surveys (DAS) data collection across the Maritime Area Consent (MAC) Boundary (May 2020 – October 2022; MAC DAS), after submission of the NIS, the Developer conducted a 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS SPA, collectively referred to as the Survey Area. Covering up to 2,396 km², the surveys aimed to establish baseline data on the distribution and abundance of seabirds and marine mammals. Monthly transect flights were carried out using high-resolution digital still imagery and GPS-linked flight management systems to ensure accuracy. The survey design evolved from an initial east-west transect layout (Plan A) to an adapted design (Plan B) to accommodate airspace restrictions, maintaining robust coverage while adhering to industry-accepted methodologies. This data was used to inform further design refinements (post-application) (See RFI Section (8cvi) in the Response to RFI document for further details). The Survey Area represents the spatial extent of data collection and analysis and is distinct from the array area.

Tracking data is useful to refine parameters that may be input into the assessment. For example, foraging ranges from specific colonies, flight speeds and potential foraging hotspots. However, it does not provide broad scale information in species presence and habitat usage of the area in and around the proposed development. Due to the low sample sizes associated with tracking data, they are not reliable for accurate information on species presence and can't be used to inform density estimates. Ariel survey data is the most appropriate way to enable robust density estimates of species within the Proposed development and buffer zones to inform the assessment.

Point 2 - Gaps in survey data

Submission No. 36 states that “*Under the ornithology surveys several months are excluded why is this? This may preclude recording of species in the area.*”

Response to Gaps in survey data

The Developer considers the baseline data collected for the development to be of a sufficient standard to robustly inform the assessment of likely significant effects on ornithological receptors. Over a period of 30 months, between May 2020 and October 2022, monthly DAS were undertaken in each calendar month except January 2021, resulting in 29 months of data collected in total. The lack of DAS in January 2021 was due to the UK leaving the European Union and UK-registered aeroplanes no longer having unrestricted access to Irish Air Space. This issue was unable to be resolved within the first month of 2021. The 29 months of baseline data was collected over the MAC boundary and a 4km buffer zone, producing a substantial dataset that characterises the baseline environment across multiple years and three full breeding seasons. Both the DAS methodology and the analysis align with industry best practice and statutory nature conservation guidance (Parker *et al.*, 2022a; Parker *et al.*, 2022c; NatureScot, 2023), additionally the data collection period exceeds the recommended duration of 24 months to ensure appropriateness and reliability. The DAS data collected over the 29 months was the main data used within the ornithology assessments for the proposed development application, which aligns with guidance for undertaken ornithology assessments for offshore wind farm developments (Parker *et al.*, 2022a).

Furthermore, monthly boat-based ornithology surveys were initially planned as the primary method of at-sea data collection at the proposed development (commencing in November 2019). However, boat-based surveys were no longer possible due to restrictions on social distancing and travel as a result of Covid-19 global pandemic in spring 2020 (final boat based survey was undertaken in March 2020). In accordance with Irish Government guidance (DCCAE, 2018) the principal survey method was switched to DAS, with surveys commencing in May 2020. However, five additional supplementary vessel surveys were also conducted in 2020 (August) and 2021 (June and July) after the commencement of DAS data collection.

This supplementary boat-based data was qualitatively compared with the outputs from DAS. However, for consistency in approach the DAS data was used across all quantitative assessments. It should be noted that DAS is widely recognised as a robust, industry standard method for collecting ornithological data in the offshore environment (DCCAE, 2018; Parker *et al.*, 2022a). DAS provides high-resolution imagery, consistent spatial coverage, and statistically reliable density and distribution estimates across large areas, with significantly lower bias than traditional visual boat-based surveys. Furthermore, DAS delivers repeatable data that are less affected by observer variability, weather and vessel availability. Therefore, even in the absence of the boat-based surveys the site-specific DAS is still considered sufficient and proportionate to robustly inform the assessment of likely significant effects on ornithological receptors; and follows current best practice. The Developer does not consider the absence of the boat-based data to constitute a deficiency in the robustness of the baseline data used within the assessments.

In addition to the original 29 months of DAS data collection across the MAC Boundary (May 2020 – October 2022; MAC DAS), after submission of the NIS, the Developer conducted a 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS SPA, collectively referred to as the Survey Area. Covering up to 2,396 km², the surveys aimed to establish baseline data on the distribution and abundance of seabirds and marine mammals. Both the datasets were used together to characterise the baseline and inform subsequent assessments. Monthly transect flights were carried out using high-resolution digital still imagery and GPS-linked flight management systems to ensure accuracy. The survey design evolved from an initial east-west transect layout (Plan A) to an adapted design (Plan B) to accommodate airspace restrictions, maintaining robust coverage while adhering to industry-accepted methodologies. This data was used to inform further design refinements (post-application) (see RFI Section (8cvi) in the Response to RFI document for further details). The Survey Area represents the spatial extent of data collection and analysis and is distinct from the array area.

3.11.3.2 Migratory species

The key issues raised in relation to migratory species include:

3.11.3.2.1 Onshore migratory species

Point 1 - Curlew

Submission No. 11 states *“We have a flock of over 1000 migrating Curlews which are under threat, that visit the fields at Cardy Rock besides the proposed site. They potentially can no longer access this site, because of disruption of the build.”*

The location of this project is too far away from the end of the destination in Belcamp. It should be nearer the end of the destination to avoid so much disruption of digging up roads for cabling. It makes sense to locate it nearer the end destination, also ensuring the safety of Rockabill Island. It is also important to note this site is a proposed Marine Area of Conservation. This has been identified due to the high population of important birds species, and this cannot be ignored.”

Response to Point 1 - Curlew

The NIS thoroughly assesses temporary disruption due to construction with regards to curlews and no AEoI with regards to any designated site where this species is a feature were concluded. For clarity please refer to the following section for the assessment of onshore impacts on curlew;

- North Bull Island SPA – Section 5.4.7, summarised below:

The nearest point of the North Bull Island SPA to the onshore elements of the proposed development is 2.0km. It is not expected that disturbance and displacement effects will extend beyond a distance of c. 300m, as noise levels associated with general construction activities would attenuate close to background levels at that distance (Cutts et al., 2009).

The implementation of the noise barriers, which also act as visual mitigation, in the CEMP (Appendix A9: Onshore Construction Environmental Management Plan of the NIS) for disturbance and displacement at the site during construction and decommissioning, enables the conclusion that the construction and decommissioning of the onshore elements of the proposed development (alone) will not have AEoI on the COs of QIs of North Bull Island SPA alone or in-combination with any other plan or project.

Point 2 – Brent geese

Submission No. 36 states *“The Brent Geese must travel from Northern Ireland right down the east coast, stopping at Gormanston and other destinations on the east coast. These are just one example of a migratory birds which will be affected.”*

Response to Point 2 – Brent geese

The Developer notes the response regarding Brent Geese and other migratory species. Migratory collision risk was assessed within Impact 8 of Chapter 15 Offshore Ornithology, Section 15.5.3.4). The migratory collision assessment using the most up-to-date guidance and assessment tools (developed for the Marine Directorate in Scotland) to assess collision risk to migratory waterbirds (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment). In relation to Brent geese specifically, they are known to fly below collision risk height on migration. Gyimesi *et al.* (2017) obtained 566 GPS estimates of flight height from nine Svalbard Light-Bellied Brent Geese at distances >5km from the coast across southern North Sea, with a median flight height of 2m. Of these, 73% of measurements were below 25m. However, a precautionary estimate of 50% of flights at rotor height were assumed for Brent geese due to any remaining uncertainty in these estimates. This aligns with the precautionary proportion recommended in the recent review of migratory birds (Woodward *et al.*, 2023).

While barrier effects should be considered in assessments, evidence suggests that they are unlikely to pose significant risks to migratory bird populations, especially when the number of additional passes is limited and the detours involve low energetic expenditure. However, this additional distance is negligible relative to the large distances travelled on migration, and as such the additional energetic costs are minimal.

Research suggests that these detours often represent less than 2% of a bird's daily energy reserves, a level that is well within the tolerance of most species (e.g., Masden *et al.*, 2009 – common eider; Speakman *et al.*, 2009 – red-throated diver, whooper swan, common scoter). This is considered negligible when compared to energy costs associated with other factors including, natural weather variations during migration.

The migratory collision assessment indicated that the maximum magnitude of the impact was assessed as negligible with the maximum sensitivity of the receptors being Medium. Therefore, the significance of effects on migratory species associated with collision risk was imperceptible effect at worst, which is not significant in EIA terms. In addition, it was concluded within the NIS there is no potential for AEOI alone or in-combination for all qualifying migratory waterbirds assessed in the NIS (Table 5.116). Based on these conclusions, there will not be any significant impact upon migratory species, including Brent Geese.

Point 3 – Short-eared owl

Submission No. 36 states *“There is also no mention of short-eared owl who nests directly beside the subject area and which area they say they had assessed on land from Balbriggan to the mouth of the Delvin for bird species.”*

Response to Point 3 – Short-eared owl

The Developer did conduct landfall survey between January 2021 and December 2022, with the survey area consisting of the stretch of coast between Balbriggan and the mouth of the river Delvin. Table 2.63 within Appendix A14: Offshore and Intertidal Ornithology Technical Baseline of the NIS presents bird species recorded across the 24-month period. A total of 64 bird species were recorded; however, the short-eared owl was not one of them despite this the Developer assessed this species for migratory collision risk with minimal predicted mortality (0.16 birds per annum) update in response to RFI (8av), see the Response to RFI document for further details.

3.11.3.2.2 Offshore migratory species

Point 1 – Migratory routes

Submission No. 14 states *“The proposed location for NISA offshore turbines is on both North to South and East to West Migratory Corridors.”*

Submission No. 14 also states *“Countries such as Italy, Spain, France and the UK are very conscious-of and protect as best they can these migratory routes.”*

Response to Point 1 - Migratory routes

The Developer notes the submission on migratory routes. Migratory collision risk was assessed within Impact 8 of Chapter 15, Section 15.5.3.4. The Developer used the most up-to-date guidance to carry out a collision risk assessment to migratory Important Ornithological Features (IoFs), namely the most recent guidance produced by the joint SNCBs (JNCC *et al.*, 2024) and Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment of the EIAR, and Appendix A15. Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment of the EIAR). Whilst there are limitations, for example the tool presumes that all flights are straight lines from coast to coast and the migration zones derived from Woodward *et al.* (2023) are overly precautionary, the Marine Scotland mCRM tool is currently considered the most robust and appropriate way to quantify impacts to migratory species. It takes into account migratory pathways in all directions (including north-south and east-west corridors), makes evidenced assumptions on migratory paths and incorporates precaution into the parameters for which there is uncertainty. Since flight paths are drawn from equidistant coastal locations, the flight lines naturally converge in areas where migratory corridors intersect. This approach provides the most robust method for predicting flight paths in cases where data collection alone cannot fully inform the model.

In addition, the model incorporates precaution to overcome any uncertainty in input parameters. For example, it assumes that most species always fly within the collision risk zone, which is known not to be the case for most species.

Finally, it should be noted that the mCRM model is not reliant on any site-specific data, including DAS, as an input parameter. It assumes that species migrate through the array even if they weren't recorded in the DAS. In this case assumptions are necessary because collecting data in the real world when these are relatively rare events is unfeasible.

While barrier effects should be considered in assessments, evidence suggests that they are unlikely to pose significant risks to migratory bird populations, especially when the number of additional passes is limited and any detours involve low energetic expenditure because the additional distance is negligible relative to the large distances travelled on migration. Research suggests that these detours often represent less than 2% of a bird's daily energy reserves, a level that is well within the tolerance of most species (e.g., Masden et al., 2009 – common eider; Speakman et al., 2009 – red-throated diver, whooper swan, common scoter). This is considered negligible when compared to energy costs associated with other factors including, natural weather variations during migration.

3.11.3.3 Method of Assessment

The key issues raised in relation to the method of assessment include:

- Alternative technology
- Disruptions to flora and fauna
- Assessment of impacts on SPAs
- Consideration of best practice

3.11.3.3.1 Alternative technology

Point 1 – Project Options

Submission No. 7 states *“Given the location of the array within the North-west Irish Sea Special Protection Area (SPA) and close proximity to Rockabill SPA, we recommend that the project option with the least impact on bird population is selected.”*

Response to Point 1 – Project Options

In response to Submission No. 7, the Project has undertaken considerable mitigation to reduce impacts where possible for both Project Options. Both scenarios have been fully assessed within the EIAR and NIS. However, the proposed development requires some flexibility in design at this stage given, for example, uncertainties associated with supply chains. See Chapter 2: EIA and Methodology of the EIAR for further details. It is important to note the project option with the greatest magnitude of impact was selected for use in each assessment/model and both the EIAR and NIS considers the greatest potential likely significant effects of the proposed development, even though certain project details have not been finalised at the point of planning submission.

Point 2 – Lighting

Submission No. 14 states *“The proposed NISA offshore wind turbine height (300meters), night time warning lighting and lightning protection are serious issues for ... native bird species.”*

Response to Point 2 – Lighting

It should be noted that rotating wind turbine generator (WTG) blades do not have lights on the tips of the WTG blades. There is only lighting on the WTG hub, and there is little evidence of attraction to lighting on WTGs specifically, therefore inferences are largely drawn from studies on oil and gas platforms which are more extensively lit than offshore WTGs. Additionally, there are some emerging mitigation options to reduce impacts from lighting. Red lights will be used for the proposed development, and a study on a lighthouse has shown that switching to red light results in a reduction in Manx shearwater collisions (Deakin et al., 2022).

3.11.3.3.2 Disruptions to flora and fauna

Several submissions expressed concern relating to disruptions to flora and fauna throughout the lifetime of the proposed development and during decommissioning;

Submission No. 3 states *“Given the above there should not be a decision taken in haste which will have serious repercussion not only for the thirty years of turbines' existence, but for the maintenance in between, and their demolition at the end of their lives which again will cause serious disruption for flora, fauna.”*

Submission No. 6 states *“Turbines last for thirty years and there will be maintenance during those years. Their destruction after will again cause harm to flora and fauna.”*

Submission No. 9 states- *“The affect on seabirds and sealife ...would be catastrophic. The upheaval to ... wildlife during the length of the construction phase would be unacceptable.”*

Submission No. 15 states *“An unwarranted cost to our coast which cannot be determined in advance, so I ask for your consideration of best practice for our communities and our avian and marine life.”*

Response to Disruptions to flora and fauna

All relevant impact pathways have been assessed and conclude no significant effects on ornithological features. A full assessment of impacts to ornithology features was provided in Chapter 15 Offshore Ornithology.

During the construction, operation and decommissioning phases of the proposed development, there is potential for ornithology receptors to be directly and indirectly impacted. The installation of foundations, towers, blades, export cables and other infrastructure as well as the movement of vessels and helicopters have the capability to disturb birds. This disturbance may result in displacement of birds from the offshore development area, driving a temporary habitat loss and reducing the area available to birds for foraging, loafing, and moulting. The effects of disturbance and displacement from construction and decommissioning are likely to be limited spatially and temporally, primarily affecting birds foraging within the construction area (consisting of the array area, ECC and intertidal zone), with the extent of effects depending on the nature of the activities taking place. The effects are also likely reversible in nature, with birds returning to the area following the end of construction decommissioning phases.

The precautionary principle was applied consistently throughout the assessment process, ensuring that all potential impacts were fully considered, even in the face of scientific uncertainty. Predicted impacts were assessed against the most appropriate and up-to-date reference populations, ensuring a robust and evidence-based approach. Furthermore, following the commitment to substantial mitigation measures, the assessment concluded that no significant effects are predicted on any of the ornithological features considered at the population level. This comprehensive and precautionary approach provides confidence that the proposed development will not result in adverse effects on the conservation status of relevant bird species.

See Response to 3.13.3.4.2 Disruptions to flora and fauna throughout the lifetime of the proposed development and during decommissioning in this report, for further details regarding the potential impacts for ornithology receptors and the precautionary nature of the assessments. In addition, climate change and the climate emergency are indisputable at a global, national and local scale. International treaties, and EU and Irish Government policy are responding to the climate change challenge with binding targets to reduce greenhouse gas (GHG) emissions and develop renewable sources of electricity. It is essential that the proposed development proceeds to ensure these targets are achieved. The proposed development will deliver a significant portion of the 5GW target for offshore renewable generation which is imperative for meeting the 2030 targets whilst improving energy security and reducing reliance on the costly import of energy. Without the proposed development, Ireland will not meet its committed target of 5GW installed offshore wind capacity by 2030. For further information regarding the need to the proposed development see Chapter 4: Need for the Proposed development of the EIAR.

3.11.3.3.3 Assessment of impacts on SPAs

Point 1 - Assessment of impacts on North-west Irish Sea SPA

Submission No. 8 states- *“The North-West Irish Sea Special Protection Area (SPA) is designated under the EU Birds Directive and covers more than 230,000 hectares of important marine waters for a range of bird species throughout the year. It increases the percentage of Ireland's marine waters which are protected under the EU Birds and Habitat Directives to over 9%. The new site is a Special Protection Area (SPA) under the EU Birds Directive, of special conservation interest for the following species: Common scoter; Red-throated Diver; Great Northern Diver; Fulmar; Manx Shearwater; Shag; Cormorant; Little Gull; Kittiwake; Black-headed gull ; Common Gull; Lesser Black-backed gull; Herring Gull; Great Black-backed Gull; Little Tern; Roseate Tern; Common Tern; Arctic Tern; Puffin; Razorbill and Guillemot.*

Response to Point 1 - Assessment of impacts on North-west Irish Sea SPA

The Developer provided a clear explanation and methodology for the assessment of impacts on North-west Irish Sea SPA within the NIS. Additionally, a robust assessment against all published conservation objectives on species designated under the NWIS SPA was provided within the NIS (see Section 5.4.2 of the NIS). Based on the assessment of the proposed development alone and in-combination, it was concluded that there is no potential for AEoI to the conservation objectives of all designated species of the NWIS SPA.

It should be noted, shag and cormorant were screened out of further assessment of potential impacts arising from the offshore elements of the proposed development. Shag is not considered to be vulnerable to collision effects (based on robust flight height data) or displacement impacts, with evidence of birds even being attracted to OWFs and roosting on the structures (Bradbury et al., 2014, Dierschke et al., 2016). All other species have been assessed following the latest industry guidance and have concluded no AEoI for the NWIS SPA.

Puffin were raised in RFI (8civ) in relation to the NWIS cSPA CO and the use of the NatureScot (2023a) displacement and mortality rates. In response to this RFI, puffin have been assessed for NWIS cSPA using the industry standard recommended rates (NatureScot, 2023a).

Since submitting their planning application (June 2024) the Developer conducted a 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS SPA, collectively referred to as the Survey Area. Covering up to 2,396 km², the surveys aimed to establish baseline data on the distribution and abundance of seabirds and marine mammals. This data was used to inform further design refinements (post-application) (see RFI Section (8cvi) in the Response to RFI document for further details). Furthermore, this data has been used to inform updated assessment of impacts on the NWIS SPA for all designated species under the SPA (See the NIS for further details).

Point 2 - Assessment of impacts on SPAs

Submission 30 states *“While correctly noting the numerous sites of Special Protection Areas (SPAs) adjacent to or possibly impacted by the proposed development (including Rockabill, Lambay and Skerries SPA), the EIA concludes that 'All construction phase potential impacts were deemed as not significant in EIA terms'. They further claim that 'All operational phase impacts were deemed as not significant in EIA terms'.*

It strains credibility that the erection of 49 turbines in an ecologically sensitive and key area for feeding and nesting can be dismissed so lightly. The EIA finally concludes by stating: 'As the impacts assessment deemed the significant of all the impacts to be not significant in EIA terms, no additional mitigation measures are considered necessary and residual effects remain as not significant in EIA terms'.

We believe this to be wholly inadequate for the reasons outlined earlier and see this as an utter failure to address the impacts on bird species in any meaningful or ecosystem-based manner.”

Response to Point 2 – Assessment of impacts on SPAs

The proposed development has undertaken a robust and thorough assessment of all relevant designated sites, carried out using site-specific data collected in line with industry best practice.

The methodology used by the Developer for assessing impacts for offshore ornithology in terms of EIA is based on the best available evidence, EIA significance criteria for offshore ornithology follows

Environmental Protection Agency (EPA) guidance (EPA, 2022) guidelines on the information to be contained in Environmental Impact Assessment Reports. Methodology used was also agreed across Phase One projects and is presented in the ‘Irish Phase One Method Statement’.

The NIS provided all the relevant information for the competent authority to carry out an Appropriate Assessment in Natura 2000 protected sites in relation to birds. This included a thorough assessment of the attributes associated with the Conservation Objectives for the SPAs highlighted in Point 1.

It should also be noted that considerable mitigation was inbuilt into the project design. The Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the minimum lower tip height of the WTGs to 40m above sea level. This vastly decreases the predicted impacts to terns and other species at risk of collision. For example, based on the data for common tern and arctic tern presented in Johnston et al. (2014), increasing the draft height from 22m to 40m reduces the proportion of birds flying at the rotor swept height by over 90%.

The Developer has also undertaken considerable work to mitigate displacement impacts and impacts on the NWIS SPA through a substantial array reduction from the original MAC boundary. The NWIS SPA remains the same size at 2,333 km², but the footprint of the proposed development has been reduced to minimise displacement risk to seabirds. The original MAC area covered 195.9 km² (8.4% of the SPA, or 15.2% with a 2 km buffer), while the Planning Application array was reduced to 88.5 km² (3.8% of the SPA, or 8.5% with a 2 km buffer). This significantly lowered the area at risk of displacement for auks and other birds from 246 km² to 88.5 km².

Since submitting their Planning Application, the Developer made further refinements. The spatial extent of infrastructure within the array area has now been reduced to 57.7 km² which is just 2.5% of the SPA and 70.2% smaller than the original MAC footprint. Removing northern sections of the array avoided areas of high guillemot density during the non-breeding season and eliminated overlap with known hotspots, further reducing displacement risk. These changes decrease both bird abundance within the footprint and potential impacts on habitat availability and spatial distribution.

The Developer considers the embedded mitigation measures described above and the post-submission array refinements to be sufficient and robust, therefore ‘additional mitigation measures’ are not required.

Point 3 – Threatened species

Submission No. 30 states “*We echo and here quote the concerns of Birdwatch Ireland, who notes that over 95% of breeding seabirds are listed on the International Union for Conservation of Nature's (IUCN) Red and Amber list of threatened species. They list their specific concerns around offshore wind farms as:*

Collision morbidity- birds colliding with the rotor blades, towers, nacelles and other infrastructure

Disturbance and displacement- particularly during the construction and operation of offshore wind parks where birds avoid an area due to noise or visual intrusion.

Barrier effect-wind parks increase energy expenditure decreases its chance of survival on migration and its ability to successfully feed chicks during the breeding season

Habitat loss or damage- the presence of wind park infrastructure within the feeding area of a seabird population will have a significant detrimental impact.”

Response to Point 3 – Threatened species

The Developer notes concern regarding the assessment of Displacement and Collision Risk. The methodology for assessing displacement and barrier effects is based on RFI (8a.iii). The Proposed Development was requested to use NatureScot displacement rates (NatureScot, 2023) (in preference of Natural England rates which were used in the application and agreed for use among Phase One ORE projects).

The methodology for assessing collision effects is based on available evidence and the most recent guidance produced by the joint SNCBs (JNCC et al., 2024). Guidance Note 7: Guidance to support Offshore Wind Applications:

Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks and the modified version of the mCRM tool (HiDef Aerial Surveying Ltd., 2024), was used to undertake migratory collision risk modelling (Appendix A15.4: Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment of the EIAR).

The assessment of collision risk, displacement impacts, barrier effects and habitat loss is included in the following sections Section 5.4 of the NIS (which considers impacts on SPAs) and Section 15.5 of the Chapter 15 Offshore Ornithology of the EIAR (which considers impacts on regional and biogeographic populations). All bird species recorded in sufficient numbers (through the proposed development's extensive digital aerial survey campaign) to allow modelling to occur and that are likely to be susceptible to displacement and/ or collision were assessed. Where species were not included in the modelling information on this is provided in Section 5.4 of the NIS and Section 15.5 of the Chapter 15 Offshore Ornithology of the EIAR. Consideration was also given to potential collision risk of migratory species which may not have been picked up in the digital aerial survey campaign, with this assessment relying on regional data of migratory movements as is standard practice for OWF assessments.

The proposed development has therefore provided a robust assessment, in line with industry best practice guidance considering the impacts of collision risk, displacement, barrier effects and habitat loss both in the context of specific SPAs (presented in the NIS) and in the context of the regional and biogeographic population (presented in the 2024 EIAR).

Since submitting their planning application (June 2024) the Developer conducted a 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS SPA, collectively referred to as the Survey Area. Covering up to 2,396 km², the surveys aimed to establish baseline data on the distribution and abundance of seabirds and marine mammals. This data was used to inform further design refinements (post-application) (see RFI Section (8cvi) in the Response to RFI document for further details). Furthermore, this data has been used to inform updated assessment of impacts on the NWIS SPA for all designated species under the SPA (See the NIS for further details).

Point 4 - SPAs in the region

Submission No. 36 states *“The subject area of this case will affect no less than five special protection areas for birds (SPAs)... the new North West Irish Sea Special Protection Area... the River Nanny Estuary and Shore SPA, Skerries Islands SPA, Rockabill SPA and Boyne Estuary SPA.”*

Response to Point 4 – SPAs in the region

A robust assessment has been undertaken for all SPAs and relevant qualifying interests which have connectivity to the proposed development, with this assessment presented in the NIS. This includes an assessment of:

For all SPAs considered, including the five specific sites above, it was concluded there is no potential for Adverse Effect on Integrity to these sites either from the proposed development alone or in-combination with other projects.

Point 5: Impacts on other species

Submission No. 36 states *“North-West Irish Sea SPA provides essential resources for adjacent seabird colonies.' Red throated diver is a Special Conservation Interest (SCI) for this site... This bird is just one example of the birds in this area that are mobile and any disturbance to their habitat area will have profound effects.”*

Response to Point 5 - Impacts on other species

It is noted that this submission has quoted from the North-West Irish Sea SPA conservation objectives. As per the response to Point 4 above, a robust assessment against all published conservation objectives on species designated under the NWIS SPA including the 'Forage spatial distribution, extent, abundance and availability' CO was provided within the NIS (see Section 5.4.2). Furthermore, updated assessment of impacts on the NWIS SPA for all designated species under the SPA have been undertaken by the Developer (See the NIS for further details).

Impacts to all 21 QIs of the NWIS SPA have been considered including impacts to the red-throated diver population. The 'Forage spatial distribution, extent, abundance and availability' CO was assessed against species' diet variability, based on information presented in the NWIS cSPA COs document, and sources within and species-specific foraging ranges presented in Woodward et al. (2019).

Potential effects on prey species namely, sandeels, herring and sprat, that are key prey species for various seabirds, and the habitats that support these species are addressed within the Approach to Assessment (NIS, Section 5.4.1.3.1 2). Impacts were found to be non-significant therefore, it is reasonable to assume, regardless of the sensitivity of the receptor, any potential indirect effects on ornithological receptors can also be ruled out. Therefore, the CO attribute regarding 'Forage spatial distribution, extent, abundance and availability' will be preserved.

Point 6 – Collision effects

Submission No. 36 states *“At top speed the wind turbines will reach 208km an hour. Any bird that is unfortunate enough to collide with a turbine will simply be liquidised.”*

Response to Point 6 – Collision effects

The Developer has assessed the impact of collision events on regional and biogeographic populations as well as on Qualifying Interest species of relevant SPAs using the precautionary and up-to-date guidance, namely the most recent guidance produced by the joint SNCBs (JNCC et al., 2024) (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment of the EIAR). Furthermore, Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks and the modified version of the mCRM tool (HiDef Aerial Surveying Ltd., 2024), was used to undertake migratory collision risk modelling (Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment of the EIAR). For clarity, the model assumes that any form of collision results in a mortality which is highly precautionary.

Furthermore, post construction monitoring has been undertaken to assess collision risk and provide in situ evidence of the effectiveness of blade clearance above sea level at particular offshore wind farms. A recent example being post-construction collision risk monitoring for the Aberdeen Bay Offshore Wind Farm utilised radar and cameras to monitor avoidance behaviour in the Aberdeen Bay and wider North Sea over a period of two years. The result of the survey concluded that birds amended their movements to avoid rotor blades and, as such, not a single collision between a bird and a rotor blade was recorded throughout the two-year monitoring campaign (Vattenfall, 2023).

3.11.3.4 Rockabill SPA - Roseate tern

The key issues raised in relation to Rockabill SPA and Roseate tern include:

- Sensitivity of terns to offshore windfarm impacts
- The assessment of terns at Rockabill SPA
- Keep out zone
- Mitigation employed by the Developer

Point 1 - Sensitivity of terns to offshore windfarm impacts

Submission No. 17 states that *“With Europe's most important Roseate Tern colony on Rockabill Island off the coast of Skerries/Balbriggan. I believe the extent of the Windfarm Structures will have a negative effect on the nesting Roseate Terns in the location”*.

Response to Point 1 - Sensitivity of terns to offshore windfarm impacts

Roseate terns are considered to have a low vulnerability to collision impacts (Garthe and Huppopp, 2004; Furness and Wade, 2012; Bradbury et al., 2014; Wade et al., 2016).

During site-specific DAS surveys, a low number of individuals were recorded, though recorded birds are expected to almost exclusively originate from the Rockabill SPA, representing the only colony with breeding season connectivity to the proposed development where common tern, arctic tern and roseate tern are designated features (based on foraging ranges provided in Woodward et al., 2019). Roseate terns were, however, assessed at the Rockabill Island SPA, with a conclusion of no Adverse Effects on Integrity to this site and less than 0.7 mortalities per year predicted.

Available evidence also shows that terns have low vulnerability to displacement (Van Bemmelen *et al.*, 2024; Thaxter *et al.*, 2024; Harwood *et al.*, 2017; Degraer *et al.*, 2023; Percival 2020).

Therefore, no significant effects on Roseate Tern at Rockabill Island SPA are predicted or expected as a result of the proposed development.

It should also be noted that considerable mitigation was inbuilt into the project design. The Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the minimum lower tip height of the WTGs to 40m. This vastly decreases the predicted impacts to terns and other species at risk of collision. For example, based on the data for common tern and arctic tern presented in Johnston et al. (2014), increasing the draft height from 22m to 40m reduces the proportion of birds flying at the rotor swept height by over 90%.

Point 2 - The assessment of terns at Rockabill SPA

Submission No. 8 states that- *“Finally and perhaps most importantly the site in question includes the Rockabill Special Protection Area. Rockabill is a site of European and international significance in terms of its provision of habitat to the Roseate Tern. Again this site is designated under the Birds Directive.*

While it is important that the NISA project proceeds it must be done in line with very the very strong legislative protections in place for wildlife off the north Dublin coast. In particular the Rockabill Special Protection Area and the legal protection associated with it need to be adhered to.

Thorough examination of the proximity of some of the proposed turbines to Rockabill Island must be conducted in the context of the legal protections it holds. I have concerns that the number of turbines in the plan will jeopardise adherence to the wildlife protections in force for Rockabill and propose that some of the planned turbines are moved further away from Rockabill.”

Submission No. 25 states that *“The impacts to sea birds cannot be overstated. Where the submission has considered some of the data from Lambay Island, it has largely ignored the birdlife of Rockabill Island and the endangered species that live there. Previous maps shown during community information session did not have Rockabill on them at all.*

Submission No. 36 states that *“The Rockabill SPA is going to be greatly affected by this proposed development. Rockabill which has huge significant from an EU perspective firstly is not highlighted on the plans/maps lodged with the planning application. Therefore it is extremely hard to see show this important SPA is enclosed in the subject area and how near the wind turbines will be to it. 58% or more of the world's Roseate Tern population breeds on Rockabill. The Roseate Tern is one example of the many birds who feeds on the habitat of Gormanston Beach and will have to pass through the proposed Wind Turbines and facilities.”*

Submission No. 38 states that *“The wind turbines should not be located in such close proximity to this protected area. Rockabill is designated a Special Protection Area (SPA) code 004014 for its ornithological importance as it supports the largest Roseate Tern colony in Europe. Listed in Annex I of the EU Birds Directive, the roseate terns is a Species of European Conservation Concern. Rockabill also hosts important breeding populations of Common Tern and Arctic Tern. All three species of tern on Rockabill are listed on Annex I of the E.U. Birds Directive meaning the safeguarding of this site is of critical importance.”*

Response to Point 2 - The assessment of terns at Rockabill SPA

Roseate tern has been thoroughly assessed in Chapter 15: Offshore Ornithology of the EIAR, with all potential project-alone effects concluded to not significant in EIA terms.

The collision impacts for tern species were estimated as shown in Table 3.11.2, with a very low magnitude of impact predicted (less than one mortality per annum).

For both the EIAR and NIS comic terns were apportioned to common and Arctic tern in the proportions they were detected in the site-specific DAS dataset.

Table 3.11.2 Summary of predicted impacts to tern species during the operational phase in terms of EIAR and the NIS, respectively.

Species	Estimated mortality (individuals) (+/- 95% CI)	Seasonal Predicted Collision Mortality (individuals) (+/- 95% CI)
Common tern	0.7 (0.0-1.9)	0.7 (0.0-1.8)
Roseate tern	0.1 (0.0–0.4)	0.1 (0.0-0.2)
Arctic tern	0.1 (0.0–0.4)	0.1 (0.0–0.2)
Commic tern	Apportioned within impacts above	Apportioned within impacts above

Additionally, a full assessment of the Rockabill Special Protection Area (SPA) is provided in the NIS, and a response can be found in Section 3.16: Appropriate Assessment. The attributes for the SPA are (1) Breeding population abundance: apparently occupied nests (AONs); (2) Productivity rate: fledged young per breeding pair; (3) Distribution: breeding colonies, (4) Prey biomass available; (5) Barriers to connectivity; and (6) Disturbance at breeding site. Impacts on the Rockabill SPA (along with other relevant SPAs such as Lambay Island) were also considered during public consultation, and relevant regulations (e.g., habitats directive and birds directive) were all considered as part of the assessment process.

An assessment of each relevant attribute was made within the NIS for all three tern species, with the assessment being in line with legislative requirements. The assessment concluded there would be a very low magnitude of impact at Rockabill SPA. Even taking a precautionary approach which assumes that all roseate terns detected within the array area were breeding at Rockabill SPA, less than 0.7 collisions per year are predicted per annum. Additionally, during the operational phase, there will be no impact on the underlying habitat that supports terns, nor will there be any reduction in the availability of suitable habitat for foraging or other essential behaviours (i.e. the presence of the windfarm is not expected to exclude terns, or negatively alter the habitat on which they rely).

It should also be noted that mitigation has been considered with regards to Rockabill SPA, with a 64% reduction in size of the proposed development from the original boundary, increasing the distance between Rockabill SPA and WTGs. Furthermore, considerable mitigation was inbuilt into the proposed development design. The Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the minimum lower tip height of the WTGs to 40m. This vastly decreases the predicted impacts to terns and other species at risk of collision. For example, based on the data for common tern and arctic tern presented in Johnston et al. (2014), increasing the draft height from 22m to 40m reduces the proportion of birds flying at the rotor swept height by over 90%.

Point 3 – Keep out zone

Submission No. 25 states *“Some have suggested a 15km keep-out zone for birds. Please see the Habitats directive, 23 ECC, an EU directive which protects the species like terns gulls divers and geese. We should expand the cSPA candidate special protection area to give wider exclusion from Rockabill.*

We would recommend a 25km keep out zone as Terns travel much larger distances in search for food, and do not know to keep below the 40m safe height of the wind turbine blades. Other studies have shown sea birds abandon such areas all together and likely will not just 'find somewhere else to live'. This will threaten to decrease and make extinct our existing birds species.”

Response to Point 3 - Keep out zone

In relation to Submission No. 25, which refers to suggestions for a 15km "keep-out" zone for birds, the Developer notes that Rockabill SPA already includes a 4km seaward buffer, which captures a significant portion of the key foraging habitat for terns breeding on Rockabill Island. It is also important to note the Habitat Directive does not itself include any directions including exclusion zones.

Furthermore, the conservation objectives for the wider NWIS SPA cover similar attributes beyond this 4km buffer.

These attributes, particularly relating to prey biomass availability and barriers to connectivity, were also fully assessed in the NIS and concluded to be not significant. Potential collision risk has also been considered at Rockabill SPA with a very low magnitude of impact predicted (see Table 3.11.2). As a result, there is no potential for an AEoI on the qualifying interests of the Rockabill SPA or the wider NWIS SPA in relation to these impacts.

Point 4 - Mitigation

Submission No. 7 states *“We also recommend the application of contrast paint to the rotor before construction to reduce the collision risk for birds (May et al. 2020). This contrast-painting approach would inform research on the topic with a view to ensuring that the outcomes are generic at various settings.”*

Response to Point 4 - Mitigation

This point was raised by An Bord Pleanála in RFI Section (8cvi) and has been addressed in the Response to RFI document.

3.11.3.5 Cumulative assessment

The key issues raised in relation to the cumulative assessment include:

Submission No. 30 states that *“A recent seabird count survey (2023) has indicated that there is a decline in Kittiwake populations. One reason for this is a shortage of food during the breeding season. Construction of windfarms such as NISA, allied with the multiple other wind farms proposed and with the attendant removal of millions of tonnes of rock and sand in the development stage, has huge potential to further impact the food chain upon which many red- and amber-listed species rely.”*

Response to Cumulative assessment

The Developer is aware of the Burnell *et al.* (2023) seabirds count and colony sizes and population trends from this publication and additional sources, namely, the JNCC SMP database, Cummins *et al.* (2019) and older ESAS survey data collected between 1980 and 1997, presented in Pollock *et al.* (1997) were all considered as part of the Offshore Ornithology Technical Baseline (Appendix A15.1 of the EIAR). Any conclusions made within the assessment process, including through population modelling, have been assessed within the context of current population trends at a regional and SPA level.

The Developer notes concern regarding the impacts of the proposed development on prey species and foraging grounds, particularly during construction. A full assessment on the impact of the Proposed development on fish, including prey species is included in Chapter 13- Fish and Shellfish Ecology of the EIAR, further a more detailed response on this point has been provided in Section 3.9 - Fish and Shellfish Ecology.

A comprehensive assessment of cumulative effects was also carried out, with the assessment considering all relevant projects within the Irish Sea which may act cumulatively with the proposed development. As part of this process, collaboration was also undertaken between Irish Phase 1 East Coast Developments to share data and better determine the cumulative impacts on key IoFs and SPA populations.

Although there may be some temporary impacts to the prey of key ornithological receptors during the construction window, there is emerging evidence that OWFs can benefit seabird prey distributions, as the foundations of offshore WTG can act like an artificial reef and in turn increase prey species abundance and density (Wilson and Elliott, 2009; Gill *et al.*, 2020; ter Hofstede *et al.*, 2022; Watson *et al.*, 2024).

3.11.4 Conclusion

The points raised in the Submissions in relation to offshore and intertidal ornithology have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR and the NIS.

3.12 Commercial Fisheries

3.12.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the following parties, in relation to potential effects of the proposed development on commercial fisheries interests. The response has been categorised into sub-themes due to the varying points contained in the submissions.

Table 3.12.1: Submissions made in respect of commercial fisheries

No.	Name	No.	Name
15	Elaine Whelan	26	Hampton Cove Residents' Association
17	Malachy Quinn	31	Bird Watch Ireland*
18	Sustainable Windfarm Environmental Group (SWEG)*	35	Nephrops Fishermen and Producer Organisations*
22	Golden Venture Fishing Limited and Fanning Shellfish Limited*	36	Sharon Burke
24	Blue Ireland Coalition CLG*	47	Foras na Mara Marine Institute*
25	Peter and Anita Dice	59	Isle of Man Government*

* In the case of Submissions No. 18, 22, 24, 31, 35, 47, and 59 comments are dealt with separately within their respective sections within this report.

3.12.2 Description of theme

All matters relating to commercial fisheries are considered in the following:

- Chapter 16: Commercial Fisheries of the Environmental Impact Assessment Report (EIAR);
- Appendix A16.1: Commercial Fisheries Technical Report, and
- Appendix A16.2: Fisheries Management and Mitigation Strategy (FMMS).

The assessment set out in Chapter should be read in conjunction with the following linked EIAR chapters and Appendices:

- Appendix A1.2: Consultation Report;
- Chapter 13: Fish and Shellfish Ecology - where impacts on the ecology of fish and shellfish, including species of commercial interest, are assessed;
- Chapter 17: Shipping and Navigation - where impacts on the navigational safety aspects of fishing activity are assessed;
- Chapter 20: Infrastructure and Other Users - where impacts on charter angling businesses are assessed; and

3.12.3 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of points in relation to commercial fisheries, which are dealt with as sub-themes below.

- Reduction of fishing grounds;
- Existing legal fishing rights; and
- Fishing exclusion zone.

3.12.4 Response to Key Issues Raised

3.12.4.1 Reduction of fishing grounds

Submissions No. 15 and 17 raise concerns around the reduction of fishing grounds and associated impacts on the livelihoods of fishing communities. Submission No. 15 states “*Balbriggan like others is still a fishing town and there will inevitably be a reduction to our fishing grounds.*” This sentiment is repeated by Submission No. 17 “*The location of the Windfarms at present will negatively affect the biodiversity of the sea at such proximity to the coastline & will inevitably result in the reduction of our fishing grounds, which in turn affects the livelihood of our fishing communities across the eastern seaboard.*”

Response on Reduction of fishing grounds

Information on the commercial fisheries operating within the offshore development area (which includes both the cable corridor and the wind farm array area) is presented in Appendix A16.1 – Commercial Fisheries Technical Report. This report identified several receptors (fishing fleets) which were assessed within Section 16.5 of Chapter 16.

Receptors assessed, within Section 16.5 of Chapter 16, were:

- Irish demersal otter trawlers;
- UK demersal otter trawlers;
- Irish potting vessels;
- Irish razor dredges;
- Irish scallop dredgers;
- UK scallop dredgers;
- Irish mussel dredgers;
- Irish beam trawlers and demersal seine
- Belgian beam trawlers; and
- Irish pelagic trawlers.

Potential impacts assessed, within Section 16.5 of Chapter 16, were:

- Array area construction activities and physical presence of offshore infrastructure (WTG, OSP and intra-array cabling) during the construction period leading to reduction in access to, or exclusion from established fishing grounds;
- Export Cable Corridor (ECC) construction activities and the physical presence of constructed infrastructure leading to reduction in access to, or exclusion from established fishing grounds;
- During construction and operation activities, displacement from within the offshore development area leading to gear conflict and increased fishing pressure on adjacent grounds;
- Construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity;
- Increased vessel traffic associated with the construction of the proposed development within fishing grounds leading to interference with fishing activity;
- Physical presence of array area infrastructure during operation leading to reduction in access to, or exclusion from established fishing grounds;
- Physical presence of the ECC during operation leading to reduction in access to, or exclusion from established fishing grounds;

- Operational activities leading to displacement or disruption of commercially important fish and shellfish resources;
 - Increased vessel traffic during operation within fishing grounds as a result of changes to shipping routes and maintenance vessel traffic from the proposed development leading to interference with fishing activity;
 - Physical presence of infrastructure (WTG foundations, ECC and intra-array cabling) leading to gear snagging;
 - Array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds;
 - ECC decommissioning activities leading to reduction in access to, or exclusion from established fishing grounds;
 - Displacement from the offshore development area due to decommissioning activities leading to gear conflict and increased fishing pressure on adjacent grounds;
 - Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources;
 - Increased vessel traffic within fishing grounds as a result of changes to shipping routes and transiting decommissioning vessel traffic from the proposed development leading to interference with fishing activity; and
 - Physical presence of any infrastructure left in situ leading to gear snagging.

The assessments concluded that the residual significance of the effect would be no greater than Moderate (not significant in EIA terms), for all receptors and impacts other than the Irish demersal otter trawlers and UK demersal otter trawlers.

In response to RFI Section 1(b), the commercial fisheries baseline has been reviewed and updated in Appendix A16.1: Commercial Fisheries Technical Report. This includes additional and more recent datasets, including SFPA landings statistics for Irish-registered vessels for 2020–2024, updated landings and species information, and the latest available Nephrops information. The updated information has been reviewed to ensure that the assessment is informed by the most current available fisheries data. The update concludes that the additional baseline information does not materially change the receiving environment described in the 2024 EIAR but provides an updated evidential basis for the assessment.

The proposed development is committed to providing a suite of mitigation measures delivered through the Fisheries Management and Mitigation Strategy (FMMS) and Sustainable Fisheries Community (SFC) initiative, with the overall objective to maximise co-existence of the proposed development with the commercial fishing industry. The SFC initiative is detailed within the FMMS (Appendix A16.2).

The SFC has now progressed beyond a proposed concept and has been established as a formal, fisheries-led framework to support long-term coexistence between the proposed development and commercial fishing activity. It has been developed in parallel with the FMMS to provide a structured framework for consultation, mitigation, monitoring, adaptive management and fisheries initiatives.

The SFC is intended to remain active throughout the pre-construction period and adapted as the proposed development moves towards the construction phase and into operation, ensuring that fisheries engagement and mitigation continue over the lifetime of the rather than being limited to the pre-consent stage. The framework developed to date include committee formation, Terms of Reference, Secretariat support and an independently administered fisheries funding mechanism.

An independently administered Fisheries Coexistence Fund has been established to support fisheries-related initiatives and wider resilience, diversification and sustainability objectives within affected coastal communities. Funding Round 1 has supported s including the Digital Effort Traceability Project (DETP), a coastal education initiative, a low-impact fishery pilot and a marine biodiversity mapping initiative, with further s approved in principle.

The SFC will also provide a mechanism through which fisheries stakeholders can contribute to mitigation design, monitoring, review of coexistence outcomes, consideration of reported interactions, and identification of proportionate adaptive management measures where required.

Where construction related impacts occur, and where there are claims to be considered, the developer will require a significant level of supporting evidence for any such claims. It is for this reason that the Developer has gathered extensive fishing activity information, so as to ensure that this lengthy process can be expedited, for known fishers in the area. The Developer will develop a fair, transparent and evidence-based disturbance payment scheme for those fishers that can evidence disruption, a protocol for this is outlined in Appendix A16.2: FMMS.

In addition to project-alone effects, the 2024 EIAR assessed cumulative effects of the proposed development together with other plans and projects. Cumulative effects assessed during construction, operation and decommissioning stages of development, within Section 16.9 of Chapter 16 of the 2024 EIAR, were:

- Reduction in access to, or exclusion from established fishing grounds;
- Displacement leading to gear conflict and increased fishing pressure on established fishing grounds; and
- Displacement or disruption of commercially important fish and shellfish resources.

Overall, the cumulative effects assessment considered it unlikely that the cumulative projects identified would raise the cumulative magnitude of impact to any higher than the proposed development alone effects. The cumulative significance of potential effect was found to be moderate to slight for the Irish demersal otter trawl (*Nephrops*) and Irish potting fleets and slight for all other fleets, which is not significant in EIA terms. This cumulative effects assessment assumes implementation of proposed development-alone mitigation, including the SFC initiative.

The FMMS also includes a Cumulative Mitigation Strategy, which responds directly to concerns regarding operational displacement and the potential for increased fishing pressure and competition in neighbouring grounds, including effects on smaller vessels with limited operational range. The strategy confirms that cumulative effects will be considered through an evidence-led and fisheries-informed approach, supported by the SFC as the primary framework.

A key component of this approach is the Digital Effort Traceability Project (DETP), which has already been implemented through the SFC. DETP is designed to provide high-resolution, fisheries-led evidence on fishing activity, spatial footprint, catch and landings information, and potential displacement. This will support before-and-after comparison, monitoring of fishing intensity, and assessment of socio-economic dependency and vulnerability.

The Developer will continue to engage through the SFC, with fisheries representative organisations, public bodies, the Marine Institute and other relevant Phase One developers. If monitoring, fisher engagement, gear interaction reporting or other evidence indicates that cumulative operational displacement or loss of practical access is occurring, the Developer will work through the SFC and with relevant projects and stakeholders to identify proportionate responses. These may include refinement of operational protocols, additional fisheries liaison and navigational coordination, review of cable burial and protection performance where relevant to fishing interaction, targeted coexistence measures, or resilience and adaptation initiatives supported through the SFC.

Consultation with the fishing industry has continued since submission of the 2024 EIAR and has expanded significantly through development of the SFC. Since April 2025, engagement has included bi-weekly pier visits, direct engagement with fisheries representative organisations, seafood producers, government departments, prescribed bodies and wider offshore renewable and fisheries stakeholders, alongside targeted meetings on FMMS development, coexistence and cumulative effects. Key milestones include finalisation of SFC framework arrangements, SFC committee formation in June 2025 with majority seafood-sector representation, opening of the SFC Fund, engagement with the Seafood-ORE Working Group and other public bodies, circulation of the draft FMMS to fisheries stakeholders for comment in February 2026, and a dedicated FMMS/SFC discussion meeting in March 2026.

3.12.4.2 Existing legal fishing rights

Submission No. 26 raises concerns regarding protection to existing legal fishing rights; “*we expect and assume that ABP will give due consideration and protection to existing legal fishing rights.*”

Response to existing legal fishing rights

The Developer acknowledges the concern raised regarding existing legal fishing rights. The proposed development does not seek to extinguish or remove existing lawful fishing rights. The commercial fisheries assessment has considered the potential for reduction in access to established fishing grounds, displacement, increased pressure on adjacent grounds, interference with fishing activity and gear snagging during construction, operation and decommissioning.

The assessment is supported by the updated Commercial Fisheries Technical Report and the updated FMMS. The FMMS sets out measures to minimise interference with fishing activity as far as reasonably practicable, including ongoing fisheries liaison, advance notifications, advisory safety zones, cable burial and protection principles, dropped object procedures, gear fastening/loss procedures, guard vessels where appropriate, and a Co-existence Strategy.

The Developer also notes that fishing will not be prohibited within the operational array area. Practical coexistence will be supported through the final layout, defined trawling corridors, cable burial and protection standards, operational protocols, ongoing monitoring and the SFC framework.

Following the application of mitigation set out in the FMMS and SFC, the residual effects assessment concludes that residual effects on commercial fisheries are reduced to moderate to slight, slight, or lower, and are therefore not significant in EIA terms. This includes the effects on Irish demersal otter trawlers targeting Nephrops, for which significant pre-mitigation effects were identified in the 2024 EIAR and update.

3.12.4.3 Fishing exclusion zone

Submissions No. 25 and 36 raise concerns regarding impact of the exclusion zone on commercial fisheries operating out of Balbriggan and Skerries. Submission No. 25 states “*Commercial fisheries will be prevented from entering the area and will have to go around the area. This will cost our fisherman valuable time and money and present a virtual wall that stretches for miles across the Irish sea. The fisheries will also be adversely altered due to migration of fish --which will be negatively impacted-- essentially killing our local fisherman's way of life.*” Submission No. 36 states “*Both Balbriggan and Skerries have long-standing fishing history and these vessels and the people who make a livelihood from fishing will be greatly impacted by the exclusion zone.*”

Response to fishing exclusion zone

The Developer acknowledges the concerns raised regarding exclusion, additional steaming time and potential impacts on fishing activity from Balbriggan, Skerries and other local ports. The proposed development does not seek to prohibit fishing from the array area during operation. The commercial fisheries assessment has, however, adopted a precautionary approach by assessing the potential for reduction in access to, or exclusion from, established fishing grounds during construction, operation and decommissioning.

During construction, effects have been assessed on the basis of advisory safety zones of up to 500 m around infrastructure under construction and around vessels undertaking construction activities, with 50 m advisory safety zones around partially complete infrastructure where relevant. During operation, the assessment assumes that fishing may resume around and between infrastructure where safe and practicable, subject to an assumed 50 m operating distance from infrastructure, areas of cable protection that cannot be fished, and temporary advisory safety zones around infrastructure or vessels undertaking major maintenance or repair.

The update to the FMMS confirms that fishing will not be prohibited within the array area and that the has been designed to maximise coexistence where practicable. The offshore development area represents only 36% of the MAC boundary area, and the array layout has been developed to maximise corridors between WTGs and to orientate the layout in a NNW–SSE direction to reflect the conventional trawling direction in the area.

A preliminary Technical Co-existence Assessment has also been prepared as part of the updated FMMS. This assessment concludes that coexistence between the proposed development and commercial fishing activity is technically achievable, provided that appropriate corridor design, cable burial standards, fisheries-informed operational protocols and monitoring measures are incorporated into design and operation. For Project Option 1, the assessment identifies an effective trawable width of approximately 850 m once operational buffers are applied. Project Option 2, with fewer WTGs, could provide wider corridors and greater spatial flexibility.

The Developer therefore considers that concerns regarding exclusion have been addressed through the design refinement, Chapter 16, embedded mitigation, the FMMS, the Co-existence Strategy, the Technical Co-existence Assessment and the ongoing SFC framework.

Chapter 16 has also reviewed the potential for construction and decommissioning activities to disturb commercially important fish and shellfish resources, taking account Chapter 13 Fish and Shellfish Ecology assessment and sediment plume modelling undertaken in response to the RFIs. Following the design refinements of wind turbines being installed with suction bucket jackets (SBJs), the predicted effect on the fish and shellfish resource is reduced. The updated assessment concludes that effects on relevant commercial fish and shellfish receptors, including Nephrops, brown crab, lobster, whelk, king scallop and razor clam, are localised, temporary or short-term and not significant in EIA terms. The corresponding commercial fisheries effects for Irish demersal otter trawlers, Irish potting vessels and Irish razor dredgers are assessed as moderate, which is not significant in EIA terms, with slight effects for all other fleets.

3.12.5 Conclusion

The commercial fisheries submissions have been considered in light of the 2024 EIAR, the updated Chapter 16, Appendix A16.1: Commercial Fisheries Technical Report, and Appendix A16.2: Fisheries Management and Mitigation Strategy. The updated submission pack provides additional and more recent baseline fisheries data, reflects the refined design, and includes further detail on fisheries liaison, coexistence, disturbance payments, cumulative effects, monitoring and adaptive management.

The Developer acknowledges that significant pre-mitigation effects were identified for certain commercial fisheries receptors, particularly Irish demersal otter trawlers targeting Nephrops, and that concerns were raised regarding reduction in fishing grounds, exclusion, displacement, coexistence and cumulative effects. These matters have been addressed through design refinements, embedded mitigation, the updated FMMS, the SFC, the preliminary Technical Co-existence Assessment and the updated cumulative mitigation approach.

Following implementation of the mitigation measures set out in the FMMS and delivered through the SFC and associated framework mechanism, monitoring and liaison processes, the residual effects on commercial fisheries are assessed as moderate to slight, slight, or lower, and are therefore not significant in EIA terms. The Developer remains committed to continued engagement with the fishing industry and to an evidence-led, fisheries-informed and adaptive approach to coexistence throughout construction, operation and decommissioning.

3.13 Shipping and Navigation

3.13.1 Introduction

This chapter provides a response to submissions made to An Bord Pleanála by the following parties, in relation to shipping and navigation in the offshore development area. The response has been categorised into a number of sub-themes due to the varying points contained in the submissions. It should be noted that the submission received through the Department of Transport is identical to Irish Coast Guard's submission.

Table 3.13.1 Submissions made in respect of shipping and navigation

No.	Name	No.	Name
14	Brendan Regan	46	Department of Transport (Marine Survey Office) (DoT (MSO))*
25	Peter and Anita Dice	49	Commissioners of Irish Lights*
36	Sharon Burke	54	Department of Defence (DoD)*
44	Irish Aviation Authority (IAA)*	56	Louth County Council*
45	Irish Coast Guard Department of Transport (IRCG)*	59	Isle of Man Government

*In the case of Submissions No. 44, 45, 46, 49, 54, 56 and 59, comments are dealt with separately within their respective sections within this report.

3.13.2 Summary of the Key Points Raised by Stakeholders

The submissions raise a number of distinct points in relation to shipping and navigation, which are dealt with as sub-themes below.

- Displacement of third-party vessel traffic;
- Emergency response capability;
- Lighting and marking of the array; and
- Miscellaneous.

3.13.3 Response to Key Points Raised

3.13.3.1 Displacement of third-party vessels

The key issues raised in the responses in relation to displacement of third-party vessels include:

- Displacement of third-party vessel traffic; and
- Displacement of small craft.

Point 1 - Displacement of third-party vessel traffic

Submission No. 25 raises concerns around the displacement of third-party vessels. Submission No. 25 highlights that commercial fishing vessels would be prevented from entering the array and that larger vessels anchoring off Skerries will no longer be able to take shelter without navigating around the array.

Submission No. 25 states that sailing out of any north Dublin harbour will be severely impacted and raises concerns with sailings out of the Fingal harbours as well as circumstances where small boats have difficulties and require assistance at the array.

Response to Point 1 - Displacement of third party vessel traffic

Vessel displacement has been assessed in Section 19.1 of Appendix A17.1: NRA. Anchoring off Skerries by large vessels was minimal in the vessel traffic survey data and 12-month long-term analysis, with only three unique commercial vessels anchoring across the long-term period in the area. Access may only be an issue

for vessels accessing Skerries when seeking shelter from the north-east but with the reduction of the revised layout to the south, navigation will be less affected, and the risk is considered to be ALARP.

In terms of commercial fishing vessels, based on experience at previously under construction offshore wind farms, it is anticipated that such vessels will choose not to routinely navigate internally within the buoyed construction/ decommissioning area. Therefore, some displacement of transits by small craft (including those based out of Fingal harbours) will be required during the construction and decommissioning phases.

Displacement of active commercial fishing is assessed separately in Chapter 16: Commercial Fisheries. For regular transits through the array area, there is sufficient sea room available for deviations to the east and west. Given the refinement of the array area within the Maritime Area Consent (MAC) boundary, including refinement of the layouts, this gives further sea room to further reduce the extent of displacement.

Commercial fishing vessels will not be prevented from entering the operational array. More generally, the array will not be designated as an Area to Be Avoided (ATBA). Based on experience at existing operational offshore wind farms, it is anticipated that commercial fishing vessels may choose to navigate internally within the operational array, particularly in favourable weather conditions and as awareness of the array increases throughout the operational phase. In such situations, the level of displacement is considered negligible.

Where a small boat experiences difficulties in the array, relevant emergency response resources will be able to safely access the array to render assistance. This is reflected in Section 19.12 of Appendix A17.1: NRA which assesses the reduction of emergency response capability. In particular, the refined layouts have been designed in consultation with IRCG, the Marine Survey Office (MSO) and Commissioners of Irish Lights (Irish Lights) and include a single line of orientation. Subsequently, a safety justification has been undertaken for both layouts building upon the work undertaken as part of the NRA and demonstrates that the layouts are ALARP.

Point 2 - Displacement of small craft

Submission No. 36 raises concern about potential impacts on recreational vessels and other recreational activities, noting “*The subject area is widely used by a large community on the East Coast, Sailing Yachts in Skerries, Currachs in Balbriggan, small fishing boats, speed boats, etc.*”

Response to Point 2 – Displacement of small craft

Recreational vessel activity has been characterised in Section 10.2.5 of Appendix A17.1: NRA, based on vessel traffic survey data collected in compliance with the requirements of *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* and the Marine Survey Office (MSO) has confirmed the validity of the data for the submission and determination phase. The Developer refers to the Response to Point 1 which addresses displacement of commercial fishing vessels which is also applicable to recreational vessels.

3.13.3.2 Emergency Response Capability

Submission No. 25 raises the risk that the presence of the array may affect the ability of emergency responders to provide support to a small boat requiring assistance.

Response to Emergency Response Capability

Emergency response capability has been assessed in Section 19.12 of Appendix A17.1: NRA, concluding that the significance of risk is tolerable with mitigation and as low as reasonably practicable (ALARP). Key embedded mitigation measures which reduce the risk include liaison with IRCG in relation to SAR resources, marine coordination for proposed development vessels and the layout design.

In reference to the layout design, the layouts have been refined to address concerns raised by stakeholders including the IRCG.

The refined layouts are compliant with the principles of MGN 654 which has been used as the basis for two key guidance documents subsequently published by the Department for Transport (DoT) – namely the *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI)*

The refined layouts have been designed in consultation with IRCG, the Marine Survey Office (MSO) and Commissioners of Irish Lights (Irish Lights) and include a single line of orientation. Subsequently, a safety justification has been undertaken for both layouts building upon the work undertaken as part of the NRA and demonstrates that the layouts are ALARP.

3.13.3.3 Lighting and marking of the array

Submission No. 25 raises concerns around the lighting and marking of the array and relating to navigation in proximity to the array in adverse conditions with low visibility.

Response to Lighting and marking of the array

The Developer will define the marine lighting and marking scheme for the proposed development in agreement with Irish Lights with this included as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA. To provide additional detailed information, a Lighting and Marking Plan (LMP) has been produced in Appendix A17.3: Lighting and Marking Plan outlining the proposed lighting and marking scheme which includes sound signals which activate when visibility is below certain thresholds. It should be noted that this is a live document and will be finalised in agreement with Irish Lights post consent when the final layout is defined.

The LMP was described as “well considered” by Irish Lights (Submission No. 49) and will be finalised post consent when the project design is finalised. The LMP is a key embedded mitigation measure for allision risk alongside various other measures including marking on nautical charts and promulgation of information. These measures will ensure that vessels operating in the area are aware of the presence of the array and can navigate accordingly in all conditions in compliance with the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs). With these embedded mitigation measures, the effect on the ability to navigate in adverse conditions is expected to be negligible.

3.13.3.4 Miscellaneous

Sound and electromagnetic deflection

Submission No. 14 raises the potential interference with shipping arising from sound and electromagnetic deflection.

Response to Sound and electromagnetic deflection

As discussed in Section 14.8 of Appendix A17.1: NRA, there has been no evidence found to date with regard to existing offshore wind farms to suggest that prescribed sound signals are in any way impacted by acoustic noise produced by the wind farm. Therefore, limited impact is anticipated in relation to the presence of the proposed development.

For electromagnetic interference (EMF), Section 14.6 of Appendix A17.1: NRA investigates this issue, acknowledging that compasses still serve as an essential means of navigation in the event of power loss or as a secondary source. Since commercial vessels generally use non-magnetic gyrocompasses as the primary means of navigation, EMF will not affect them. For smaller craft, the use of Alternating Current (AC) (planned for the proposed development) is not expected to result in an issue based on Oslo and Paris (OSPAR) Convention studies. With regard to WTGs, there may be effects for small craft with simple magnetic steering and hand bearing compasses but within acceptable levels when considered alongside other mitigation such as making visual observations, lighting, sound signals and identification marking. Therefore, impacts relating to EMF are considered to be negligible.

3.13.4 Conclusion

The points raised in the submissions in relation to shipping and navigation have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the Environmental Impact Assessment Report (EIAR).

3.14 Offshore Archaeology and Cultural Heritage

3.14.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) in relation to the theme of Offshore Archaeology and Cultural Heritage.

Table 3.14.1: Submissions made in respect of offshore archaeology and cultural heritage

No.	Name	No.	Name
21	Gormanston Community Association CLG	36	Sharon Burke
24	Blue Ireland Coalition CLG*	48	Minister for Housing, Local Government and Heritage: National Monuments Service*

*In the case of Submissions No. 24 and 48, comments are dealt with separately within their respective sections of this report.

For reference, aspects relating to offshore archaeology and cultural heritage are detailed within the following chapter and appendices:

- Chapter 18: Offshore Archaeology and Cultural Heritage;
- Appendix A18.1: Maritime and Aviation Archaeology Baseline;
- Appendix A18.2: Intertidal Archaeology Baseline; and
- Appendix A18.3: Marine Archaeology Management Plan.

3.14.2 Summary of the Key Points Raised by Stakeholders

The submissions raised the following key points in relation to offshore archaeology and cultural heritage, which are responded to under the following sub-themes below:

- Known offshore and intertidal archaeological and cultural heritage assets
- Unknown/undiscovered offshore archaeological and cultural heritage assets
- Unknown/undiscovered archaeological material within the intertidal zone
- Ireland's heritage and Bremore Deep Water Port

Where submissions have made reference to onshore archaeological and cultural heritage assets and/or receptors, responses to concerns are provided in Section 3.2 Onshore Cable Route and 3.3 Landfall Area of this report.

3.14.3 Response to the Key Issue Raised

3.14.3.1 Known offshore and intertidal archaeological and cultural heritage assets

Submission No. 36 raises concern on the potential destruction of offshore archaeology and cultural heritage under Point 4 of their submission. Example assets (generally referred to as receptors in the EIAR) that have been extracted from Chapter 18 of the 2024 EIAR and provided by Submission No.36 include:

- A shipwreck (SS Downshire (WA7009)) in the array area “*which is over 100 years which is subject to statutory protection. This is considered to be a high value wreck and is situated in an area spanning 94X24.3 metres. This is in addition to 9 other possible wrecks within the ECC and 4 further wrecks within the wider study area (Figure 18.3).*”
- The site of the wreck of the Belle Hill. Submission No.36 quotes the following from the EIAR “*Section 18.3.2.5 states “While this receptor is outside the ECC, it is within 150m of it (and within the study area) and is over 100 years in age so has statutory protection. Additional intertidal and shallow water marine*

geophysical survey has been completed to cover the recorded position of the Belle Hill and infill the nearshore section of the ECC, and the previously assigned AEZ now includes the results of this survey.”

- The Sailors Grave. Submission No.36 states this *“is a tourist attraction and a well known feature on the Balbriggan Coast. The cables must not be allowed to enter anywhere near this beloved cairn. Indeed this walk is mentioned as Walk 1 in Active Balbriggan Walk, Run and Cycle brochure at Balbriggan.ie, Active Balbriggan-Walk-Run-Cycle-Brochure.pdf”*

Response to known offshore and intertidal archaeological and cultural heritage assets

The Developer notes the concern by Submission No.36 on existing archaeological assets and is committed to ensuring that all potential impacts to all archaeological assets are minimised or avoided entirely and the mitigation provided below is also applicable to other identified assets assessed within Chapter 18 of the EIAR.

Table 18.16 in Chapter 18 of the 2024 EIAR, identifies mitigation measures that are included in addition to the proposed development design. These measures are also captured in the EIAR Schedule of Environmental Commitments (see Appendix A6.1: Offshore Environmental Management Plan (EMP)). These measures are designed to gain a complete understanding of the extant marine archaeological resource within the offshore development area and ensure that the identifies direct and indirect impacts are either minimised or avoided entirely.

The additional mitigation measures identified in Table 18.16, Chapter 18 of the 2024 EIAR, include:

- Archaeological assessment of the additional geophysical and geotechnical surveys that will be undertaken prior to construction;
- The micro-siting of offshore infrastructure to avoid identified archaeological assets;
- The use of archaeological exclusion zones (AEZs) around known maritime and aviation archaeology assets such as the wreck of the SS Downshire.

In response to Submission No. 36’s concern on the potential impacts to the SS *Downshire* shipwreck within the array area (WA7009) this has been thoroughly assessed alongside other possible wrecks within the ECC in Chapter 18 of the EIAR. It is noted in Section 18.5.2.1 Impact 1: Direct physical disturbance of known and potential offshore archaeology and cultural heritage receptors in Chapter 18 of the EIAR, that *“Overall, it is predicted that the sensitivity of the offshore archaeology and cultural heritage receptors for Project Option 1 and Project Option 2 is high, and the magnitude of the impact is high. The high sensitivity and high magnitude of the impact on offshore archaeology and cultural heritage receptors are assessed as resulting in a profound effect, which is significant in EIA terms.”*

With regard to the Belle Hill wreck (WA7000), the Developer can confirm that no works will occur outside of the offshore development boundary. The Belle Hill wreck recorded location lies outside the offshore development boundary and thus, there will be no direct impact during construction of the proposed development.

Furthermore, an Archaeological Exclusion Zone will be implemented, providing a 100m buffer around the wreck of the Belle Hill and any potential debris within the intertidal and nearshore zone, as identified in the archaeological assessments of the survey reports (including the 2023 intertidal survey). Therefore, there will be no indirect impact during construction of the proposed development.

The Sailor’s Grave is assessed in Chapter 18 of the EIAR (WA1001) and Chapter 25 of the EIAR (CH040). Both assessments conclude that there are no likely significant effects on this asset from either direct or indirect disturbances.

In Section 18.4.5 Embedded Mitigation Measures, the following measure is identified during the construction phase of the proposed development; *“Use of HDD to entirely avoid any direct impact from cable corridor preparation and laying within the intertidal zone will decrease the magnitude of impact on these receptors to negligible.”*

The technique of HDD only has impacts to the seabed/land surface at the entry/exit pits, typically c. 30 x 10 m each), with all other impacts being within the geological substrate where there is no maritime/aviation archaeological potential. Therefore, for intertidal archaeology and any marine archaeology (such as the Sailor's Grave), landward of the HDD offshore exit pit due to the use of HDD to avoid the intertidal zone entirely, the magnitude of impact is negligible, as the area is to be entirely avoided by construction activities. Exact locations of the exit/entry pits will be completed in line with the other mitigation (i.e. they will avoid any Archaeological Exclusion Zones around known wreck or other maritime/aviation archaeological receptors). These measures and other mitigation to protect offshore archaeology and cultural heritage will be set out in a project-specific Marine Archaeology Management Plan (MAMP), a draft version is provided as Appendix A18.3.

3.14.3.2 Unknown/undiscovered offshore archaeological and cultural heritage assets

Submission Nos 21 and 36 have raised concerns on the potential for unknown assets to be discovered within areas that have not previously been investigated and/or identified. Specific key points made in the submissions have been summarised below.

Submission No. 21 is concerned that the *“archaeology of intertidal area and seabed which has the potential to be of national importance may be irreversibly damaged or indeed lost without a comprehensive survey being conducted first and more robust mitigation and preservation measures being implemented.”*

Submission No. 21 further states *“Any conditions applied to this development must ensure the strictest preservation standards for our natural heritage.”*

Submission No. 36 notes that in Section 18.3.2.6 of Chapter 18 of the EIAR *“it is recognised that "In areas of the array area and ECC that have been surveyed, where data quality is lower; or, smaller partially buried and otherwise indistinct features are preserved on or in the seabed, there is potential for unidentified offshore archaeology and cultural heritage assets" Submission No. 36 also notes that "The study area falls within an area of significant historic shipping and navigation activity. The applicant admits further "There is potential for the presence of archaeological material of maritime nature spanning from the Mesolithic period to the present day within the study area"*

Response to Unknown/ undiscovered offshore archaeological and cultural heritage assets

A series of site-specific surveys were undertaken to aid a desk-based review to inform the baseline for offshore archaeology and cultural heritage.

Geophysical surveys within the offshore development area were undertaken by Fugro, SEP-Hydrographic and TGS, with archaeological advice and reporting from ADCO Ltd, as per the requirements of Foreshore Licences FS007031 and FS007358 held by the Developer. The data collection included Magnetometer (Mag.), Sidescan Sonar (SSS), Sub-Bottom Profiler (SBP), Multibeam Echosounder (MBES) bathymetry and Multibeam Backscatter (MBBS)). Archaeological assessment of the results of these surveys was completed by ADCO Ltd (ADCO 2022; ADCO 2023b; ADCO 2026). Additional archaeological assessment of the SBP data to identify potential for seabed prehistory was completed by Wessex Archaeology and forms Appendix A18.1.

Additional mitigation measures will include a Protocol for Archaeological Discoveries (PAD) system for unexpected archaeological discoveries will be in operation during all phases of the proposed development to provide a project-wide system for reporting unexpected finds of previously unknown/unidentified archaeological material. A Retained Archaeologist will advise the Developer at all stages of the proposed development and recommend additional archaeological actions when unexpected archaeological discoveries are made, in accordance with national cultural heritage management best practice in liaison and agreement with the National Museum Service via the Underwater Archaeology Unit.

The PAD will form part of the requirements under the project-specific Marine Archaeology Management Plan (MAMP), a draft version is provided as Appendix A18.3.

3.14.3.3 Unknown/undiscovered archaeological material within the intertidal zone

Submission No. 36 provides further extracted information from Chapter 18 of the EIAR on historical use of the area *“Other foreshore features noted in the previous reports include prehistoric remains on Bremore*

Point to the north of the ECC and remains of the 16th/17th settlement of Newhaven which includes field systems, structures and a small church and graveyard. These demonstrate the utilisation of the coastline in both prehistory and the post medieval periods, and therefore the potential for related material within the intertidal zone.”

Response to Unknown/undiscovered archaeological material within the intertidal zone

It is noted that both Bremore Point and Newhaven are outside of the offshore development boundary. The Developer is committed to using HDD within the intertidal zone which will avoid direct impacts to undiscovered archaeological material in the intertidal area. This is further described in Section 3.16.3.1 above.

3.14.3.4 Ireland’s heritage and Bremore Deep Water Port

Further to the above points, Submission No. 36 states *“This highlights the magnitude of potential damage to Ireland’s heritage and simply cannot be allowed. Indeed, your records will show that some years back when planning permission was sought for a Deep Water Port at Bremore the site of where the applicant herein wishes to have landfall. At that time it was recognised that this area was of such significance and heritage that such a port could not be situated there and it would have to be moved further north.”*

Response to Ireland’s heritage and Bremore Deep Water Port

The Developer notes Submission No. 36’s concern on the potential damage to Ireland’s heritage and refers to the responses above in regard to measures the Developer will take to manage and mitigate all potential impacts to receptors result in a not significant effect.

The information provided by Submission No. 36 on the planning permission proposed for Deep Water Port at Bremore is noted. To establish the baseline, the Developer undertook a substantial review of the development-specific geophysical and geotechnical datasets which cover the development area, as well as the assessment of documentary heritage records covering the wider Study Area around the development which extends into the southern section of the Bremore Deepwater Port study area. It should also be noted that the potential scale of impact on known and potential marine archaeology for the seabed preparation and installation of a subsea cable is considerably lower within the intertidal and nearshore areas than that of the construction of a large deepwater port.

3.14.4 Conclusion

The points raised in the submissions in relation to offshore archaeology and cultural heritage have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR.

3.15 Aviation and Radar

3.15.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the parties shown in Table 3.15.1 in relation to potential effects of the proposed development on aviation and radar interests. A summary of the key points raised by the stakeholders is provided in Section 3.15.2. The response (Section 3.15.3) has been categorised into a number of sub-themes due to the varying points contained in the submissions.

Table 3.15.1: Submissions made in respect of aviation

No.	Name	No.	Name
14	Brendan Regan	45	Irish Coast Guard Department of Transport*
36	Sharon Burke	54	Department of Defence*
44	Irish Aviation Authority (IAA)*		

*In the case of Submissions No. 44, 45 and 54, comments are dealt with separately within their respective sections within this report. 3.15.2.

For reference, within the Environmental Impact Assessment Report (EIAR) aspects relating to aviation and radar are covered in:

- Chapter 17: Shipping and Navigation;
- Chapter 19: Aviation and Radar;
- Appendix A19.1: Airspace Analysis and Radar Modelling; and
- Chapter 20: Infrastructure and Other Users.

3.15.2 Summary of the Key Points Raised by Stakeholders

The submissions raised a number of distinct points in relation to aviation and radar, which are dealt with as sub-themes below.

- Wind turbine (WTG) lighting and lightning protection;
- Flight paths; and
- Doppler effects and blade flash.

3.15.3 Response to Key Points Raised

3.15.3.1 Wind turbine lighting and lightning protection

On page 6 of their submission, Submission No. 14 raises that “*night time warning lighting and lightning protection are a serious issue for seashore communities, aircraft and migratory and native bird species*”.

Response to wind turbine lighting and lightning protection

Wind turbines will incorporate a lightning protection system within the structure of nacelle and tower; this will be determined by the selected turbine model to be installed. The system will be designed and installed to meet all regulatory and safety guidelines. The Developer is not aware of any examples of lightning protection being an issue for aircraft and to the contrary WTG lighting is used to protect aircraft by ensuring pilots are aware of WTGs.

With regard to aviation and marine lighting on WTGs, pre-application consultation was also undertaken with the Commissioners of Irish Lights (as detailed within Appendix A1.2: Consultation Report of the EIAR). For

further general information on lighting, a detailed Lighting and Marking Plan has been submitted in Appendix A17.3: Lighting and Marking Plan of the EIAR.

As outlined in Section 19.4.5 of Chapter 19: Aviation and Radar of the 2024 EIAR, the Developer has committed to designing and constructing the proposed development in a way that meets the requirements of the IAA and the Commissioners of Irish Lights (CIL) including the lighting of obstacles in order to protect air and marine navigation. Additionally, it can be confirmed that the proposed development will comply with Aeronautical Services Advisory Memorandum (ASAM) No.018 (Irish Aviation Authority, 2015) requirements.

Adherence to the requirements will protect air navigation and consideration of impacts from WTG lighting was considered as part of the ‘creation of an aviation obstacle environment’ assessment within Chapter 19 of the EIAR. With the application of the mitigation described above, the resulting residual effect on aviation was assessed as not significant.

3.15.3.2 *Flight paths*

The key points made within submissions that relate to flight paths are as follows:

Point 1 – Flight paths for Dublin Airport

- On page 5 and 6 of their submission, Submission No. 14 states that: *“The flight path for aircraft landing and taking off in a westerly direction on the North Runway from Dublin Airport before heading for and arriving from the UK and European cities frequently use a flight paths between Donabate and Gormanston...”*
- Under Section 5 of their submission, Submission No.36 raises concerns about *“danger to commercial flying planes flying into Dublin over the beaches...”*

Response to Point 1 – Flight paths for Dublin Airport

The Developer has undertaken an airspace analysis and radar modelling exercise which includes the airspace of Dublin Airport (and incorporates the Donabate and Gormanston areas). This is provided in Appendix A19.1 Airspace Analysis and Radar Modelling of the EIAR and this has informed the impact assessment within Chapter 19 of the EIAR.

The Dublin Airport Control Area (CTA) has been an integral consideration in designing the parameters for offshore infrastructure. Chapter 19 details that the proposed development is within the airspace associated with Dublin Airport and the Developer has designed the proposed development to avoid infringing minimum required obstacle clearances (refer to Table A19.3 of Chapter 19 of the EIAR). The following design commitment is made within the EIAR:

“WTGs within the 3nm buffer areas of Dublin Airport’s ATCSMAC sectors 1 and 2 will have a reduced air draft and corresponding reduced tip height of 311m above LAT. This is to ensure that the minimum required obstacle clearances of sectors 1 and 2 are not infringed.”

The residual effect on aircraft from the construction, operation and decommissioning of the proposed development (through the creation of an aviation obstacle environment) is assessed within the EIAR as not significant.

At a meeting with AirNav Ireland and daa (formerly Dublin Airport Authority) in May 2025, an assessment of the potential impact of WTGs on low-level air traffic flying visually along the transit route east of Dublin Airport was requested. The assessment has been undertaken and is detailed in Appendix A19.1 which concludes that there will be no impact.

The offshore development area is beyond the range at which wind turbines could have any impact on instrument flight procedures (IFPs) associated within any other major airports.

Point 2 – Flight paths for Gormanston Military Aerodrome

The following key points have been made in submissions that relate to the flight paths for Gormanston Military Aerodrome:

- Submission No.14 states on page 6 of their submission that: *“The Irish Air Corps aerodrome at Gormanston is frequently used by light aircraft and helicopters for training and search and rescue missions. The Irish Government have recently purchased new larger military aircraft for the defence forces which it is anticipate will lead to increased use of the military aerodrome. This should be taken into consideration by An Bord Pleanala in its assessment of the Statkraft NISA Planning Application.”*
- Under Section 5 of their submission, Submission No. 36 raises concerns about the danger to planes associated with the Gormanston: *“...Gormanston in particular, being a regular route, the height, width of the proposed turbines and lighting on same could be a cause for danger. So too the Army facility at Gormanston which trains pilots in low flying aircraft, there is a potential for a serious accident.”*

Response to Point 2 – Flight paths for Gormanston Military Aerodrome

The Developer has undertaken an airspace analysis and radar modelling exercise which includes the airspace of Gormanston Aerodrome. This is provided in Appendix A19.1 and this has informed the impact assessment within Chapter 19 of the EIAR.

The analysis confirmed that the Gormanston Danger Area EID1 (and the Special Use Airspace (SUA) which extends vertically above and is used by the Irish Air Corps (IAC) as a firing range) is infringed by the ECC but the array area (where WTGs will be located) is beyond the EID1 to the east. Gormanston safeguarded areas (areas to identify obstacles with the potential for causing unacceptable interference to navigation aid signals) are not infringed by the offshore development area.

The impact to military low flying training and operations within the Gormanston Danger area EID1 from the creation of an aviation obstacle environment was assessed within Chapter 19 of the 2024 EIAR and the resulting residual effect was not significant.

Additional to this, consultation was sought by the Developer and the EIAR team with the Department of Defence (DoD) in 2022 and 2023 on the aviation operations undertaken in the Gormanston EID1 Range Danger Area. Informal discussions and email correspondence with the DoD confirmed the use of the facility for air operations. No key issues were raised by DoD on the proposed development.

Further consultation with the DoD was undertaken in June 2025. During this consultation DoD acknowledged that the proposed development will not significantly impact on the operation of Gormanston Military Practice and Exercise Area.

3.15.3.3 Doppler effect and blade flash

Submission No. 14 raises on page 6 of their submission under the heading of ‘Doppler effect and blade flash from wind farm turbines’ the following statement is made:

“An Bord Pleanala are requested to examine the possibility and levels of interference both sound and electromagnetic deflection on both low flying aircraft, shipping, nearby Radar stations (Hollywood, The Naul, Co Dublin), mobile phone cells/antennas and TV signals.”

For clarity, the term ‘blade flash’ is not commonly used within the offshore wind and environmental impact assessment industries. The intention may have been to raise concerns related to ‘shadow flicker’ which is a potential impact that is assessed for onshore wind farms only and as such no further comment is made on this issue within this response.

Response on Doppler effect

The Doppler effect is the change in the frequency of a wave in relation to an observer who is moving relative to the source of the wave. The rotating blades of a wind turbine can cause a Doppler effect interference with radar and sonar (sound) systems. The majority of aircraft and shipping will use a radar system. The receiving radar receiver ‘sees’ the turbine as a moving target. These targets are then presented on the radar display as primary radar returns, indistinguishable from those returns originating from aircraft.

This is not a steady effect but has dependency on the axis of rotation of the WTG in relation to the radar. Such unwanted radar returns are known as ‘clutter’.

The impact of clutter on radar systems has been assessed within Chapter 19 of the 2024 EIAR. This is limited to the impact on civil and military airport radar and weather radar systems. The resulting residual effect was identified as Moderate (which is not significant in EIA terms) for Dublin Airport and Casement Aerodrome and not significant for Isle of Man Airport. The radar station in Hollywood, Tooman radar, is a newly commissioned facility, details of which were shared by AirNav Ireland at a consultation meeting in May 2025. Assessments of Tooman radar have been undertaken and are detailed in Appendix A19.1. The resulting residual effect on Tooman radar is identified as Moderate (which is not significant in EIA terms).

There is no specific Met Éireann guidance regarding WTG impacts on weather radar, therefore it is considered appropriate to follow the Operational Programme for the Exchange of Weather Radar Information (OPERA), World Meteorological Organization (WMO) and UK guidance which recommends an impact study for developments within 20km of weather radars. Given that the closest weather radar, at Dublin Airport, is 29.8km from the array area, further consideration of impacts on weather radar is not considered necessary. The Developer consulted with Met Éireann twice in 2023, as detailed in Appendix A1.2, and verbal feedback from Met Éireann states that they do not foresee the proposed development as being an issue as the location is not within the prevailing wind direction.

Impacts to mobile phone cells/antennae and television signals from the Doppler effect have not been assessed within the EIAR. As the array area is 12.3km from the coastline (to the nearest wind turbine) it is highly unlikely that there is the possibility for interference due to the distance from shore and no line-of-sight paths through the wind farm, subsequently this has not been considered for assessment.

Response on interference of electromagnetic deflection

Wind turbines have the potential to cause impacts to electromagnetic communications physically (when interrupting a point-to-point (or line of sight) transmitter signal and receiver), and/or electrically through multipath reflections. Due to the placement of offshore windfarms (multiple kilometres from coastlines), some offshore wind farms may not typically interrupt telecommunication systems, and this is then not considered within impact assessments. Additionally, electromagnetic fields in the vicinity of wind turbines are relatively low and diminish rapidly with distance and this is also then not considered within offshore wind farm impact assessments.

As discussed in Section 14.8 of Appendix A17.1: NRA: Navigational Risk Assessment, there has been no evidence found to date with regard to existing offshore wind farms to suggest that prescribed sound signals are in any way impacted by acoustic noise produced by the wind farm. Therefore, limited impact is anticipated in relation to the presence of the proposed development.

For electromagnetic interference (EMF), Section 14.6 of Appendix A17.1: NRA investigates this issue, acknowledging that compasses still serve as an essential means of navigation in the event of power loss or as a secondary source. Since commercial vessels generally use non-magnetic gyrocompasses as the primary means of navigation, EMF will not affect them. For smaller craft, the use of Alternating Current (AC) (planned for the proposed development) is not expected to result in an issue based on Oslo and Paris (OSPAR) Convention studies. With regard to WTGs, there may be effects for small craft with simple magnetic steering and hand bearing compasses but within acceptable levels when considered alongside other mitigation such as making visual observations, lighting, sound signals and identification marking.

3.15.4 Conclusion

The points raised in the submissions in relation to aviation and radar have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR.

3.16 Appropriate Assessment

3.16.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the following parties, shown in Table 3.16.1 in relation to the Appropriate Assessment. A summary of the key points raised by the stakeholders is provided in Section 3.16.3. The response has been categorised into sub-themes due to the varying points contained in the submissions:

Table 3.16.1: Submissions made in respect of the Appropriate Assessment

No.	Name	No.	Name
3	Brendan and Theresa Stack	31	Bird Watch Ireland*
6	Theresa Kerins	32	Wild Irish Defence CLG - Peter Sweetman*
7	Balbriggan Sustainable Energy Community	34	Elin Payne
8	Joe O'Brien TD	35	Nephrops Fishermen and Producer Organisations*
11	Jennifer Mahon	36	Sharon Burke
17	Malachy Quinn	38	Niamh Colgan
18	Sustainable Windfarm Environmental Group*	39	Meath County Council*
19	Balbriggan Community Council	47	Foras na Mara Marine Institute*
20	Irish Wildlife Trust*	48	National Parks and Wildlife Service*
22	Golden Venture Fishing Limited and Fanning Shellfish Limited*	50	An Taisce*
24	Blue Ireland Coalition CLG*	51	Loughs Agency*
25	Peter and Anita Dice	55	Irish Whale and Dolphin Group*
30	Bryn Edwards - People Before Profit Fingal	59	Isle of Man Government*

*In the case of Submissions No. 18, 20, 22, 24, 31, 32, 35, 39, 47, 48, 50, 51, 55, and 59, comments are dealt with separately within their respective sections within this report..

3.16.2 Description of theme

Before responding to each of the sub-themes raised, it is important to recap on the documents submitted as part of the consent application, as summarised below.

All matters relating to Appropriate Assessment (AA) are considered within the Supporting Information for Screening for Appropriate Assessment (SISAA Report) (North Irish Sea Array Windfarm Limited, 2024a) and a Natura Impact Statement (NIS) Volume 1 – Main Report (North Irish Sea Array Windfarm Limited, 2024b) and associated Appendices where information to inform the AA has been provided for the competent authority (An Coimisiún Pleanála). The information set out in the NIS should be read in conjunction with the NIS Appendices, Volume 2.

The Developer has refined elements of the design to respond to the third party submissions, continued public and stakeholder consultation and the RFI. Amendments have therefore been required to the SISAA and NIS; these should be considered the primary reference documents in this submission response theme.

3.16.2.1 *Relevant guidance and policy in relation to the structure and process for AA is set out in Section 1.5 – 1.8 of the NIS (North Irish Sea Array Windfarm Limited, 2024b). Purpose of the Natura Impact Statement*

The Habitats Directive (92/43/EEC) and the associated Birds Directive (2009/147/EC) are transposed into Irish legislation by Part XAB of the 2000 Act (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). The legislative provisions for AA for planning applications are set out in Section 177U of the 2000 Act (as amended).

Having regard to the 2000 Act, it is recognised by the Developer that the public authority for carrying out AA for the proposed development (the ‘competent authority’) is An Coimisiún Pleanála. In accordance with the Planning and Development Act 2000 and associated guidance, the SISAA Report and NIS have been prepared by the Developer to provide information to An Coimisiún Pleanála.

The SISAA Report has assessed the potential for the proposed development to have Likely Significant Effects (LSEs) on European designated sites, taking account of qualifying interests (QI) and site-specific conservation objectives (CO). The updated SISAA provides updates to the assessment as a result of the RFI, third party submissions and stakeholder engagement,

The NIS takes account of the QIs and COs of all European designated sites where the potential for the proposed development to have an LSE has been identified within the SISAA Report, and considers whether a plan or project, alone or in combination with other plans or projects, will have an adverse effect on integrity (AEoI) of one or more European sites in view of the each sites COs. The updated NIS provides updates to that assessment in response to the RFI, third party submissions and stakeholder engagement. As the competent authority, An Coimisiún Pleanála will use this information to undertake an AA. The competent authority is not bound to reach the same conclusions of either the SISAA Report or the NIS.

3.16.3 Summary of the Key Points Raised by Stakeholders

The submissions raise a number of distinct points in relation to the AA, which are dealt with as sub-themes (with the relevant submissions referenced) below.

- Designated sites;
- Baseline data;
- Ornithology; and
- Marine mammals and Underwater Noise.

3.16.4 Response to Key Points Raised

3.16.4.1 Designated sites

Lack of consideration for effects on specific designated sites

Submission No. 3 states that *‘there has only been a brief mention of the Boyne/Blackwater SAC and SPA and none at all of the Nanny SPA Area...’*. Submission No. 6 states *‘Wildlife will be hugely affected at: Malahide Estuary, Rogerstown Estuary, The Boyne/Blackwater SAC and SPA and the Nanny SPA Area...’*.

Response on lack of consideration for effects on specific designated sites

Within the SISAA and NIS all of these designated sites are fully considered, with clarification provided on the impacts and reasons why no adverse effects (within the scope of the conservation objectives) from the proposed development are concluded. For clarity, please refer to Section 5 within the NIS;

- Malahide Estuary SAC –;
- Rogerstown Estuary SAC ;
- Boyne Coast and Estuary SAC;
- River Boyne and River Blackwater SAC;
- Malahide Estuary SPA;
- Rogerstown Estuary SPA;
- River Nanny Estuary and Shore SPA; and
- Boyne Estuary SPA.

An assessment was carried out on all of the potential impacts from the construction, operation and decommissioning of the proposed development on each cSAC, SAC, cSPA and SPA. Other relevant projects were also included within the assessment to ensure the impacts were considered in combination with the impacts from those projects. From this it was concluded beyond reasonable scientific doubt that there is no potential for an AEoI to the COs of any of the QIs of the assessed SACs or SPAs from the development alone or in combination with other plans or projects.

A full assessment of the River Nanny Estuary and Shore SPA is provided in Section 5.4 of the Natura Impact Statement Volume: Main Report. All qualifying interests (QIs), namely golden plover; Knot; oystercatcher; ringed plover; sanderling, and herring gull, were screened in for the assessment for River Nanny Estuary and Shore SPA due to their presence within the zone of influence (ZoI) during baseline surveys at the landfall site. It was concluded there is no potential for an adverse effect on site integrity (AEoI) when considering the proposed development alone or in combination during the construction, operation and maintenance and decommissioning phases as per Project Option 1 and Project Option 2.

Kingfisher are the only ornithological feature considered to be a QI at River Boyne and River Blackwater SPA. This species is not considered to be vulnerable to direct impacts from offshore windfarm developments, as kingfisher are an onshore, non-migratory species (Brown and Grice, 2005). Therefore, no connectivity or pathway for effect has been identified for kingfisher. There are several other species that may occur at the SPA including Mute Swan, Teal, Mallard, Cormorant, Grey Heron, Moorhen, Snipe and Sand Martin, although none of these species are of QI as such no further ornithological assessment was required for this SPA, within the NIS. Furthermore, Mute Swan, Grey Heron, Moorhen, Cormorant and Sand Martin are not included within the Marine Scotland mCRM Application and as such are not considered to be vulnerable to migratory collisions. Teal and Mallard were taken forward for further assessment within the EIAR. Overall, it was predicted that the sensitivity of migratory birds (including Teal and Mallard) for Project Option 1 and Project Option 2 is medium at maximum and the magnitude of the impact is negligible. The medium sensitivity and negligible magnitude of the impact on migratory birds (including Teal and Mallard) results in an imperceptible effect at maximum, which is not significant effect in EIA terms. See Section 15.5.3.4 of the North Irish Sea Array Offshore Wind Farm – EIAR, Chapter 15: Offshore Ornithology for further details.

In relation to indirect impacts of QI species (such as change in prey species availability), the potential effects on Atlantic salmon designated in the River Boyne and River Blackwater SAC, and the habitats that support this species have been covered within the Migratory Fish Species chapter (Section 5.2), of the NIS. Atlantic salmon designated in the River Boyne and River Blackwater SAC were included for assessments relating to suspended sediment and deposition, accidental pollution, underwater noise from piling, UXO clearance and other noise sources and electro-magnetic fields (EMF). It was concluded that there will be no AEoI of Atlantic salmon designated in the River Boyne and River Blackwater SAC for all assessments when considering either Project Option 1 or Project Option 2.

There is, therefore, no potential for an AEoI to the conservation objectives of the kingfisher feature of River Boyne and River Blackwater SPA in relation to prey species abundance and availability from the Proposed development alone or in combination with other projects and therefore, subject to natural change, the kingfisher feature will be maintained in the long term with respect to potential for impacts on prey species abundance and availability.

This point was raised by An Bord Pleanála in RFI Section (8cvii) and has been addressed in the Response to RFI document.

Recommendations and concerns with regards to proximity to and impacts on North West Irish Sea cSPA, Rockabill SPA, Skerries Islands SPA, Lambay Island SPA and Rockabill to Dalkey Island SAC and project options.

Submission No. 7 states that *‘Given the location of the array within the North-West Irish Sea SPA and close proximity to Rockabill SPA, we recommend that the project option with the least impact on bird populations is selected’*.

Submission No. 8 highlights the North-West Irish Sea cSPA, Rockabill to Dalkey SAC and Rockabill SPA overlap or are in close proximity with the proposed site.

It goes on to state that ‘Rockabill SPA and the legal protection associated with it needs to be adhered to. Thorough examination of the proximity of some of the proposed turbines to Rockabill Island must be conducted in the context of the legal protection it holds. I have concerns that a number of the turbines in the plan will jeopardise adherence to the wildlife protections in force for Rockabill...’.

Submission No. 11 states ‘It (the location of the project) makes sense to locate it nearer the end destination, also ensuring the safety of Rockabill Island. It is also important to note that this site is a proposed Marine Area of Conservation’.

Submission No. 30 states ‘It is clear that the siting of this array so close to Rockabill SPA could have immense consequences for many bird species, some of whom are red- and amber-listed.’

Submission No. 34 highlights concern in that ‘I feel that this project is located on an environmentally inappropriate site and risks causing damage to this coastline and it’s associated Nature 2000 species and habitats (the North West Irish Sea SPA, the Rockabill SPA and the Skerries Islands SPAs).’

Submission No. 38 states ‘Rockabill SPA - The wind turbines should not be located in such close proximity to this protected area. Rockabill is designated a SPA code 004014 for its ornithological importance...’ going on to highlight concern for tern species in particular.

Response on recommendations and concerns with regards to proximity to and impacts on North West Irish Sea cSPA, Rockabill SPA, Skerries Islands SPA, Lambay Island SPA and Rockabill to Dalkey Island SAC and project options.

The above submissions have highlighted broad concern over the suitability of the proposed development location and proximity to and impacts on the North West Irish Sea cSPA, Rockabill SPA, Skerries Islands SPA, Lambay Island SPA and Rockabill to Dalkey Island SAC. Some submissions included a suggestion that selection of the project option with the lowest level of impact on these sites is selected.

Site selection and design evolution commenced in 2008 and subsequently multiple design iterations and detailed consultation events have been undertaken which led to the final spatial boundaries, infrastructure boundaries and layout options submitted and assessed in the 2024 NIS. The site selection process and assessment of alternatives is presented in Chapter 5 of the EIAR. It should be noted that at an early stage, all designated sites at that time including all Special Areas of Conservation (SAC), Special Protection Areas (SPA), in the locality off the east coast were mapped. The offshore location of the proposed array area was sited to avoid overlap with any designated sites at that time.

In the context of designated sites, it should be acknowledged that in 2023, subsequent to the proposed development’s Maritime Area Consent (MAC) being awarded and following the Offshore Renewable Energy Support Scheme (ORESS) contract being entered into, a candidate SPA (cSPA), named as the North-west Irish Sea SPA was identified which overlapped with the offshore development area.

This cSPA overlaps fully with the proposed development’s MAC boundary. However, the Natura Impact Statement (NIS) that was submitted with the application concluded that the proposed development will not have any AEoI of the cSPA, or any other European Sites, either alone or in combination with any other plan or project. The NIS fully considered the impacts of both proposed Project Options 1 and Project Option 2. The co-location of the proposed development within the cSPA is therefore mutually compatible (to note in the UK, Gunfleet sands and Kentish Flats offshore wind farms are both located in the Outer Thames Estuary SPA).

On foot of the submissions received in response to the Developer’s planning application, the continued public consultation and the RFI issued by the Commission, the Developer has made design refinements to the offshore infrastructure of the proposed development. The Developer has committed to reduce the spatial extent of the offshore infrastructure to minimise the interactions with the North-west Irish Sea cSPA. Further information on the reduction of the spatial extent of the offshore infrastructure footprint is provided in the NIS. The ‘red line boundary’ remains the same as that submitted to the Commission in the 2024 NIS (Figure 1.1 of the 2024 NIS) as does the maximum number and dimensions of turbines for both Project Option 1 and Project Option 2.

Other submissions have highlighted concern over the ability to consider this proposed development and its impacts on these sites from a legal perspective.

We would like to highlight that the AA process is required to assess and determine if there are any potential adverse effects on designated sites; this is what the NIS demonstrates and is an established practice.

Species specific responses are presented in Section 3.11– Offshore Ornithology and the responses to the sites mentioned in the above submissions are presented below, including the mitigation proposed at each site. Please refer to the following sections for the site-specific assessments within the NIS which demonstrate these conclusions beyond reasonable scientific doubt that the proposed development will not have any adverse effect on the integrity of the cSPA, or any other European Sites, either alone or in combination with any other plan or project.

- Rockabill to Dalkey Island SAC – Section 5.3.2;
 - The Developer has committed to a Marine Mammal Management Plan (MMMP) (Appendix A10 of the NIS), which outlines mitigation measures to minimise the risk of injury arising in marine mammals from underwater noise resulting from activities relating to the proposed development. The MMMP covers underwater noise impacts due to pre-construction survey and unexploded ordnance (UXO) clearance.
 - All vessel traffic will move along predictable routes around the offshore development area, and to/from port to the array area and Electrical Cable Corridor (ECC) site over the short periods of offshore construction activity, as detailed within the Environmental Vessel Management Plan (Appendix 11).
 - The proposed development is committed to the use of best-practice techniques and due diligence throughout all construction, operation and decommissioning activities. This commitment includes the implementation of an Offshore Environmental Management Plan (EMP) (Appendix A8), which includes a Marine Pollution Contingency Procedure and an Emergency Incident Response Procedure to prevent, manage and mitigate the accidental release of pollutants into the marine environment.
- North-West Irish Sea cSPA – Section 5.4.2;
 - Prior to the 2024 EIAR application, the Developer had undertaken considerable work to mitigate the impacts on the NWIS cSPA, and in-particular on species sensitive to displacement, through a substantial array area reduction. Although the spatial extent of the NWIS cSPA remains unchanged (2,333 km²) the Developer has substantially reduced the area of overlap by reducing the original MAC boundary of 195.9 km² (representing 8.4% of the NWIS cSPA or 15.2% when a displacement buffer of 2 km is applied) to the array area coving 88.5 km² in the Planning Application (which equates to 3.8% of the NWIS cSPA or 8.5% when a displacement buffer of 2 km is applied). Further refinements since the submission of the Planning Application have been made in response to the RFI Section 8(e)vi to provide additional mitigation for guillemot. The spatial extent of permanent infrastructure within the array area now occupies just 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the cSPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas ('Hotspots') during the non-breeding season. The revised boundary now avoids several identified hotspots, further reducing displacement risk.
 - The proposed development has mitigated considerably for collision by increasing the air draft to 40m LAT. This can decrease collisions by up to 80% for some species (e.g. kittiwake) from the proposed development and has provided a demonstrable reduction in collision risk for this species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.15 of the NIS.
 - To reduce impacts to divers the Environmental Vessel Management Plan (NIS Appendix 11) will be followed. This aims to minimise vessel disturbance to divers in the ECC by following strict vessel protocol which are outlined in the EVMP. This mitigation was not considered in the assessment and therefore by employing these measures any impacts to divers should reduce considerably. For more details on mitigation measures in place to reduce impacts to birds see Section 4.15.

- To reduce accidental pollution risk and dust impacts, as outlined in the CEMP (Appendix A9) standard best practice methods will be adopted to protect downstream water quality, these include control of surface water run-off, control of release of hydrocarbons and contaminants, protocols for storage of materials, refuelling restrictions and protocols for Horizontal Directional Drilling (HDD) operations and frac-out, protocols for minimising soil and dust exposure and site management practices. The adoption of pollution management controls as outlined in the CEMP (Appendix A9) will minimise and manage accidental spills that may reach the downstream environment via surface water run-off. At the landfall site, the nearest works will occur a minimum of 50m from the coastline which will further reduce the risk of surface water run-off and dust reaching the marine environment of the cSPA.
- The HDD compounds at the landfall site near the shoreline will have noise barriers on the northerly, easterly and southerly perimeters, to reduce noise levels in these directions. Noise barriers will be implemented, which also act as visual screens and mitigation, as detailed in the CEMP (Appendix A9) for disturbance and displacement at the site during construction and decommissioning.
- Rockabill SPA – Section 5.4.4;
 - Wind turbine layout refinements have been undertaken for Project Option 1 and Project Option 2 to reduce the footprint of infrastructure within the NWIS SPA. The array area refinement process has increased the distance between the turbines and Rockabill SPA. Although the benefits are not quantified in the NIS this refinement will reduce any potential barrier effects on terns from this colony should their foraging area overlap with the proposed development.
 - The proposed development has mitigated considerably for collision by increasing the air draft to 40m Lowest Astronomical Tide (LAT). This can decrease collisions by up to 80% for some species (e.g. kittiwake) from the proposed development and has provided a demonstrable reduction in collision risk for assessed species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.15 of the NIS.
 - The HDD compounds at the landfall site near the shoreline will have noise barriers on the northerly, easterly and southerly perimeters, to reduce noise levels in these directions. Noise barriers will be implemented, which also act as visual screens and mitigation, as detailed in the CEMP (Appendix A9) for disturbance and displacement at the site during construction and decommissioning.
- Skerries Islands SPA – Section 5.4.10;
 - The proposed development has mitigated considerably for collision by increasing the air draft to 40m LAT. This can decrease collisions by up to 80% for some species (e.g. kittiwake) from the proposed development and has provided a demonstrable reduction in collision risk for this species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.15 of the NIS.
 - Array refinements have been undertaken to reduce the footprint of infrastructure within the NWIS SPA, the refinement will reduce any potential changes in species and spatial distribution, barrier effects or changes to prey species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.15 of the NIS.
 - The HDD compounds at the landfall site near the shoreline will have noise barriers on the northerly, easterly and southerly perimeters, to reduce noise levels in these directions. Noise barriers will be implemented, which also act as visual screens and mitigation, as detailed in the CEMP (Appendix A9) for disturbance and displacement at the site during construction and decommissioning.

- Lambay Island SPA – Section 5.4.13.
 - Prior to the 2024 EIAR application, the Developer has undertaken considerable work to mitigate the impacts on the NWIS cSPA, and in-particular on species sensitive to displacement, through a substantial array area reduction. While the spatial extent of the NWIS cSPA remains unchanged (2,333 km²), the original MAC boundary of 195.9 km² represented 8.4% of the NWIS cSPA (or 15.2% when a displacement buffer of 2 km is applied) while the final array area in the Planning Application covered 88.5 km², which equates to 3.8% of the NWIS cSPA (or 8.5% when a displacement buffer of 2 km is applied). Further refinements since the submission of the Planning Application have been made in response to the RFI Section 8(e)vi to provide additional mitigation for guillemot. The spatial extent of permanent infrastructure within the array area now occupies 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the SPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas ('Hotspots') during the non-breeding season. The revised boundary now avoids several identified hotspots, further reducing displacement risk for auks. Overall, these refinements have led to a lower abundance of birds within the assessed area and have further reduced potential effects on spatial distribution, habitat loss, barrier effects and changes to prey species by decreasing the area occupied by the proposed development.
 - The proposed development has mitigated considerably for collision by increasing the air draft to 40m LAT. This can decrease collisions by up to 80% for some species (e.g. kittiwake) from the proposed development and has provided a demonstrable reduction in collision risk for this species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.15 of the NIS.
 - The HDD compounds at the landfall site near the shoreline will have noise barriers on the northerly, easterly and southerly perimeters, to reduce noise levels in these directions. Noise barriers will be implemented, which also act as visual screens and mitigation, as detailed in the CEMP (Appendix A9) for disturbance and displacement at the site during construction and decommissioning.

In summary, an assessment of all potential impacts on all cSACs, SACs, cSPAs and SPAs with connectivity to the array, including the closest SPAs in the surrounding area, was carried out and it was concluded beyond reasonable scientific doubt that there will be no AEOL.

3.16.4.2 Baseline information

Suitability of surveys to inform the ornithology assessments

Submission No. 30 states that 'At the very minimum, we believe the proposers must conduct more detailed surveys and tracking of species that use the SPA to nest and forage. While some species were tracked (Kittiwake, Shag, Guillemot and Razorbill), we believe this list to be inadequate...'.

Response on the suitability of surveys to inform the ornithology assessments

Tracking data from available literature and datasets (e.g. the Seabird Tracking Database) was considered, however did not form the basis of the ornithology assessments. The NIS assessment is based upon site specific surveys such as Digital Aerial Survey (DAS) and boat-based surveys meeting and exceeding the industry standard, which is clarified within the NIS document and appendices, and provides a robust set of data to draw conclusions from Section 3.11 – Offshore Ornithology response provides detail with regards to the data collected and clarifies that the level of data provided is considered suitable for this application.

3.16.4.3 Ornithology

Submission No. 17 states '*Europe's most important Roseate tern colony on Rockabill Island of the coast of Skerries/Balbriggan, I believe the extent of the Windfarm structures will have a negative effect on the nesting Roseate terns in the location.*'

Submission No. 25 states '*The extreme negative impact it will have on sea birds in the area, especially the Terns on Rockabill Light House and the thousands of birds in sanctuary on Lambay Island.*'

Going on to highlight concern ‘it has ignored the bird life of Rockabill Island’ with the suggestion ‘We should expand the cSPA (North-West Irish Sea SPA) to give wider exclusion from Rockabill.’ They have shown particular concern over the flight height and collision, stating they ‘do not know to keep below the 40m safe height of the wind turbine blades. Other studies have shown sea birds abandon such areas all together and likely will not just “find somewhere else to live”. This will threaten to decrease and make extinct our existing bird species.’

Submission No. 36 highlights their concern that “58% or more of the world’s Roseate tern population breeds on Rockabill. The Roseate tern is one example of the many birds who feeds on the habitat of Gormanston Beach and will have to pass through the proposed Wind Turbines and facilities. It simply cannot be contemplated the damage to such birds if the wind farm goes ahead.”

Response to concern with regards to impacts on Roseate tern associated with the Rockabill SPA and North West Irish Sea cSPA

The NIS fully considers all potential impacts the proposed development may have on the roseate tern population at Rockabill SPA and North West Irish Sea cSPA. With consideration of the array area refinement, design mitigation through increasing minimum draft height to 40m LAT, low numbers of terns present within DAS data and low vulnerability of the species to the impacts, the NIS concludes no potential for AEoI from either collision or disturbance (and all other effects) despite proximity to Rockabill SPA and North-West Irish Sea cSPA.

The following extract from Section 5.1.2.13.1 sets out how the array area refinement and increase in draft height mitigate impacts: “... ‘the Developer committed to minimise impacts to collision risk species by refining the array area and increasing the draft height (blade tip clearance above sea level) of the turbines to 40m LAT. This is by far the most effective mitigation measure to reduce collision risk. For example, a draft height of 40m LAT results in a >90% reduction in terns flying within the rotor risk zone compared to an air draft of 22m. At 40m, this leaves just a 0.22% (Arctic tern) and 0.47% (common tern) probability that a bird is flying within the rotor swept zone, with similar reductions for Roseate tern. Consequently, the number of predicted collisions is extremely small for all tern species’”.

For specific concerns with regards to methodology, size of turbines and scientific basis, this is covered within the Section 3.11 – Offshore Ornithology response.

For clarity, please refer to the following Section 5 of the NIS sections for the assessment of impacts on roseate tern:

- North West Irish Sea cSPA ; and
- Rockabill SPA.

Lasting damage to birds within SPAs

Submission No. 36 highlights that “the subject area of this case will affect no less than five SPAs for birds” and lists the NWIS cSPA, River Nanny Estuary and Shore SPA, Skerries Island SPA, Rockabill SPA and Boyne Estuary SPA. Submission No. 36 then states “At top speed the wind turbines will reach 208km an hour. Any bird that is unfortunate enough to collide with a turbine will simply be liquified. No car is allowed to travel at such a speed.” The submission goes on to express concerns about brent geese and short-eared owl along with other migratory species.

Response to lasting damage to birds within SPAs

The NIS fully considers all SPAs, including their conservation objectives, within the proposed development’s zone of influence and assesses all potential impacts on offshore and onshore ornithological receptors. The NIS and updated NIS reached the conclusion of no AEoI both alone and in-combination with other plans or projects for all designated sites assessed. This conclusion is based on and supported by collision risk modelling (CRM, Appendix A19: Offshore and Intertidal Ornithology Collision Risk Modelling Assessment of the NIS) for non-migratory birds, and migratory collision risk modelling (mCRM, Appendix A23: Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment of the NIS) for migratory birds.

See NIS Section 5.4 and 7.2 for more details. It should be noted that short-eared owl are not designated under any of the SPAs within the ZoI and therefore have not been assessed within the NIS.

Furthermore short-eared owl were not recorded in any survey undertaken by the Developer (see Appendix A14 Offshore Ornithology Technical Baseline).

Concerns about Impacts to birds at the North West Irish Sea SPA

Submission No. 19 states *‘In this area North-west Irish SEA SPA it lists bird and mammal/fish which require protection...’* going on to list the features and then states *‘This development will have a significant impact during Autumn/Winter which will reduce the population and therefore cause significant decline’*.

Response to concerns about Impacts to birds at the North West Irish Sea cSPA

The NIS has fully considered all potential impacts on the protected features of the North-West Irish Sea cSPA within Section 5.4.2 of the NIS, which establishes that populations will not be significantly impacted and that there will be no AEoI either alone or in-combination with other plans or projects to the COs of the QIs of the NWIS cSPA due to the proposed development. It concludes that the development will not result in a significant decline in the populations of the designated site. The assessments were undertaken following current guidance and best practice, for all bio-seasons, including during the autumn and winter, and no AEoI was concluded.

3.16.4.4 Marine Mammals

Inadequacy of the assessment with regards to marine mammals

Submission No. 19 states *“The grey seals/dolphins/basking sharks which have been surveyed off this coast will be hugely affected during the construction; they are protected under the Wildlife Act 2023 which “Requires certain public bodies, including government departments, agencies and local authorities to consider biodiversity in their plans, policies, decisions and actions” Also included in this list are the harbour porpoise which are protected under Article 6 (3) of the Habitat directive. The effect of the Turbines on marine life includes site disturbance, the inability for them to access their normal breeding ground, the noise levels affecting their sonar ability, which in turn would have a significant impact on their life. We believe that typical species, associated species and associated habituates are inadequately considered with respect to effects on sites of community importance. We also feel that ex- situ species and habitats are inadequately considered with respect to effects on sites of community importance. These are reasons why the installation of the wind turbines be located at the appropriate distance Offshore we would recommend a distance of 25km.”*

Response to the inadequacy of the assessment with regards to marine mammals.

In relation to the concerns around harbour porpoise, the NIS fully considers all European sites and species connected with these within the proposed development’s zone of influence and assesses all potential impacts on marine mammals associated with those sites. The other species highlighted of concern have been considered within Section 3.10 Marine Mammal Ecology and Under Water Noise response.

The NIS details potential effects to various SACs for harbour porpoise, grey and harbour seals and bottlenose dolphins. This includes the assessment of underwater noise from UXO clearance, underwater noise from other noise sources (construction), vessel disturbance, vessel collision risk, changes to prey, accidental pollution, underwater noise (decommissioning). The assessment concluded that the construction, operation and maintenance and decommissioning of the proposed development will not result in an AEoI to any marine mammal SACs, either alone or in-combination with other plans and projects.

Following further design refinement in response to the RFI, wind turbine generators (WTGs) are now proposed as SBJ foundations, and Offshore Substation Platforms (OSPs) as jacket foundations with suction bucket jacket (SBJ) foundations or drilled jackets. Therefore, pile driving will not take place and has been removed from the proposed development description and therefore from the NIS assessment. The number of marine mammals (including harbour porpoise, dolphins and seals) predicted to be disturbed by underwater noise impacts at the proposed development is now drastically reduced considering there is no pile driving (please see the NIS Section 5.3).

The updated MMMP (following the receipt of the RFI, A10 of the NIS), outlines mitigation measures to minimise the risk of PTS arising in marine mammals from underwater noise from pre-construction geophysical surveys and UXO clearance and is intended to reduce the risk of auditory injury (PTS) to a negligible level. Within this MMMP, the Developer has committed to the use of a bubble curtain in the event that high-order UXO clearance is required. This is considered in the NIS.

3.16.5 Conclusion

The issues raised in the submissions in relation to the AA have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the NIS and accompanying appendices.

3.16.6 References

Cutts et al., 2009

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T., Gentry, R.I., Halvorsen, M.B., Løkkeborg, S., Rogers, P.H., Southall, B.L., Zeddis, D.G. and Tavalga, W.N., 2014. Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI. New York, Springer. [Online] URL: https://www.researchgate.net/publication/279347068_Sound_Exposure_Guidelines [Accessed February 2024].

4. Prescribed Body responses

4.1 Meath County Council

4.1.1 Introduction

This section provides a response to the submission made to An Bord Pleanála by Meath County Council (MCC).

The Developer welcomed consultation with MCC in April 2026 on a number of items in the submission who appeared to be satisfied with the proposed responses as detailed below, and which were outlined to MCC during this consultation. Full details of consultations undertaken can be found in Appendix A1.2 in the EIAR.

A summary of the key points raised by MCC is provided in Section 4.1.2. The response to the key points raised (Section 4.1.3) has been divided into a number of sub-themes due to the varying points contained in the submissions.

MCC, as a prescribed body and Coastal Planning Authority, provided An Bord Pleanála with a copy of its Chief Executive's Report, dated 21 June 2024, which was presented at the July 2024 meeting of Meath County Council (Sections 1-6), and an extract of the draft minutes of the 8th July 2024 meeting of Meath County Council (Appendix 1 of the submission). It was noted in the submission that the draft minutes would be adopted at the September 2024 meeting of the Council and would be available on the Meath County Council website following their adoption. In this response, the Chief Executive's Report and the extract of the draft minutes are referred to as the 'MCC submission'.

Sections 1-3 of the MCC submission consist of an introduction, a summary description of the proposed development and site location, and a summary of the relevant planning history, other consents and the pre-planning consultation. Appendix 1 provides a list of the matters to be addressed in the planning authority's submission to the Board. The Developer notes that Sections 1-3 and Appendix 1 of the MCC Chief Executives Report or the extract from the draft minutes of the council meeting contained within the MCC submission do not contain elements requiring a specific response.

Sections 4-6 of the MCC submission address relevant policy, planning considerations and conclusions/recommendations and is the focus of this response.

4.1.2 Summary of the Key Points Raised by MCC

The MCC submission raised a number of key points and recommended that An Bord Pleanála seek further information in respect of some of these issues. It also recommended a number of conditions, for consideration by An Bord Pleanála, should permission be granted for the proposed development.

The sections below address both the key points raised and the recommended conditions, under a number of sub-themes as follows:

- Policy context
- EIAR/NIS cumulative and in-combination effects
- Seascape, Landscape, and Visual Assessment (SLVIA)
- Archaeology, architectural and cultural heritage - Brú na Bóinne
- Tourism
- Recommended conditions.

4.1.3 Response to Key Points Raised

4.1.3.1 Policy Context

Section 4 of the MCC Submission provides a non-exhaustive list of EU, national, regional and local policy documents which are relevant to the assessment of this planning application.

Section 4 of the MCC CEO Report invites An Bord Pleanála to consider Appendix A.05 of the Meath County Development Plan (MCDP) 2021-2027 'Landscape Character Assessment', Appendix A.10 'Protected Views and Prospects' and the policies and objectives of the Infrastructure Strategy (Section 6.15.3.6 of the MCDP and Section 6.14.2 of the MCDP) in its assessment of the project. Section 4 of the MCC CEO Report also references policies in Chapter 8 Cultural and Natural Heritage Strategy, Chapter 10 Climate Change Strategy, Chapter 11 Development Management Guidelines and Standards of the MCDP.

4.1.3.1.1 Response on Policy Context

Sections 3 and 6 of the Planning Report: Legislative Requirements and Planning and Policy Context, respectively, and Chapter 3 of the EIAR: Legal and Policy Framework, set out the legal and policy frameworks at European, national, regional and local scales which underpin the proposed development. The majority of the legislation and policies listed in Section 4 of the MCC submission were addressed in the 2024 Planning Report and EIAR. Those that were not included are listed in Table 4.1.1 below and the reason they were not included. An analysis of compliance of the proposed development with these policies is included in Appendix 4.1.1 to this report. This analysis concludes that the proposed development does comply with the policies.

Relevant policies and / or plans have been included in the addendum EIAR (Volume 2, Chapter 3) and Planning Report.

Table 4.1.1 List of Policies, Legislation and Strategies

Policies and Plans	Reason Not Included
Marine Plan for Northern Ireland	The proposed development does not sit within the proposed Marine Plan Area and the draft Plan is not yet adopted. However, the proposed development aligns with many of the eight objectives of the draft Marine Plan for Northern Ireland, including to realise the potential of energy resources and energy storage within the marine area, while fully considering the requirements of other marine interests and to contribute towards climate change mitigation and adaptation measures.
Maritime Jurisdiction Act 2021	The Maritime Jurisdiction Act 2021 was not specifically addressed as not a core consenting or planning statute in the EIAR or Planning Report, however, the Developer will comply with all applicable legislation.
National Adaptation Framework (NAF) 2024	Published in June 2024, post submission of the planning consent. The proposed development aligns with the NAF, as it will have a net significant beneficial impact on climate during its life cycle, assisting Ireland in achieving carbon neutrality by 2050.
ESB (2023) Networks for Net Zero Strategy	Not a government or statutory policy document; however, the proposed development aligns with the strategy as it will have a net significant beneficial impact on climate during its life cycle, assisting Ireland in achieving carbon neutrality by 2050.
County Meath Heritage Strategy 2023-2030 (County Meath Heritage Forum, 2023)	Although not specially referred in the EIAR, the proposed development will have careful regard to heritage sites, including significant landscapes, historic sites and coastal environments and is now considered in Chapter 25 Onshore Archaeology, Architectural & Cultural Heritage.
Strategic Planning Policy Statement for Northern Ireland - Planning for Sustainable Development (SPPS)	No part of the proposed development will be located in Northern Ireland. However, the proposed development aligns with the SPPS by contributing to Northern Ireland's renewable energy goals while adhering to sustainable planning principles that balance economic, environmental, and social factors.
Future Framework for Offshore Renewable Energy 2024	Published in May 2024 following finalisation of the planning consent. As the proposed development is a fixed bottom foundation offshore wind farm which will be operational in 2030, it will facilitate the achievement of the targets in the draft Future Framework Policy Statement and

Policies and Plans	Reason Not Included
	will ensure delivery of offshore wind in 2030, which in turn will support the 37GW target of ORE by 2050.
National Mitigation Plan 2017	The plan was not addressed in the EIAR or Planning Report as it was considered that Ireland's plans for reducing greenhouse gas emissions (GHG) emissions has developed considerably since 2017. The proposed development directly supports the objectives of the National Mitigation Plan and more recent climate action plans by delivering a renewable energy source that reduces Ireland's dependence on fossil fuels and contributes to achieving long-term decarbonization goals.
County Meath Biodiversity Action Plan 2015-2020	It is noted that no onshore infrastructure associated with the proposed development will be located within the county, however, the proposed development will endeavour to protect and enhance biodiversity, ensure compliance with statutory conservation requirements, and integrate ecological considerations into design and assessment processes, in line with the Biodiversity Action Plan.
Meath County Council Economic Development Strategic Action Plan 2024	This plan was not specially referred as that no onshore infrastructure associated with the proposed development will be located within the county; however, the proposed development supports delivery of the Plan's priorities and actions by strengthening the County's infrastructure provision and supporting job creation, thereby contributing to economic activity.

In Section 4 of its submission, MCC sets out the policies and objectives in the MCDP which support renewable energy, including offshore renewable energy, and the infrastructure to support it. Section 3.8.1.3 of Chapter 3 of the EIAR summarise the objectives of the MCDP in relation to climate change and renewable energy and the compliance of the proposed development with these objectives, as follows:

“The MCDP recognises the significant role the green economy has to play in the competitiveness of the County and the country as a whole. Climate change adaptation and mitigation strategies are integrated throughout the MCDP with climate change as one of the cross-cutting themes.

In relation to energy, the MCDP includes several policy objectives which promote sustainable, locally based renewable energy alternatives. This includes the development of wind energy in accordance with government policies whilst supporting Ireland's renewable energy commitments.

The MCDP also provides for the protection of high-quality landscape and seascapes. Further information on policy objectives relating to seascape and landscape is presented in the Seascape, Landscape and Visual Chapter.

The proposed development will align with the objectives of the MCDP by providing a large source of offshore renewable energy off the coast of Co. Meath. This will facilitate the transition to a low carbon economy and will contribute to the regional and national climate objectives.”

Appendix D of the Planning Report and Appendix A3.1 of the EIAR provide an assessment of the compliance of the proposed development with the National Marine Planning Framework (NMPF). These documents, together with the assessment of the legal and policy framework in Chapters 3 and Section 6 of the Planning Report, all of which were submitted with the planning application, demonstrate compliance of the proposed development with the relevant EU, national, regional and local policy.

In response to RFI 1 (b), the Developer has carried out a review of new European, national and local policy that has been published since the planning application was submitted in June 2024. Appendix 4.1.1 of this report also provides an analysis of the proposed development with respect to this new policy. As noted above, an assessment of compliance with the policies in Table 4.1.1 is also included in this appendix. The conclusion of this review is that the proposed development complies with European, national and local policy.

4.1.3.2 *EIAR/NIS Cumulative and In-combination Effects*

Section 5.4 of the MCC submission lists several developments which it suggests An Bord Pleanála should consider in terms of the potential for cumulative and in-combination effects. This list provided by MCC includes other Phase 1 projects and foreshore licence applications amongst other developments.

In respect of cumulative SLVIA effects, Section 5.4 of the MCC submission invites An Bord Pleanála, to consider the impact of the adjacent proposed development (Oriel offshore wind farm) in conjunction with other Phase 1 windfarm projects and the Mona Wind Farm project off the coast of Holyhead/ Anglesey in the UK (which MCC notes is the subject of current transboundary consultation). The MCC submission also noted that the EIAR for the Oriel Windfarm (to the north of NISA) stated that it could be theoretically visible from the Isle of Man and portions of Anglesey.

At the end of Section 5.4 of the MCC submission, it states that “*ABP is requested to consider other onshore windfarms and other onshore renewable energy projects (e.g. solar farms), in addition to the proposed offshore renewable energy developments identified*”.

4.1.3.2.1 Response on Cumulative Effects in EIAR

Chapter 38: Cumulative and Inter-related Effects of the 2024 EIAR consists of an assessment of the likely significant cumulative effects of the proposed development on the receiving environment in combination with other projects.

The relevant guidance and policy that has been used in the cumulative effects assessment (CEA) is listed in Section 38.1.2 of Chapter 38 of the 2024 EIAR whilst the methodology is presented in Section 38.2.1 of Chapter 38 of the 2024 EIAR. The methodology for the CEA effects assessment is a three-part assessment as follows:

- Stage 1: Establishing long list of other projects
- Stage 2: Screening
- Stage 3: Assessment.

Stage 1: Establishing long list of other projects

As noted in Section 38.2.1 of Chapter 38 of the 2024 EIAR, a long list of “*other existing and/or approved projects*” which were deemed to be potentially relevant for the CEA was first compiled. This included consideration of other offshore and onshore projects, such as offshore wind projects in Ireland designated as the “Phase One Projects” and the onshore Operation and Maintenance Facility (OMF) for the proposed development (which was not part of the planning application).

The methodology for the compilation of the long list is provided in Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which notes that “*this stage took into account any existing environmental issues relating to areas of particular importance likely to be affected or the use of natural resources.*”

Due to the extent of the proposed development traversing both onshore and offshore, the long list is split into two – onshore projects are listed in Table 1 of Appendix 38.1 whilst offshore projects are listed in Table 4 of Appendix 38.2 (Volume 12 of the EIAR)."

Given the location and nature of the proposed development, a tiered approach was undertaken to establish the long list of “*other existing and/or approved projects*” for assessment. Section 38.2.1.2 of Chapter 38 of the 2024 EIAR notes that there are four tiers of projects which were assessed in the CEA. Section 38.2.1.2 notes that “*given the location and nature of the proposed development spanning across both onshore and offshore, a tiered approach to establishing the long list of “other existing and/or approved projects” has been undertaken. The tiering of projects is not a hierarchical approach nor based on weighting. The CEA is based on the information which is publicly available at the time of the assessment. Projects which are already built and operating, and which are not identified in this chapter, are included in the baseline environment or have been assessed as not having the potential to exacerbate effects. The general approach for selecting projects is generally only to consider permitted/consented developments which are not yet operational. However, the assessment has gone beyond this in certain circumstances as described below.*

For example, some projects which are within the planning/consenting process but not yet consented have been included. In addition, some projects which are planned/pending (but the developer has not yet submitted applications for consent) have been included. In addition, the offshore long list goes beyond the

required search criteria nominated within the relevant guidance and policy outlined for the onshore approach. Further explanation on rationale is provided below.

- **Tier 1:** this consists of the proposed Operations and Maintenance facility (OMF) which is required for the operation of the proposed development.
- **Tier 2:** these are the east coast Phase One proposed offshore renewable energy projects located off the east coast of Ireland. These are: Oriel Wind Park, Codling Wind Park, Arklow Bank II and Dublin Array.
- **Tier 3 Onshore Projects:** The majority of the onshore projects that have been considered are permitted/consented.
- **Tier 3 Offshore Projects:** The approach for selecting offshore Tier 3 project long list differed slightly from the onshore and covered a much wider remit. The Tier 3 offshore projects were identified by a desk-based search that selected projects that were:
 - either proposed, submitted, consented or operational and
 - that were within the offshore cumulative search area boundaries (see below and Appendix 38.2 for further details) and
 - were either potentially being constructed, operational or decommissioned within a time period of 2021 to 2034, which provides a sufficient period either side of the proposed development offshore construction phase (2027-2029) to allow sufficient consideration of the temporal overlap criteria with key development phases (see below and Appendix 38.2 for further details). A longer time period was afforded due to the three-year offshore construction phase which is significantly longer than an onshore construction phase.

A review of the projects listed in Section 5.4 of the MCC submission has been carried out. Those projects listed in the MCC submission which were included in the CEA long list (Table 1 of Appendix 38.1 (onshore projects) and in Table 4 of Appendix 38.2 (offshore projects)) of the 2024 EIAR are listed in Table 4.1.2 below. Those projects which were not included in the NISA long list are listed in Table 4.1.3 below, and the reasons why these projects were not included in the CEA is given.

Table 4.1.2 Projects listed in MCC submission which were included in CEA long list

Project title	Reference in CEA Long List
FS005699 Alexandra Basin Re-development new quays and jetties	Refer to page 72 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS007028 Drogheda Port Company Dredging of River Boyne	Refer to page 74 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
Drogheda Port Dumpsite A1, A2 and A3 Permit Application (Drogheda Port Company)	Refer to page 44 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR). Permit S0015-03 covers sited A1 and A2. A3 not included in long list as not listed as active on EPA website – considered to be redundant
FS006676 Greenore Point Ltd. Co. Louth Dredging works and mooring point	Refer to page 74 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006915 Havhingsten Telecommunications Cable (Celtic Connect)	Refer to page 9 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006843 Irish Water Greater Dublin Drainage Outfall	Refer to page 72 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006893 MP2 Project Dublin Port Company	Refer to pages 72/73 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS007132 Maintenance Dredging in Dublin Port	Refer to page 73 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR

Project title	Reference in CEA Long List
FS006731 Malahide Marina Village	Refer to page 72 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006762 Mosney, Co. Meath - Fibre Optic Cable (PiPiper Infrastructure Ltd.	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006842 Rockabill System - Subsea Fibre Optic Cable	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006973 Braymore Point - SSE Renewables	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006787 Clogher Head Hibernian Wind Power	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS006852 Cooley Point Co Louth - Hibernian Wind Power	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS007383 Oriel Windfarm Ltd	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS007031 Statkraft North Irish Sea Array	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
FS007546 Codling Wind Farm Park Site Survey	Refer to page 78 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR
Proposed Oriel Wind farm	This is a Tier 2 project (Phase 1). Included in both to page 1 of Table 4 of Appendix 38.2 (offshore projects) and Appendix 38.1 (onshore projects) of the EIAR
Proposal to extend Arklow Banks Wind Park	This is a Tier 2 project (Phase 1). Included in both to page 1 of Table 4 of Appendix 38.2 (offshore projects) and Appendix 38.1 (onshore projects) of the EIAR
Mona Wind Farm	Included in page 1 of Table 4 of Appendix 38.2 (offshore projects) of the EIAR

At the end of Section 5.4 of the MCC submission, it states that “*ABP is requested to consider other onshore windfarms and other onshore renewable energy projects (e.g. solar farms), in addition to the proposed offshore renewable energy developments identified*”.

As noted above, Section 38.2.1.2 notes that “*projects which are already built and operating, and which are not identified in this chapter, are included in the baseline environment or have been assessed as not having the potential to exacerbate effects.*” This included operational onshore windfarms and solar farms. Consequently, these are not included in the CEA as the CEA considers planned or permitted projects as per the EPA Guidelines (2022).

Table 38.1 of Chapter 38 of the 2024 EIAR lists the sources of information used to identify potential projects for inclusion in the CEA long list of Tier 3 projects (i.e. all projects excluding Phase One offshore wind farms and the Operation and Maintenance Facility). The focus for the assessment of cumulative effects was on the proximity, scale and nature of those onshore projects in relation to the proposed development and on those which could potentially create larger environmental effects and thus be of significance to the CEA. Particular attention was given to larger scale projects in proximity to the onshore development area. The onshore wind and solar farm projects referenced in the MCC submissions (see Table 4.1.3) were initially considered for assessment but were screened out due to the criteria listed in Table 4.1.3 below.

Table 4.1.3 Projects listed in MCC submission which were not included in the CEA long list

Project title	Details
FS007373 (Foreshore licence application) for site investigations for proposed offshore windfarm (Mainstream Renewable Power Ltd)	This foreshore licence application was withdrawn from the foreshore licence application process. (Refer to the Department’s web page below). It did not meet the criteria for the long list as a described in Section 38.2.1.2 of Chapter 38 of the EIAR. Therefore, it was excluded from the long list. gov.ie - FS007373 Mainstream Renewable Power Ltd - Site Investigations off Co. Dublin

Project title	Details
Future windfarm to be developed by Mainstream Renewable Power Ltd	It is understood that this proposed offshore windfarm will be developed off the East coast of Ireland in the future. This project does not meet the criteria for Tier 2 offshore wind projects as set out in Section 38.2.1.2 of Chapter 38 of the EIAR – it is not a Phase 1 project, and it does not have a Marine Area Consent. Therefore, it was excluded from the long list.
Onshore windfarms and solar farms	These projects did not meet the criteria for the long list (Tier 3 onshore) as described in Section 38.2.1.2 of Chapter 38 of the EIAR. Therefore, they were excluded from the long list.
FS007029 Kish and Bray Banks (Dublin Array)	Some of the activities (geotechnical drilling operations) associated with this foreshore licence were completed over the summer months in 2024. The application licence expires December 2025. FS007029 is screened out for all topics due to works finishing in 2025 before the construction of the proposed development commences in 2027. It is noted that the Dublin Array wind farm, for which surveys and works in this licence were preliminary investigations, was included in the CEA.

Stage 2 Screening

Stage 2 of the CEA involved a screening exercise of the long list of Tier 3 projects. Each EIA topic specialist (e.g., biodiversity, landscape and visual assessment, cultural heritage) considered whether each of the projects (including all of the Tier 1, 2 and Tier 3 onshore and Tier 3 offshore projects) would have the potential to give rise to likely significant cumulative effects with the proposed development during the construction, operation or decommissioning phases. Many of the projects were screened out by the EIA topic specialists for reasons including the location, scale and nature of the project, level of confidence in the publicly available data, predicted construction timelines, etc. The outcome of this screening exercise for the onshore, wider scheme and offshore EIAR topics, and the reasons why certain projects were screened out, are provided in Section 38.2.2 of Chapter 38 and Table 4 of Appendix 38.2 of the 2024 EIAR respectively.

The CEA for the Seascape, Landscape and Visual (SLVIA) is addressed in Section 4.1.3.3 of this report.

Stage 3 Assessment

As noted in Section 38.2.1.4 of Chapter 38 of the 2024 EIAR, those projects which were screened in by the EIA topic specialists were carried forward for assessment. The results of the CEA are presented in the following 2024 EIAR chapters:

- In Volume 3 (Offshore chapters), the cumulative effects of the proposed development and other screened in projects are described in each topic chapter, Chapters 10 to 20.
- In Volume 4 (Onshore chapters), Chapters 21 to 26 and in Volume 5 (Wider Scheme chapters), Chapters 27-28, 30-34, the cumulative effects of the proposed development and other screened in projects are described in Section 38.2 of Chapter 38. Table 38.5 of Chapter 38 presents the results of the CEA, under the relevant onshore and wider scheme topics, for the screened in projects and the proposed development.
- Chapter 29: SLVIA, the cumulative seascape and visual effects of the offshore infrastructure of the proposed development and other screened in projects (including other Phase One Projects) are described in Section 29.9 of that chapter. Further details are also provided in Volume 11, Appendix 29.2 Cumulative Visual Impact Assessment at Representative Viewpoint Locations and Volume 7B1 Photomontages (offshore wind farm). The cumulative landscape and visual effects of the onshore infrastructure of the proposed development and other screened in projects are described in Section 38.2 of Chapter 38. Table 38.5 of Chapter 38 presents the results of the landscape and visual CEA for the ‘screened-in’ projects and the proposed development.
- In Volume 5, Chapter 35 Offshore Bats, the cumulative effects with relevance to offshore bats, of the proposed development and other screened in projects are described in Section 35.9 of that chapter.

Mitigation measures to minimise likely significant cumulative effects for onshore and wider scheme topics are detailed in Section 38.2.4 of Chapter 38 of the 2024 EIAR. Mitigation measures, should they be required to minimise likely significant cumulative effects for offshore receptors are detailed in each topic chapter (Chapters 10 to 20 and 35).

Table 38.6 in Section 38.2.5 of Chapter 38 of the 2024 EIAR presents a summary of the overall CEA of the screened in projects (i.e. Tier 1, Tier 2, Tier 3 Onshore and Tier 3 Offshore) and the proposed development for all onshore, offshore, and wider scheme environmental factors. Negative significant temporary cumulative residual effects during construction are reported for the following environmental factors: traffic and transportation, resource and waste management and population and human health. Positive significant long-term residual effects are reported for the following environmental factors: material assets, climate, socio-economic, tourism and recreation. No likely significant cumulative effects are identified for the other environmental factors.

In conclusion, a comprehensive cumulative effects assessment has been presented in the 2024 EIAR.

RFI Section 5 - Requested to Revise Cumulative Assessment in line with NSIP

Notwithstanding the above, the Developer notes that in response to the RFI from An Bord Pleanála, the cumulative effects assessment has been updated and is included in the EIAR which accompanies the Response to the Request for Further Information Report. Of particular relevance to this submission, it is noted that the CEA has been updated to align with the UK Guidance *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment*.

As with the 2024 EIAR, the projects listed in the MCC submission are included in the CEA long list where relevant (Appendix A38.1 (onshore projects) and in Appendix A38.2 (offshore projects)). During the preparation of the revised CEA, the Developer consulted with the other Irish Sea Phase 1 ORE projects. The information provided in the planning applications submitted by these ORE projects was incorporated into the revised CEA and these ORE Projects were classified under Tier 1. All other relevant projects in the International Council for the Exploration of the Sea (ICES) Celtic Sea and Greater North Sea ecoregions, regardless of project type, were also included in the CEA.

Refer to Chapter 38 for further information on the updated CEA in relation to the points raised by MCC regarding the cumulative assessment of the proposed development.

4.1.3.2.2 Response on In-Combination Effects in NIS

The full long list was provided in Appendix 3 of the NIS. Following the completion of the long list, a short list of projects was compiled by screening out projects based on relevance. As stated in Section 1.13.3 of the NIS: *“The establishment of the short lists involved consideration of multiple lines of evidence that establish whether projects create a pathway for an effect to arise through a temporal and/or spatial overlap with the effects identified for the proposed development. This includes projects that result in effects that have an immediate temporal overlap or those that run sequentially over a period of time that may extend beyond the construction, operation and maintenance and decommissioning phases...”*. The NIS fully considered all other projects that could result in in-combination effects with the proposed development between the inclusion of projects within the long list and the screening to compile the short list. Section 1.13.5 of the NIS explains the collaboration with other Phase 1 projects and how they have been included within the in-combination assessment.

4.1.3.3 SLVIA

Section 5.4 of the MCC submission discusses the potential visual impacts of the proposed development. Section 6.2 of the MCC submission recommends that further information is requested by An Bord Pleanála in relation to seascape and landscape aspects. The key points/further information requests are as follows:

4.1.3.3.1 Varying Foundation Height

Section 5.4 of the MCC submission invites An Bord Pleanála to consider whether the varying foundation height (due to geological conditions - soil conditions, water depths and loading requirements) could result in varying tip height and a consequent visual impact when viewed from the shoreline.

Response on varying foundation height and consequent visual impact

The height of the turbine tip above Chart Datum, LAT, will be constant at either 290m, for Project Option 1 or 316m (311m inside aviation restriction zone) for Project Option 2, regardless of the water depth or soil (seabed) conditions at the turbine location, or loading requirements, or depth of penetration of the foundation into the seabed, or the foundation type or height. Consequently, varying foundation height, will have no consequence for the visual impact assessment.

4.1.3.3.2 Protected Views from Co Meath

Section 5.4 of the MCC submission invites An Bord Pleanála to consider the impact of the proposed development on Protected Views from Co Meath (including no 65 Laytown Strand and no 75 Boyne Estuary).

Response on potential impact of the proposed development on Protected Views from Co Meath

In the first instance, MCC, in Section 2.1 of its submission notes that “*while no turbines or associated electrical infrastructures are proposed in Co. Meath, the proposed turbines will be visible from and are proposed to be located in the marine environment off the eastern coastline of Co. Meath*”.

Section 2.1 of its submission also notes that “*the nearest onshore landscape character area (LCA) in Co. Meath is the Coastal Plains (Coastal Landscape) and this is dissected by the Nanny Valley (River Corridors and Estuaries) as per the LCA for Co. Meath*” and that “*there are a range of Protected Views within the coastal vicinity of Co. Meath including no. 65 and 75 (Laytown Strand and Boyne Estuary) which are close to the coastline. Inland viewpoints may also be relevant to the proposed development, including Bru na Boinne, World Heritage Site.*”

Section 29.2.6.3 of Chapter 29 Seascape, Landscape and Visual of the 2024 EIAR considers the landscape and seascape classifications and policies of the MCDP (Appendix A.05 A.10 and Chapter 8 of MCDP).

All scenic designations in County Meath are considered in terms of relevance in Table 29.23 of Section 29.3.3.1 of Chapter 29: SLVIA of the 2024 EIAR and those that remain screened-in for further assessment are assessed in Appendix 29.1: Visual Impact Assessment at Representative Viewpoint Locations and summarised in Table 29.39 (Operational Phase Visual Effects) of Section 29.5.6 of Chapter 29. In some instances, closely associated clusters of scenic designations with similar attributes are covered by a single representative viewpoint in the visual impact assessment. Of those views that are specifically referenced by MCC it should be noted that Scenic view 65 at Laytown Strand is directly represented by VP17 in the 2024 EIAR and Scenic view 75 is closely represented by VP16 from the 2024 EIAR, which has a clearer seaward view. Moderate effects are reported for VP16 and VP17 as noted in Table 29.39 of Section 29.5.6 of Chapter 29 of the 2024 EIAR. Table 4.1.4 below is an extract of Table 29.39 of the EIAR. Moderate and imperceptible effects are not significant in EIA terms.

Table 4.1.4 Operational Phase Visual Effects (Extract from Table 29.39 of 2024 EIAR)

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance/Quality/ Duration of Visual Effect
VP16 Bettystown Beach	High-medium	Medium-low	Moderate / Negative / Long-term
VP17 Amenity Area, Laytown	High-medium	Medium-low	Moderate / Negative / Long-term

Potential landscape and visual impacts on Brú na Bóinne are addressed in Section 4.1.3.3.6 below.

4.1.3.3.3 Potential impact on Gormanston Castle and Cromwell’s Avenue

Section 5.4 of the MCC submission requests that An Bord Pleanála “*consider the potential impact of the project on Gormanston Castle and associated Cromwell's Avenue*”.

Response on potential impact of the project on Gormanston Castle and associated Cromwells Avenue

In the assessment carried out in Chapter 25: Onshore Archaeology and Cultural Heritage of the 2024 EIAR, potential impacts from the offshore turbines on onshore cultural heritage assets directly with a marine context were identified. Gormanston Castle is set back approximately 1.5km from the coast and Cromwell's Avenue as a designed landscape feature is no longer extant. Furthermore, the castle and avenue are over 2.4km northwest of the proposed development boundary and are significantly outside the designated study area for onshore assessment. However, for the purposes of this report, an overview of potential impacts on Gormanston Castle and Cromwell's Avenue is set out below.

Gormanston Castle is a protected structure, which the NIAH lists as possessing national significance (RPS:91040 and NIAH: 14322005). It is set within a large demesne landscape, which is a characteristic designed landscape dating to the post medieval period. Part of that landscape includes a broad avenue that originally ran from the main east facing façade of the building, to the sea. This avenue (known as Cromwell's Avenue) is aligned west-southwest–east-northeast and is crossed by two roads. The east portion of the avenue has now been removed and is occupied by an agricultural development. The purpose of the avenue was to provide a view, or vista of the seascape, when viewed from the castle.

Gormanston Castle is located 19.7km southwest of the proposed turbine array layout. The ZTV mapping shows that there is very little visibility of the turbines from the castle itself. Notwithstanding that, when the main east facing elevation of the structure is viewed from the east (the principal approach) the turbines will not affect the heritage setting of the structure, which retains its mature (slightly denuded) demesne landscape. The footprint of Cromwell's Avenue remains extant, but it no longer functions as part of the demesne associated with the castle, having been subsumed into an agricultural landscape. It no longer functions as designed: to provide views of the sea from the castle. The western end of the avenue is separated from the ground associated with Gormanston Castle by a wall and two mature boundaries that flank the road. The eastern end of the avenue is also bounded by mature vegetation (either side of another road). To the east of the road is an equine establishment comprising large, corrugated barns and stables. Whilst the turbines may, in theory, be visible from the avenue, they will not be visible due to the distance of separation and existing mature vegetation and development in the landscape.

In response to RFI Section 13 (b), five additional heritage related viewpoints have been included on foot of a MCC's submission. The additional heritage view relative to Gormanston Castle is VP56. This is detailed in the addendum EIAR in Section 29.2.4.8 and Tables A29.4 and A29.5 of Chapter 29.

The chapter indicates that at the inland viewpoint VP56, the significance of visual impact is slight-imperceptible (see Table 4.1.5). This is on the basis of the generally greater viewing distances and the fore-to-middle ground landscape context, which tends to render the proposed Project Option 1 and 2 WTG layouts as perceptually more of a background feature, even when it will be openly visible. From the road to the east of Gormanston Castle, the partial and fleeting visibility of several turbines between tree tops results in a slight-imperceptible visual impact. Although there appears to have once been an axial view from the Castle towards the sea, it has since been dissected by a series of roadside and field boundary hedgerows / treelines.

Table 4.1.5 Operational Phase Visual Effects VP56 (Extract from Table A29.6 of the EIAR)

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Effect
VP56 – Gormanston Castle (road outside)	High-medium	Low-negligible	Slight-imperceptible/ Negative / Long-term

4.1.3.3.4 Project Options represented in the Zone of Theoretical Visibility

Section 6.2.1(a) of the MCC submission notes that “*the scenic designation shown in the Zone of Theoretical Visibility only includes the proposed 290m turbines and no 316m turbines are illustrated (see Fig. 29.1 in the EIAR)*”.

Response on Zone of Theoretical Visibility

The MCC submission states that a ZTV map for only the smaller turbine Option (Option 1) is provided in the EIAR documents (Figure 29.5a). However, Figure 29.5b provides a ZTV for the taller Option 2 turbines and Figure 29.12 also provides a comparative ZTV showing the difference in potential visibility between the two options.

4.1.3.3.5 Cumulative Impact Assessment for SLVIA

Section 6.2.1(a) of the MCC submission recommends that An Bord Pleanála requests that *“the cumulative impact of the proposed development, onshore operating windfarms, onshore permitted windfarms (not yet constructed or operational) and other large on and offshore infrastructure projects in the area are addressed in the landscape assessment within the EIAR”*. Section 5.4 of the MCC submission invites An Bord Pleanála, to consider the impact of the adjacent proposed development (Oriel Windfarm) in conjunction with other Phase 1 windfarm projects and the Mona Wind Farm project off the coast of Holyhead/ Anglesey in the UK (which MCC notes is the subject of current transboundary consultation). The MCC submission also noted that the EIAR for the Oriel Windfarm (to the north of NISA) stated that it could be theoretically visible from the Isle of Man and portions of Anglesey.

Response on cumulative impact of the proposed development, onshore operating windfarms, onshore permitted windfarms (not yet constructed or operational) and other large on and offshore infrastructure projects in the area are addressed in the landscape assessment within the EIAR

Section 4.1.3.2 above provides information on the CEA. In respect of cumulative SLVIA effects, Table 4 of Appendix 38.2 of the 2024 EIAR provides an extensive long list of the offshore projects which were initially considered by the SLVIA specialist. The majority of these projects were screened out of the SLVIA assessment because there was *“no physical effect-receptor overlap”*. The Phase One projects Oriel, Dublin Array, Codling Wind Park and Arklow Bank Phase 2 were screened in because they all fall within the 60km radius cumulative study area (see Appendix 29.2 and Section 29.9 of Chapter 29: SLVIA of the 2024 EIAR).

Arklow Bank Phase 1 (offshore) and Mona Wind Farm are both listed in the long list in Table 4 of Appendix 38.2 of the 2024 EIAR. Both are well outside of the SLVIA cumulative study area (60km radius) and were therefore screened out of the SLVIA assessment due to distance.

Section 38.2.2.2 of the 2024 EIAR (under the heading of Landscape and Visual) provides the reasoning for screening out onshore projects. It is worth noting that no significant cumulative landscape and visual effects were predicted for Tier 1 and Tier 3 onshore projects in combination with the offshore infrastructure of the proposed development and thus they were screened out. Similarly, only Tier 3 onshore projects which fall within the proposed grid facility 3km study area were screened in for Landscape and Visual assessment. Refer to Section 38.2.2.2 of the 2024 EIAR for further details.

Furthermore, as noted in Section 29.2.4.7 of Chapter 29 of the 2024 EIAR, in relation to Tier 3 onshore projects, *“it is considered that the scale, nature, onshore context, and distance to the array area will result in very limited physical and perceptual association between them, such that significant cumulative effects could not arise. This includes the context where the proposed WTGs are visible in the distant background of foreground views of a Tier 3 development and forms a part of its wider landscape seascape setting.*

It also accounts for small scale / low intensity construction phase works nearer the shore relating to the ECC [export cable corridor]. Consequently, all onshore Tier 3 cumulative projects were screened out for further assessment in Part 1 of this chapter (Seascape and Visual Assessment)”.

As part of the updated CEA project list (RFI Section 5, revise CEA in line with NSIP), Kellystown wind farm (Planning reference 2460766) was included. This is a 5no. wind turbine wind farm 25km from the proposed development boundary. The permitted Kellystown turbines are contained within a discrete land-based setting relative to the offshore developments such that there is a perceptual distinction between them. The conclusion of the assessment is there are no significant residual effects arising from the overlap of the proposed development and this project.

Refer also to:

- Chapter 38: Cumulative and Inter-related Effects. The cumulative “landscape and visual” effects between the onshore infrastructure of the proposed development and other “screened in” projects are described in Section 38.2.3.20 of Chapter 38
- Appendix A38.1 (onshore projects) and Appendix A38.2 (offshore projects) of Volume 12 of the EIAR
- Section 29.9 of Chapter 29: SLVIA – assessment of the cumulative “seascape and visual” effects between the offshore infrastructure of the proposed development and other “screened in” projects (including other Phase One Projects)
- Appendix A29.2 Cumulative Visual Impact Assessment at Representative Viewpoint Locations; and
- Volume A7B1 Photomontages (offshore wind farm).

4.1.3.3.6 Brú na Bóinne, Hill of Tara, Hill of Slane and Skyrne Church

In Section 6.2.1(b), MCC recommends that “*An Bord Pleanála considers the need for a revised Seascape and Landscape Visual Impact Assessment (SLVIA) (including photomontages), taking account of the cumulative impact of the proposed development, other permitted and proposed developments including solar farms in the vicinity of the proposed development. The following Protected Views, National Monuments and Recorded Protected Structures (RPS) in the Meath County Development Plan 2021-2027, etc. in the immediate visibility context of the site and associated with the World Heritage Site and Tentative World Heritage Site should be included in the assessment*”.

Table 4.1.6 List of Protected Views, National Monuments and Recorded Protected Structures in the MCDP 2021-2027 (Extract from pages 24-25 of MCC Submission)

Protected Views, National Monuments and Recorded Protected Structures (RPS) in the MCDP 2021-2027	
Protected Views	World Heritage Site 65 Laytown Strand 75 Boyne Estuary <u>All</u> viewpoints within the World Heritage Site – Brú na Bóinne, including: 59 – Panoramic views in all directions from top of Knowth tumulus. Extensive view across a working countryside (south-east of Slane village) 87 a, b, c, d – Newgrange Passage Tomb – Panorama (south-east of Slane village) 88 – Dowth Passage Tomb – Panorama (south-east of Slane village) 30 – Hill of Slane – Panorama (north of Slane village) 43 and 44 – Views at Tara – Panorama 47 – Skyrne Church – Panorama – of National Significance (east of the Hill of Tara)
National Monuments	All National Monuments in/vicinity of Brú na Bóinne
Protected Structures/Industrial Heritage	All Protected Structures in/vicinity of Brú na Bóinne Gormanston Castle (a nationally significant Recorded Protected Structure), an important feature is the long vista to the sea, known as Cromwell’s Avenue. RPS:91040 and NIAH: 14322005.

In this respect, MCC also advised An Bord Pleanála of relevant sections of the Brú na Bóinne World Heritage Site Management Plan (2017), including:

- Appendix 4: Brú na Bóinne National Monuments, Appendix 5: Natural Heritage Designations
- Appendix 6: Record of Protected Structures, Appendix 7: Meath Industrial Heritage Survey
- Appendix 8: Protected Views in the Meath County Development Plan
- Appendix 9: Retrospective Statement of Outstanding Universal Value: <https://www.worldheritageireland.ie/wp-content/uploads/2022/06/Bru-na-Boinne-Mgt-Plan-2017.pdf>; and

- A Progress Tracker Report (securing the objectives of the Management Plan) published in December 2023: <https://www.worldheritageireland.ie/category/publications/?page=1&filter:::bru-na-boinne>.

Finally, in respect of the SLVIA, MCC (Section 6.2.2 of submission) invited An Bord Pleanála to clarify whether the likely alternative turbine height (due to Dublin Airport Zone) will have a visual impact when viewed from onshore locations.

Response on Brú na Bóinne

The likely significant effects of the proposed development on Brú na Bóinne have been considered in both Chapter 29: Seascape, Landscape and Visual and in Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage of the 2024 EIAR. The Developer welcomed consultation with National Monuments Service (NMS) in May 2026 on Brú na Bóinne and UNESCO guidance.

The MCDP was examined in the preparation of Chapter 25 and Chapter 29 of the 2024 EIAR. The likely significant effects of the proposed development on the archaeological, cultural and architectural heritage aspects of Brú na Bóinne have been considered in Chapter 25 and with Chapter 29. Section 25.3.19 of Chapter 25 of the EIAR provides details of onshore cultural heritage assets within a 60km study area of the array area. The locations of the sites are shown on Figures 25.15 and Figures 25.15a/b of the 2024 EIAR and they are designated with a Cultural Heritage Viewpoint (CHVP) number. The sites are located in areas where the Zone of Theoretical Viewing (ZTV) mapping (Figures 29.5a/b) indicates that there may be visibility between the CHVP and the WTGs. Brú na Bóinne is listed as CHVP55 in Table 25.12 of Chapter 25 of the EIAR.

In response to RFI 13 (b) and the MCC submission, additional heritage viewpoints have been included in Section 29.2.4.8 Chapter 29, and further assessment of Brú na Bóinne is provided in Section 25.5.3.4 Chapter 25, which is outline below.

The UNESCO WHS of Brú na Bóinne is one of three sites on the island of Ireland, which are inscribed within this category. The eastern edge of the core zone surrounding the site is located 28.4km west of the proposed offshore infrastructure, with the principal monuments at Dowth located c. 30.5km to the west; Newgrange 32.4km to the west and Knowth 33.3km to the west.

The assessment of the potential impact on the UNESCO sites, arising from the offshore infrastructure, has been carried out with the use of the World Heritage Convention UNESCO Guidance Notes, including evaluation of impact (see Table 4.1.7) and ‘Guidance for Wind and Solar Energy Projects in a World Heritage Context (UNESCO, 2025).

Attributes that express the Outstanding Universal Value (OUV) of Brú na Bóinne¹

Landscape

- An extensive funerary landscape of great ritual significance in a bend of the River Boyne with a concentration of social, economic and funerary monuments including 40+ passage graves; and
- Views into and out of the property.

Archaeological features

- The time depth of Brú na Bóinne from the Neolithic to late medieval periods
- The finest expression of passage graves in prehistoric Europe
- Largest and most important expression of prehistoric megalithic plastic art in Europe
- The design of the passage graves in relation to the skies and astronomy
- The three great burial mounds of Knowth, Newgrange and Dowth and the sites surrounding them

¹ <https://www.worldheritageireland.ie/world-heritage-properties/bru-na-boinne/bru-na-boinne-attributes-of-outstanding-universal-value/>

- Knowth group with use spanning from the Neolithic to the late medieval periods, including passage graves, enclosures, occupation sites and field systems
- Newgrange group of prehistoric sites including passage graves, henge, cursus, and stone circle
- Dowth group of prehistoric and Iron Age, early Christian and late medieval sites including the great burial mound, megalithic tombs, many smaller burial mounds, henge, standing stone, and medieval church and tower house; and
- Other prehistoric, Iron Age, early Christian and medieval sites spread across the landscape.

Intangible

- Part of an area rich in stories of Ireland's ancient past; and
- Ambiance of the ritual centre.

It should be noted that the majority of the WHS Landscape at Brú na Bóinne, will have no theoretical visibility with either Option 1 or Option 2 of the proposed offshore infrastructure. Photomontages have been produced for Chapter 29 Seascape, Landscape and Visual and include viewpoints from within the UNESCO WHS (VP18 Dowth Passage Tomb, VP18a Newgrange Passage Tomb and VP18b) Knowth Passage Tomb. Table 4.1.7 below provides an assessment of the potential impacts in relation to the WHS and its OUV.

Table 4.1.7 Assessment of potential impacts on Brú na Bóinne WHS and its OUV (Extract from Table A25.5 of the EIAR)

VP Ref. & location:	Distance from nearest turbine	Existing view description	Relevance to OUV ('Views into and out of the Property')	LVIA Visibility	Assessment of Effect on OUV	Neutral
VP18 Dowth Henge	30.5km	Elevated view to the east, at the eastern side of the core WHS area. The view is partially restricted by existing mature trees although some distant horizons are present. Coastal landscapes and views of the sea not visible due to screening.	Dowth Henge is one of the principal monuments in the WHS and located on a summit within the eastern part of the core area to the north of the River Boyne. It has an elevated outward view that contributes to the appreciation of the wider Boyne Valley setting with Newgrange located 1.86km to the west-southwest.	Options 1 and 2 of the proposed offshore infrastructure is theoretically visible with seven hubs and upper blade sweeps visible above the horizon line. VP18 shows that the Options will not be visible due to screening effects of vegetation and attenuation by distance. The character of the existing view will remain unaltered.	No impact – OUV attribute unchanged.	Neutral
VP18a Newgrange	32.4km	Elevated view to the east, in the central part of the core WHS area. The view is restricted by existing vegetation although some distant horizons are present. Coastal landscapes and views of the sea not visible due to topography and screening.	Newgrange Passage Tomb is a significant ritual centre, located in an elevated position above the River Boyne. Dowth is 1.86km to the east-northeast and Knowth 1.18km to the northwest. The views between and monuments and the Boyne Valley landscape clearly illustrate the relationship of the monuments and landscape, which forms part of the OUV.	Options 1 and 2 of the proposed offshore infrastructure are not theoretically visible from this location. This is illustrated within VP18a. The character of the existing view will remain unaltered.	No impact – OUV attribute unchanged.	Neutral

VP Ref. & location:	Distance from nearest turbine	Existing view description	Relevance to OUV ('Views into and out of the Property')	LVIA Visibility	Assessment of Effect on OUV	Neutral
VP18b	33.3km	Elevated view to the east, in the western part of the core WHS area. The view is restricted by existing vegetation although some distant horizons are present. Coastal landscapes and views of the sea not visible due to topography and screening.	Knowth is one of the principal monuments in the WHS and located on a summit within the western part of the core area to the northeast of the River Boyne. It has an elevated outward view that contributes to the appreciation of the wider Boyne Valley setting with Newgrange located 1.18km to the southeast.	Options 1 and 2 of the proposed offshore infrastructure is theoretically visible with five upper blade sweeps visible above the horizon line. VP18b shows that neither option will be visible due to screening effects of vegetation and attenuation by distance. The character of the existing view will remain unaltered.	No impact – OUV attribute unchanged.	Neutral

In relation to the core area of the Brú na Bóinne WHS, the proposed offshore infrastructure will have overall very limited visibility. This is due to the distance of the proposed infrastructure and the intervening topography and existing screening.

The verified viewpoints have shown that from the principal monuments within the Brú na Bóinne WHS, there are either no visible turbines or, at most, imperceptible blade tips which will be screened by landform and vegetation.

It should be noted that the orientation of the WHS monuments and their sightlines are inward, across the Boyne Valley; they do not extend toward the eastern coastal plain or the Irish Sea.

The OUV attributes, including archaeological fabric, spatial layout and integrity of monuments are directly or indirectly unaffected by an offshore development located more than 28km away. The only relevant OUV attribute – “views into and out of the property” – was assessed and remains wholly unaffected.

In summary there will be no magnitude of change to the OUV and as such there will be no impacts on the UNESCO Brú na Bóinne WHS.

Response on Hill of Tara, Hill of Slane and Skyrne Church

With regards to the Hill of Tara and Skyrne Church, these sites are located 45km and 42km west-southwest of the turbine array location. Section 29.2.3 of Chapter 29 of the 2024 EIAR states that “*Due to factors of scale in relation to distance, eye acuity (ability to resolve narrow objects at long distances) and increasing screening by earth curvature, the principal study area is refined to 40km radius from the edge of the array area.*” The sites are located outside the 40km study area for SLVIA, at a distance where the potential for a significant impact on the setting is negligible. Therefore, the setting of these sites will not be affected by the operation of the turbines given the distance of separation.

Section 29.3.3.1 of Chapter 29 of the 2024 EIAR notes that the Hill of Slane (located 36.5km west of the array) is associated with the representative viewpoint of VP18. As the assessment of VP18 concluded that there is no potential for visibility of the proposed WTGs (as described above), potential impacts on the Hill of Slane protected viewpoint are unlikely.

In response to RFI Section 13 (b), five additional heritage viewpoints have been included on foot of the Meath County Council submission. The additional heritage view relative to Hill of Tara and Skyrne Church are VP57 and VP58. This is detailed in the addendum EIAR in Section 29.2.4.8 and Tables A29.4 and Table A29.5 of Chapter 29.

The assessment indicates that whilst there is potential to view turbine blades above an intervening and undulating skyline ridge from both of these highly sensitive receptor locations, the viewing distances are beyond 41.6km for the hill of Skryne and beyond 45km from the Hill of Tara. Therefore, it is very unlikely that the WTG components would be noticed by a casual observer even in the clearest of viewing conditions. Consequently, the significance of visual effect is deemed to be Slight-imperceptible for VP57 and Imperceptible for VP58 (see Table 4.1.8).

Table 4.1.8 Operational Phase Visual Effects VP56 (Extract from Table A29.6 of the EIAR)

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Effect
VP57 – Hill of Skryne	High	Negligible	Slight-imperceptible/ Negative / Long-term
VP58 – Hill of Tara	Very High	Negligible	Imperceptible/ Neutral/ Long-term

4.1.3.4 Archaeology, Cultural & Architectural Heritage – World Heritage Expert

Section 6.2.1(a) of the MCC submission notes that “the proposed development (and other proposed wind energy developments) could have a significant impact on the protected views from Brú na Bóinne World Heritage List”. It recommends that “ABP seek advice from independent World Heritage Expert to assess whether the development could impact (either alone or in-combination with other developments) on the World Heritage Status of Brú na Bóinne.”

4.1.3.4.1 Response

As discussed in Section 4.1.3.3, the potential impacts arising from the operation of the offshore infrastructure on Brú na Bóinne (CHVP55) are listed in Section 25.5.3.4 Chapter 25.

Additionally, please note Section 25.5.3.4 of Chapter 25 includes a standalone assessment on the UNESCO World Heritage Site (WHS) of Brú na Bóinne which concludes:

“In relation to the core area of the Brú na Bóinne WHS, the proposed offshore infrastructure will have overall very limited visibility. This is due to the distance of the proposed infrastructure and the intervening topography and existing screening.

The verified viewpoints have shown that from the principal monuments within the Brú na Bóinne WHS, there are either no visible turbines or, at most, imperceptible blade tips which will be screened by landform and vegetation.

It should be noted that the orientation of the WHS monuments and their sightlines are inward, across the Boyne Valley; they do not extend toward the eastern coastal plain or the Irish Sea...

In summary there will be no magnitude of change to the OUV and as such there will be no impacts on the UNESCO Brú na Bóinne WHS.”

4.1.3.5 Tourism

In respect of material assets, Meath County Council invites An Bord Pleanála to consider tourism assets in the region and impacts on same in the region, including those identified in Fáilte Ireland’s ‘Ireland’s Ancient East’ Strategy.

4.1.3.5.1 Response

Chapter 33 Socio-Economic, Tourism and Recreation of the 2024 EIAR presents a comprehensive assessment of likely significant effects arising from the proposed development in relation to socio-economic, tourism and recreation during the construction, operation and decommissioning phases. Socio-economic, tourism and recreation are addressed in Chapter 33 as elements of the environmental factor, population, which is listed in Article 3 and Annex IV of the EIA Directive.

As noted in Section 33.5.3.3 of the 2024 EIAR, “*There will be no significant operational phase visual, landscape or seascape effects (onshore and offshore) on tourism receptors as reported in the Seascape, Landscape and Visual chapter.*”

As noted in Sections 3.5.3.1 and 4.15.3.2 of this report, there are no likely significant effects on tourism due to potential visual impacts from the proposed development. Section 4.1.3.4 addresses the potential impacts to Brú na Bóinne, Hill of Tara, Hill of Slane and Skyrne Church from the proposed development and notes there are no likely significant impacts on these receptors.

In relation to potential archaeological receptors at the landfall site and those further afield including the Bremore Passage tombs, Section 3.3.3.3 addresses these features and notes that there are no likely impacts on these receptors as a result of the construction of the proposed development.

The Developer notes that following consultation with Fáilte Ireland, and in response to RFI Section 13 (b), additional photomontages have been prepared (see Table 4.1.7 above) for receptors within Ireland’s Ancient East (including Brú na Bóinne). Chapter 29 confirms that there are no significant operational phase effects on receptors within Ireland’s Ancient East.

In addition to the above, in response to RFI 13 (c), Chapter 33 has been updated to incorporate the concept of sense of place as an experiential tourism receptor (see Sections 33.2, 33.5 and 33.7). The baseline environment has been expanded to identify places within the study area that evoke a sense of place, and the assessment has been updated to consider effects on tourism and sense of place during construction, operation and decommissioning.

Coastal sense of place is influenced by the relationship between land and sea, expansive seaward views, cultural and maritime associations, and patterns of recreation and use. The operation of the proposed development has the potential to influence these qualities through changes in distant offshore views. Operational seascape effects are assessed on seascape character and visual receptors in Chapter 29. This chapter concluded that the proposed development would not give rise to significant operational phase seascape effects, and that visual effects from the majority of assessed viewpoints range from imperceptible to slight or moderate slight, with no significant effects identified in EIA terms.

Despite the introduction of offshore wind turbines, the fundamental structure, scale and openness of the receiving seascape will be maintained, and the proposed development will not alter the seascape character in a manner inconsistent with existing conditions. As a result, the experiential qualities that underpin coastal sense of place would remain intact during the operational phase.

Any effect on sense of place would therefore be indirect and perceptual only, arising from the presence of a distant offshore feature within seaward views. Considering that the East Coast of Ireland is an attractive destination for tourists and residents alike due to the meditative nature of the coastal spaces, the sensitivity of the receiving environment from a sense of place perspective is considered to be medium. However, as noted above, the proposed development will not alter the seascape character and the coastal sense of place will remain intact. As referenced in Chapter 33, Fáilte Ireland’s report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape currently being drafted (findings of which were shared with the Developer), those who noticed Renewable Energy Infrastructure at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident, and that for two in three visitors, Renewable Energy Infrastructure did not factor into their decision making when choosing their destination. For those aware of Renewable Energy Infrastructure, 61% report no impact on enjoyment of landscape.

In this context, the operation of the offshore wind farm is not predicted to alter the attractiveness, use or viability of tourism destinations, including those within Ireland’s Ancient East, nor to affect patterns of recreational or visitor behaviour.

4.1.3.6 Recommended Conditions

Section 6.3 of the MCC submission provides a schedule of conditions which MCC request that ABP consider in the event of a grant of permission. These conditions are listed in Table 4.1.9 below as follows:

Table 4.1.9 Schedule of Conditions

No.	Condition	Developer's Response
1	The development shall be carried out and completed in accordance with the plans and particulars lodged with the application to An Bord Pleanála on the xx/xx/2024, except as may otherwise be required to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars. <u>Reason</u> In the interest of clarity and proper planning and sustainable development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	The Developer shall appoint a Community Liaison Officer for all stages of the development and shall be the first point of contact for residents seeking information, making a complaint, etc. and shall be responsible for discharging information in relation to the project to residents <u>Reason</u> In the interests of amenity and orderly development of the site	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer has included a detailed Onshore CEMP in Appendix A9.1 of the EIAR, which sets out the need for a Community Liaison and Stakeholder Liaison Officer (Section 3.9 therein) and the responsibilities of this individual. Section 8 of the Onshore CEMP provides further detail.
3	The period during which the development hereby permitted may be carried out shall be ten years from the date of this permission. <u>Reason</u> In the interest of clarity and having regard to the nature and extent of the proposed development, it is considered appropriate to specify a period of validity of this permission in excess of five years.	As noted in Section 1.3 of Chapter 1 of the EIA: <i>"Having regard to the nature and extent of the relevant development and any other material consideration, the Developer requests An Bord Pleanála to specify a 10-year appropriate period within the meaning of section 40 of the Planning Acts, in respect of the proposed development, as provided for by Section 41(1) of the Planning Acts."</i> As this detail is already included within the plans and particulars of the proposed development (and condition 1 of any consent will require compliance with same), it is respectfully suggested that this condition is not required.
4	The date of decommissioning of the wind turbines and ancillary wind farm infrastructure shall be notified to, and established in writing with, the relevant Planning Authorities. This permission shall be for a period of 35 years from the said date of commissioning of the wind farm. The wind turbines and ancillary infrastructure shall be removed at the end of this period of 35 years unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period. <u>Reason</u> In the interest of clarity and proper planning and sustainable development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that a 35-year operational lifespan of the proposed development was the basis of assessment for the EIAR as stated in Section 6.10.1 of Chapter 6 of the EIAR: <i>The operational lifespan of the proposed development is anticipated to be 35 years.</i> Section 6.11 of Chapter 6 of the EIAR also notes: <i>"The exact approach to decommissioning will meet any statutory requirements or guidance set out in the forthcoming Maritime Area Planning Act secondary legislation. The approach to decommissioning has been documented in the Rehabilitation Schedule (Appendix 6.2 of Volume 8) which will be subject to consultation with the Maritime Area Regulatory Authority and relevant stakeholders as required."</i>
5	This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection <u>Reason</u> In the interest of clarity.	While the Developer fully understands that the consent cannot be construed as any form of consent or agreement to connect to the national grid, the Developer does not believe that this is an appropriate condition to attach to this consent (if granted). The Developer notes Section 7.5.5 of Chapter 7 of the EIAR which states the following:

No.	Condition	Developer's Response
		"The connection will be made to either/both of the existing substation or the consented substation extension (a planning application from EirGrid to expand the existing substation at Belcamp was granted in 2023, this includes an expansion of the substation infrastructure into land to the north of the existing substation). The onshore cable route into the substation will follow the existing access road and will connect to a spare 220kV bay within either/both of the existing substation compound and the planned the Belcamp extension. The Developer is engaging separately with ESB/Eirgrid with regard to any such connection agreement."
6	Unless otherwise agreed in writing with the Planning Authority/ An Bord Pleanála, the 35-49 No. wind turbines here permitted shall have an overall ground to blade tip height of between 290m-316m above LAT inclusive, a rotor diameter of 250- 276m above LAT and a hub height ranging from 165m to 178m above LAT inclusive. The maximum output of all wind turbine generators will be 700MW inclusive. <u>Reason</u> In the interest of clarity and to allow for design flexibility	As provided for under the legislation, the Developer has sought and received design flexibility with respect to the proposed development, as set out in Chapter 6.2.2 of Chapter 6 Description of the Proposed Development - Offshore, and set out below: <i>"On 2 February 2024, the Board issued its opinion on design flexibility, signed 30 January 2024 (the "DF Opinion "). This DF Opinion was subsequently clarified by way of letter dated 4 April 2024 and updated by way of decision pursuant to Section 146A of the Planning Acts on 16 April 2024. The DF Opinion was issued pursuant to section 287B of the Planning Acts, following conclusion of the Developer ' s preapplication consultations with the Board.</i> <i>The DF Opinion confirms the details of the proposed development which design flexibility has been accepted and may therefore be confirmed after the Developer ' s proposed application under section 291 has been made. The DF Opinion confirmed flexibility for the following aspects of the proposed development:</i> <i>Turbines – model, number and dimensions (tip height, rotor diameter, rotor swept areas, nacelle height and hub heights).</i> <i>Turbine foundations – type and pile dimensions.</i> <i>#Offshore substation platform – foundation types and dimensions (height above sea level, length and width).</i> <i>Siting of infrastructure – fixed location with limit of deviation (turbines, foundations, export cable and offshore substation platform location); and Offshore cabling – subsea cable size and subsea cable length. "</i> The Developer therefore does not consider that this proposed condition is in compliance with this design flexibility condition and should not be attached to any consent.
7	The colour and finish of the proposed turbines and associated developments shall be agreed in writing with the Planning Authority/ An Bord Pleanála, prior to the commencement of development. The Developer shall submit drawings illustrating the final structure details (i.e. blade length) to be installed on site. <u>Reason</u> In the interests of visual amenity and the proper planning and sustainable development of the area	The Developer has no objection in principle to a condition requiring provision of final drawing / structure details being attached to any grant of permission by An Coimisiún Pleanála. However, the developer would note that colour and finishes of WTGs are highly standardised within industry.
8	a. The mitigation measures and monitoring identified in the Environmental Impact Assessment Report, Natura Impact Statement, Construction Environment Management Plan and other particulars submitted with	a) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	the planning application, shall be implemented in full by the developer, except as may otherwise be required in order to comply with the following conditions. b. The developer shall appoint persons with appropriate ecological, hydrological and construction expertise such as Environmental Manager/ Ecological Clerk of Works and Hydrologist to ensure that the mitigation measures identified in the above documents are implemented in full during the pre-construction, construction stage and post construction phases to advise on, oversee and monitor mitigation measures. Monitoring shall be carried out for a minimum of 15 years post construction. c. The Environmental Manager/ ECOW shall be responsible for implementation of the Piling Strategy at all times during the offshore construction, operational or decommissioning phases. d. Onshore mitigation measures should be in line with the NRA Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes and the Guidelines for the Treatment of Bats during the Construction of National Road Schemes and any works relating to bats may only be carried out under a licence issued by the NPWS. <u>Reason</u> In the interest of clarity and the protection of the environment during construction and operational phases of development.	b) The consent documentation and the EIAR/NIS include a very detailed and comprehensive suite of mitigation and monitoring measures to ensure that any impact on the environment and on Natura sites is minimised through all stages of the development. A detailed Onshore CEMP (Appendix A9.1) and Offshore EMP (Appendix A6.1) of the EIAR, detail the full suite of measures included. This includes the appointment of an Environmental Manager, Ecological Clerks of Works, Marine Mammal Observers, others with specific responsibility for ensuring compliance with these plans and measures. In respect of the post-construction monitoring, any such monitoring requirements identified in the EIAR and NIS will be complied with. The Developer respectfully requests that the previous condition (Condition 8 proposed by Meath County Council) appropriately covers the requirements of this proposed condition. c) Following receipt of the RFI and subsequent stakeholder meetings, careful consideration was given to understanding how a refined design could address specific requests contained within the RFI, whilst also further mitigating potential environmental effects from the proposed development. Following careful consideration by the Developer, there are design refinements proposed to both Project Option 1 and Project Option 2. This includes removal of both driven and drilled monopile and jackets with pin piles as options for the WTG foundations from Project Option 1 and Project Option 2 and a refinement to the WTG foundation installation methodology to jackets with suction buckets for Project Option 1 and Project Option 2 to address key stakeholder concerns in the RFI around underwater noise. Further information on the underwater noise impacts of revised WTG foundations is provided in Chapter 14 of the EIAR and Appendix A14.1. It is respectfully suggested that condition No. 1 (MCC proposed conditions) appropriately covers overall mitigation and monitoring requirement and there is therefore no need for another condition such as that suggested here. d) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that mitigation measures in relation to onshore bats are provided in Section 23.6.1.8 of Chapter 23 of the EIAR.
9	Trees and hedgerows shall not be removed during the nesting season (i.e. March 1st to August 31st in accordance with the Wildlife Act (as amended). Replacement hedgerows shall be of native species. <u>Reason</u> In the interest of avian ecology and visual amenity	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that mitigation measures in relation to the removal of trees is provided in Section 23.6.1.8 of Chapter 23 of the EIAR. Mitigation measures for the removal of hedgerows are outlined in Section 23.6.1.2 of Chapter 23 of the EIAR.

No.	Condition	Developer's Response
10	The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall: - Notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, - Employ a suitably qualified archaeologist in advance of construction works to complete an archaeological assessment of the project site to determine the location, date, nature and extent of any archaeological sites or features. This work will feed into an Archaeological Mitigation Strategy Document that will determine how any archaeological remains are either preserved in situ or preserved by record. - If the advance works show nothing of archaeological significance, construction works shall be monitored, as stray finds are always a possibility. All finds and reports shall be lodged with the National Monuments Service and the National Museum of Ireland. - The suitably qualified archaeologist shall monitor all site investigations and other excavation works and prepare a report on the results of such monitoring to be submitted to the Planning Authority and to the Department of Arts, Heritage and the Gaeltacht. - Results of the works outlined above shall be published in digital and/ or hard copy. - Provide arrangements, acceptable to the Planning Authority, for the recording and removal of any archaeological material which the authority considers appropriate to remove. <u>Reason</u> To ensure the continued preservation in situ or by record of all archaeological and historical material, features or objects, to conserve the archaeological heritage of the site, it is considered reasonable that the developer should facilitate the preservation and protection or the preservation by record of any archaeological features or materials which may exist within it. In the interest of safety.	a) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. - The Developer also notes that Section 25.4 of Appendix 25.4 of the EIAR notes that the updated draft Cultural Heritage Mitigation Strategy will be "submitted to the NMS of the DoHLGH and local authority bodies." b) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that Section 25.6 of Chapter 25 of the EIAR outlines all the mitigation measures which the Developer has committed to regarding any potential effects to onshore archaeological receptors. c) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that the draft Cultural Heritage and Mitigation Strategy (Appendix 25.4 of the EIAR) outlines the roles of the project archaeologist throughout construction. This appendix also notes that "Following the completion of archaeological testing, a report will be submitted to the NMS and NMI detailing the results of the investigations, which will contain a further impact assessment and additional mitigation measures (where required)." d) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer would also note the commitments in the EIAR outlined in response to conditions 10 a-c. e) The Developer has no objection in principle to this condition being attached to any grant of permission by An Bord Pleanála. - The Developer notes that the draft Cultural Heritage and Mitigation Strategy (Appendix 25.4 of the EIAR) outlines the roles of the project archaeologist throughout construction. This appendix also notes that "Following the completion of archaeological testing, a report will be submitted to the NMS and NMI detailing the results of the investigations, which will contain a further impact assessment and additional mitigation measures (where required)."
11	The Developer shall, during the construction stage, maintain a Complaints Register to record any complaints regarding but not limited to noise, odour, dust, traffic or any other environmental nuisance. The Complaint Register shall include details of the complaint and measures taken to address the complaint and prevent repetition of the complaint. <u>Reason</u> In the interest of environmental protection and orderly development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that a list of Environmental Records to be maintained during construction (including a complaints register) is included in Section 7.3.3 of the Onshore CEMP (Appendix 9.1 of the EIAR).
12	If the proposed development causes interference with telecommunications signals in the area, effective measures shall be implemented to minimise such interference.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the relevant Planning Authority prior to commissioning of the turbines, and following consultation with the relevant authorities. <u>Reason</u> In the interest of orderly planning and residential amenity.	
13	a. The identification of environmental community projects and works shall be decided upon by a community liaison committee; the composition of the committee shall be based upon equal representation of personnel from the Planning Authorities, the developer, local residents and elected members of Meath, Louth, Fingal and Dublin City Councils; any variation in the composition of the committee shall be subject to the prior agreement of the Planning Authorities. b. The developer shall pay a sum of money to the Planning Authority, either annually or in such manner as may be agreed, towards the cost of the provision of environmental improvement and recreational or community amenities in the locality. The identification of such projects shall be decided by the relevant Planning Authority having consulted with the community liaison committee as provided for under (a) above. The amount of the contribution and the arrangements for payment shall be agreed between the developer and the planning authorities or, in default of such agreement shall be referred to the Board for determination. The amount shall be index linked in the case of phased payment. The developer shall consult with the planning authorities in this regard prior to the commencement of the development. <u>Reason</u> It is considered reasonable that the developer should contribute towards the cost of environmental, recreational or community amenities which would constitute a substantial gain to the local community	As noted in Section 1.11 of Chapter 1 of the EIAR, <i>"the Developer will set up a Community Benefit Fund which will commence once the proposed development is in construction. This will be established and administered in accordance with ORESS 1 Community Benefit Fund Rulebook with an independent Fund Administrator appointed to facilitate and support the local community to maximise the opportunities of the Community Benefit Fund.</i> <i>It is estimated that the funding will be approximately €4 million per annum for 20 years. "</i> As such, the Developer notes that it has no control over the community projects that the Community Benefit Fund will support in line with the ORESS 1 terms and conditions. Therefore, this condition is considered inappropriate for the proposed development and it is respectfully suggested that it is not attached to any grant of permission, but that the requirements of the EIAR, as set out above, adequately cover the community benefit fund aspects.

4.1.4 Conclusion

The key points raised in the submission by Meath County Council have been fully considered, and having considered those points, the conclusions in the relevant impact assessments remain as set out in the EIAR.

Appendix 4.1.1

Appendix 4.1.1 – Legislation, Policy and Plan

Policies and Plans	
Draft Marine Plan for Northern Ireland	The draft Marine Plan for Northern Ireland was published by the Department of Agriculture, Environment and Rural Affairs (DAERA) in 2018. The draft plan aims to inform and guide the regulation, management, use and protection of the Northern Ireland marine area. The draft Plan has been developed within the framework of the UK Marine Policy Statement to facilitate the sustainable development of the marine area. It is made up of two plans, one for the inshore region and one for the offshore region. Public consultation on the draft Plan took place from April to June 2018. DAERA published a revised Statement of Public Participation (SPP) in October 2022, which sets out how and when stakeholders can be involved in the marine plan process. Once finalised, the Marine Plan will primarily be used by public authorities making decisions which affect or might affect the marine area, and by anyone who has an interest in the marine area. The draft Plan for Northern Ireland was not included in the EIAR or Planning Report review of policy, as the proposed development does not sit within the proposed Marine Plan Area and the draft Plan is not yet adopted. However, the proposed development aligns with many of the eight objectives of the draft Marine Plan for Northern Ireland, including to realise the potential of energy resources and energy storage within the marine area, while fully considering the requirements of other marine interests and to contribute towards climate change mitigation and adaptation measures.
Maritime Jurisdiction Act 2021	The Maritime Jurisdiction Act 2021 makes provision in respect of the maritime jurisdiction of the State and for that purpose to give effect to certain provisions of the United Nations Convention on the Law of the Sea. It defines Ireland's maritime zones, including internal waters, the territorial sea, contiguous zone, exclusive economic zone (EEZ) and continental shelf. It sets out the State's rights and criminal and civil jurisdiction within those zones, while repealing and amending older legislation. The Minister for Housing, Local Government, and Heritage (DHLGH) is responsible for administering the Act. In the context of offshore wind development, the Maritime Jurisdiction Act 2021 is of particular importance as it establishes the geographical extent and legal basis for State control over marine areas in which renewable energy infrastructure may be located. By clearly defining maritime boundaries and jurisdictional powers, it underpins subsequent marine planning and consenting frameworks, including the allocation, assessment and regulation of offshore developments within the State's maritime area. The Maritime Jurisdiction Act 2021 was not specifically addressed in the EIAR or Planning Report as not a core consenting or planning statute, however, the Developer will comply with all applicable legislation.
National Adaptation Framework 2024	The National Adaptation Framework (NAF) 2024 was published in June 2024. The NAF aims to create a unified approach involving both government and society to adapt to climate change. It outlines how various sectors of society and local authorities can implement adaptation measures to minimise Ireland's vulnerability to climate change's adverse effects while taking advantage of any beneficial impacts. The NAF emphasises the importance of integrating adaptation strategies into all levels of policy making, infrastructure development, and local planning. Government Ministers are required to prepare adaptation plans for sectors that are assigned to them in accordance with their obligations under the Climate Act and this Framework. The NAF imposes obligations on Government Ministers and local authorities to develop a plan for climate change adaptation. Published in June 2024, post submission of the planning consent. The proposed development aligns with the NAF, as it will have a net significant beneficial impact on climate during its life cycle, assisting Ireland in achieving carbon neutrality by 2050.
ESB (2023) Networks for Net Zero Strategy	ESB Networks for Net Zero Strategy sets out ESB Networks' role in enabling the delivery of the Government's Climate Action Plan 2023. The Strategy sets an ambition to have a 'net zero ready distribution network by 2040' to enable Ireland's achievement of net zero no later than 2050. The Strategy supports the development of a resilient and adaptable electricity network capable of integrating large-scale renewable generation and facilitating the transition to a decarbonised energy network. This includes enabling new connections, supporting system flexibility and ensuring coordination across the electricity system to manage the variability of renewable sources such as wind energy, including future offshore wind developments. ESB Networks' Networks for Net Zero Strategy was not included in the EIAR or Planning Report review of policy, as it is not a Government or statutory policy document; however, the proposed development aligns with the strategy as it will have a net significant beneficial impact on climate during its life cycle, assisting Ireland in achieving carbon neutrality by 2050.

Policies and Plans	
Draft County Meath Heritage Plan 2023 - 2030	The Draft County Meath Strategic Heritage Plan 2023–2030 provides a framework for the protection, management and appreciation of the county’s rich cultural, natural and built heritage. It highlights that Meath contains heritage assets of national and international significance, including archaeological landscapes, historic settlements, architectural features and coastal and rural environments, all of which contribute to a strong sense of place and local identity. The Plan emphasises that heritage is closely linked to environmental sustainability and quality of life, and that its effective management can enhance the county’s attractiveness as a location for tourism, investment and community development. In the context of the proposed development, the Plan is considered to ensure that heritage is appropriately protected and integrated into the development process. Although not specially referred in the EIAR, the proposed development will have careful regard to heritage sites, including significant landscapes, historic sites and coastal environments and is now considered in Chapter 25 Onshore Archaeology, Architectural & Cultural Heritage. The proposed development will have careful regard to heritage sites, including significant landscapes, historic sites and coastal environments. It has been considered in the updated Chapter 25 Onshore Archaeology, Architectural & Cultural Heritage.
Strategic Planning Policy Statement for Northern Ireland - Planning for Sustainable Development (SPPS)	The Strategic Planning Policy Statement (SPPS) for Northern Ireland is the Department for Infrastructure’s overarching regional planning policy framework, setting out policy for the orderly and consistent development of land across Northern Ireland within the two-tier planning system. The SPPS was first published in 2015 and updated as Edition 2 in December 2025, and is underpinned by the core objective of furthering sustainable development, seeking to balance economic growth, social well-being, and environmental protection within the planning system. Within its planning and development framework, the SPPS includes the strategic approach to renewable and low carbon energy, providing the policy context for facilitating wind energy development within Northern Ireland. The SPPS sets out that renewable and low carbon energy infrastructure, including wind energy development, should be supported where it can be accommodated in appropriate locations, subject to careful consideration of environmental, landscape, heritage and amenity impact. The SPPS for Northern Ireland was not addressed in the EIAR or Planning Report as no part of the proposed development will be located in Northern Ireland. However, the proposed development aligns with the SPPS by contributing to Northern Ireland’s renewable energy goals while adhering to sustainable planning principles that balance economic, environmental, and social factors.
Future Framework for Offshore Renewable Energy 2024	The Future Framework for Offshore Renewable Energy, published in May 2024 following finalisation of the planning consent. It is an over-arching future framework for the development of offshore wind in Ireland’s territorial seawaters and exclusive economic zone (EEZ). This framework aims to deliver 20GW of ORE by 2040 and at least 37 GW in total by 2050. The Future Framework Policy Statement identifies 21 key actions to facilitate a long term and structured approach for the delivery of the ORE targets and which maximise the economic benefits to the State. These objectives are crucial for the decarbonisation of Ireland’s economy, the delivery of long-term energy security and the development of green industrial opportunities for offshore renewable energy. As the proposed development is a fixed bottom foundation offshore wind farm which will be operational in 2030, it will facilitate the achievement of the targets in the draft Future Framework Policy Statement and will ensure delivery of offshore wind in 2030, which in turn will support the 37GW target of ORE by 2050. A component of the Future Framework Policy Statement is a built-in annual review process to ensure consistency with Ireland’s evolving ORE sector and to reaffirm Government's commitment to energy targets. The Future Framework 2025 Review, published in May 2025 captures ORE sectoral progress in 2024/2025 on each of the 29 actions under the Future Framework as well as an updated action plan for 2026.
National Mitigation Plan 2017	The National Mitigation Plan 2017 was Ireland’s first statutory plan under the Climate Action and Low Carbon Development Act 2015, setting out an initial whole-of-government framework to reduce greenhouse gas emissions and transition to a low carbon economy by 2050. It identified over 100 actions across key sectors, including electricity generation, to begin medium- and long-term decarbonisation. Within the electricity generation sector, the Plan establishes the policy context for transitioning towards a low carbon energy system, recognising the need to significantly reduce emissions from power generation and increase the contribution of renewable energy sources. In doing so, it provides an early strategic framework for the expansion of renewable electricity, including wind energy, by identifying decarbonisation of the electricity sector as a critical component of Ireland’s overall climate mitigation efforts.

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	The Plan also outlines existing and potential mitigation measures in the electricity sector, supporting a shift away from fossil fuel-based generation and towards greater reliance on indigenous renewable energy resources. As the proposed development will ensure delivery of offshore wind in 2030, which in turn will assist in the transition to a low-carbon economy by 2050.
County Meath Biodiversity Action Plan 2025-2030	The County Meath Biodiversity Action Plan —2025-2030 was adopted in December 2025. It is aligned with the EU Biodiversity Strategy for 2030, the 4th National Biodiversity Action Plan, and local plans including the Meath Climate Action Plan. It sets out Meath County Council’s framework for protecting, conserving, managing and enhancing biodiversity across the county over the six-year period. s structured around five strategic objectives, supported by 55 specific actions. These actions focus on habitat protection and restoration, species conservation, nature-based solutions, invasive species management, community engagement, and the integration of biodiversity into local authority policies, projects and operations. It is noted that no onshore infrastructure associated with the proposed development will be located within the county, however, the proposed development will endeavour to protect and enhance biodiversity, ensure compliance with statutory conservation requirements, and integrate ecological considerations into design and assessment processes, in line with the Biodiversity Action Plan.
Meath County Council Economic Development Strategic Action Plan 2024	The Meath County Council Economic Development Strategic Action Plan 2024 provides a short to medium-term roadmap for fostering sustainable economic growth, attracting investment, and enhancing quality of life within the county. The Plan sets out a vision for Meath to be an economically vibrant and sustainable county, underpinned by key strengths including its strategic location, modern infrastructure, skilled workforce, and strong economic sectors. The Plan emphasises the importance of infrastructure provision, enterprise support, and creating an enabling environment for business growth and innovation. The Plan outlines a clear vision for an economically vibrant and sustainable county, delivered through six overarching priorities and a series of targeted actions across multiple workstreams. The proposed development supports delivery of the Plan’s priorities and actions by strengthening the County’s infrastructure provision and supporting job creation, thereby contributing to economic activity.
Nature Restoration Law (Regulation (EU) 2024/1991)	The Nature Restoration Law (EU 2024/1991) was published in the Official Journal of the European Union on 24 July 2024. Nature Restoration Law (EU 2024/1991) introduces legally binding targets for restoring degraded ecosystems, including marine environments. It mandates EU member states to implement restoration measures that enhance biodiversity and climate resilience. In providing a source of renewable energy in an effort to tackle rising global temperatures, the proposed development will indirectly support the objectives of the Nature Restoration Law.
EU Updated Offshore Renewable Energy Ambition (2024)	In December 2024 EU Member States agreed on a new collective ambition for offshore renewable energy deployment across the EU’s five sea basins. The updated, non-binding targets include: • A combined goal of 88 GW of offshore renewable capacity by 2030; and • A combined goals of 360 GW by 2050. This renewed ambition reflects the continued importance that Member States place on offshore renewables for EU energy security, decarbonisation, and the clean energy transition. The proposed development will contribute significantly to the generation of renewable energy, facilitating future success in meeting EU climate targets.
Hamburg Declaration (2026)	In January 2026, Ireland signed the Hamburg Declaration, which commits to a strong pipeline of offshore wind in the North Seas (which includes the Irish Sea), with 100GW to be delivered in the coming years and 300GW by 2050. Contributing to the ambitions of the Hamburg Declaration is a new key objective of the proposed development.
Climate Action Plan 2024 and 2025	The Climate Action Plan 2024 (CAP24) sets out Ireland’s pathway for the expansion of onshore and offshore wind as part of a wider transition to a low carbon electricity system. It sets out ambitious deployment targets, including 6 GW onshore wind capacity by 2025, 9 GW of onshore wind by 2030, and at least 5 GW of offshore wind by 2030, alongside a broader objective of achieving up to 80% renewable electricity by 2030. CAP24 emphasises the importance of accelerating renewable energy deployment, including wind energy, to replace fossil fuel generation and meet legally binding carbon budgets and sectoral emissions ceilings.

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	The Climate Action Plan 2025 (CAP25) strengthens Ireland’s pathway to deploying onshore and offshore wind, reaffirming targets of 6 GW onshore by 2025, 9 GW onshore by 2030, and at least 5 GW offshore by 2030. CAP25 highlights strong wind generation performance, with wind supplying nearly 40% of electricity in early 2024 and continues support through the Renewable Energy Support Scheme. CAP25 continues to support wind generation through planning reforms, regional renewable capacity allocations, and policies for repowering existing wind farms, and commitment to achieving a minimum 51% reduction of GHG by 2030 compared to 2018 levels. Grid development, system flexibility, and marine planning are presented as essential enablers to accelerate wind deployment and meet national emissions targets.
First Revision of the National Planning Framework (2025)	The National Planning Framework (NPF) is the overarching policy and planning framework for the social, economic, and cultural development of the country. Together with the National Development Plan (NDP), the two policies present one vision – Project Ireland 2040, meaning that implementation of the NPF is fully supported by the Government’s investment strategy for public capital investment and investment by the State sector in general. Project Ireland 2040: NPF and the NDP 2018 – 2027 were published in 2018 and together set out a number of National Strategic Outcomes to support the OREDP. In 2021 a revised NDP was published to guide economic growth from 2021-2030. In April 2025, the First Revision of the NPF was published which focuses on resource efficiency and transition to climate neutral economy. The First Revision NPF has included new policies in relation to renewable energy development. The NPF also acknowledges the clear link between climate action and the potential for investment generation and employment and jobs, including in connection with the offshore wind industry and green technology. There are ten National Strategic Outcomes (NSO) in the NDP. NSO 8 is the ‘Transition to a Carbon Neutral and Climate Resilient Society’. The Climate Action and Low Carbon Development (Amendment) Act commitments will shape investment choices over the coming decades in line with the National Climate Action Plan 2024 and the National Adaptation Framework. New energy systems and transmission grids will be necessary for a more distributed, renewables-focused energy generation system, harnessing both the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar and connecting the richest sources of that energy to the major sources of demand. The proposed development will support this NSO as it supports the growth and integration of low carbon and renewable energy. Offshore renewable energy is specifically addressed in Chapter 7 of the NPF, Realising our Island and Marine Potential: “Offshore renewable energy represents an emerging sectoral opportunity for coastal regions with the potential to support the delivery of Ireland’s offshore wind ambitions being a particular economic development opportunity” In addition, National Policy Objective (NPO) 55 states: “To support, the progressive development of Ireland’s offshore renewable energy potential, the sustainable development of enabling onshore and offshore infrastructure including domestic and international grid connectivity enhancements, non-grid transmission infrastructure, as well as port infrastructure for the marshalling and assembly of wind turbine components and for the operation and maintenance of offshore renewable energy projects” National Policy Objective 70 states: “Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a climate neutral economy by 2050.” And finally National Policy Objective 71 states: “Support the development and upgrading of the national electricity grid infrastructure, including supporting the delivery of renewable electricity generating development”. The proposed development will help to achieve the objectives of the NPF by sustainably capturing a portion of Ireland’s offshore renewable energy potential and supporting the Irish transition to a low carbon energy system.
National Development Plan Review (2025)	The NDP Review 2025, published on 22 July 2025 and builds on the NDP 2021–2030 and aligns with the NPF and Project Ireland 2040, ensuring balanced regional development and sustainable long-term planning. The government has prioritised increased investment levels in water, energy, transport and housing. The updated NDP features annual sectoral capital allocations from 2026 to 2030, and overall capital expenditure ceilings to 2035. This leads to a total investment of €275.4 billion over the period to 2035.

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	Specifically, €3.5 billion in equity funding is being provided to ESB and EirGrid in 2025 to fund enhanced energy grid capacity to support the Government's housing and competitiveness objectives.
Programme for Government: Securing Ireland's Future (2025)	The current Irish Government, formed in 2025, published its Programme for Government: Securing Ireland's Future², which was published in January 2025. The purpose of the Programme for Government is to provide a clear indication of the objectives and policies which the Government proposes to pursue over its 5-year term of office. The Programme for Government states the commitment to achieving 80% of Ireland's electricity generation from renewable source. To reach this goal, they will establish a clear regulatory pathway, enable network upgrades, improve port facilities, and ensure a dependable schedule of renewable energy auctions. The government is focused on ensuring that local communities benefit from Ireland's renewable potential, with job creation, community ownership, and tangible economic returns. The Government recognises that delivery of essential infrastructure is a key driver in attracting and retaining investment in Ireland, growing our economy, fostering regional development, delivering on our housing targets and achieving our ambitious climate goals. The Programme for Government also states that the Government will deliver at least 5GW capacity in offshore wind by 2030. The proposed development will directly contribute towards Ireland meeting its offshore renewable energy targets which directly align with the aims of the Programme for Government.
National Energy Demand Strategy (2024)	The National Energy Demand Strategy (NEDS) was published by the Commission for Regulation of Utilities (CRU) in July 2024. The Strategy outlines how Ireland will manage rising electricity and gas demand while staying within carbon emissions ceilings and expanding demand flexibility. The Strategy aims to enable energy users to shift or reduce usage, by creating a more adaptable system that can better integrate variable offshore renewable generation. The Strategy focuses on establishing structured pathways for new large energy connections to support efficient use of future offshore wind capacity. Overall, NEDS underpins Ireland's offshore renewable ambitions by ensuring the energy system can absorb and optimise growing volumes of clean offshore power.
Accelerating Renewable Electricity Taskforce Implementation Plan (2024)	The establishment of an Accelerating Renewable Electricity (ARE) Taskforce is a key measure in CAP 23. The role of the ARE Taskforce is to coordinate the fast-tracked and increased deployment of onshore renewable electricity generation and supporting technologies. The membership of the ARE Taskforce comprise of senior representatives from key Departments and State Bodies with responsibilities related to the delivery of renewable electricity generation projects. They include the Department of Climate, Energy and the Environment, the Department of Housing, Local Government and Heritage, Commission for Regulation of Utilities, EirGrid, ESB Networks, Sustainable Energy Authority Ireland, the Department of Public Expenditure, Infrastructure, Public Service Reform and Digitalisation, the Department of Enterprise, Tourism and Employment, Ireland Strategic Investment Fund and NewERA (investment and financial advice). The key outputs of the Taskforce include: • The development of an Accelerating Renewables Programme of Work that identifies priority areas to achieving renewable energy targets that aligns with the actions and KPIs set out in CAP 23 and subsequent CAPs; • A report on the investment required to support the renewables programme including identification of consumer impacts and cost mitigations as well as the investment outlook for the sector; • The development of an Annual Summary Report on Progress towards Achieving our Renewables Goals; • Identification of priority measures and actions, supported by data and modelling for accelerating renewable electricity generation, and related flexibility measures, in the next update of the Climate Action Plan; and • Effective management of the Accelerating Renewables Programme of Work, support cross-agency and Department delivery, identifying gaps and mitigation measures, as required. Ireland's Accelerating Renewable Electricity Taskforce Implementation Plan was published in June 2024. The Plan outlines actions designed to increase onshore renewable electricity deployment and support the national target of generating 80% of electricity from renewable sources by 2030. It is structured around three pillars, including: • Planning and reporting; • Grid and storage; and

² [Programme for Government 2025 - Securing Ireland's Future](#), accessed March 2026.

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	Route to market. The Plan defines nine specialised working groups divided evenly between the three pillars, comprising representatives from government departments, state agencies, semi-state bodies, regulatory bodies, amongst others. It is the responsibility of the working groups to ensure coordinated delivery of the implementation plan across government and state agencies. Actions include planning and permitting reforms aligned with EU directives, updated wind energy guidelines, land identification for renewable deployment, accelerated grid development, streamlined grid connection processes, and the rollout of a national electricity storage policy framework. Broader objectives of the plan include removing barriers to early project delivery, reducing electricity costs, ensuring energy security, and strengthening market signals for renewable investment through competitive auctions and diversified routes to market.
National Designated Maritime Area Plan for Offshore Renewable Energy Proposal (2025)	A proposal for the development of a National Designated Maritime Area Plan (DMAP) for ORE was published in September 2025. This is a national level spatial planning policy framework intended to designate sufficient maritime area to deliver 20GW of offshore renewable energy by 2040, in accordance with Part 2 of the Maritime Area Planning Act 2021. The DMAP will provide policy objectives, some of which will be unique to the specific classes of ORE and will include spatial designations where relevant. The National ORE DMAP will be prepared over 2025–2027, with completion of strategic environmental assessment, appropriate assessment and public consultation. The National DMAP will apply the extensive policy framework provided for in the NMPF and will take into account existing, permitted or planned ORE taking place in the maritime area. In this way, the National DMAP will enable an alignment of existing energy policy and activities with forward spatial planning. The South Coast DMAP (SC-DMAP) was made by the Minister for the Environment, Climate and Communications on 24 October 2024. The Plan identifies four Maritime Areas in the Irish part of the Celtic Sea within which proposed future ORE projects may be located. One of these four Maritime Areas, known as Tonn Nua or Maritime Area A, is identified to be developed by the winner of Ireland's second offshore wind auction, and will aim for deployment by 2030 or as soon as feasible thereafter. The SC-DMAP does not cover the Irish Sea.
Flemington Local Area Plan (2024)	The Flemington Local Area Plan was adopted by Fingal County Council in December 2024. The lands included within the LAP are adjacent to the grid facility boundaries along the southern extents. The LAP is based off Flemington Lane in north Balbriggan, comprising agricultural lands measuring a total area of c.17.2 hectares. The Flemington Local Area Plan provides the land use framework to guide development on the lands. Within the Fingal Development Plan 2023-2029, the identified lands are situated within the Balbriggan development boundary and are subject to the 'Residential Area' (RA) zoning objective. The Vision Statement for the LAP is as follows: “The shared vision for Flemington is to promote the sustainable development of the LAP lands at a level that is appropriate for the existing local context through the delivery of a new residential neighbourhood that will offer a variety of new homes and a quality place to live. The new residential neighbourhood will be supported by community facilities, high quality public open space and active travel measures that will meet the needs of the future population in the area and generate a strong sense of community.” The LAP includes environmental and sustainability objectives built on low carbon energy, including renewable energy. The proposed development aligns with the objectives of the LAP by providing a large source of low carbon energy to the region.

4.2 Fingal County Council

4.2.1 Introduction

This section provides a response to the submission made to An Bord Pleanála by Fingal County Council (FCC).

4.2.2 Summary of the Key Points Raised by FCC

FCC is a prescribed body and coastal planning authority. The FCC submission included the Chief Executive's Report, which was presented to the Council at its July 2024 meeting.

The FCC submission raised a number of key points and also recommended a number of conditions for consideration by An Bord Pleanála, should permission be granted for the proposed development. The sections below address both the points raised and the recommended conditions, under a number of headings as follows:

- EIAR/NIS Cumulative and In-combination Effects
- Planning History
- Issues raised by Members at the Council meeting on 8th July 2024
- Zoning
- Landscape and Visual Impact
- Archaeology, Cultural and Architectural Heritage
- Coastal Erosion
- Recommended Planning Conditions.

It is noted that, An Bord Pleanála, as well as seeking responses to the submissions received as part of the statutory consent process, has also issued the Developer with a request for further information (RFI). As part of this RFI, An Bord Pleanála required the Developer to engage further with Fingal County Council in respect of certain items raised in the RFI. The Developer undertook such consultation and has responded to the RFI in a separate report (response to RFI document) which is submitted alongside this response to submission document. See Appendix A1.2 of the EIAR for full details on stakeholder consultation since the 2024 planning application.

4.2.3 Response to Key Points Raised

4.2.3.1 *EIAR/NIS Cumulative and In-combination Effects and Relevant Planning History*

Section 1.5 of the FCC submission lists several other developments which it suggests An Bord Pleanála should consider, with a focus on the landfall elements, grid facility at Bremore, Belcamp substation and cable route at Blake's Cross. Additional permitted and proposed transport developments are listed in Section 3.13 of the FCC submission.

Response on Cumulative Effects in EIAR

As detailed above, An Bord Pleanála, as well as seeking responses to the submissions received as part of the statutory consent process, has also issued the Developer with a request for further information (RFI).

In its RFI, An Bord Pleanála has requested that the Developer updates the Cumulative Effects Assessment (CEA) in accordance with the UK guidance document '*Nationally Significant Infrastructure Projects [NSIP]: Advice on Cumulative Effects Assessment*' published in September 2024. An updated Cumulative Effects Assessment has therefore been included in Chapter 38 of the EIAR.

Whilst the CEA methodology has been updated to align with the NSIP Guidelines in accordance with RFI Section 5, the CEA presented in the 2024 EIAR remains a robust and relevant assessment. Information relevant to the CEA prepared for the 2024 planning application is provided below. Where relevant, further information has been provided on the projects that have been carried forward for assessment in the updated CEA included in Chapter 38.

Chapter 38 documents the CEA and consists of an assessment of the likely significant cumulative effects of the proposed development on the receiving environment in combination with other projects.

The relevant guidance and policy that was used in the CEA which accompanied the planning application is listed in Section 38.1.2 of Chapter 38 of the 2024 EIAR whilst the methodology is presented in Section 38.2.1 of Chapter 38 of the 2024 EIAR. The methodology for the CEA in 2024 was a three-part assessment as described in Section 4.1.2.2 of this report.

The timeframe for the CEA of construction phase effects is outlined in Section 38.2.1.1 of the 2024 EIAR *“the cumulative construction assessment considers the total effects of the proposed development and other identified projects being constructed concurrently. It is assumed that the construction of the proposed development starts in 2026/2027. Projects where construction has been completed prior to 2026/2027 are therefore not included in the cumulative construction assessment.”* Section 38.2.1.1 further notes that the *“cumulative operational assessment considers the total effects of the proposed development and other identified projects operating concurrently.”* Cumulative decommissioning effects are considered with the effects of the proposed development and other identified projects being decommissioned concurrently.

The Developer notes that, due to the longer timeframe now envisaged for the planning decision (related to the time required in responding to the RFI), construction is now assumed to commence in 2027/2028 as opposed to the timeline included in the 2024 EIAR of 2026/2027.

A review of the projects listed in Sections 1.5 and 3.13 of the FCC submission has been carried out and the results are included in Table 4.2.1 below. The projects, listed by FCC, which were included in the CEA long list (Table 1 of Appendix 38.1 (onshore projects)) of the 2024 EIAR are identified with an ‘I’ in the table. Where these projects are either included or excluded from the updated CEA in Chapter 38, further information has been provided in Table 4.2.1 accordingly.

The projects, listed by FCC, not included in the long list are identified with an ‘NI’, and the reasons why these projects were not included in the CEA, are given.

Table 4.2.1 Projects listed in FCC submission

Project title	Reference in CEA Long List (I – Included, NI – Not Included)
SID/02/23 (ABP Reference NA29N.314724) – Railway (Metrolink - Estuary to Charlemont via Dublin Airport) Order	I – refer to Project No. 69 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR (Note: This is now Project 28 as presented in Appendix A38.1)
F23A/0040 – Belcamp Substation Extension	I – refer to Project No. 52 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR (Note: This project is no longer included in the 2026 updated CEA as construction has been completed)
Part XI/006/20 – Bremore Regional Park Development Project	I–refer to Project No. 80 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR (Note: This project is no longer included in the 2026 updated CEA as a five year planning permission was granted and expires in June 2026 – no application for an extension of duration had been applied for at time of writing).
F20A/0616 – planning for single house extension at Coneyhill, Balbriggan, Co. Dublin	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states <i>“The databases were searched to identify and exclude very minor applications which were not likely to have a significant cumulative environmental effect with the effects of the proposed development.</i> <i>Examples of applications which were excluded were applications to construct or demolish conservatories, house extensions, loft conversions, change of uses for single or small numbers of buildings, construction of outbuildings, modifications to driveways and retention applications.”</i>

Project title	Reference in CEA Long List (I – Included, NI – Not Included)
	This application is for a single house extension and was therefore excluded from the assessment.
F18A/0133 – refusal of permission for development of 74 no. dwellings at Drogheda Road (north of Bremore Cottages), Bremore, Balbriggan, Co. Dublin	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states ‘ <i>Applications which have been refused or cancelled were discounted from the list on the basis that they are unlikely to progress, unless through successful appeal.</i> ’ This application was refused planning and was therefore not included for assessment.
F18A/0389 – GAA club development located c. 40 m north of existing junction between R132 road and Flemington Lane at Bremore, Balbriggan, Co. Dublin	NI – refer to Section 38.2.1.1 of Chapter 38 of the 2024 EIAR which states ‘ <i>the cumulative construction assessment considers the total effects of the proposed development and other identified projects being constructed concurrently. It is assumed that the construction of the proposed development starts in 2026/2027. Projects where construction has been completed prior to 2026/2027 are therefore not included in the cumulative construction assessment.</i> ’ This application was granted permission in 2018 and commenced construction in 2021. Given the application obtained a five-year permission, the construction of the proposed GAA club development is expected to be completed before the 2027/2028 period indicated above. It is also noted that this development was nearing completion in 2025. Therefore, this project was not included in the construction phase CEA. As an existing development it is included in the baseline, not the operation phase CEA.
VA06F.VA0014 – 220 kV substation and associated works at Belcamp & Clonshaugh	I – refer to Project No. 46 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR. (Note: This project is no longer included in the 2026 updated CEA as a five year planning permission was granted and expired in August 2024).
F10A/0231 – agricultural building (grain store) at Bremore, Balbriggan, Co. Dublin	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states ‘ <i>granted/permited and pending applications older than ten years were excluded on the basis that they would likely already have been built (and so would form part of the existing baseline) or are now unlikely to be progressed.</i> ’ This application was granted permission in 2010 and is therefore older than 10 years. As an existing development it is included in the baseline, not the CEA.
VA17.VA0002 – East West Interconnector	NI – refer to Section 38.2.1.1 of Chapter 38 of the 2024 EIAR which states ‘ <i>the cumulative construction assessment considers the total effects of the proposed development and other identified projects being constructed concurrently. It is assumed that the construction of the proposed development starts in 2026/2027. Projects where construction has been completed prior to 2026/2027 are therefore not included in the cumulative construction assessment.</i> ’ As the East West Interconnector is already constructed, this formed part of the baseline for assessment in the EIAR. Potential effects on the East West Interconnector were assessed in Section 26.5.2.2 of Chapter 26: Material Assets. No likely significant effects were identified.
F04A/1599 – refusal of permission for retirement village at Corduff, Lusk, Co. Dublin	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states ‘ <i>Applications which have been refused or cancelled were discounted from the list on the basis that they are unlikely to progress, unless through successful appeal.</i> ’ This application was refused planning and was therefore not included in the CEA.
F04A/1082 – GAA Club development located c. 60 m north-west of existing junction between M1 road and Flemington Lane; lands bounded by N1 (west) and the Dublin-Belfast rail line (east) in the townland of Bremore.	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states ‘ <i>granted/permited and pending applications older than ten years were excluded on the basis that they would likely already have been built (and so would form part of the existing baseline) or are now unlikely to be progressed.</i> ’ This application was granted permission in 2005 and is therefore older than 10 years. It is assumed that this has been superseded by F18A/0389. As an existing development it is included in the baseline, not the CEA.
F02A/1143 – GAA club development, located to the east of M1 proximate to the junction of Flemington Lane and west of Dublin-	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states ‘ <i>granted/permited and pending applications older than ten years were excluded on the basis that they would likely already have been built (and so would form part of the existing baseline) or are now unlikely to be progressed.</i> ’

Project title	Reference in CEA Long List (I – Included, NI – Not Included)
Belfast railway line, in the townland of Bremore.	This application was granted permission in 2003 and is therefore older than 10 years. It is also assumed that this has been superseded by F18A/0389. As an existing development it is included in the baseline, not the CEA.
F01B/0479 – demolition of part of dwelling and construction of extension at Coney Hill, Bremore, Balbriggan, Co. Dublin	NI – refer to Section 38.2.1.2 of Chapter 38 of the 2024 EIAR which states <i>‘granted/permitted and pending applications older than ten years were excluded on the basis that they would likely already have been built (and so would form part of the existing baseline) or are now unlikely to be progressed.’</i> This application was granted permission in 2001 and is therefore older than 10 years. As an existing development it is included in the baseline, not the CEA.
SID/02/23 (ABP Reference NA29N.317831) – Underground Electrical Infrastructure associated with Metrolink	I – refer to Project No. 70 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR (Note: This is now Project 29 as presented in Appendix A38.1)
F22A/0365 – Solar photovoltaic (PV) energy development on lands at Mainscourt, Ballyboghil, Co. Dublin.	I – refer to Project No. 38 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR (Note: This application has been amended in 2026 and has been included under the amended application reference F25A/0776E as Project 58 in Appendix A38.1)
PARTXI/001/20 – The Harry Reynolds Road Pedestrian and Cycle Route, on the Harry Reynolds Road in Balbriggan - which involves the full reconstruction of the road cross section for the entire length of Harry Reynolds Road, to provide improved active travel infrastructure. This project is currently under construction	NI – refer to Section 38.2.1.1 of Chapter 38 of the 2024 EIAR which states <i>“the cumulative construction assessment considers the total effects of the proposed development and other identified projects being constructed concurrently. It is assumed that the construction of the proposed development starts in 2026/2027. Projects where construction has been completed prior to 2026/2027 are therefore not included in the cumulative construction assessment.”</i> The Harry Reynolds Road Pedestrian and Cycle Route was granted a 5-year planning permission in 2020 with an expected completion date in 2025. As the construction of the proposed development will commence in 2027/2028, the active travel infrastructure will be complete at that time. Therefore, this project was not included in the CEA. However, in response to RFI Section 19(c), the Developer has undertaken updated baseline traffic count surveys. These surveys have captured road upgrades throughout the proposed development boundary, including those at Harry Reynolds Road. As such, this project now forms part of the baseline. Further information is provided in Volume 4, Chapter 24: Traffic and Transportation.
ABP Reference JP06F.310145: R132 Connectivity Project	I – refer to Project No. 79 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR. (Note: This is now Project 34 as presented in Appendix A38.1)
ABP Reference VA06F.319422: Eirgrid Cable Route from Meath.	I – refer to Project No. 88 in Table 1 of Appendix 38.1 (onshore projects) of the 2024 EIAR (Note: This is now Project 37 as presented in Appendix A38.1)

Section 6 of the NIS provides the in-combination assessment of the proposed development with other plans or projects that were included in the long list (see Appendix 3 of the NIS). Section 1.7 of the NIS provides an overview of the guidance used throughout the preparation of the NIS as well as guidance to inform the In-Combination assessment of other plans and projects.

Section 1.13.2 of the NIS states that *“when screening in LSE, there is a presumption that where a potential for LSE has been identified for the proposed development alone, then potential LSE in-combination applies. For sites where no LSE was identified alone but a pathway for effect remained, these sites were screened through to AA for in-combination consideration except where the project alone assessment identified a negligible impact risk (i.e. the quantum of impact attributed to the proposed development was so small that it would make no material contribution to the in-combination effect). In those circumstances, no LSE in-combination could also be concluded, and these sites were not screened through to AA.*

Where potential LSE in-combination has been identified, it follows that relevant plans and projects need to be identified as it is these that would need to be considered in-combination with the proposed development within the Stage 2 assessment.” Further information on the screening process is included in Section 1.13.2 of the NIS.

Section 6.5 of the NIS concluded that “for all sites considered within this assessment that there is no AEoI of the sites or their Cos resulting from in-combination interactions with the proposed development.”

In Section 3.13, FCC also references the potential for interaction (particularly for the onshore cable route) with other planned transportation developments, including:

- *The Council is currently in the process of designing an 'active travel' infrastructure project from Bremore North of Balbriggan to the county boundary with Meath. Planning permission is not yet in place for this project.*
- *The Council has a design in place for an 'active travel' project on the section of road between Seatown Road to Malahide Estuary, to provide Road Safety, Cycling and Walking Improvements.*
- *Fingal County Council is in the early stages of the process for designing an improved active travel infrastructure along the Swords Road in Malahide.*
- *The Council has a design in place for an 'active travel' project on the section of Balheary Road, north of Swords, in the vicinity of the bridge crossing the Broadmeadow River.*
- *The Seatown Road in Swords (as it approaches Main Street) is currently closed for the next 2 years as part of the construction of the Swords Cultural Quarter project.*
- *Swords Main Street Upgrade works. This project is at the early stages of design development.*

It should be noted that in response to the RFI issued by An Bord Pleanála, the Developer has prepared an NIS Addendum, which updates the NIS from that submitted with the 2024 planning application, ensuring the most up to date baseline information and detailed assessment, which also addresses the items raised in the RFI. This NIS Addendum also updates the in-combination assessment of the proposed development with other plans or projects. The NIS Addendum is submitted with the Response to the Request for Further Information Report, in parallel with this Response to Submissions Report.

The FCC submission also notes recurring events that are held in Fingal each year, usually in June and July, which include the Malahide Castle concerts and the Flavors of Fingal and that in general, FCC does not allow any road works in the area in the lead up to, or during, these events. The Developer notes that as part of the further consultation with FCC in 2025, requested by An Bord Pleanála in its RFI, an indicative phasing plan was prepared and agreed with FCC which limits the interactions between the construction of the proposed development and the recurring events held in Malahide.

The Developer also notes that as part of this consultation, an indicative phasing plan was prepared for the various sections along the onshore cable route. During the preparation of the indicative phasing plan, the active travel schemes proposed within the jurisdiction of FCC were considered.

As part of the pre-application consultation process for the proposed development, the Developer engaged with the FCC active travel team (see Appendix 1.2: Consultation Report of the 2024 EIAR for further information) and is committed to ongoing engagement throughout the construction phase of the proposed development to manage any interactions with these projects and events. As noted in Section 8.1.2 of Appendix 9.1 (Construction Environment Management Plan (CEMP)) of the 2024 EIAR, “the Developer will establish a Communications Management Plan, which will specify the approach and protocol in relation to community and stakeholder engagement which the contractor(s) must support and adhere to...Communication with the local community and other relevant stakeholders will be undertaken at an appropriate level and frequency throughout construction.”

The Developer is therefore committed to ongoing communication with FCC throughout the pre-construction and construction phase to manage and mitigate any potential interactions with the proposed development and all active travel and public realm enhancement plans.

In conclusion, a comprehensive cumulative effects assessment has been presented in the EIAR and the NIS, and the Developer is committed to ongoing engagement with FCC to minimise interactions and impacts with other proximate projects.

4.2.3.2 Points raised by Members at Council Meeting on 8th July 2024

The key points raised at the Council meeting are detailed below. It was noted in the FCC submission that no resolution as referred to in Section 291(7) of the Planning and Development Act 2000, as amended, was proposed at the meeting. Key points raised included:

- Rationale for siting turbines closer to Skerries than Balbriggan (Cllr. Quinn)
- Local impact on roads around Malahide and also further north, including Balbriggan (Harry Reynolds Road), during construction, with long closures proposed. Queried level of discussion held regarding this issue. Safety concerns also raised regarding some of the diversion routes in question with diversions proposed onto unsuitable roads in terms of pedestrian access e.g. Yellow Walls Road. Query as to why direct route along M1 was not used or why greenfield routes were not used; proposal that alternative route put forward by Malahide Community Forum had merit (Cllr Healy, Cllr O'Brien, Cllr Tormey, Cllr Maguire, Cllr Hoey)
- Visual impact and photomontages and accuracy of same (Cllr Ryan, Cllr Maguire)
- Size and scale of grid facility – concern raised about this and associated visual impact (Cllr. Maguire).

Response to siting turbines closer to Skerries than Balbriggan

As outlined in Section 5.6.2 of Chapter 5 of the 2024 EIAR, *“a range of WTG numbers and locations have been considered during the development of the project. These layouts have ranged from 30 to 49 WTG numbers (depending on WTG capacity)...The key aims from the design evolution were to consider the environmental and technical constraints at all times by:*

- *Reducing the area of array which will impact upon commercial fisheries static fishing grounds*
- *Reducing the overall visual impact of the array on local communities and receptors*
- *Avoidance of high-density shipping areas and*
- *Located within the areas of highest wind speed to ensure greatest yields and thus provision of renewable energy.”*

Image 5.10 from Chapter 5 of the 2024 EIAR illustrates the refinement of the WTG layout. Following the layout refinement process, Section 5.6.2.3 of the 2024 EIAR notes that *“Project Options 1 and 2 were identified as the most suitable layout options within the offshore development area and were subsequently confirmed as the layouts to be taken into the planning process.”* As a result of this process, Skerries became the nearest point to shore from the array area.

The Developer notes that the turbine array layouts have been further refined for both Project Option 1 and Project Option 2 in response to the RFI (see Appendix A5.1 of the EIAR). However, Skerries remains the nearest from shore to the proposed layout. In the final layout design, when accounting for the proposed 500m limit of deviation in the final siting of the WTG, the nearest WTG from shore is 12.4km for both Project Options.

Response to localised road impacts and alternative routing options

The route selection process is set out in detail in Section 5.7.4 of the 2024 EIAR. A number of critical constraints (basis of design – see Section 5.7.4.2 of the 2024 EIAR) influenced the identification of reasonable alternatives, including the following:

- EirGrid requirements (Sections 4.3 and 4.9 of the EirGrid Functional Specifications [CDS-GFS-00-001-R1] in particular), including:
 - *“Underground cables shall as a standard, be routed within the reserve of public roads.*
 - *If it is absolutely necessary and no other reasonably practical option exists, the Customer may propose routing cables on private land, subject to a design review and acceptance by EirGrid; and*
 - *[...] The routing of [...] cables through third party lands shall only be considered if all other options have been exhausted (to the satisfaction of EirGrid). ”*

- An early decision was made to avoid crossing both Rogerstown and Malahide Estuaries due to complex constructability and environmental factors, so all routes would need to be west of the estuaries; and
- Early consultation with TII ruled out any options for laying cables along the M1 (see Appendix 3.2.1 of this report), although as any feasible cable route would have to come west of both estuaries, at least one crossing of the M1 would be required.

All of the above required that the study area, as set out in Section 5.7.4.3 of the 2024 EIAR, was confined as far as practicable within the public road network between Bremore and Belcamp, either side of the M1 and west of Rogerstown and Malahide Estuaries.

As described in Section 5.7.4 of the EIAR, where possible, the shortest and most direct routes were considered. Other design considerations, such as existing and planned services in the road (for example Metrolink) were also taken into consideration.

Section 5.7.4 of the EIAR sets out the identification of the reasonable alternative route options and the detailed assessment that was undertaken including consideration of environmental factors, through a multi-criteria comparative assessment. This assessment also included consultation with stakeholders, further design development and ground truthing, which then enabled the final cable routes to be identified and progressed. Of these stakeholders, the Developer engaged extensively with FCC, EirGrid, ESB, Fáilte Ireland, the developers for both the Aviation Fuel Pipeline and the Greater Dublin Drainage Scheme, Iarnród Éireann, Transport Infrastructure Ireland (TII), Uisce Éireann, and several others, which are listed in Table 3 of Appendix 1.2 of the EIAR. The consultation with FCC included specific engagement with the Roads and Traffic team, the Active Travel team, and the Drainage team. Several site visits were also undertaken with the FCC area engineers and bridge engineers.

This process complied fully with the requirements of the EIA Directive.

With respect to the above points, Chapter 5 and Appendix 5.1 of the 2024 EIAR demonstrate that it is feasible to route the HV cables within the existing road network. As the EirGrid Functional Specifications clearly state that the routing of HV cables on private lands is only acceptable where no other reasonably practical option exists, it was therefore not considered feasible to consider alternative options, including greenfield routes as requested in the alternative route put forward by the Malahide Community Forum. Further information pertaining to the additional route proposed by the Malahide Community Forum raised by Members at the Council Meeting is provided in Section 3.2.5.2 of this report.

As a result of the route refinement process and pre-application consultation with TII, siting the cable route along the M1 motorway was not considered a reasonable alternative and was not progressed further.

In terms of the diversion routes and as detailed in Section 24.4.2.3 of Chapter 24 of the 2024 EIAR, *“those living along the road closure section will be able to access their properties throughout the road closure. It is envisaged that the majority of local traffic with an origin or destination within close proximity to the road closure will likely use the signed local diversion routes whilst the majority of traffic travelling from farther afield will be intercepted at the nearest ‘decision point’ with diversion signage to direct them along the strategic diversion route where possible.”*

The Contractor will endeavour to ensure that both single lane road closures and full road closures will be for the minimum time possible. In respect of the full road closures in particular, it is proposed, as detailed in Section 24.6.1.3 to *“limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route, as an additional mitigation measure. The addition of multiple crews working simultaneously will add to the efficiency of the construction work.”*

By incorporating this additional mitigation measure the duration of full road closures will be limited to between 1 and 4 weeks, depending on the route section.”

The Developer acknowledges that negative and significant effects on road users are predicted to arise during the construction of the onshore cable route. However, it is important to reiterate that any impacts will be localised to specific sections of the cable route at any given time and are temporary in nature. Following the construction phase, there will be no significant effects arising throughout the onshore cable route.

Additional information on the impacts arising from the construction of the onshore cable route is presented in Sections 3.2 and 4.2.3.5 of this report.

Notwithstanding the above, An Bord Pleanála in its RFI has specifically asked that, “*having regard to the anticipated traffic disruption, the applicant is requested to consider, in consultation with Fingal County Council, mitigation measures to address the predicted length of road closures, including consideration of lane closures with significant traffic management measures, nighttime road closures and measures to reduce the road closure timelines such as increased resources. The applicant is also requested to submit, further to consultation with Fingal County Council, proposals for a phasing plan*”. The Developer has subsequently engaged with FCC and these consultations, together with the agreed measures are documented in Appendix A1.2 and outlined in the Response to the Request for Further Information document, prepared alongside this document. As noted above, following consultation with FCC, the Developer prepared an indicative phasing plan which will be further developed and agreed with all relevant stakeholders prior to the commencement of construction. Details of the indicative phasing plan are included in Appendix A9.1: Onshore Construction Environmental Management Plan (CEMP).

Response on Visual Impact and Accuracy of the Photomontage

The assessment methodology and guidance documents used in conducting the SLVIA (including the preparation of photomontages) is included in Section 29.2 of Chapter 29 of the 2024 EIAR. The photomontages have been produced in full accordance with the Scottish Natural Heritage (SNH) (NatureScot), *Visual Representation of Wind Farms Guidance, Version 2.2* (SNH, 2017a), which is the industry standard in Ireland as well as the UK. There may be a preconception, based on the proposed WTG dimensions, that they should appear larger than they do, even at the considerable viewing distances involved, however as detailed below, the photomontages included in the application are an accurate representation.

The verifiable photomontage methodology involves modelling the turbines and placing them at the correct scale and location within a digital terrain model (DTM) of the entire study area that is then matched to baseline photography in a sequenced and highly accurate process. Although it is not necessary to use man-made features (with a known height) such as Rockabill lighthouse as a reference in this process, the lighthouse was used in this instance for cross checking purposes and particularly to ensure that the lateral viewing angle of the WTG arrays was precise.

To fully address concerns that the proposed WTGs are accurately depicted, a sequence of process images has been produced to show the steps in the photomontage process that ensure scale and positional accuracy. The same process is then shown in relation to the existing Arklow Bank offshore WTGs to confirm its accuracy (See Appendix 3.4.1 of this report which demonstrates the procedure to ensure the accuracy of each photomontage). The process involves merging a spatially accurate Digital Terrain Model (DTM) with a spatially accurate and precisely placed 3D model of the development. Then, the photographic detail captured at each representative viewpoint location is replicated digitally to generate equivalent photoreal renders (snapshots) of the model that can be precisely matched to the baseline photography. The placement of the proposed WTGs within the baseline photographic image is aided by a simple wireline image, which also matches the parameters of the captured photography, and serves as a go-between with the digital and the real world. The process relies on precise coordinates / dimensions for the viewer location and the proposed development, and the resulting outputs are all computer generated using established guideline-based / best practice methods.

In relation to the mathematical models that were prepared to assess the accuracy of the photomontages, it is acknowledged that they were fully correct in terms of the calculation of the vertical angle, the WTG blade tips needed to be presented at, above the sea horizon from Skerries. However, the heights were calibrated against the nearest lateral turbine to Rockabill Lighthouse, which happens to be one of the turbines furthest from the viewer (in the east of the array) – not the nearest turbine to the viewer. The nearest turbine to the viewer is actually the 6th turbine to the left of Rockabill Lighthouse when viewed from Skerries. When using this closest turbine to calibrate heights, both the mathematics and the photomontages give the same answer thereby highlighting that the photomontages are correctly scaled.

The Developer notes that updated photomontages have been prepared for the refined turbine layouts for both Project Option 1 and Project Option 2. However, the guidance used in preparing the updated photomontages remains unchanged and therefore the updated photomontages are also correctly scaled. The updated photomontages are included in Volume 7C1 of the EIAR.

Further information on the accuracy of the photomontages is provided in Section 3.4.3.2 of this report.

Response on the size and scale of grid facility

The size and scale of the grid facility is addressed in Section 4.2.3.4.2 below.

4.2.3.3 Zoning

The FCC submission notes the key zoning objectives in the Fingal County Development Plan 2023-2029 (hereafter referred to as the 'Fingal Development Plan') of relevance to planning policy with respect to the locations described below.

4.2.3.3.1 Landfall

In terms of the landfall, FCC notes that the proposed landfall site is primarily zoned 'HA' High Amenity and 'OS' Open Space under the Fingal Development Plan. The 'HA' High Amenity objective is to “*Protect and enhance high amenity areas*”. The 'OS' Open Space zoning objective is to “*Preserve and provide for open space and recreational amenities*”. Under both of these zonings, utility installations have not been listed as permitted or not permitted. FCC notes that “*no above ground developments are proposed in these areas.*”

Response

As FCC has noted, there are no above ground developments at the landfall site. Therefore, the Developer acknowledges that there are no conflicting zoning objectives in the Fingal Development Plan of relevance to the proposed development at the landfall site.

4.2.3.3.2 Grid Facility

FCC notes that the proposed grid facility site is zoned 'RU' Rural in the Fingal Development Plan. The submission confirms that as utility installations are permitted in principle in areas zoned as 'RU', that “*the proposal is therefore acceptable in this regard.*”

Response

The Developer notes this comment.

4.2.3.3.3 Belcamp Substation Connection

The FCC submission noted that “*the Belcamp substation site is zoned 'HT' High Technology under the Development Plan, where the objective is to 'Provide for office, research and development and high technology/high technology manufacturing type employment in a high quality built and landscaped environment'.* Under the 'HT' zoning, utility installations are list as permitted in principle.”

Response

The Developer notes this comment.

4.2.3.3.4 Cable Route

The FCC submission notes that “*the cable route from the proposed grid facility development largely passes under public roads. These are not subject to zoning in the Fingal Development Plan 2023-2029. According to Section 7.5.2 of the EIAR in respect of the cable route description, once construction is completed, the only visible above ground structures along the onshore cable route will be small marker posts to indicate the location of the cables and manhole covers associated with joint bays, link boxes and communications chambers. Drawings of the marker posts should be provided for clarity.*

Above ground works are proposed at Blake's Cross, the location of which is subject to the 'RU - Rural' zoning. These works are in the form of landscaping and consequently are not considered to have implications for the land use zoning.”

Response

With respect to the marker posts, Section 7.5.3.2 of the 2024 EIAR notes that “*marker posts or surface marker plates (300mm x 150mm wide) will be installed at the following locations (exact locations to be agreed with EirGrid at detailed design stage):*

- *At the railway crossing*

- *At road crossings*
- *In agricultural land, where the marker posts will be located at field edges where cables enter and leave the field.*
- *At watercourse crossings*
- *At joint bays; and*
- *At changes in direction of the cable route.”*

Following agreement of marker post locations with EirGrid at detailed design stage, the Developer confirms that it could comply with a condition, which would require that the locations will also be shared with FCC.

4.2.3.4 *Landscape and Visual Impact*

Section 2.8 of the FCC submission notes that *“the coastal and estuary types which run along the eastern edge of Fingal are identified as being of exceptional value and high sensitivity. The high lying landscape type is also of high sensitivity and high value. There are a number of views identified for protection in the Development Plan, a number of which are located along the coastal boundary of Fingal.”*

The FCC submission provides context on the landfall site, the grid facility and the offshore infrastructure. Key points raised and responses are included below.

4.2.3.4.1 **Landfall**

The FCC submission also states that *“the proposed landfall site is situated on Highly Sensitive Landscape within the Historic Landscape Character Boundary for Balbriggan.”*

The FCC submission notes that *“it is not clear from the submitted documentation what is proposed at the landfall location in terms of what will be visible above ground once this overall project is complete. It is therefore difficult to assess the impact of this area in terms of visual amenity and on the future development of this land. In addition, it is not clear what is proposed as the defined construction corridor for works in this area (e.g. 30-40 metre working width.) This issue should be considered by An Bord Pleanála in the assessment of the proposal.”*

Response

As explained in Section 7.3.3 of Chapter 7 of the 2024 EIAR, two Transition Joint Bays (TJBs) will be located at the landfall. The TJBs will be underground concrete chambers, which, after cable installation, will be reinstated to the original surface, with manhole covers, marker posts and an access road being the only permanent above ground infrastructure at the landfall. The abovementioned infrastructure represents the only elements of the proposed development that will be visible above ground at the landfall site.

Section 7.3.6 of Chapter 7 of the EIAR notes that once construction is completed, permanent access tracks will be required to access the Transition Joint Bays (TJBs) (described below). The tracks will be *“approximately 5 m wide and will consist of crushed stone with a stone blinding surface layer. During the operational phase of the proposed development, traffic using the access track for maintenance is expected to be minimal, other than for maintenance purposes.”*

In addition, above ground infrastructure at the landfall site includes marker posts or surface marker plates (300mm x150mm wide) at the following locations:

- *"At the railway crossing*
- *In agricultural land, where the marker posts will be located at field edges where cables enter and leave the field.*
- *At joint bays; and*
- *At changes in direction of the cable route.”*

Section 29.14.4 of Chapter 29 of the EIAR addresses Operational Phase landscape effects relating to the landfall, wherein it is stated that *“there will be very minor and localised effects arising from the built*

infrastructure at the TJB within the landfall site as this is a substantially underground feature with little surface expression except for maintenance access features". Given that there will be very little surface expression of proposed landfall features during the operational phase, there will be no material visual effects.

In terms of the operational phase landscape and visual effects within the 'High Sensitivity' landscape zoning, such effects will be imperceptible due to the substantially underground / non-projecting nature of the landfall features.

Regarding the footprint of the development, the Developer has defined a proposed development boundary which provides some necessary local flexibility regarding the placement of project infrastructure. As noted in Section 7.2.2 of Chapter 7 of the EIAR notes that *"in some locations this means that the proposed development boundary is larger than the likely final construction footprint."* Therefore, whilst the proposed development boundary at the landfall appears to be a 30-40m working width, the final construction footprint will be significantly smaller.

During the construction phase, there will be visible construction compounds, access roads, etc at the landfall site, to accommodate the construction of the landfall. As per Section 9.3.1 of Chapter 9 of the 2024 EIAR, the construction of these works is expected to take approximately 12-13 months. On the basis of the landfall related SLVIA assessment, it is acknowledged that there will be construction phase landscape and visual effects within the 'High Sensitivity' landscape zoning to the east of the R132, but that these will be temporary and not significant in EIA terms.

Section 29.14.2 of Chapter 29 of the 2024 EIAR addresses construction phase landscape impacts at the landfall as follows: *"there will be direct physical, short-term impacts on the landward side of the coastline (coastal farmed fields back from shoreline) from the construction of the onshore HDD reception pit that will enable the HDD bore underground, connecting to the HDD exit pit which will be serviced by the offshore HDD cable vessel. The onshore export cables will then connect to the TJB compound within the landfall site. This will feed to HDD compounds on either side of the railway line. There will be direct physical short-term impacts on landform and landcover from the construction of the TJB, HDD compounds and trenching for the onshore export cables between these features and the Grid Facility. There will also be two temporary construction compounds on either side of the R132 regional road"*. Section 29.4.2 of Chapter 29 of the 2024 EIAR concluded that there will not be any significant landscape effects arising from the construction at the landfall site.

Section 29.14.3 of Chapter 29 of the 2024 EIAR addresses construction phase visual impacts and states in relation to the landfall that *"visual impacts will be localised (small scale), temporary and will relate to construction activity and traffic as well as temporary stockpiling of excavated materials and building materials"*. It is also noted that *"the majority of landfall features will be contained within private land and their small scale when seen from distant (300m+) aspects of the public realm, will result in a temporary duration and Low magnitude of visual impact. However, the construction compound on the eastern side of the R132 coast road, which is a designated scenic route along this section, is likely to temporarily intrude on coastal views for a brief section of the road generating a Medium-low magnitude of impact with a Negative quality and Temporary duration. This combination of receptor sensitivity (Medium) and impact magnitude will result in a Moderate-slight significance of effect (not significant in EIA terms)"*.

The Developer also notes that An Bord Pleanála also requested clarification on infrastructure visible above ground at the landfall site in its RFI. A detailed response is provided to RFI Section 20 (c) in the Response to RFI document submitted alongside this Response to Submissions Report.

4.2.3.4.2 Grid Facility

The FCC submission notes the key characteristics of the proposed grid facility. It notes that the *"location of the lightning arrestor masts are not clear, based on the elevation drawings submitted, as the lightning masts do not need to extend beyond the height of the compensation substation building."*

Section 3.6.1 of the FCC submission also notes that Section 7.4.2.1 of the 2024 EIAR *"states that there are 3m high environmental screens on three sides to screen the components of the harmonic filters. Based on the elevation drawings, it would appear that the screen is 8m in height."*

In respect of the proposed landscaping plan for the grid facility, the submission states that *"further consideration is required on treatment of the south-eastern boundary of the grid facility site in terms of the*

provision of adequate width for additional screen planting as well as allowing for the proposed storm water swale and protection of exiting hedgerow.”

In particular, in respect of the location of the grid facility, vis a vis the proposed Flemington LAP lands, the submission by FCC states that *“the GIS substation building is the closest of the largest scale structures to the Flemington lands and is oriented northwest-southeast to the Flemington lands. The photomontage viewpoints closest to the Flemington lands are VP48, VP49 and VP55. The positioning of VP49 and VP55 from the roadside does not give a full understanding of the impact to the Flemington lands. VP50 is also considered a useful reference point in terms of distance and illustrates the scale of the proposal. While cognisant of the functionality of the structures on site, given the prominence of the site, it is considered that a higher standard of architectural merit should be incorporated into the external finishes proposed to the compensation and GIS buildings”*.

Response on the Lightning Arrestor Masts

The lightning arrestor masts are designed to provide protection against lightning strikes to the various electrical equipment within the grid facility site. While they are shown on the layout plans (small grey boxes as shown on drawing 281240_ARP_ONS_GF_DR_PL_1001 - Grid Facility Proposed Layout Sheet 1), it is acknowledged that they were perhaps not as clearly labelled as they could have been. However, each of the lightning arrestor masts are shown clearly in the elevation drawings (281240-ARP-ONS-GF-DR-BS-2000 and 281240-ARP-ONS-GF-DR-BS-2001). For clarity, they extend 3m above the parapets of both the compensation substation building and the Bremore substation building. Those situated on ground level extend approximately 17m above the proposed ground level.

For further clarity, the Developer has included labels on the grid facility planning drawings in the EIAR (Drawing Ref: 281240-ARP-ONS-GF-DR-PL-1001) submitted with the Response to Request for Further Information Report in parallel to this Response to Submissions Report.

Response on the environmental screening of the harmonic filters

Section 7.4.2.1 of Chapter 7 of the 2024 EIAR notes that the harmonic filters will be surrounded on three sides by 3m high environmental screens. However, the Grid Facility Layout Drawing 281240_ARP_ONS_GF_DR_PL_1001, notes these as being 8m tall. The Developer notes that the latter measurement is correct and the measurement included in Section 7.4.2.1 was an inadvertent error.

The Developer also notes that Grid Facility Layout Drawing 281240_ARP_ONS_GF_DR_PL_1001 has been updated to include a three-sided acoustic enclosure for the harmonic filters instead of the environmental screening. It is important to note that the screens provide the same visual effect as the previous environmental screens, but are solid and free of any gaps.

Response on the potential impacts to Flemington LAP

With regard to the Flemington LAP lands, in the first instance, the Developer notes that the EIAR was prepared in compliance with Council Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU (the Environmental Impact Assessment (EIA) Directive). The EIAR was also prepared with due regard to the following overarching Environmental Protection Agency (EPA) and European Commission guidance on EIAR as detailed in Chapter 2 of the 2024 EIAR (EIA and Methodology for the Preparation of an EIAR).

As noted in Chapter 38: Cumulative and Inter-related Effects, of the 2024 EIAR, *“this EIAR has provided a description of the likely significant effects of the proposed development on the environment resulting from the cumulation of effects arising from “other existing and/or approved projects” as per the EIA Directive, taking into account any existing environmental issues relating to areas of particular environmental importance likely to be affected or the use of natural resources.*

The cumulative effects assessment (CEA) has specifically considered whether any of the identified projects in the local or wider area have the potential to exacerbate (i.e. alter the significance of) effects associated with the proposed development”.

Section 38.2.1 of Chapter 38 of the 2024 EIAR notes *“This chapter considers only proposed developments, being the “permitted or planned projects” as noted in Section 3.7.3 of the EPA 2022 Guidelines”*. Some

projects which are not yet permitted were also included in the CEA and the reasons for including those are detailed in Section 38.2.1.2 of Chapter 38 of the 2024 EIAR. It is also important to note that when the planning application was submitted (June 2024), the draft LAP had not yet been issued for consultation.

Notwithstanding, the Developer notes the concerns raised by FCC with regard to the Flemington LAP lands. The Flemington LAP has also been raised by An Bord Pleanála, in its Request for Further Information (RFI) and An Bord Pleanála has requested the applicant to “review the draft LAP (or adopted LAP, where updated at time of this observation) and update the submitted application documentation accordingly, having regard in particular to potential for visual impacts from the substation on the draft LAP lands, potential traffic implications given the proposed access to the LAP lands directly adjoins the proposed access to the substation, and potential noise implications from the substation on the adjoining residential zoned lands”.

Updated application documentation including an updated assessment of the potential for visual impacts from the substation on the Flemington LAP (since adopted in December 2024) together with full consideration of FCC’s concerns raised in this submission have been prepared and are included in the Response to the RFI document completed alongside this Response to Submission document. Furthermore, whilst there are no “permitted projects” yet associated with the Flemington LAP, the Developer is committed to ensuring that the proposed development is compatible with the land uses anticipated in the LAP. The potential visual and noise impacts of the proposed development on the LAP lands are addressed in Chapter 29 and Chapter 30 of the EIAR (submitted with the Response to the RFI document) respectively.

In response to RFI Section 13 (e), the Developer has included additional mitigation measures to reduce potential impacts on future residents of Flemington LAP. From a noise and vibration perspective, acoustic enclosures will be included around the shunt reactors in both substation compounds, and acoustic screens will be included around the harmonic filters. Alternatively, lower-noise units will be used where available.

In response to the point raised by FCC (and in compliance with RFI Section 13(e)), regarding the “*treatment of the south-eastern boundary of the grid facility site in terms of the provision of adequate width for additional screen planting as well as allowing for the proposed storm water swale and protection of exiting hedgerow*”, the Developer has prepared a revised landscaping plan, Drawing No.

281240_MCR_ONS_GF_DR_YE_1010 (see Appendix A7.1 of the EIAR). In the revised landscaping plan, the only change is a minor amendment to the treatment on the south-eastern boundary of the site.

The stormwater swale is replaced with a filter drain, located at the edge of the access road. A block of native woodland is provided along the full length of the south-eastern boundary in the area between the filter drain and the existing boundary hedgerow. The woodland replaces the riparian grass and herb mix in the swale and a narrow strip of species rich grassland. There is no change to the existing boundary hedgerow, which is to be retained and bolstered with native hedgerow mix where required.

Furthermore, for the section of boundary directly between the nearest grid facility substation and the Flemington LAP lands, large, semi-mature trees (30-40cm girth / 6-7m tall when planted) will be introduced to fill gaps in the existing mature treeline to provide more substantial and consolidated screening. In addition, while cognisant of the functionality of the grid facility structures on site and subject to final agreement with EirGrid and Fingal County Council, a higher standard of architectural finish is now incorporated into the external finishes proposed to the substation buildings (Planning Drawing ref. 281240-ARP-ONS-GF-DR-PL-1007 and 281240-ARP-ONS-GF-DR-PL-1007 included in the updated planning documentation). This blends more readily with the intervening vegetation in all seasons.

With the implementation of the additional mitigation measures described above, there are no significant operational phase effects predicted to arise from the proposed development on the Flemington LAP lands. It is noted that there remains the potential for a significant construction phase noise impact due to the construction of the grid facility. However, the effect is temporary in nature and given there is no planning application submitted for the development of these lands, there remains the potential for this impact to be avoided entirely.

It should be noted that as the LAP layout is still at early design stage and a planning application has yet to be lodged, future LAP design layouts can be cognisant of the grid facility layout in terms of the arrangement of open space and orientation of dwellings, thereby further reducing potential residual visual effects.

The Developer also notes that the CEA has been revised in response to RFI Section 5 to incorporate the Nationally Strategic Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (NSIP, 2024). In line with the NSIP Guidance, Tier 3 Projects (the Tier 3 projects include those developments that have been identified in the relevant Development Plans and other plans and programmes as appropriate) have been included in the Onshore Long List (see Appendix A38.1). The Flemington LAP has been included as a Tier 3 project (Project ID #92) and has been assessed as part of the revised CEA.

Offshore Infrastructure

- In respect of the offshore infrastructure, the FCC submission notes that *“the proposal is most clearly visible along the northern edge of the Fingal coast, at the viewpoints at Balbriggan, Ardgillan, Skerries and Loughshinny. Based on the details submitted, Fingal County Council considers that the proposal would not impinge in any significant way on the landscape in Fingal County and thus would not be contrary to Objective GINHO59, which is to ensure that ‘that new development does not impinge in any significant way on the character, integrity and distinctiveness of highly sensitive areas and does not detract from the scenic value of the area’”*.

Response

The Developer notes this comment.

4.2.3.5 Onshore Cable Route and Construction Impacts

Specifically in respect of the onshore cable route, in Section 3.12 the FCC submission sets out a number of requests and points of clarification with regard to the construction stage of the onshore cable.

In the first instance, FCC requests several conditions with respect to the construction of the onshore cable route. See Section 4.2.3.13 for a full list of conditions proposed by FCC.

FCC notes its concern about the scale of the proposed road closures and the level of disruption that could be caused to local and regional transport and suggests other alternatives that may need to be considered to mitigate impacts in key locations, such as:

- *Lane closures with significant traffic management measures i.e. flagmen and other appropriate measures could be considered.*
- *Nighttime road closures could also be considered but would need to be justified, and this option does not appear to have been explored.*
- *Mitigation measures in terms of increased resources are proposed to reduce some of the duration of the road closures, however, give the volumes of traffic on these roads this may have to be reconsidered for partial closures or night- based works to hand back the road to the council each day for example.*

FCC also recommends that the phasing and duration of the works on the public road, including proposed lane and road closures is kept to an absolute minimum and is agreed in writing with the Council should permission be granted for the proposed development.

Finally, FCC notes that *“in order to ensure proper coordination between the proposed development and the various planned projects along the proposed cable route, in the event that permission is granted, the phasing of the proposed works on the public road, including the phasing dates and duration of any proposed ‘road closures’ on the public road, should be agreed in writing with Fingal County Council prior to commencement of development”*.

Response

It is worth noting that the construction strategy, for the purposes of the environmental assessments, has adopted a conservative approach, to ensure that the EIAR considers the scenario likely to generate the greatest magnitude of impact. The Developer will, in further developing this construction strategy prior to, and during construction, make every effort to further reduce these impacts.

Section 9.5.5 of Chapter 9: Construction Strategy – Onshore of the 2024 EIAR notes *“the local road network and other factors such as access requirements, locations of joint bays and the construction schedule, there*

will be a requirement for either temporary lane, or full road, closures to undertake the cable route construction works along the public road. These partial (lane) or full road closures will be sequenced to minimise the impact on the local road network and residents.”

With regards to the application of nighttime road closures and night-based works to hand the road back to the council each day, the Developer considered night-time works to reduce the duration of road-closures throughout the cable route. However, due to the proximity of residential receptors in built-up areas where road closures are situated (i.e., Malahide and Balbriggan), these were excluded from the 2024 EIAR early in the design process due to potential noise-level exceedances. It is also noted that this construction strategy would be less productive and would generate prolonged disturbances to the local residents and was therefore not considered as a reasonable strategy.

However, following consultation with FCC in 2025 to respond to the RFI, the Developer notes that 24-hour working may now be considered an additional mitigation option in conjunction with the Local Authority and other stakeholders during the construction stage. As was previously noted in Section 9.8.2 of Chapter 9 in the 2024 EIAR, any 24-hour work will be communicated to stakeholders and agreed with local authorities in accordance with the Communication Plan provided in the CEMP. The assessment of potential night-time working has been included in Chapter 30 of the EIAR which accompanies the Response to the RFI document submitted in parallel with this report.

The Developer acknowledges that there will be disruption during the construction phase of the onshore cable route. The Developer has followed appropriate guidance and best practice in undertaking the impact assessment (see Section 24.2.4 of Chapter 24 of the 2024 EIAR). In terms of the duration and phasing of works set out in Section 9.3.3 of Chapter 9 of the 2024 EIAR, a conservative approach was adopted to identify a scenario likely to cause the greatest magnitude of impact from a traffic perspective. Where adverse effects were identified, suitable mitigation measures where possible, were identified, including those identified in Section 24.6 of Chapter 24 of the 2024 EIAR.

A Construction Traffic Management Plan (CTMP) was prepared and is included as Appendix A of the Construction Environmental Management Plan (CEMP), in Appendix 9.1 of the 2024 EIAR. This CTMP will be further developed in consultation with the local authorities and An Garda Síochána prior to commencement of construction and will be fully implemented by the Contractor to ensure that the disruption is kept to the absolute minimum during the construction phase.

Notwithstanding the above, the Developer notes that An Bord Pleanála, in its Request for Further Information (RFI) has acknowledged the concerns of FCC with regard to the scale and duration of onshore road closures and has requested the applicant to consider, *“in consultation with Fingal County Council, mitigation measures to address the predicted length of road closures, including consideration of lane closures with significant traffic management measures, nighttime road closures and resources. The applicant is also requested to submit, further to consultation with Fingal County Council, proposals for a phasing plan”*.

Following consultation with FCC in 2025 to address the RFI, additional mitigation measures have been agreed with FCC and have been included in the Addendum to the EIAR. These include:

- Corduff National School is located on Section 3.1 of the cable route. It is proposed to undertake work in the area surrounding the school during the school holidays.
- It is proposed to undertake work on Sections 12 and 13 (Swords Road and Malahide Rd, close to Malahide Castle) outside of peak concert season (June and July) unless otherwise agreed with FCC.
- The design as it has developed now envisages that, in general, the sequential single lane closures can be reduced from c. 200-300 m (2024 EIAR) to c. 150-200m. This reduction should help to alleviate the impact of the partial road closures; and
- During daytime working hours, and particularly to manage peak traffic time flows and to ensure that buses are prioritised - all single lane closures which have traffic lights deployed to manage the lane closure traffic flows, will have a Traffic Management Engineer deployed on site to monitor and regulate traffic flows at each traffic light head as required, in order to mitigate and prevent unnecessary tailbacks either side of the lane closure.

The Developer welcomed the opportunity to consult further with FCC and has done so, with the outputs from this consultation and the measures agreed presented in the Response to the Request for Further Information document prepared alongside this Response to Submission document.

4.2.3.6 Archaeology, Cultural and Architectural Heritage

In respect of archaeology and architectural heritage, the FCC submission noted that *“the landfall site would be in close proximity to the following Protected Structure:*

- *RPS No. 875 - Newhaven Quay (i.e. Remains of 16th century drystone pier)”*

Response

Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage of the 2024 EIAR considered impacts to all protected structures (which are denoted ‘BH sites’ in the chapter) in the study area. The study area was defined in Section 25.2.2 as *“the onshore development area (all infrastructure located landward of the HWM) and an area extending c. 250m from the edge of the onshore development area for archaeological, architectural, and cultural heritage sites and c. 50m (along the cable route of the onshore development area) for architectural sites.”*

Newhaven Quay (BH01) was included in the baseline assessment and assigned a sensitivity rating of High. However, it is situated c. 120m north of the landfall site. As noted in Section 25.5.2.1, *“construction within the landfall site will not result in any direct construction impacts on recorded archaeological or architectural sites (AH/BH) as any such sites are located outside of the onshore development area.”* Therefore, there will be no likely significant effects arising from the proposed development on Newhaven Quay. Refer to Image 4.2.1 below (extracted from Figure 25.1 of the 2024 EIAR) for the location of Newhaven Quay (BH01) and the proposed development boundary.

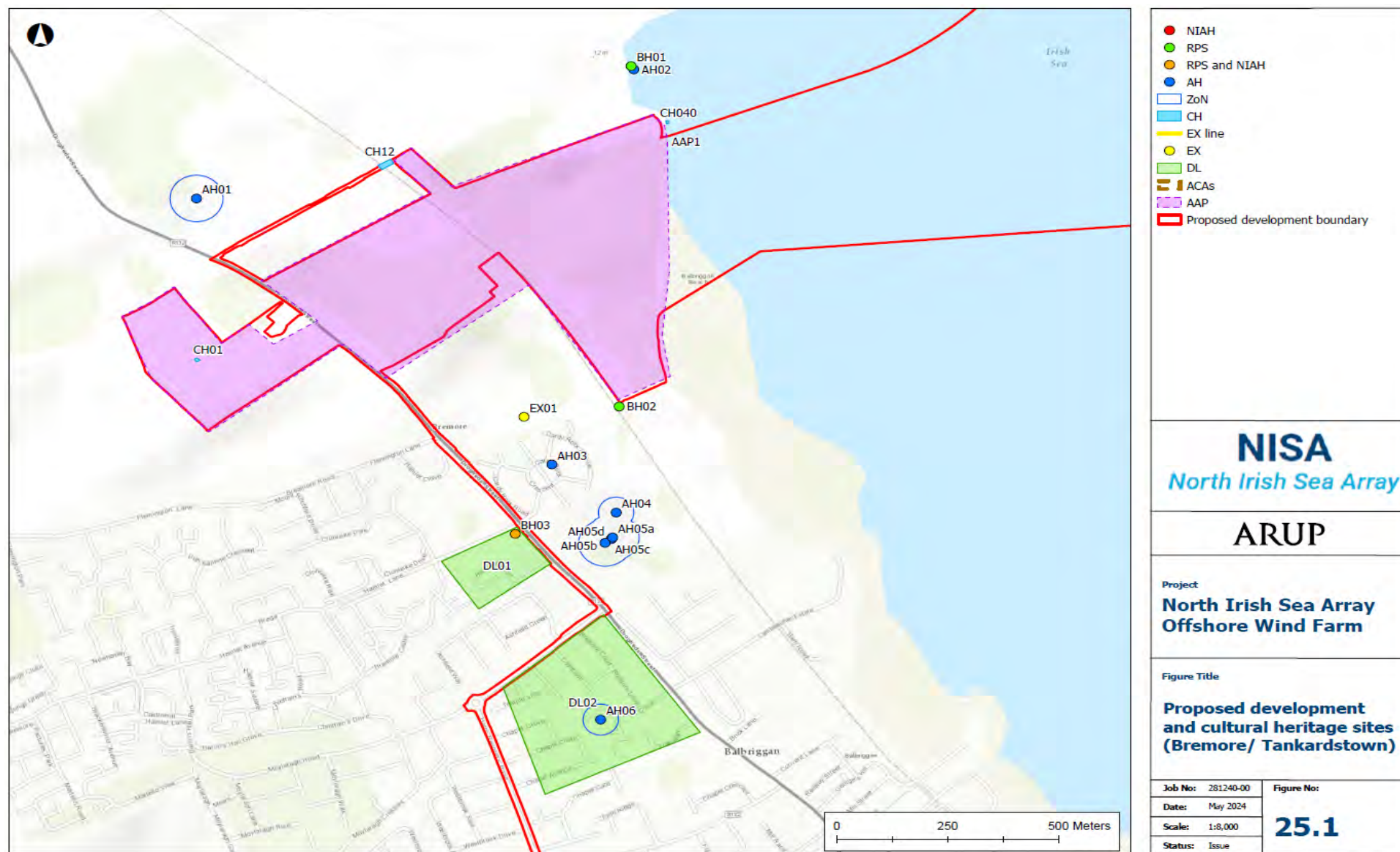


Image 4.2.1 Cultural Heritage sites near the landfall site (Extracted from Figure 25.1 of the 2024 EIAR)

4.2.3.7 Coastal Erosion

It is noted in the FCC submission that *‘the proposed landfall site is located in an area of land that is within 100 metres of the coastline and is therefore considered ‘Vulnerable to Erosion’.*

Response

Potential impacts on the rate of coastal erosion from the construction, operation or decommissioning of infrastructure landward of the high-water mark (HWM) are presented in Chapter 21: Land and Soils of the 2024 EIAR. All potential erosion impacts due to the construction, operation or decommissioning of the offshore infrastructure seaward of the HWM are presented in Chapter 10: Marine Geology, Oceanography and Physical Processes.

The inter-annual natural variation in coastal erosion is part of baseline behaviour and is expected to continue irrespective of any offshore wind developments. Section 10.3.5.8 of Chapter 10 of the 2024 EIAR identifies that periods of contemporary erosion are attributed to (winter) storm events (acute erosion) rather than gradual and progressive erosion (chronic erosion).

The coastline adjacent to the HDD exit pits is reviewed in Section 10.3.5.6 of Chapter 10 of the 2024 EIAR and is formed of a small beach sheltered by a rocky headland (Braymore Point to the north). This pocket beach is generally considered to be resilient to erosion pressures (i.e. less vulnerable to erosion than a long open sandy beach). The HDD exit pits will be small-scale features in the seabed and will only be open for a temporary period of a few months which is also likely to be timed for the more quiescent summer period. Consequently, the HDD exit pits will not be open during stormy winter weather and therefore the HDD exit pits will not contribute to any potential event driven coastal erosion.

The susceptibility of the onshore infrastructure of the proposed development to coastal erosion is addressed in Chapter 21: Land and Soils of the 2024 EIAR. Section 21.3.3.2 in Chapter 21 of the EIAR notes that *‘A review of the historical records of coastal erosion at the site do not indicate any significant coastal retreat at the site. The Irish Coastal Protection Strategy Study (ICPSS) erosion mapping for the area denotes a “Medium Confidence” 2050 erosion line which is similar to the historic HWM shown on OSi maps, with a difference of ~10m at the worst-case location within the site boundary.’*

The Developer notes that the ICPSS does not account for the impact of sea level rise, therefore coastal erosion may be more significant than shown by this study. Predicted high water levels for 2100, including allowances for projected changes in sea level rise are ~1.4m above the current high-water mark (which does not include storm surge), based on the ICPSS mid-range future scenario for a 1 in 200 yr return period.

The assessment assumed a 35-year operational life (as described in Section 6.10.1 of the EIAR) with operation commencing in 2030. Section 21.5.2.1 of Chapter 21 of the 2024 EIAR states:

“The [Transition Joint Bays] TJBs will be approximately 80m inland from the current HWM. In order for this location to be impacted by coastal erosion, the coastal retreat would have to increase significantly from the less than 0.1m per year currently observed. It is therefore considered that the risk of coastal erosion impacting the TJBs before 2065 is low. The magnitude of this potential effect is expected to be small adverse, and the significance of this potential effect is slight”.

A site walkover was undertaken in 2025 to confirm the assessment conclusions of the 2024 EIAR. The site walkover concluded that no significant changes relating to coastal erosion were noted during the updated walkover and as such, there are no changes to the conclusions of the 2024 EIAR. Therefore, the proposed development is not considered to be at risk to coastal erosion.

4.2.3.8 Residential Amenity

The FCC submission notes that there are acknowledged impacts on residential amenity during the construction and operational phases including noise impacts, as detailed in the EIAR.

In particular, FCC notes that *“the construction period, as set out in the EIAR is lengthy. In order to mitigate impacts on the amenities of property, construction works should be carried out during specified hours unless otherwise agreed in writing with the Planning Authority.*

In circumstances where work outside specified working hours is approved, measures to communicate this to nearby residents should be followed by the developer.”

With regards to the proposed lighting at the grid facility, FCC notes that *“In order to prevent negative impacts on residential amenities and also having regard to potential impacts on biodiversity, it is considered that conditions should be attached to address the hours of operation of the lighting and to require the implementation of motion sensor lighting as appropriate.”*

Response

Working hours have been proposed in Chapter 9: Construction Strategy – Onshore. Chapter 9 of the EIAR notes, *“The normal construction working hours for the onshore proposed development works will be 7am – 7pm: Monday to Saturday. These hours correspond to the current construction programme.*

All construction works will be carried out during normal working hours with the following specific exceptions:

- *HDD works at the landfall HDD contractor compound and the railway HDD contractor compound, both of which will require 24-hour working*
- *HDD works at the following watercourse crossings, which may require 24-hour working: watercourse crossings 5, 6, 7, 9, 10, 16, 17 and 18.*

Nearby sensitive receptors including residential receptors and sensitive non-residential receptors such as schools will be notified of any activities involving 24-hour a day working hours.”

Where works are required outside of these hours, the Contractor will agree these in advance with FCC. As noted herein, An Bord Pleanála specifically requested the applicant to consult further with FCC in response to its Request for Further Information, particularly in respect of the construction works and phasing of same. The Developer welcomed the opportunity to do so and the measures agreed with FCC (including the indicative phasing plan) as part of this consultation are presented in Section 4.2.3.5 above, and in Appendix A9.1 of the EIAR (which accompanies the Response to RFI document submitted in parallel to this report).

The Developer also notes that additional mitigation measures have been discussed with FCC during consultation undertaken in 2025. Of these measures, the Developer has also included an assessment of the potential for night-time construction activities along the onshore cable route in Chapter 30. Should night-time onshore cable route operations be required, the Developer will agree these with FCC prior to commencement of construction.

The lighting for the grid facility is set out in Chapter 7: Description of the Proposed Development – Onshore of the 2024 EIAR which states *“under normal operating conditions, external lighting would be switched off during the hours of darkness, to avoid creating any unnecessary glare in the night sky. The exception would be for emergency repairs to outdoor equipment, where high-level illumination would be switched on. The use of motion sensor technology is likely to be implemented to control lighting at access doors, security gates, etc.”*

4.2.3.9 Access

In its submission, FCC notes that *“specific details to demonstrate that the appropriate minimum sightlines are achieved has not been provided by the applicant, such as a dedicated 'sightline drawing'. An Bord Pleanála should satisfy themselves that appropriate sightlines are achieved for the posted speed limit at each of the proposed new vehicular entrances, as per the minimum requirements of DN-GEO-03060 as published by Transport Infrastructure Ireland (TII), and where appropriate, the Design Manual for Urban Roads and Streets”.*

Further the submission states that *“it is recommended that the layouts of proposed new vehicular entrances are designed so as to provide sightlines as per the minimum requirements of DN-GEO-03060 as published by Transport Infrastructure Ireland (TII), and where appropriate, the Design Manual for Urban Roads and Streets.”*

Response

A sightlines report was submitted in the planning application. The sightlines report is a standalone document titled ‘8. NISA Offshore Wind Farm Report on Approach to Temporary and Permanent Access Points from the Road Network.’ This report provides an overview of the proposed access points (Section 2 of the Report), Control of Access/Egress during the Construction Phase (Section 3) and Control of Access/Egress during the Operational Phase (Section 4). Two new access points are proposed, access point B from the R132 to the Grid Facility, and access point H, at Blakes Cross, to a possible off-line HDD watercourse crossing. All other locations use existing access points. The sightlines at each access point are described and assessed. Appendix A of the report contains sightlines drawings for access points B and H.

The two new access points will be in compliance with DN-GEO-03060.

The Developer notes that in the consultation with FCC in 2025, the FCC representatives confirmed that the sightlines report met their requirements, and satisfies the request made by An Bord Pleanála under Section 19 (b) of the RFI.

4.2.3.10 Existing Trees/Hedgerow

The FCC submission notes the Habitat and Species Management Plan included in the 2024 EIAR and the reference made therein to hedgerow planting and woodland planting at the grid facility and at Blakes Cross North. It notes that it is however unclear if there are proposals for any further tree and hedgerow planting works in relation to the development.

The submission also notes that “*replacement planting of trees and hedgerows within the Fingal area would need to be agreed with Fingal County Council in particular in terms of specification and location of replacement planting. It is noted that in certain cases it may not be feasible to carry out replacement planting at the exact location where trees and / hedgerows must be removed.*

In these cases, an appropriate nearby location should be agreed with the Council”. It also notes that “the applicant should provide details of proposed tree and hedgerow removal and compensatory planting in order to ensure that there is no net canopy (or biodiversity loss) as a result of the development”.

Response

FCC raises concerns in relation to the omission of a Tree Protection Plan and information that should be contained therein on trees and hedgerows that are proposed to be removed and retained with details of tree protection measures. FCC’s submission specifically references *Forest for Fingal: A Tree Strategy for Fingal* (FCC) which is to be implemented as per Objective GINH023 of the Fingal Development Plan. Within the *Forest for Fingal* document Section 4.8, it states existing trees will be retained and protected and specifically references BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*.

The Tree Survey Report, contained in Appendix 23.11 of the 2024 EIAR, details root protection areas for retained trees and hedgerows in paragraph 4.7 to 4.11 of the report in line with BS5837:2012. As such, the Tree Survey Report contained in EIAR Appendix 23.11 specifies protection measures for retained hedgerows and trees. The Developer also notes that the Tree Survey Report has been updated in response to RFI Section 20 (b) to include a Tree Impact Protection Plan (see Appendix A23.8 for the updated report).

While FCC notes the hedgerow and tree replanting proposed at the grid facility and Blakes Cross North, concerns are raised in relation to replanting outside of these areas along the onshore cable route. The proposed development does not include replanting in areas that are not in the Developer’s control, with the exception of replanting shallow rooted vegetation in off-road sections of the route where the onshore cable route intersects hedgerows/treelines. This is due to the need for maintenance and monitoring of replanted hedgerows and trees which is not reasonably practicable in lands outside of the Developer’s ownership.

EIAR Chapter 23, Section 23.5.2.2 assesses potential effects on hedgerows and trees/treelines. In total, one hedgerow measuring a maximum length of 160m will be removed at the grid facility, a maximum of 20 hedgerows, three treelines and two areas of woodland will be intersected by the onshore cable route. Each hedgerow or treeline intersected along the onshore cable route will be crossed by the works corridor at one location only resulting in habitat loss of 11m at each location. As such, up to 380m of hedgerows will be lost as a result of the proposed development.

Section 23.6.1.2 and 23.6.1.3 details mitigation and enhancement measures at the grid facility and Blakes Cross North including replanting of native hedgerow and tree species only. Replanting will total 566m of new hedgerows and an area of native woodland planting measuring 8,325m². As such, hedgerow and tree replanting at the grid facility and Blakes Cross North has taken into consideration the length of hedgerow and area of trees removed along the onshore cable route, and provides sufficient replanting to ensure, at maturity, that there will be no net canopy loss.

The Developer is committed to ongoing engagement with Fingal County Council in relation to the specification and location of tree and hedgerow replanting at the grid facility and Blakes Cross North lands.

The Developer notes the concerns of FCC as raised in its submission and summarised above. The Developer also notes that An Bord Pleanála, in its Request for Further Information, states the following under Item 20 b): “*Fingal County Council raise a number of issues in relation to tree protection/removal, landscaping plans and the submitted Habitat and Species Management Plan. The applicant is requested to address the issues raised*”.

These issues have been addressed in the Response to the Request for Further Information document which has been prepared alongside this Response to Submissions document. In addition, the Tree Report has been updated to include reference to *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations for survey methodology, tree protection standards and calculation of the Root Protection Area (RPA)*. The updated Tree Report also includes a system of working to ensure retained trees are protected at all times during construction. The updated tree report is provided in Appendix A23.6.

The Habitat and Species Management Plan has also been updated and is included as Appendix A23.9. This update also addresses the submission received from National Parks and Wildlife Service (NPWS), on the use of grassland seed mixes at the grid facility, Blakes Cross North and the attenuation basin. Updates on the methods of grassland establishment have been made to integrate recommendations received from NPWS. Additional changes have been made to habitat areas of species rich grassland and native woodland areas at the grid facility, and riparian grassland at the attenuation basin as a result of updates to the landscape plan, in accordance with RFI 13 (e).

4.2.3.11 Water Services and Flood Risk

The FCC submission notes that consultation with Uisce Éireann should be ‘*sought with regard to the provision of a potable water supply to the grid facility*’.

FCC also notes in its submission that both the surface water drainage and foul wastewater collection proposals for the grid facility are considered acceptable.

Response

The Developer undertook pre-application consultation with Uisce Éireann during the course of preparing the 2024 planning application. As part of this, a pre-connection Enquiry was sent to Uisce Éireann. In response, as noted in Section 26.5.2.2 of Chapter 26: Material Assets, “*Uisce Éireann provided a confirmation of feasibility for the connection to the existing 100mm uPVC main adjacent to the grid facility (Uisce Éireann ref: CDS23001563)*” which was received by the Developer on 06/03/2023.

4.2.3.12 Section 48/49 Development Contribution Schemes

FCC requests the Board, should permission be granted, to include a condition requiring the payment of a development contribution in accordance with the scheme. It further notes that there are no Section 49 supplementary contributions schemes either adopted or proposed that would affect the proposed development.

Response

The Developer notes FCC’s proposed condition.

4.2.3.13 Recommended Conditions

Section 4 of the FCC submission recommended conditions in the event of a grant of permission which FCC request ABP consider. The Developer has reviewed these proposed conditions (see Table 4.2.2 below), which are for the consideration of An Coimisiún Pleanála and has provided a response in respect of each of these proposed conditions.

Table 4.2.2 Schedule of Conditions

No.	Condition	Developer's Response
1	The development shall be carried out in its entirety in accordance with the plans, particulars and specifications lodged with the application, save as may be required by the other conditions attached hereto. <u>Reason</u> To ensure that the development shall be in accordance with the permission, and that effective control be maintained.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	Prior to commencement of development, the developer shall submit for the written agreement of Fingal County Council, revised proposals for external finishes to the compensation and GIS substation buildings. The proposals shall be accompanied by trade brochures and photomontages of the structures incorporating the materials. Sample panels shall be erected on the site (if requested by Fingal County Council). <u>Reason</u> In the interests of the proper planning and development of the area.	The Developer notes that a revised external finish for the grid facility (subject to final agreement with EirGrid and FCC) has been included in the Addendum to the EIAR (see Chapter 29 for further information). Therefore, should such a condition be attached to any planning permission, the Developer confirms that it can comply with same.
3	Prior to commencement of development, the developer shall submit for the written agreement of Fingal County Council, details of the location and height of all lightning rods. <u>Reason</u> In the interest of clarity and development control.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	CCTV cameras shall not be directed outside of the grid facility site boundaries. <u>Reason</u> To protect the amenities of the area.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
5	External lighting in the grid facility shall be cowled and shall not be directed outside of the site boundaries. External lighting shall be switched off during hours of darkness, save where required for emergency repairs. A log shall be maintained by the developer of such instances which shall be made available, if requested, to Fingal County Council. Motion sensor lighting shall be implemented to control lighting at access doors and security gates on the site. <u>Reason</u> To protect the amenities of the area.	As detailed in Section 7.4.3.3 of the EIAR, in respect of external lighting at the grid facility, <i>'Under normal operating conditions, external lighting would be switched off during the hours of darkness, to avoid creating any unnecessary glare in the night sky. The exception would be for emergency repairs to outdoor equipment, where high-level illumination would be switched on. The use of motion sensor technology is likely to be implemented to control lighting at access doors, security gates, etc.'</i> Fingal County Council has further requested that the Applicant be conditioned (should consent be granted) to ensure that the external lighting in the grid facility will be cowled and not directed outside the site boundaries and that a log shall be maintained by the developer of such instances which shall be made available, if requested, to Fingal County Council. The Applicant has no objection to a condition of this nature being attached any grant of permission which An Coimisiún Pleanála might make. However, the Applicant does note that the ownership of the grid facility will be transferred to ESB and EirGrid following construction who shall be responsible for maintaining any logs requested by Fingal County Council.

No.	Condition	Developer's Response
6	Prior to commencement of development, the developer shall submit for the written agreement of Fingal County Council, elevational drawings of the marker posts for the cable route. <u>Reason</u> In the interest of clarity and development control.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	The following shall be complied with in respect of surface water management: a) No surface water/ rainwater shall discharge into the foul water system under any circumstances. b) The surface water drainage arrangements shall be in compliance with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0 FCC April 2006. c) All culverts shall be designed in accordance with "Culvert Design Guide" Report 168 by CIRIA, latest revision or its replacement, and shall also comply with the recommendations of the OPW. Design calculations for these shall be submitted for the written agreement of Fingal County Council prior to commencement of development. d) The developer shall apply to the OPW to obtain permission under Section SO, Arterial Drainage Act 1945, for culverting of any watercourse. <u>Reason</u> In the interests of public health.	The Developer has no objection in principle to these conditions being attached to any grant of permission by An Coimisiún Pleanála. It is important to note that the Developer has also committed to a comprehensive suite of mitigation measures to manage surface water and ensure water quality is not impacted throughout the lifecycle of the proposed development. These measures are listed in Section 22.6 of Chapter 22 of the EIAR and in the Onshore CEMP in Appendix 9.1 of the EIAR. Additional embedded mitigation measures are outlined in Section 9.5.5.11 of Chapter 9 of the EIAR. Reference (in respect of the drainage at the proposed grid facility) is specifically made to compliance with the Greater Dublin Regional Code of Practice for Drainage Works.
8	a) Prior to commencement of development, a Tree Protection Plan, including tree protection measures and Arboricultural Method Statement in accordance with 855837:2012 Trees in relation to Design, Demolition and Construction Recommendations shall be submitted for the written agreement of Fingal County Council. This plan shall clearly indicate the trees and hedgerows proposed for removal and retention. The plan shall clearly indicate the length and area of hedgerows as well as the number of trees proposed for removal. b) Prior to commencement of development, a detailed Landscape Plan, Planting and Works Specification and Management and Maintenance Plan shall be submitted in writing with Fingal County Council in relation to this development. The Landscape Plan shall clearly indicate the length and area of hedgerows as well as the number of trees which are proposed to be planted. This plan shall clearly indicate that there shall be no net tree canopy cover loss as a result of this development. These documents shall be prepared by a suitably qualified landscape professional. c) A consultant qualified arborist suitably qualified landscape professional shall be engaged for the duration of the development to ensure trees and hedgerows are protected in accordance with the agreed Tree Protection Plan. <u>Reason</u> To ensure the provision of amenity afforded by appropriate landscape design.	The Developer has no objection in principle to these conditions being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
9	Prior to the commencement of works on site, full details of the defined construction corridor and above and ground infrastructure and landscape proposals in relation to the landfall site indicated on Proposed Cable Route Map Sheet 03 and Sheet 04 of 64 shall be submitted for the written agreement of Fingal County Council. <u>Reason</u> In the interest of visual amenity and orderly development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
10	a) Prior to commencement of development, a revised landscape plan for the Grid Facility shall be submitted for the written agreement of Fingal County Council to include additional screen planting (using a mix of standard trees and whips) along the south-eastern boundary. b) Prior to commencement of development, a cross-section drawing shall be submitted for the written agreement of the Planning Authority which illustrates clearly the proposed boundary treatment, existing hedgerow, additional screen planting and the proposed swale. <u>Reason</u> To ensure the provision of amenity afforded by appropriate landscape design	In response to potential visual impacts to Flemington LAP in Section 4.2.3.4 of this report, the Developer has issued a revised Landscape Management Plan, Drawing ref: 281240_MCR_ONS_GF_DR_YE_1010. This is included in Appendix A7.1 of the EIAR. This, the Applicant believes, if incorporated in the development to be consented, addresses the issues raised by Fingal County Council and therefore, a condition of this nature is no longer required.
11	Prior to the commencement of development, the developer shall submit for the written agreement of Fingal County Council a phasing plan for the cabling works proposed in the public road. <u>Reason</u> In the interest of orderly development	Following consultation with FCC in 2025, an alternate proposed condition was agreed with FCC for consideration by An Coimisiún Pleanála. Therefore, the Developer requests that the following text be considered in place of the proposed Condition No. 11: <i>Prior to commencement of development the developer shall engage with and submit for the written agreement of Fingal County Council a phasing plan for the onshore cabling works in the public road. The phasing plan shall be refined into several sectional phasing plans, the details of which shall be agreed in writing with Fingal County Council prior to commencement of development.</i> <i>In preparation of the phasing plan, the developer shall provide Fingal County Council with the following requirements:</i> <i>(a) The layout and depth of the ducting trench cross section.</i> <i>(b) The location/route of the ducting trench within each individual section of road.</i> <i>(c) The details for road reinstatement works for each individual section of road, with all such road reinstatement works as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book').</i> <i>(d) The phasing of the proposed works on the public road for each sectional phasing plan, including the phasing dates and duration of any proposed 'road closures' on the public road. This phasing shall be coordinated so as to avoid, where feasible or otherwise agreed, the proposed development works conflicting with various planned and permitted developments along the proposed cable route corridor.</i>

No.	Condition	Developer's Response
		(e) The details of the proposed construction traffic management plan for each individual section, including the details of all proposed road closures and lane closures. (h) The details of temporary construction vehicular access opening onto the public road. (i) The details of new permanent vehicular access onto the public road. Each of these sectional phasing plans shall be submitted for the written agreement of Fingal County Council prior to the commencement of the development of that section of the cable route. REASON: In the interest of orderly development.
12	The developer shall comply with the following requirements: a) The layout and depth of the ducting trench cross section shall be agreed in writing with Fingal County Council prior to commencement of development. b) The exact location/route of the ducting trench within each individual section of road shall be agreed in writing with Fingal County Council prior to commencement of development. c) The exact details for road reinstatement works for each individual section of road shall be as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book'), and the details of which shall be agreed in writing with Fingal County Council prior to commencement of development. d) The phasing of the proposed works on the public road, including the phasing dates and duration of any proposed 'road closures' on the public road, shall be coordinated so as to avoid the proposed development works conflicting with various planned and permitted developments along the proposed cable route corridor. In this regard, a phasing plan shall be agreed in writing with Fingal County Council prior to commencement of development. e) The details of the proposed construction traffic management plan, including the details of all proposed road closures and lane closures shall be agreed in writing with Fingal County Council prior to commencement of development. f) The developer shall agree all proposed public transport diversions due to proposed road closures with all relevant transportation stakeholder's, including the NTA, Dublin Bus, and Bus Eireann, prior to commencement of development. The agreed details shall be submitted for the written agreement of Fingal County Council prior to commencement of development. g) All necessary consents from the Council shall be obtained before works commence, including the necessary road opening licences. h) All details of temporary construction vehicular access opening onto the public road shall be agreed in writing with Fingal County Council prior to commencement of development.	Following consultation with FCC in 2025, an alternate proposed condition was agreed with FCC for consideration by An Coimisiún Pleanála. Therefore, the Developer requests that the following text be considered in place of the proposed Condition No. 12: <i>The developer shall comply with the following requirements:</i> (a) The developer shall agree all proposed public transport diversions due to proposed road closures with all relevant transportation stakeholder 's, including the NTA, Dublin Bus, and Bus Eireann. (b) All necessary consents from Fingal County Council shall be obtained before works commence, including the necessary road opening licences. Such consents may be submitted on a sectional basis (as per the sectional phasing plans, outlined in Condition 11) as agreed with Fingal County Council (c) A photographic pre-condition road survey of the proposed route for the ducting trench shall be prepared by the developer and submitted prior to commencement of development. This photographic survey may be submitted on a sectional basis (as per the sectional phasing plans, outlined in Condition 11), as agreed with Fingal County Council. (d) Any damage caused to the pavement on the existing road network arising as a direct consequence of the construction works (e.g. damage of the surface wearing course, etc.) shall be rectified in accordance with TII Pavement Standards. Details in this regard shall be agreed with the Road Authority in writing prior to the commencement of development on site. Details in this regard for each cable route section can be submitted in accordance with the geographic sections (as per the sectional phasing plans, outlined in Condition 11), as agreed with Fingal County Council. e) The applicant/ developer shall be responsible for the full cost of rectification in respect of any damage caused to the adjoining public road arising directly from the construction work and shall either make good any damage to the satisfaction of Fingal County Council considering reasonable time for the applicant to remedy the damage or pay the Council the cost of making good any such damage upon issue of such a requirement by the Council. REASON: In the interests of orderly development, traffic safety and proper planning.

No.	Condition	Developer's Response
	i) All details of new permanent vehicular access onto the public road shall be agreed in writing with Fingal County Council prior to commencement of development. j) A photographic pre-condition road survey of the entire proposed route for the ducting trench shall be prepared by the developer submitted for the written agreement of Fingal County Council prior to commencement of development. k) Any damage caused to the pavement on the existing road network arising from the construction works (e.g. damage of the surface wearing course, etc.) shall be rectified in accordance with TII Pavement Standards. Details in this regard shall be agreed with the Road Authority in writing prior to the commencement of any development on site. <u>Reason</u> In the interests of orderly development, traffic safety and proper planning.	
13	Within the grid facility, no additional development shall take place above roof parapet level, including air handling equipment, storage tanks, ducts or other external plant, telecommunication aerials, antennas or equipment, unless authorised by a further grant of planning permission. <u>Reason</u> To protect the visual amenities of the area	The Developer notes that the LVIA of the grid facility (see Section 29.14.5 of Chapter 29 of the EIAR), concluded that the significance of impact varied from Moderate to Imperceptible, which is not significant in EIA terms. The Developer does not anticipate that it will be necessary to locate air handling equipment, storage tanks, ducts or other external plant on the rooftop of either of the GIS buildings in the grid facility compounds. The Developer will at most require a small satellite dish or antennae to be placed on the roof of the GIS buildings for communications to offshore. Consequently, the Developer considers it extremely unlikely that such small items will generate any impact on the visual amenities of the area. Therefore, the Developer suggests a rewording of this condition as follows: <i>Within the grid facility, no additional development shall take place above roof parapet level, including air handling equipment, storage tanks, ducts or other external plant, unless authorised by a further grant of planning permission, with the exception of a communication antenna and a communication satellite.</i>
14	The following requirements shall be complied with in full: a) The hours of operation on all construction sites shall be restricted to between 0800 hours to 1900 hours Monday to Friday, and between 0800 hours to 1400 hours on Saturdays. b) No activities shall take place on site on Sundays or Bank Holidays. c) Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from Fingal County Council. Such approval may be given subject to conditions pertaining to the particular circumstances being set by Fingal County Council.	The Developer has no objection in principle to this proposed condition. However, it is necessary for some cables to remain exposed within the confines of the substation compounds, as is the norm for such facilities. Therefore, the Developer suggests a rewording of this condition as follows: <i>All service cables associated with the proposed development shall be run underground. The only exceptions to this condition are within the boundaries of the substation compounds themselves.</i>

No.	Condition	Developer's Response
	d) Where revisions are approved in accordance with point (c) above, local residents, business in areas which are likely to be affected by noise from the proposed works shall be notified in advance, for example, by letter/leaflet or advertisement stating the following: • Name, address and telephone number of the company carrying out works. • Nature of and reason for works. • Duration and times of work. <u>Reason</u> In the interest of public health and in the interest of residential amenity.	
15	All necessary measures shall be taken by the applicant/developer to prevent the spillage or deposit of any materials including clay rubble or other debris on adjoining roads during the course of development. In the event of any such spillage or deposit, immediate steps shall be taken to remove the material from the road surface at the applicant/developers own expense. The applicant/developer shall be responsible for the full cost of repair in respect of any damage caused to the adjoining public road arising from the construction work and shall either make good any damage to the satisfaction of Fingal County Council or pay the Council the cost of making good any such damage upon issue of such a requirement by the Council. <u>Reason</u> To protect the amenities of the area.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
16	The developer shall provide a piece of public art or sculpture or architectural feature, to be designed in consultation with Fingal County Council (Public Art Coordinator, within the Community Culture & Sports Division of Fingal County Council). The piece of art shall have a relationship with the area. <u>Reason</u> In the interest of the proper planning and sustainable development of the area	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
17	Prior to commencement of development the developer shall pay to the planning authority a financial contribution towards expenditure that was and/or that is proposed to be incurred by the planning authority in respect of public infrastructure and facilities benefiting development in the area of the Authority, as provided for in the Contribution Scheme for Fingal County made by the Council. The phasing of payments shall be agreed in writing with the planning authority prior to the commencement of development. <u>Reason</u> It is considered reasonable that the payment of a contribution be required in respect of the public infrastructure and facilities benefiting development in the area of the Planning Authority and which is provided, or which is intended to be provided by, or on behalf of the Local Authority.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

4.2.4 Conclusion

In its conclusion with respect to the proposed development, FCC notes that *“the provisions of the Fingal County Development Plan 2023-2029 support in principle the development of renewable energy including offshore windfarms subject to normal planning and environmental considerations. FCC considers that the offshore elements would not impinge in any significant way on the landscape in Fingal County and would be acceptable in this respect in the context of the objectives for landscape in the Fingal Development Plan”*.

The Developer notes this summary by FCC. The Developer also acknowledges the other issues raised in the FCC submission and has addressed these concerns herein (and as appropriate in the Response to the Request for Further Information document prepared alongside this Response to Submissions document). The Developer also notes the conditions that FCC recommends that An Coimisiún Pleanála attaches to any grant of permission for the proposed development.

4.3 Minister for Housing Local Government and Heritage

4.3.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by the Minister for Housing Local Government and Heritage.

4.3.2 Summary of the Key Points Raised by the Minister for Housing Local Government and Heritage

On behalf of the Minister, the Department of Housing, Local Government and Heritage (DHLGH), as a prescribed body provided a summary concluding no observations regarding the proposed development and committing to facilitate further consultation with the An Coimisiún Pleanála should it be required.

4.3.3 Response to Key Points Raised

The confirmation of no observations and support offered by DHLGH to An Coimisiún Pleanála has been noted by the Developer.

4.3.4 Conclusion

In its conclusion with respect to the proposed development in its submission, DHLGH notes that “*the Department has no observations to make on this matter*”.

The Developer notes the response.

4.4 Maritime Area Regulatory Authority

4.4.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by the Maritime Area Regulatory Authority (MARA).

4.4.2 Summary of the Key Points Raised by MARA

The MARA submission raises a number of key points, these have been addressed within the sections below under the following headings:

- Maritime Area Consent (MAC);
- Compliance and enforcement;
- An Coimisiún Pleanála handover to MARA;
- Monitoring and operation; and
- Decommissioning and rehabilitation.

4.4.3 Response to Key Points Raised

4.4.3.1 Maritime Area Consent

4.4.3.1.1 Point 1 – Temporal Extent of the MAC

Section 1 of Appendix A of the MARA submission states that “[t]he terms of the development permission should be consistent and aligned with the requirements of the MAC.” The submission provides detailed comments on adherence to the temporal and spatial extents of the MAC, stating the following:

“It is noted by MARA the subject application is seeking a ten-year permission and 35 year operational life from the date of final commissioning of the Proposed Development, which would extend beyond the permitted term of the MAC.

“The MAC specifies the permitted maritime usage as “The construction and operation of an offshore wind farm and associated infrastructure (including decommissioning and other works required on foot of any development permission for such offshore wind farm)”. Accordingly, the planning application and approval should only consider this usage.”

Response to Point 1 – Temporal Extent of the MAC

The application has been made to reflect the anticipated life of the turbines and other infrastructure. The operation period of 35 years is in line with standard operational life of offshore wind farm developments across Europe. Whilst a ten-year permission has been applied for (as would be considered standard for large-scale SID development) it is not anticipated that this will be required. On the assumption that the proposed development will be operational by 2030, with a 35 year life cycle, the duration of the MAC will not extend beyond the 45 year permitted term of the MAC. The Developer acknowledges the term of the MAC and is required to operate within the permitted term of the MAC unless an amendment to extend the permitted term pursuant to section 86 of the Maritime Area Planning Act 2021, as amended, is granted. As outlined above, the Developer does not consider such an extension/amendment is required.

The Developer confirms that the planning application scope reflects the permitted maritime usage.

4.4.3.1.2 Point 2 – Spatial Extent of the MAC

Section 1 of Appendix A of the MARA submission states that *“The MAC specifies the spatial representation (map) of the consent area. Accordingly, the planning application should only consider and consent maritime development within that spatial extent. Any change to the spatial extent can only be done by a material amendment to the MAC by MARA in advance of any planning application.”*

Response to Point 2 – Spatial Extent of the MAC

No infrastructure is proposed beyond the MAC extent in the planning application.

It is noted that An Coimisiún Pleanála, in its RFI Section 1(f), requests additional information in relation to the MAC boundary. Refer to the Response to RFI Document in which this request is addressed.

4.4.3.1.3 Point 3 – Cumulative Assessment

Section 1 of Appendix A of the MARA submission includes links to the following portals for consideration in cumulative assessments:

- MAC applications;
- Maritime usage licences; and
- Foreshore Act Consents.

Response to Point 3 – Cumulative Assessment

All relevant MAC applications, maritime usage licences and foreshore licences of other developments were considered in the cumulative impact assessment, as presented in Chapter 38: Cumulative and Inter-related Effects and Appendix A38.2: Stage 1 and Stage 2 CEA (Offshore) of the EIAR.

4.4.3.2 Compliance and Enforcement

4.4.3.2.1 Point 1 – Compliance and Enforcement

Section 2 of the MARA submission states that *“MARA has statutory responsibility for ensuring compliance with a development permission granted in respect of the maritime usage the subject of the relevant maritime area consent. It is important to make the distinction that MARA is not a development consent authority, and therefore, does not have remit for the assessment and evaluation of matters in relation to the development consent application. Any conditions included in the development consent for future agreement, that may require planning and environmental assessment, should be referred back to An Bord Pleanála, as the relevant consent authority, for agreement”*.

Section 2 of Appendix A goes on to state that *“MARA notes Section 293(7)(m) of the Planning and Development Act (2000, as amended) here with regards to conditions requiring the applicant to submit such information as may be specified by An Bord Pleanála, to:*

- The Maritime Area Regulatory Authority*
- such coastal planning authority as may be specified by An Bord Pleanála, or*
- any such other public body as may be specified by An Bord Pleanála, prior to commencement of the development concerned”*.

Response to Point 1 - Compliance and Enforcement

The distinction between MARA and An Coimisiún Pleanála has been noted. The Developer will continue to refer to An Coimisiún Pleanála, as the relevant development consent authority, for agreement on any conditions that may require planning and environmental assessment in future. Additionally, the Developer will submit information to bodies specified by An Coimisiún Pleanála as required.

4.4.3.2.2 Point 2 – Design Flexibility and Enforcement

Section 2 of Appendix A states that *“MARA would welcome An Bord Pleanála including a condition requiring the specific 'Design Flexibility' details to be agreed with An Bord Pleanála prior to construction. The agreed particulars should be forwarded to MARA for enforcement and compliance purposes.”*

Response to Point 2 – Design Flexibility and Enforcement

Should An Coimisiún Pleanála grant permission for the proposed development and attach a condition such as noted above, the Developer would have no objection.

4.4.3.3 *An Coimisiún Pleanála handover to MARA*

In Section 3 of Appendix A of the MARA submission states that *“In the event of a grant of development permission by An Bord Pleanála, MARA would envisage a standardised approach to enable the official transfer of all relevant decision documents in a timely manner. It is also preferable for all planning particulars to be published and maintained on An Bord Pleanála’s website indefinitely to ensure open access to the information.”*

Response on An Coimisiún Pleanála handover to MARA

The Developer notes actions for MARA to engage with An Coimisiún Pleanála in developing a standardised approach to enable the transfer of relevant decision documents in a timely manner and will continue to collaborate with both parties throughout the planning application process to support such processes. The Developer supports the proposal to publish and maintain all planning application documents on An Coimisiún Pleanála’s website to ensure open access to information.

4.4.3.4 *Monitoring and Operation*

Section 4 of Appendix A of the MARA submission states that *“in the event of a grant of permission, there is merit in requiring the preparation of a 'Mitigation Schedule' and 'Monitoring Programme', which could be agreed with An Bord Pleanála.”*

“The monitoring schedule should be mindful of the need for the monitoring to be reactive and adaptive given the nature of the development and the likely advances in ORE knowledge over its lifetime. The monitoring schedule should also clearly distinguish between monitoring required at the construction phase of the project and the operation phase of the project.”

Response to monitoring and operation

The Developer has considered mitigation measures and monitoring through each stage of the proposed development as outlined in Chapter 36: Mitigation, Monitoring and Likely Significant Residual Effects of the EIAR and within individual topic chapters (Chapters 10-35 of the EIAR).

Mitigation measures are identified and adopted as part of the evolution of the proposed development’s design and operation of the proposed development. Such measures are assumed to form part of the design of the proposed development prior to any assessment and have been considered by the Developer in the topic chapters (Chapters 10-35 in the EIAR). Such measures also include industry best practice that will be incorporated into most offshore wind farm developments.

In certain circumstances, it may be pertinent to implement monitoring of any identified residual effects. Details of any post-consent management and monitoring suggested for the proposed development are set out within the relevant technical assessment chapters (Chapters 10-35 of the EIAR) and Appendix A6.1 Offshore Environmental Management Plan (EMP) of the EIAR. This includes, where appropriate, proposals to measure the effectiveness of identified mitigation measures.

In its RFI Section 1 (d), An Coimisiún Pleanála has requested the Developer provide details of an operational monitoring programme for the proposed development. Details of the programme can be found in Appendix A6.3: Operational Monitoring Plan.

The Developer will prepare mitigation and monitoring schedules as proposed and agrees to make all environmental monitoring data publicly available, to support and inform future plans and developments. There will be a clear distinction between monitoring during the construction and operation phases of the proposed development. The Developer is committed to participating in the ‘East Coast Monitoring Group’ (ECMG) to discuss and agree potential strategic monitoring initiatives.

The need for strategic monitoring, and the level of participation by individual proposed developments, will be determined by the conclusions of the EIAR and NIS process, in consultation with statutory and technical stakeholders, and with a focus on validation and evidence gathering. The need for monitoring on a project alone basis will be determined through consultation with relevant stakeholders.

4.4.3.5 Decommissioning and Rehabilitation

4.4.3.5.1 Point 1 – Decommissioning

The submission states the necessity for a decommissioning plan for the maritime area in which the development lies. *“It is important that the decommissioning methods, timing, duration, process and procedures have sufficient scope to include for best practice, scientific knowledge and advancements in technology, which may change or evolve over the life of the permission.”*

Response to Point 1 - Decommissioning

Decommissioning options have been provided within the application in Chapter 6: Description of the Proposed Development Offshore of the EIAR and in further detail in Appendix A6.1: Offshore Environmental Management Plan (EMP) of the EIAR and Appendix A6.2: Rehabilitation Schedule of the EIAR. The agreement on the specific methods and requirements would be secured through a consent condition and would be aligned to the Rehabilitation Schedule as part of the MAC.

When finalising the decommissioning plan, the Developer will ensure all options are comprehensively assessed with regards to the impacts on the maritime area. Decommissioning methods, timing, duration, process and procedures will include best practice, scientific knowledge and advancements in technology. The future decommissioning plan will consider long term implications for the state.

4.4.3.5.2 Point 2 – Circular economy

Section 5 of Appendix A of the MARA submission suggests *“Consideration could also be given to the reuse of materials removed as a result of decommissioning and should be considered with regards to the circular economy.”*

Response to Point 2 – Circular economy

Sustainable development is a key consideration for the proposed development joint partnership, with stringent environmental, social and governance (ESG) requirements from all proposed developments, with commitments outlined on the following webpages:

- Copenhagen Infrastructure Partners: <https://www.cip.com/commitment/our-esg-commitment/>
- Statkraft: <https://www.statkraft.com/sustainability>

The Developer will adhere to the principles of the waste hierarchy and the circular economy as detailed in Chapter 31 Resource and Waste Management of the EIAR. This is inclusive of all phases of the proposed development.

4.4.3.5.3 Point 3 – Rehabilitation

The submission states the requirement to rehabilitate the part of the maritime area subject to the MAC, in accordance with Section 96 of the Maritime Area Planning Act 2021. A Rehabilitation Schedule included in the planning application and reviewed by An Coimisiún Pleanála will then be appended to the MAC.

Response to Point 3 – Rehabilitation

The Developer included a rehabilitation schedule as Appendix A6.2 of the EIAR.

4.4.3.6 Recommended Conditions

Appendix A of the MARA submission suggests recommendations in the event of a grant of permission. The following section details the recommendations proposed by MARA and the Developer’s position on the proposed recommendation.

Table 4.4.1 MARA Proposed Conditions

No.	Condition	Developer’s Response
1	In accordance with Section 96 of the MAP Act 2021, the holder of a MAC shall, before expiration (if any) of the MAC, rehabilitate that part of the maritime area subject of the MAC, and any other part of the maritime	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	area adversely affected by the maritime usage the subject of the MAC. An Bord Pleanála should be cognisant, in their assessment of any future decommissioning plan, of the long term implications to the State of leaving structures or materials in situ. The management of the states maritime areas is the responsibility of MARA.	However, the Developer notes that this condition is already a condition within the MAC granted to the Developer (see Appendix 7.1 of the Planning Application Form Appendices). The full details of decommissioning are included in Section 6.11 of Chapter 6 of the EIAR and Section 7.7 of Chapter 7 of the EIAR. Further information is also provided in the Rehabilitation Schedule in Appendix A6.2 of the EIAR.
2	The MAC specifies the permitted maritime usage as "The construction and operation of an offshore windfarm and associated infrastructure (including decommissioning and other works required on foot of any development permission for such offshore windfarm)." Accordingly, the planning application and approval should only consider such usage.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
3	The MAC specifies the spatial representation (map) of the consent area. Accordingly, the planning application should only consider and consent maritime development within that spatial extent. Any change to the spatial extent can only be done by a material amendment to the MAC by MARA in advance of any planning application	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	In the interest of clarity and in the event of a grant of permission, there is merit in requiring the preparation of a "Mitigation Schedule" and "Monitoring Programme"; which could be agreed with ABP. Copies of this agree "Mitigation Schedule" and "Monitoring Programme" should be copied to MARA, as part of the aforementioned file handover. It would be useful for all monitoring data collected be made publicly available by the developer to support and inform future plans and projects. The monitoring schedule should be mindful of the need for the monitoring to be reactive and adaptive given the nature of the development and the likely advances in ORE knowledge over its lifetime. The monitoring schedule should also clearly distinguish between monitoring required at the construction phase of the project and the operational phase	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Offshore EMP (Appendix A6.1) and the Onshore CEMP (Appendix A9.1) include details of all mitigation and monitoring measures for the proposed development.

4.4.4 Conclusion

The key points raised in the submission by MARA have been fully considered, and having considered those points, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.5 Irish Aviation Authority

4.5.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by the Irish Aviation Authority (IAA).

4.5.2 Summary of the Key Points Raised by the IAA

The IAA submission raises a number of key points and proposed conditions for consideration should the application receive consent. These are summarised as follows:

- Engagement between the Developer and the Irish Aviation Authority (IAA), Dublin Airport (part of the daa Group) and Air Nav Ireland;
- Engagement with the Department of Defence (DoD), Irish Coast Guard (IRCG) and Search and Rescue (SAR) operator and;
- Conditions have been proposed in the event of planning consent being granted.

4.5.3 Response to Key Points Raised

4.5.3.1 Engagement with Dublin Airport and Air Nav Ireland

The IAA requests that the Developer “*should be required to engage with daa Dublin Airport and the air navigation service provider (ANSP) Air Nav Ireland to confirm that the proposed offshore wind farm and the associated cranes that would be utilised during its construction are reviewed for any potential impact on instrument flight procedures and communication, navigation and surveillance equipment at Dublin Airport.*”

Response to Engagement with Dublin Airport and Air Nav Ireland

The Developer welcomes opportunities for engagement with the IAA, Dublin Airport and Air Nav Ireland to review potential impacts resulting from offshore infrastructure on instrument flight procedures, communication, navigation and surveillance equipment at Dublin Airport.

Post submission consultation was also undertaken with AirNav Ireland and Dublin Airport authority in May 2025 to address aviation and radar matters raised in the RFI. Key issues related to potential effects on air traffic management, radar surveillance systems and Visual Flight Rules (VFR) transit routes, including consideration of turbine height and layout options. Supplementary aviation assessments were undertaken, including radar line of sight, SSR and VFR transit assessments. An IFPA assessment was provided for review.

These are detailed in Appendix A19.1: Airspace Analysis and Radar Modelling. The outcomes have been incorporated in updates to Chapter 19: Aviation and Radar, in accordance with RFI Section 17 (b).

Via email on December 3rd, 2025, Air Nav responded to confirm that that all AirNav, daa and Weston concerns have been addressed.

As outlined in Appendix A1.2 Consultation Report of the EIAR, the consultation outlined above supplements the engagement with the key stakeholders regarding the potential impact of the proposed development on equipment at Dublin Airport throughout the planning process.

“Following receipt of the EIAR Scoping Report provided in 2021, Dublin Airport (part of the dAA Group) confirmed that it had no comment to make in relation to the contents of the EIAR Scoping Report. Further request for consultation with Dublin Airport and AirNav was made in 2023.

IAA responded in 2023 by letter to state that the IAA will not be involved within the planning process. The letter noted the requirements for the IAA to be notified at least 30 days prior to construction taking place around IAA infrastructure. Additional information was provided on lighting requirements for the offshore infrastructure during construction and operation.”

4.5.3.2 *Engagement with the Department of Defence, Irish Coast Guard Service and the Search and Rescue Operator*

The IAA requests that the Developer should be required to engage with the DoD, the IRCG and the SAR operator to assess any implications on aviation operations within the area.

Response to engagement regarding aviation operations

Post submission consultation was undertaken with the Department of Defence (DoD) in June 2025 to discuss military aviation, radar and operational considerations relevant to the proposed development. Key issues related to the relationship of the turbine layout to the Gormanston military practice and exercise area, aviation lighting requirements, and ongoing coordination with civil aviation authorities. The DoD acknowledged reductions in the offshore development area and confirmed that the proposed turbine array avoids encroachment into the designated danger area. During this consultation DoD acknowledged that the proposed development will not significantly impact on the operation of Gormanston Military Practice and Exercise Area.

The night time lighting requirements proposed by the DoD are also provided in Appendix A29.3.

Several meetings were held with IRCG in compliance with RFI Section 2 (a) to review the proposed Wind Turbine Generator (WTG) array layout refinements for both options with respect to search-and-rescue (SAR) access. Feedback was received and incorporated into the overall refinements of the proposed WTG array. IRCG noted that linearity is a key requirement where two lines of orientation are not available which further informed the array layout. IRCG provided further information requests which were incorporated into the safety justification and Navigational Risk Assessment. IRCG confirmed in May 2026 that they were content with the provisions and mitigations outlined in the Safety Justification.

Details on the safety justification are included in Appendix A17.4: North Irish Sea Array Safety Justification for Single Line of Orientation Layout. A response letter from the IRCG on the safety justification confirming they are content is also included in Appendix A17.5: Irish Coast Guard Response Letter May 2026.

In November 2025, consultation with the Commissioners of Irish Lights confirmed a preference for a clear and uniform array shape and a line of orientation from a navigational and SAR perspective. Irish Lights noted that the layout was not a red-line issue but may require additional mitigation, including buoyage and AIS, particularly in respect of turbines located toward the south-east of the array.

Navigational risk, vessel traffic assessment and mitigation measures are addressed in Chapter 17 (Shipping and Navigation) and Appendix A17.1 (Navigational Risk Assessment (NRA)), with post-submission clarifications and design refinements documented in Appendix A5.1 (Design Refinements).

Within the NRA is a full breakdown of the key points raised during consultation from all the stakeholders, and a response of where the point has been addressed within the NRA.

4.5.3.3 *Recommended Conditions*

Should planning consent for the proposed development be granted, the IAA recommends that, in order to maintain compliance and enforcement, certain conditions be attached, as set out below in Table 4.5.1 with a response provided by the Developer. The Developer welcomes ongoing collaboration with the IAA.

Table 4.5.1:IAA Recommended Conditions

No.	Condition	Developer's Response
1	The Applicant should be required to engage with daa Dublin Airport and the air navigation service provider (ANSP) Air Nav Ireland to confirm that the proposed offshore wind farm and the associated cranes that would be utilised during its construction are reviewed for any potential impacts on instrument flight procedures and communication, navigation and surveillance equipment at Dublin Airport.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As outlined in Appendix A1.2 Consultation Report of the EIAR, consultation is ongoing with key aviation stakeholder and the Developer welcomes the opportunity to continue to engage,

No.	Condition	Developer's Response
2	The Applicant should be required to engage with the Department of Defence, the Irish Coast Guard Service and the Search and Rescue operator to assess any implications on aviation operations within the area.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As outlined in Appendix A1.2 Consultation Report of the EIAR, consultation is ongoing with key aviation stakeholder and the Developer welcomes the opportunity to continue to engage,
3a	In the event of planning consent being granted, the applicant should be conditioned to contact the Irish Aviation Authority to: Collaborate on an aeronautical obstacle warning light and marking scheme for the offshore wind farm development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. A commitment is made in Appendix A6.1: Offshore Environmental Management Plan (Offshore EMP) to comply with marking and lighting requirements of the IAA, "in accordance with relevant industry guidance and as advised by relevant stakeholders including in accordance with IALA Recommendation O-139 (IALA, 2013) and Irish Lights requirements." A comprehensive lighting and marking plan is detailed in Appendix A17.3 of the EIAR. This details the types, placement and intensity of lights, identification systems and protocols to ensure visibility and safety. The Developer will continue to engage and collaborate with the IAA.
3b	Provide as-constructed coordinates in WGS-84 format together with blade tip height elevations above mean sea level at each wind turbine location.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
3c	Notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection in accordance with S.I. 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft In Flight) Order.	The Developer will comply with S.I. 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft In Flight) Order in notifying the IAA with at least 30 days' notice prior to commencing crane operations. All navigational hazards will be indicated through issuing Notices to Mariners (NtMs) and other Marine Notices, as detailed in Section 4 of Appendix A17.3: Lighting and Marking Plan.

4.5.4 Conclusion

The Developer acknowledges the points raised by the IAA and will continue to seek engagement with the relevant stakeholders to align with requirements.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.6 Irish Coast Guard – Department of Transport

4.6.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the Irish Coast Guard (hereafter referred to as ‘IRCG’) on the planning application for North Irish Sea Array (NISA, hereafter referred to as ‘the proposed development’).

4.6.2 Summary of the Key Points Raised by IRCG

The submission provides the following observations in relation to the proposed development, which are dealt with as the following sub-themes below:

- Observation 1 - Search and Rescue and other issues for consideration in relation to response emergency preparedness for Layout Option 1 & Option 2;
- Draft Standard Operating Procedure 07-2024 Offshore Renewable Energy Installations (OREI): Guidance and Operational Considerations for SAR and Emergency Response; and
- Other issues for consideration by the Developer

Following the submission made by the IRCG, the developer has engaged in extensive consultation with IRCG including meetings between June 2025 and February 2026 where key points have been discussed. The responses below reflect the consultation and any design refinements incorporated by the proposed development as a result.

4.6.3 Response to Key Points Raised

4.6.3.1 *Observation 1 – In relation to Search and Rescue and other issues for consideration in relation to response emergency preparedness for Layout Option 1 & Option 2*

The IRCG has concerns in relation to carrying out Search & Rescue (SAR) operations in the two proposed layouts (Option 1 & Option 2). IRCG requests that both layouts should be further revised, in line with SAR Guidelines *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)*.

On pages 1 and 2 of the submission from IRCG, the following five points are provided as part of Observation 1, regarding the two proposed layouts, Option 1 and Option 2.

Point 1 – Limit of deviation of WTG

IRCG states in the first point that: *“The final positioning of each Wind Turbine Generators (WTG) is unclear because of the Limit of Deviation of 500 metres for each WTG. The proposed layouts could change significantly which will impact Search & Rescue and Emergency Response. Irish Coast Guard are unable to guarantee that search and rescue operations can be carried out safely because the final position of all WTGs is unknown at this time.”*

Response to Point 1 - Limit of Deviation of WTG

Following consultation with IRCG, the submitted layouts Option 1 and Option 2 have now been refined and for the purpose of clarity within this response, are hereby referred to as Refined Option 1 and Refined Option 2. The Developer has also updated its definition of Limit of Deviation (LoD) to provide clarity on the necessity and approach to implementation.

The layouts have been refined based on the current understanding of ground conditions. The survey information used to date is primarily based on geophysical data, with only limited ground truthing available.

In accordance with the Design Flexibility Opinion provided by An Bord Pleanála and due to the uncertainty in the ground conditions at the proposed structure locations the use of 500m LoD will be required to mitigate the risk of the geotechnical surveys identifying unexpected ground conditions which then require a structure relocation. As well as ground conditions other constraints such as archaeological features, UXO, bedforms,

pockmarks, boulder or general debris could also be identified and may result in a need for relocation within the LoD.

Using LoD an individual structure within a layout could be sited in a position up to 500m from their consented position. This relocation will only occur whilst also retaining linear alignment along the row of structures. This is illustrated within the accompanying safety justification where an indicative relocation using the maximum 500m LoD has been applied.

The final layout pre-construction with LoD applied (where required) will be discussed with and approved by IRCG as a post consent sign off.

These commitments ensure that sufficient SAR access (including minimum 500m tip-to-tip SAR lanes) and probability of detection is retained whilst still providing the necessary flexibility required during foundation installation in the event of unexpected constraints.

Point 2 - The layouts only have one consistent line of orientation

IRCG states in the second point that *“No justification was provided to IRCG in prior consultation on using one line of orientation. IRCG request developers should start with a layout option with at least two consistent lines of orientation. The layout of a wind farm or other ORED should also be as regular as possible e.g. a grid pattern and take into consideration any lateral movement of floating devices. This regularity will also benefit the safer navigation of surface rescue craft or helicopters both within and outside a wind farm. Developers are urged to communicate their proposal to the IRCG as early as possible. Regarding SAR access to windfarms, a SAR helicopter should be able to fly from one side of a windfarm to the other, or Helicopter Refuge Area in the case of larger layouts.”*

Response to Point 2 – The layouts only have one consistent line of orientation

The Navigational Risk Assessment (NRA) was undertaken in line with available guidance at the time, this being the UK Maritime and Coastguard Agency’s (MCA) Marine Guidance Note (MGN) 654. MGN 654 was used as a basis for the two key guidance documents subsequently published by the Department of Transport – namely the *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* and *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)*.

Refined Option 1 and Refined Option 2 are compliant with the principles of both guidance documents including in relation to alignment of structure rows and have been designed in consultation with IRCG, the Marine Survey Office (MSO) and Commissioners of Irish Lights (CIL). *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* states that:

“The layout assessment should start with a layout option with at least two consistent lines of orientation (which may include perimeter turbines with smaller spacing than internal turbines) and then be refined as appropriate for the project. The assessment should consider the potential impacts the proposed locations may have on navigation and SAR activities. Where a project proposed one line of orientation, this should be discussed with the DoT’s MSO and IRCG and a safety justification must be prepared to support this reduction and submitted to the DoT for consideration. The safety justification should build on work conducted as part of the Navigation Risk Assessment and the mitigations identified as part of that process.”

The Developer initially considered two lines of orientation however, due to site constraints, the Developer is unable to achieve two consistent lines of orientation; therefore, the Refined Option 1 and Refined Option 2 include a single line of orientation. Subsequently, a safety justification has been undertaken for both layouts building upon the work undertaken as part of the NRA and demonstrates that the layouts are As Low as Reasonably Practicable (ALARP).

Point 3 - The site layout is an irregular and non-linear design.

IRCG state in the third point that *“The site is irregular design. IRCG request that the layout is as regular as possible e.g. a grid pattern. Turbines are positioned together in the North and South of the development with large gaps in between. The layout could change significantly given the 500-metre limit of deviation for each turbine.”*

Response to Point 3 - The site layout is an irregular and non-linear design

The layouts have been refined in consultation with IRCG and MSO and the issue raised has been addressed in the responses to Points 1 and 2.

Point 4 - The layout design is non-linear.

IRCG state in the fourth point that “All search patterns are essentially linear in that they are composed of patterns of (normally parallel) straight lines to ensure that a search-area is covered to a consistent 'coverage factor'. Therefore, non-linear ORED layouts may not necessarily provide an effective and 'safe' search-unit environment for SAR resources, or for when SAR helicopters have to operate at low altitude e.g. because straight-line paths cannot be flown without encountering physical obstacles on a desired track. This also degrades the effectiveness of a search due to crews needing to focus more of their visual attention on flight safety and manoeuvring around obstacles (which also changes the coverage factor), rather than looking out for SAR objects and survivors.

“If SAR resources are required to conduct a search and/or rescue inside non-linear wind-farm layouts, there is a likelihood that these layouts will also significantly reduce the overall Probability of Detection (POD) of a search because resources may not be able to conduct a search at the optimum Sweep Width and Track Spacing for a particular SAR object. The presence of turbines may also reduce the searchable space and may expand or otherwise vary the distances between 'sweeps' through a wind farm and so may affect the desired sweep width and increase the likelihood of not sighting a SAR object. While it may be possible to achieve a high POD by conducting a bespoke search, this would require significantly more time resulting in a commensurate reduction in the possible search area before the aircraft had to depart for fuel. In addition, non-uniform layouts present a flight safety hazard that may detract from the mission and/or preclude the use of SAR helicopters altogether.”

Response to Point 4 - The layout design is non-linear.

The layouts have been refined in consultation with IRCG and MSO and the issue raised has been addressed in the responses to Points 1 and 2.

In addition to LoD, micro-siting of structures at a localised extent may also be required upon foundation installation. This could be due to smaller localised hard constraints not previously identified such as boulders or hard lenses of sand. Due to the inclusion of suction bucket jacket foundations, there is also the potential for failure of installation due to the liquification of soil caused by the suction pressure or differential penetration leading to tilting.

This would require the foundation location to be relocated away from the previous bucket footprints (as illustrated within the accompanying safety justification). Given the dimensions of the foundation footprint (50m x 50m at the seabed) the Developer requires a maximum of 100m micro siting capabilities which if required would be applied during installation.

Micro-siting required for individual structures within a layout could be up to 100m from its consented position. Like LoD this relocation will only occur whilst also retaining linear alignment along the row of structures.

Unlike LoD the application of micro-siting, as standard within the industry, will not be consulted upon at the time of installation but final as-built locations will be reported. This reflects the onsite flexibility required during the installation activity when vessels will be active on site.

The commitment to linear movement only ensures that sufficient SAR access and probability of detection is retained whilst still providing the necessary flexibility required during foundation installation in the event of unexpected constraints.

Point 5 - The proposed Search & Rescue (SAR) Access Lanes could be ineffective and unusable for SAR because turbine positions could change by up to 500metres from the positions in the planning application.

IRCG state in the fifth point that “The proposed Search & Rescue (SAR) Access Lanes could be ineffective and unusable for SAR because turbine positions could change by up to 500metres from the positions in the planning application. SAR access lanes should be a minimum of 500metres in width. If weather conditions

are such that a SAR helicopter has to fly under Instrument Meteorological Conditions (IMC) flight rules, using instrument navigation techniques and electronic systems, the aircraft will not be able to enter any wind turbine lane that is less than 500 metres wide (measured between blade tips, that are transverse to the turbine lanes, unless the blades can be rotated away from the lane to increase the spacing to 500 metres or more). The overall shape, size and geographical coverage of a wind farm, and any proximity to other wind farms, there shall be no Offshore Renewable Energy Installations, or other structures, in the wind farm or on the boundary that present an obstacle or risk to SAR helicopters flying along SAR access lanes.”

Response to Point 5 – Efficacy of SAR Access lanes

The Developer refers the IRCG to the explanation set out in Response to Point 1 above. Additionally, the accompanying safety justification includes an operational overview undertaken by a SAR helicopter specialist. This operational overview includes rescue scenarios, night and poor weather.

4.6.3.2 Draft Standard Operating Procedure 07-2024 Offshore Renewable Energy Installations (OREI): Guidance and Operational Considerations for SAR and Emergency Response

On pages 3-5 of the submission, IRCG states a series of points for consideration in relation to the *Draft (now finalised) Standard Operating Procedure 07-2024 Offshore Renewable Energy Installations (OREI): Guidance and Operational Considerations for SAR and Emergency Response*, under the following sub-themes;

- Emergency Response - Windfarm Effects on SAR Operations; and
- Layout – General Comments and for SAR Operations.

Emergency Response

Windfarm Effects on SAR Operations

This section of the IRCG submission covered the following items:

- Scale of offshore wind farms;
- Non-linear layouts;
- Effect on probability of detection; and
- Visual distraction effect.

Response to Windfarm Effects on SAR Operations

The items covered in the IRCG submission have been addressed with the layout refinement to the submitted layouts. Refined Option 1 and Refined Option 2 are compliant with the principles of *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* and *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)* including in relation to alignment of structure rows and have been designed in consultation with IRCG and MSO. The NRA and accompanying safety justification demonstrate that the design of Refined Option 1 and Refined Option 2 are ALARP in relation to scale and capability for SAR operations to be undertaken. The accompanying safety justification includes specific detail of SAR access and an operational overview.

Layout

Point 1 - Layouts – General Comments

IRCG provides the following general comments in relation to:

“The IRCG requires earliest possible discussions with developers on proposed turbine/device layout options for any ORED, before decisions are made on the final layout design. Developers should discuss proposed layouts with IRCG at least 12 months prior to submitting a planning application. Failure to do this may result in the IRCG formally objecting to a project. OREI Guidance Document contains information on the IRCG's proposals for layouts.”

“To assist the IRCG in evaluating the safety and effectiveness of Emergency Response (SAR, Maritime Casualty & Pollution Incidents) within a proposed layout, developers are requested to provide the IRCG with detailed plans and drawings. In addition, to enable the fullest possible assessment of a layout proposal, developers are encouraged to offer computer models, artist impressions, computer generated images and animations of the layout, or scale models of the ORED, as soon as they have firm ideas for layout proposals and options. This will enable the IRCG to carefully consider a layout's SAR implications and compliance.”

“If provided, computer modelling simulations, that can be controlled by the user, and which include the ability to 'fly-through' a layout and show SAR objects e.g. life rafts, persons in the water and vessels, and change the displayed environmental conditions to imitate e.g. reduced visibility, rough sea states, low cloud (of varying coverage) and night-time, are most useful. Such simulations should allow the IRCG to move through a layout at surface level and at variable altitudes and speeds so as to simulate surface craft and aircraft operating amongst and through a layout. Turbine or device 'model' simulations should be as close to the type and size of turbine proposed to be built.”

Response to Point 1 - Layouts – General Comments

The Developer has provided and is committed to continuing to provide information throughout all design development phases of the proposed development. Details of the consultations carried out can be found in Appendix A1.2: Consultation Report of the EIAR. The Developer has been in communication with stakeholders since 2021 with various dedicated meetings held with the IRCG (and MSO) during this time in which array layouts have been presented. In particular, meetings with the IRCG (and MSO) in December 2023 focused on the array layout as a key point of discussion with the two project options shared.

Following submission of the planning application in June 2024, the Developer has welcomed and been engaged in ongoing consultation with the IRCG through meetings between June 2025 and February 2026. Detailed plans and drawings were provided and discussed with IRCG and a “fly-through” simulation also presented. This productive consultation has resulted in Refined Option 1 and Refined Option 2 which the Developer believes fully addresses the issues raised by the IRCG.

Point 2 - Layouts for SAR Operations

In conclusion to this section of their submission, IRCG reiterates ***“developers should start with a layout option with at least two consistent lines of orientation (which may include perimeter turbines with smaller spacing than internal turbines) and then be refined as appropriate for the project. The layout of a wind farm or other ORED should also be as regular as possible e.g. a grid pattern and take into consideration any lateral movement of floating devices. This regularity will also benefit the safer navigation of surface rescue craft or helicopters both within and outside a wind farm. Developers are urged to communicate their proposal to the IRCG as early as possible. Regarding SAR access to windfarms, a SAR helicopter should be able to fly from one side of a windfarm to the other, or Helicopter Refuge Area in the case of larger layouts.”***

Response to Point 2 - Layouts for SAR Operations

Refined Option 1 and Refined Option 2 are compliant with the principles of *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* and *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)* including in relation to alignment of structure rows and have been designed in consultation with IRCG and MSO. *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* states that:

“The layout assessment should start with a layout option with at least two consistent lines of orientation (which may include perimeter turbines with smaller spacing than internal turbines) and then be refined as appropriate for the project. The assessment should consider the potential impacts the proposed locations may have on navigation and SAR activities. Where a project proposed one line of orientation, this should be discussed with the DoT's MSO and IRCG and a safety justification must be prepared to support this reduction and submitted to the DoT for consideration. The safety justification should build on work conducted as part of the Navigation Risk Assessment and the mitigations identified as part of that process.”

Due to site constraints, the Developer is unable to achieve two consistent lines of orientation; therefore, the Refined Option 1 and Refined Option 2 include a single line of orientation. Subsequently, a safety

justification has been undertaken for both layouts building upon the work undertaken as part of the NRA and demonstrates that the layouts are ALARP.

4.6.3.3 Other Issues for Consideration by the Developer

On page 5 of the submission, other issues for consideration by the Developer have been identified by IRCG include;

- Gas Interconnector Pipeline;
- Reference Documents: Environmental Impact Assessment Report, Appendix 17.2: Vessel Management Plan; and
- Reference Documents: Environmental Impact Assessment Report, Chapter 8: Construction Strategy – Offshore.

Gas Interconnector Pipeline

IRCG raises concerns over the proximity of the proposed development to the gas interconnector pipelines between Ireland and Scotland. IRCG states *“On Page 47 of the Navigational Risk Assessment - 7.7 Subsea Pipelines - The distance measured between the Gas pipeline and array area is measured at 400 metres.”*

“On page 44 of Environmental Impact Assessment Report Chapter 20 - Infrastructure & Other Users - the distance from the Gas Pipeline to the Array Area is measured at 0.5km. With a limit of deviation of 500 metres on all turbines, the distance between the turbines and the gas pipeline could be further reduced. There is a risk that the pipeline could be ruptured or damaged during construction within the wind farm.”

IRCG propose that the three turbines in the Northwest corner, closest to the Gas Pipeline should be moved to a different location and that a safe distance is maintained between the other turbines and the gas pipeline.

IRCG further states that paragraph 308 of the Navigation Risk Assessment is incorrect. *“Section 15 - Cumulative Project Screening Exercise - page 104, paragraph 308. “There are no subsea cable/ pipeline projects located within 2nm of the array area and ECC and therefore no direct hazard pathway to shipping and navigation users is identified between such projects and the proposed development. Therefore, no subsea cable/ pipeline projects are screened into the cumulative risk assessment”*

“The Gas Interconnector pipeline shown on the diagram below is located (0.2nm) 400 metres from the array. The location of the Gas interconnector pipeline should have been included in the cumulative risk assessment. IRCG consider the pipeline to be a significant risk to the proposed development.”

Response to Gas Interconnector Pipeline

The Developer has noted the error in Appendix 17.1: NRA of the 2024 EIAR: *“There are no subsea cable/ pipeline projects located within 2nm of the array area and ECC and therefore no direct hazard pathway to shipping and navigation users is identified between such projects and the proposed development. Therefore, no subsea cable/ pipeline projects are screened in to the cumulative risk assessment.”* This error has been amended in the RFI response, see Appendix A17.1 NRA of the EIAR.

The Developer can confirm that the gas pipeline Interconnector Scotland to Ireland 2 (IC2) is indeed 0.52km from the Offshore Development Boundary at the closest point. Although the final siting of WTGs are subject to LoD, they will not be sited outside the array area and thus there will be no physical overlap of the proposed development with IC2.

Furthermore, the revised layouts proposed by the Developer, improve on previously communicated distances between IC2 and the proposed development project infrastructure. Minimum separation distances of note include:

- 949m between the closest Wind Turbine Generator (WTG) T29 and IC2 for Project Option 1;
- 884m between the closest WTG location T22 and IC2 for Project Option 2;
- All other proposed development WTGs located >1000m from IC2 across the proposed development.

The Developer has continued to engage with GNI regarding IC2, refer to Appendix A1.2 Consultation Report. As part of this ongoing consultation, at GNI's request, the Developer recently commissioned an independent risk assessment in accordance with DNV-RP-F107 to consider the foreseeable risks to both GNI and the proposed development as a result of the proximity of the infrastructure. The risk assessment concludes that the risk posed to both parties is tolerable and satisfies As Low As Reasonably Practical (ALARP) methodology.

Vessel Management Plan

With reference to the Vessel Management Plan, IRCG states “*Page 6 Emergency Response Cooperation Plan (ERCoP) - IRCG will require a plan for all phases of the development. A ERCoP should be submitted to IRCG for approval prior to starting construction.*”

“*Page 9 - Incident Reporting - The Irish Coast Guard should also be notified of any incidents / accidents and marine casualties.*”

Response to Vessel Management Plan

The Developer notes this and agrees to this recommendation. The Developer will liaise with the IRCG in relation to SAR resources including ensuring an ERCoP is in place post consent, with this captured as a mitigation measure in Section 20 of Appendix A17.1: NRA of the EIAR. The ERCoP will be in line with the template included in Appendix B of *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)*.

Construction Strategy – Offshore - UXO

IRCG directs the Developer to page 8-5, of Chapter 8; Unexploded Ordnance (UXO) Clearance and states that “*The developer should refer to Irish Marine Notice 03 of 2002 Explosives picked up at Sea. Any ordnance found should be reported to Irish Coast Guard.*”

Response to Construction Strategy – Offshore - UXO

The Developer notes this and agrees to this recommendation and the guidance outlined in *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)*.

4.6.3.4 Further points of note

On page 7 of the submission, IRCG make nine points of note for consideration by the Developer. The Developer has addressed the points raised by IRCG in Table 4.6.1.

Table 4.6.1 Items Recommended by IRCG to note by the Developer

No.	Recommendation	Developer's Comment
1.	The wind farm layout should be agreed with Irish Coast Guard prior to starting construction given the possibility of turbine locations changing by up to 500 metres and any other unforeseen circumstances.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
2.	The licensee shall submit an up-to-date Emergency Response Cooperation Plan and Oil/HNS Spill Contingency Plan for review and approval by Irish Coast Guard prior to any construction activities.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála The Developer will liaise with the IRCG in relation to SAR resources including ensuring an ERCoP is in place post consent, with this captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA, and in line with Appendix B of Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025).
3.	The licensee shall engage early with Irish Coast Guard on the contents of the SAR checklist.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála

No.	Recommendation	Developer's Comment
		Compliance with the relevant regulator guidance at the time of construction is also captured as an embedded mitigation measure in the NRA with Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025 requiring the completion of the SAR Checklist in consultation with the IRCG.
4.	The promulgation and frequency of Navtex and radio broadcast warnings shall be agreed in advance with the Irish Coast Guard for the duration of the license period.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
5.	The licensee should consult Irish Marine Notice 03 of 2002 Explosives Picked Up at Sea. Any ordnance found within Ireland's EEZ should be reported to Irish Coast Guard.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
6.	The uncertainty over who (the developer, contractor or EirGrid) will take primacy on a substation, in the event of an emergency for different scenarios and throughout the lifetime of the development, must be clear prior to construction. The information must be included in the Emergency Response Cooperation Plan.	This will be detailed in the ERCoP put in place post consent, noting the ERCoP is captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA.
7.	Information on the substation communications suite and rescue facilities should be available to IRCG prior to construction.	This will be detailed in the ERCoP. The ERCoP will be in place post consent and is captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA, and in line with Appendix B of Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025).
8.	Weekly Notice -To maintain situational awareness of a changing maritime domain, developers should ensure that IRCG is promptly advised of any significant changes to the operation as soon as reasonably practical. A notice template will be provided by IRCG on request.	Promulgation of information is captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA.
9.	Ship-to-ship (STS) transfer operations should normally take place in a port/harbour authority area, where suitable infrastructure and port services are in place and oil spill contingency plans exist to deal with incidents. Transfer of ship's stores, cargo, or oil to or from a ship in a place in the State (not being a harbour), including the EEZ, can only be carried in accordance with a permit granted by the Minister. The Minister may, upon an application being made by the owner, charterer, hirer or master of a ship, grant a permit to the applicant allowing the transfer to or from the ship concerned of ships stores, cargo or oil outside a harbour. This function is carried out by Authorised officers of IRCG.	STS transfers were discussed with the IRCG in June 2025 consultation meeting. IRCG clarified that STS Transfer permits had only been issued in emergency situations other than during the decommissioning of the Kinsale oil field. It was acknowledged that requirements of the Sea Pollution Act would require to be revisited given that numerous cargo STS transfers will likely be required and are standard practice for offshore wind. The Developer will seek further clarity on the definition and approach to permitting of STS transfers through WEI engagement with DoT.

4.6.4 Conclusion

The points raised by IRCG have been fully considered, and having considered those issues and following the extensive consultation undertaken with IRCG design refinements presented in Refined Option 1 and Refined Option 2 are compliant with the principles of *Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025* and *Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025)*.

4.7 Department of Transport, Marine Survey Office

4.7.1 Introduction

This section provides a response to the submission made to An Bord Pleanála by the Department of Transport (Marine Survey Office) (DoT (MSO)). A summary of the key points raised by the DoT (MSO) is provided in Section 4.7.2. The response to the key points raised (Section 4.7.3) has been categorised into a number of sub-themes due to the varying points contained in the submission.

4.7.2 Summary of the Key Points Raised by the Department of Transport

The DoT (MSO) submission raises a number of key points to be addressed focussing on the southeastern corner and Rockabill Gap areas of the proposed development. These have been addressed within the sections below under the following headings:

- South-eastern corner
- High density focal points
- Visual and radar obstruction
- Boundary configuration; and
- Rockabill Gap.

4.7.3 Response to Key Points Raised

4.7.3.1 Southeastern Corner

Point 1 – Micro siting of Wind Turbine Generator (WTG)

The DoT (MSO) states that “*The micro siting of WTG in the southeast corner of the NISA development are located upon existing shipping routes between the Port of Dublin and all locations north as well as shipping proceeding to and from the ports located in Carlingford Lough.*

“Whilst the proposed micro siting of WTG in general conforms with standard lines of orientation approach this is not evident in the micro siting in the southeastern corner of the development. Micro siting of WTG becomes random, in addition to the impingement upon the established shipping corridors.”

Response Point 1 - Micro siting of WTG

Following consultation feedback received, including from DoT (MSO) in addition to the Irish Coast Guard (IRCG) and Commissioners of Irish Lights (Irish Lights) the layouts have been revised accordingly. The extent of the WTGs within the array area has reduced at the south-eastern extent resulting in the main commercial routes passing north-east/ south-west out of Dublin (and Wicklow) no longer requiring a deviation. Subsequently, there is increased navigable sea room for vessels operating on these routes as illustrated in Figure 4.7.1 for the refined Project Option 1 and the disruption to commercial vessel routing is considered As Low as Reasonably Practicable (ALARP). This refinement has been welcomed by DoT (MSO) when presented during consultation, with DoT (MSO) confirming that the refined layouts increase navigable sea room for all users compared to those assessed in the 2024 Environmental Impact Assessment Report (2024 EIAR).

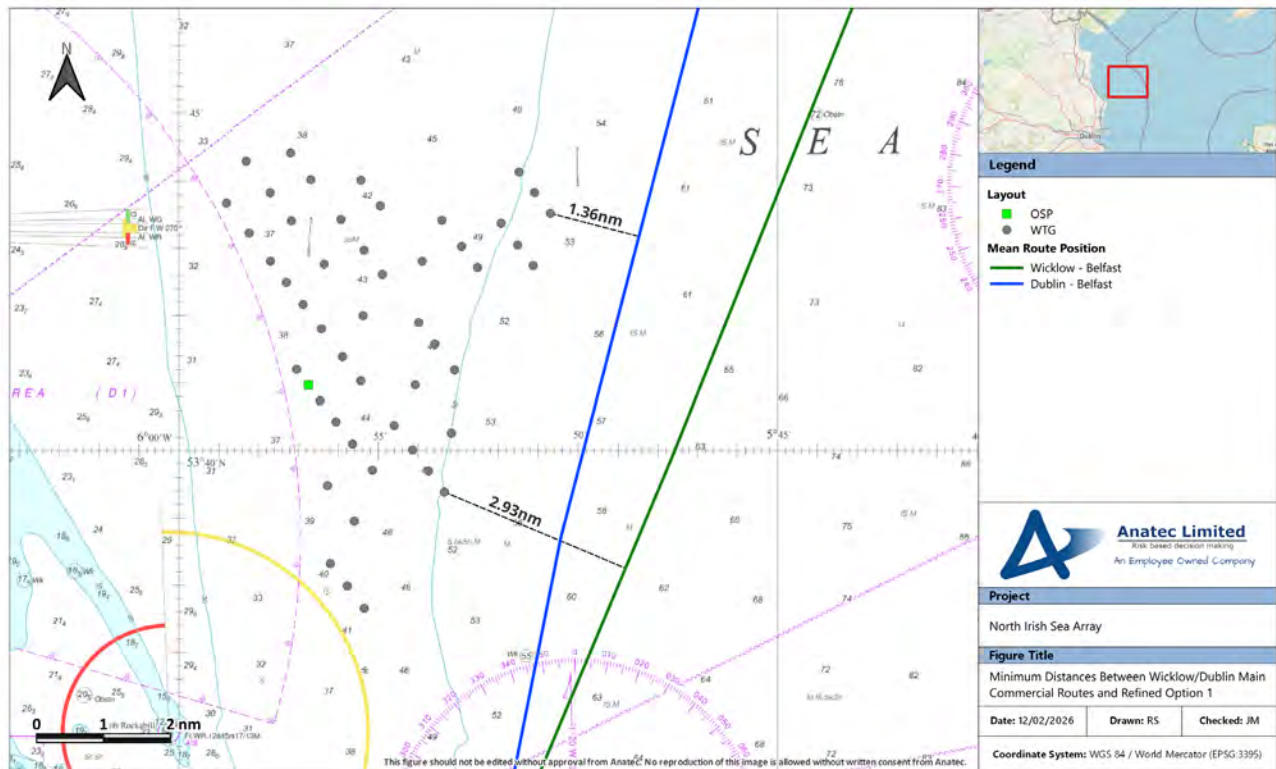


Figure 4.7.1 Minimum Distances Between Wicklow/Dublin Main Commercial Routes and Refined Project Option 1

4.7.3.1.1 Point 2 – Increased collision and allision risk

The DoT (MSO) states that “*The NISA development will displace shipping from the established routes eastwards and will create increased density focal points where traffic will consist of reciprocal (head on) and crossing traffic close quarter situations. Such close quarter situations will be made further complex due to the presence of fishing and recreational craft operating in the area in winter and summer seasons. Vessels proceeding southbound encountering head on and crossing traffic will be required to take action to avoid collision that will require altering towards to NISA development.*

“*Fishing vessels and Recreational craft traffic will also be diverted from established areas of activity to the east of the development increasing the risk of collision between commercial vessels and commercials vessels and recreational craft and allusion [sic] with development structures.*”

Response to Point 2 - Increased collision and allision risk

As noted in Response to Point 1, the refinement of the layouts has been welcomed by DoT (MSO) during consultation, with increased navigable sea room resulting in a reduced potential for collision and allision risk. Small craft including fishing vessels not engaged in fishing (noting fishing grounds are generally located towards the northern extent of the array area) remain largely within the nearshore area including inshore of Rockabill Island and therefore are not expected to regularly interact with larger vessels operating on the main commercial routes identified.

4.7.3.1.2 Point 3 – Increased traffic volumes

The DoT (MSO) states that “*The likely increase in traffic volumes of the Ports of Dublin and Drogheda as well as the potential development of Bremore Port will likely to further increase the risk of collision and allision of shipping, fishing and recreational craft operating in the area.*”

Response to Point 3 – Increased traffic volumes

Vessel and port operators within the region have been consulted as part of the Navigational Risk Assessment (NRA) process including with regards to potential increases in traffic volumes in the future case environment. This includes a Hazard Workshop follow-up meeting to update shipping and navigation stakeholders on updates to the proposed development design since the 2024 EIAR. No significant concerns were raised noting that the revised layouts have increased navigable sea room and further reduce the likelihood of a collision or allision situation arising.

4.7.3.1.3 Point 4 – Proposed changes to layout

The DoT (MSO) submission provides the following recommendations.

1. *“The risk to both the development and to shipping can be reduced where the WTG in the southeastern corner is relocated to the central and eastern area of the development site which is vacant and can facilitate the relocation.”*
2. *“The orientation of the WTG in the southeastern corner to incorporate shallow angles at the extremity of the development that mirror the direction of established traffic will further reduce the risk to both shipping and structures contained within the development.”*

Response to Point 4 – Proposed changes to layout

The revised layouts have addressed these concerns including in terms of the orientation which has been the subject of detailed consultation with the IRCG. In particular, the revised layouts have reduced the build out area such that there are no longer any WTGs located in the south-eastern corner noting the constraints on WTG location associated with water depth and seabed conditions. The DoT (MSO) have welcomed these changes during consultation.

4.7.3.2 High density focal points

The DoT (MSO) highlights that the micro siting of WTG in the south-east corner of the array are located upon existing shipping routes between the port of Dublin and all locations north as well as shipping proceeding to and from the ports located in Carlingford Lough. The proposed development will result in the displacement of vessel traffic, including from established routes, impacting the safety of navigation, increasing the risk of collision primarily at the south-eastern corner of the array.

With respect to displacement of small craft, the DoT (MSO) raises that they will be displaced such that there is an increased risk of collision with commercial vessels.

Response to High density focal points

See Response 1 in Section 4.7.3.1.

1.1.1.1 Visual and radar obstruction

The DoT (MSO) states *“The configuration of NISA development incorporates right angled and obtuse corners has the potential to reduce and restrict visibility, visually during the day and night or by radar when navigating in closed proximity to the planned development, as well as through radar interference.”*

Response to Visual and radar obstruction

During consultation with DoT (MSO) to-scale figures were shared illustrating the wind farm structures alongside an outline of the smallest vessel (7m sailing vessel) and largest vessel (326m cruise liner) recorded in the vessel traffic survey datasets. These figures indicate that the structures create a small footprint relative to the available sea room and provided comfort to DoT (MSO) that the issue of visual concealment is not significant.

Section 14.7 of Appendix A17.1: NRA details the results of trials and studies undertaken in relation to vessel based radar effects associated with offshore wind farms. Although there is a lack of evidence associated with vessel based radar effects in Ireland, there is significant real-world experience in terms of how mariners navigate in proximity to offshore wind farms. Experience in UK waters has shown that mariners have become increasingly aware of any radar effects as more offshore wind farms become operational. Based on this experience the mariner is aware of and can interpret the effects noting that these are the same as those experienced by mariners in other marine environments.

These effects can be mitigated by careful adjustment of the radar controls as well as using the other resources that are available to the mariner when navigating; for example lighting and marking, Automatic Identification System (AIS) transponders and promulgated/ charted information. Figure A14.4 of the NRA illustrates the potential radar interference due to the proposed development relative to post wind farm routeing and shows that the routes avoid the most significant effects on radar which occur within 0.5 nautical miles (nm).

Overall, the impact on marine navigation is expected to be low and no further impact on navigational safety is anticipated outside the parameters which can be mitigated by the operational controls and good seamanship.

4.7.3.3 Boundary Configuration

The DoT (MSO) states that *“The boundary configuration does not comply with MGN 654 and guidelines in development by the DoT that seeks uniform lines of orientation, regardless of direction, and shallow angled corners to best aid visibility of all vessels and craft operating in the vicinity of ORE developments.”*

Response to Boundary Configuration

The revised layouts comply with the requirements of MGN 654 which allows for a single line of orientation with a supporting safety justification should two lines of orientation not be possible to develop. There are significant constraints within the array area including water depth and ground conditions that prevent two lines of orientation being achieved. The Developer has therefore undertaken a safety justification in line with IRCG requirements to support the revised layouts which demonstrates that the significance of risk is ALARP. As per the response in Section 1.1.1.1, there are no residual impacts for visual navigation when operating in proximity to the wind farm structures.

4.7.3.4 Rockabill Gap

4.7.3.4.1 Point 1 - Multiple vessel encounters

The DoT (MSO) also raises concerns relating to the Rockabill Gap and potential for *“multiple vessel encounters including commercial vessels, fishing vessels and recreational craft, adverse weather, and the potential of increased traffic due to the development of Bremore Port”*. The 3nm width inclusive of the Structure Exclusion Zone is considered to be insufficient to maintain the safety of navigation. The DoT (MSO) considers *“Best navigational practices of commercial vessels similarly consider 1nm as a minimum safe distance when taking action to avoid collision when operating in coastal waters.”*

Response to Point 1 - Multiple vessel encounters

The Rockabill Gap was defined during detailed consultation with the Drogheda Port Company with agreement that a 3nm width was suitable to allow a 1nm passing distance between vessels whilst also maintaining a 1nm passing distance from each of the array and Rockabill Island. This is summarised in Section 13 of the Appendix A17.1: NRA of the EIAR.

Moreover, Appendix E of Appendix A17.1: NRA of the EIAR provides a focused review of the Rockabill Gap with consideration of potential users, the likelihood of encounters and applicable guidance such as that published by the World Association for Waterborne Transport Infrastructure (PIANC). In particular, the PIANC guidance was considered in response to the DoT (MSO) submission both based on the average vessel lengths considered as potential users of the Rockabill Gap and maximum vessel length recorded throughout the vessel traffic datasets. The latter of these approaches is illustrated in Figure 4.7.2.

Although the use of maximum vessel length is highly conservative, the Developer has nevertheless accounted for this by increasing the extent of the Structure Exclusion Zone to ensure that the turning circles suggested by the PIANC guidance can be accommodated within the Rockabill Gap whilst also maintaining a 1nm distance between passing vessels (in line with the Drogheda Port Company’s preference). Subsequently, the distance between the surface piercing infrastructure and Rockabill (i.e. the Rockabill Gap) is 3.06nm. DoT (MSO) have indicated they are content with this approach during consultation.

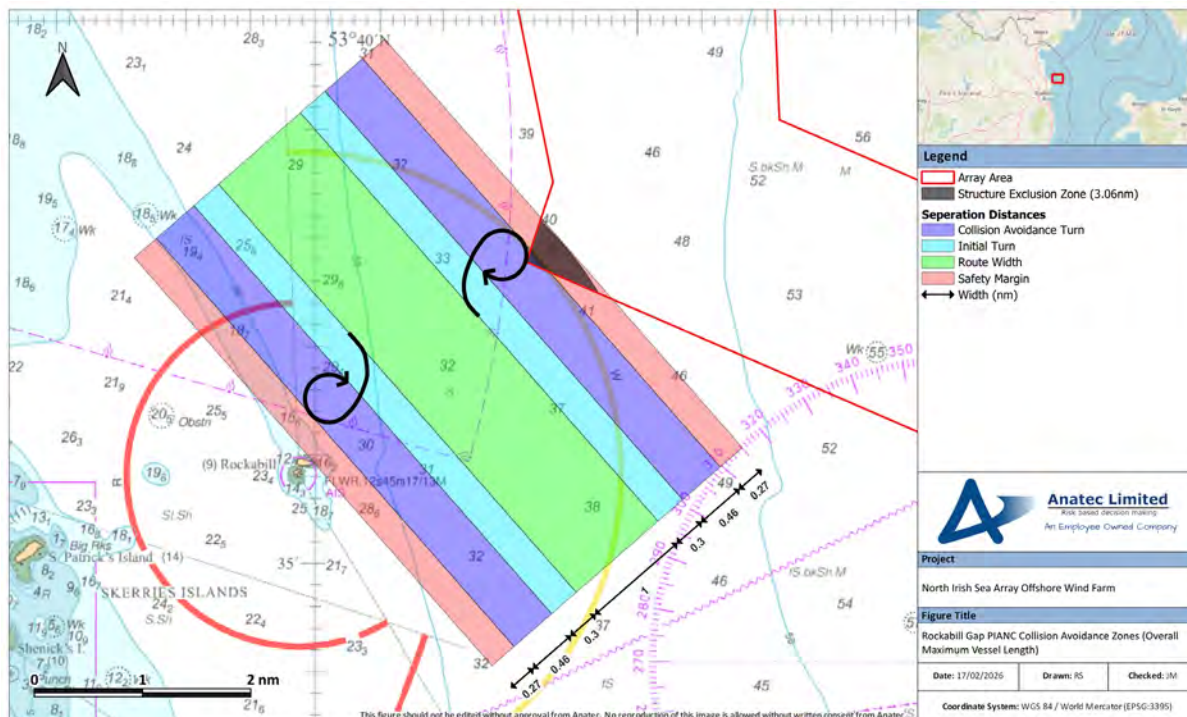


Figure 4.7.2 Rockabill Gap PIANC Calculation Avoidance Zones (Overall Maximum Vessel Length)

4.7.3.4.2 Point 2 - Future vessel traffic volumes

The DoT (MSO) states “*fishing vessel and recreational craft shall be displaced which will likely see increased usage of the waters to the west and the Rockabill. In assessing the proposal for the provision of 3nm sea room in the Rockabill Gap, the risk to the safety of navigation for all maritime users will increase to intolerable levels.*”

The DoT (MSO) suggest that the Rockabill Gap may impact future development capacity at Bremore Port and states “*the NRA identifies traffic volumes eventually 'could match that currently at Dublin Port'.*”

Response to Point 2 - Future vessel traffic volumes

As noted in Response Point 2 under Section 4.7.3.1, small craft including fishing vessels not engaged in fishing (noting fishing grounds are generally located towards the northern extent of the array area) remain largely within the nearshore area including inshore of Rockabill Island. Therefore, small craft are not expected to regularly interact with larger vessels operating on the main commercial routes identified including those which may navigate within the Rockabill Gap, inclusive of future case vessel traffic which has been discussed extensively with Drogheda Port Company as the developer of Bremore Port and considered as part of the cumulative scenario.

4.7.3.4.3 Point 3 – Structure Exclusion Zone

The DoT (MSO) considers there is no legal basis for the Structure Exclusion Zone proposed in the NRA, at the south-western corner of the array area.

Response to Point 3 - Structure Exclusion Zone

As described in Section 6.1.1.1 of Appendix A17.1: NRA of the EIAR, the Structure Exclusion Zone was developed in consultation with the Drogheda Port Company to ensure the navigable sea room between the array and Rockabill Island is sufficient. The Developer is committing to no surface infrastructure being located within the Structure Exclusion Zone, noting that given the fixed nature of the layouts the as built width of the Rockabill Gap is expected to be greater, inclusive of the application of Limits of Deviation (LoD) and micrositing. This is incorporated as a mitigation measure in Section 20 of Appendix A17.1: NRA of the EIAR and hence the Developer anticipates this will be a condition of consent.

4.7.4 Conclusion

The Developer acknowledges the issues raised herein by the Department of Transport (Marine Survey Office) and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.8 Foras na Mara Marine Institute

4.8.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by Foras na Mara Marine Institute (MI).

4.8.2 Summary of the Key Points Raised by Foras na Mara

Foras na Mara, The Marine Institute (MI) is the State agency responsible for marine research, technology development and innovation in Ireland. The MI submission raises a number of points relating to the potential effects of the proposed development on fishing activity in the area and general comments on ORE developments. The submission is structured around six high level sections as follows:

- Implications of the proposed development for maritime spatial planning
- Implications of the proposed development for proper planning and sustainable development
- Likely effects of the proposed development on the environment or any European site (if applicable)
- On-going monitoring
- Availability of marine data and evidence to ABP
- Summary of Recommendations
 - Annex 1. Impact on Fisheries from North Irish Sea Array Offshore Wind Farm Proposal
 - Annex 2. Analysis of Benthic Impacts in North Irish Sea Array Offshore Wind Farm Proposal
 - Annex 3. Species and Habitats of Conservation Concern
 - Annex 4. Marine Planning Evidence Base.

4.8.3 Response to Key Points Raised

4.8.3.1 *Implications of the proposed development for maritime spatial planning*

In Section 1 of the submission, in the context of the National Marine Planning Framework (NMPF), the MI advises that An Bord Pleanála “*apply an evidence-led and cooperative approach. Decision should be based on the dynamics of the marine ecosystems alongside the potential ecosystem effects and socio-economic considerations.*”

Response to Implications of the proposed development for maritime spatial planning

In Section 4 of the RFI, An Bord Pleanála requests that the Developer update the 2024 EIAR to include an Ecosystem Functions and Services Assessment. The report (Appendix A3.3: Ecosystem Functions and Services Assessment) concluded there will be no material impact on ecosystem services, and no impediment to the ability of normal ecosystem functions and services to function, resulting from the proposed development. Refer to the Response to RFI Document.

4.8.3.2 *Implications of the proposed development for proper planning and sustainable development*

In Section 2, the MI states that under the NMPF, the proposed development “*must be considered in the context of the existing marine activities in this area, particularly in relation to seafood.*” The MI submission makes the following points;

- Fisheries
- Aquaculture
- Ports and Shipping.

4.8.3.2.1 Fisheries

Point 1 – Inclusion of Annex 1. Impact on fisheries

The MI submission includes an assessment of the impact of the proposed development on fisheries in Annex 1.

Response to Point 1 – Inclusion of Annex 1. Impact on fisheries

The Developer has addressed the concerns regarding the impact on fisheries of the proposed development in Section 4.8.3.7 in this report.

Point 2 – Residual effects

The MI submission states *“The developer identifies imperceptible or slightly adverse impacts on the fishing activity both before and after mitigation (outlined in the Fisheries Management and Mitigation Strategy, Volume 2A 05-06). The Marine Institute is not in a position to confirm that the residual effects are not significant.”*

Response to Point 2 – Residual effects

The Developer can confirm that this point has been addressed in Section 4.8.3.7.2 of this report.

Point 3 – Cumulative Effects

The MI submission states *“The construction, operation and decommissioning of the wind farm could have significant impacts on the operation of these fisheries. These impacts should be considered in a cumulative way, taking into account other ORE projects, marine protected areas, and other competing ocean uses (see section below on Cumulative Effects).”*

Response to Point 3 – Cumulative Effects

The Developer has provided a response to these concerns relating to cumulative effects in Section 4.8.3.3.7 of this report.

Point 4 – Co-existence of fisheries with the windfarm

The MI submission states *“The array and subsidiary areas overlap with trawl, dredge, netting and potting activities. If these activities can, in reality, continue when the windfarm is established, the impact on fisheries may be mitigated. However, it is difficult to predict whether fishing activities could indeed continue within the windfarm, or the cable corridor, even if such activities are permitted. Operational or other considerations could preclude fishers from being active in the proposal areas. Given these uncertainties about co-existence of fisheries and ORE, it is difficult to predict the impact on the fisheries in the area.”*

Response to Point 4 – Co-existence of fisheries with the windfarm

The Developer has addressed this point in Section 4.8.3.7 in this report.

Point 5 – Displacement of fishing effort

The MI submission states on page 3 of their submission, *“Restrictions to access by fishing vessels are likely to result in a displacement of fishing effort. It is not possible to predict where this effort will be displaced to. However, this displacement would potentially displace into neighbouring areas, increasing local fishing pressure and competition. Also, there may be smaller vessels which cannot travel beyond their main area of activity.”*

“Given the level of fishing effort in the array and cable corridor areas, uncertainties around co-existence and lack of a holistic cumulative effects assessment (see relevant section below), the Marine Institute cannot rule out significant impacts on fisheries (including displacement of effort) from this project.”

Response to Point 5 – Displacement of fishing effort

The Developer has addressed this point in Section 4.8.3.7 in this report.

4.8.3.2.2 Aquaculture

The MI states *“Given the distance to the proposed development, and the energetic nature of the environment generally, impacts on aquaculture activities during construction and subsequent operation are not considered likely, however, the impact of construction and maintenance activities on water quality and sedimentation in aquaculture sites should be fully considered.”*

Response to Aquaculture

Aquaculture sites were fully considered within the EIAR. Section 20.3.2.9 of Chapter 20 states that *“There are no aquaculture sites within the study area, with the closest site belonging to the Carlingford Oyster Company Ltd (Site ID T01/101A) 29.3km from the proposed development. Therefore, no impacts are anticipated, and aquaculture is not considered further in this assessment.”*

The Developer can confirm that the closest aquaculture site to the proposed development is situated outwith the expected Zone of Influence (ZOI) expected for water quality impacts, either during construction or maintenance activities. This site was not assessed as there are no likely significant effects.

4.8.3.2.3 Ports and Shipping

The MI states that *“The North Irish Sea Array should be considered in the context of the available port facilities for construction and maintenance, including any necessary upgrades to local ports and transport networks.”*

Response to Ports and Shipping

In Chapter 8: Construction Strategy – Offshore of the EIAR, the Developer acknowledges *“There are a number of suitable ports under consideration by the proposed development, both on the island of Ireland, Great Britain and France. A multi-port approach may be taken to remove the risk of a single point of failure to the proposed development. An Irish port would be the preference of the project, to support the development of the offshore industry in Ireland. However, this will depend on the rate of the required development being undertaken, to enable the relevant ports to cater for the construction and maintenance of offshore wind farms. All feasible locations will be considered when making the final decision.”*

4.8.3.3 Likely effects on the environment or any European site of the proposed development (if applicable)

In Section 3 of the submission, the MI provides observations on the following;

- Fish habitat
- Benthic impacts
- European sites
- Ornithology
- Vulnerable species
- Noise from construction phase
- Risk of chemical contamination
- Cumulative effects.

4.8.3.3.1 Fish habitat

The MI states *“Although the Marine Institute does not provide a review of the methods used, we identified no obvious omissions in the analyses regarding fisheries or, fish habitat. However, the evidence base for adverse effects on fish populations or essential fish habitat is weak. Therefore, the Marine Institute is not in a position to state whether there are adverse effects on fish and fish habitats.”*

Response to Fish Habitat

The assessments of fish and shellfish ecology in Chapter 13: Fish and Shellfish Ecology are consistent with the EIA methodology presented in Chapter 2: EIA and Methodology for the Preparation of an EIAR. At the time of writing, it is unclear whether the MI consider the evidence base presented in the EIAR to be weak, or if they consider the wider evidence base available for use in the assessment to be weak and are therefore unable to form an opinion on the potential for adverse effects on fish populations or habitat. However, it should be emphasised that both the EIAR and NIS were prepared using robust, comprehensive, and up-to-date data sources, with no gaps identified in the evidence base. This includes the Northern Irish Ground Fish Surveys (NIGFS) (ICES, 2023a) and Offshore Beam Trawl Surveys (BTS) (ICES, 2023b) data, as well as site-specific benthic ecology baseline surveys (Appendix 12.1: Array Area Benthic Survey Report and Appendix 12.2: Cable Route Benthic Survey Report) as detailed within Chapter 13: Fish and Shellfish Ecology. The Developer is of the opinion that the potential impacts on fish and shellfish ecology from offshore wind developments are sufficiently well known in established offshore wind jurisdictions with similar ecology and habitats to the proposed development, as to form a robust evidence base for the assessment set out in Chapter 13: Fish and Shellfish Ecology of the EIAR.

Notwithstanding, Appendix 13.1: Fish and Shellfish Ecology Technical Report of the 2024 EIAR, and Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR have been revised to reflect any additional data sources that have become available since submission of the 2024 EIAR, including benthic ecology survey data conducted in 2025 (AQUAFAC, 2025). The new information has been reviewed and included to ensure the baseline is informed by the most current and up-to-date data, and these updates are reflected in Appendix A13.1: Fish and Shellfish Ecology Technical Report, and the Chapter 13: Fish and Shellfish Ecology, to ensure consistency between the two reports.

The updated Chapter 13 assessment has also been incorporated into the commercial fisheries assessment in Chapter 16. In particular, Impact 4, relating to construction activities leading to displacement or disruption of commercially important fish and shellfish resources, and Impact 15, relating to equivalent decommissioning effects, have been updated in Chapter 16. The updated commercial fisheries assessment concludes that effects on commercially important fish and shellfish resources are localised, temporary or short-term and not significant in EIA terms, and that corresponding effects on commercial fisheries receptors are not significant following assessment and mitigation.

Within Section 5 of the updated NIS, it is concluded that the proposed development will not result in an AEoI of the Conservation Objectives of the designated sites in the study area.

Benthic impacts

The MI states, “An assessment of the benthic impacts is contained in Annex 2 of this submission, where the Marine Institute compared the footprint of the array and the subsidiary areas to the benthic broad habitats present. The proposed planning area is already impacted to varying degrees by fishing activity, mostly to a moderate degree. For habitats that are disturbed, if bottom trawling is excluded from the areas between the turbines, then a reduction in areas with high disturbance could be expected, this could potentially be beneficial to the habitats in question. However, if fishing is both permitted and actually takes place, the base case assumption must be that there will be little reduction in disturbance to the habitats. Hence it is not possible to predict any benefit in terms of reduced disturbance due to bottom trawling, on these habitats. The degree of loss of habitat is considered to be negligible, based on Marine Institute analyses based on the 2020 MSFD assessment for benthic habitats (Government of Ireland, 2020).”

“In terms of benthic impact assessment, the use of the Marine Evidence based Sensitivity Assessment (MarESA) is an appropriate tool to assess the likely effect of the pressures deriving from the proposed actions on the benthic habitats in the works area. It is clear there are no specific habitats of great sensitivity (biogenic) in the areas subject to works.

While the majority of existing habitats are sedimentary in nature, it is unlikely that the insertion of hard substrate habitats as a result of the installation of pilings and armouring (for scour protection) will result in measurable change or quality of these sedimentary communities. Any disturbance during construction will likely be short lived or broadly similar to natural disturbance likely to occur as a result of weather events in the region.”

Response to Benthic impacts

The Developer has addressed points relating to Annex 2 of the submission in Section 4.8.3.8 of this report.

The Developer notes this agreement with the outcomes of the assessment within the EIAR.

4.8.3.3.2 European sites

The MI makes the following comment on European sites, *“The project considers all relevant Natura 2000 sites including SPAs distant from the project area to account for foraging ranges of bird species from these distant colonies (ex situ effects). There is minimal disturbance of Habitats in Special Areas of Conservation (SACs). Population level effects on marine mammals are considered to be highly unlikely given the number of individual animals in the project zone and the impact zone of the project. Mitigations regarding underwater noise (soft start procedure) are nevertheless included. Comments on seabirds and wading birds are included separately.”*

Response to European Sites

The Developer notes the comments on the assessment of European sites within the EIAR documents. Please refer to Section 4.8.3.3.3 in the report, relating to seabirds and wading birds.

4.8.3.3.3 Ornithology

The MI makes the following observations on the proposed development on shore birds and seabirds, with additional comments on the in-combination effects with fisheries;

Point 1 – Mitigation measures

The MI states *“Further mitigation measures would be recommended (see Croll et al., 2022), such details on any anti-perching infrastructure plans or other possible designed-in efforts (e.g., increasing turbine visibility to reduce collisions using patterns/colours of paint on blades, e.g., May et al., 2020).”*

Response to Point 1 – Mitigation measures

This point was raised by An Bord Pleanála in RFI Section (8cvi) and has been addressed in the Response to RFI document. The Developer has implemented robust, evidence-led mitigation through turbine design and, site WTG layout refinement and reduction in the array area. Increasing blade tip clearance to 35/40 m LAT is demonstrably the most effective measure for reducing collision risk to terns and other low-flying species, supported by published flight-height data and offshore post-construction monitoring evidence. In contrast, blade painting remains experimental, with weak and inconclusive evidence in the offshore context, and therefore is not justified as a mitigation measure at this stage.

Points 2 & 3 – Displacement buffer for red-throated diver

The MI suggests alternatives for displacement buffer for red-throated diver and displacement and disturbance modelling;

1. *“When the array is within 10 km of an SPA designated for red-throated diver in the non-breeding season (e.g., North Sea SPA), the Joint SNCB Interim Advice On The Treatment Of Displacement For Red-Throated Diver (2022) recommends a displacement buffer of 10 km for red-throated diver, rather than the generic 4 km for divers and sea-ducks utilised in the report.”*
2. *“Further, the use of Individual Based Models for displacement and disturbance effects (e.g., Searle et al. 2018; Layton-Matthews et al. 2023) would be recommended alongside the displacement matrix approach used. Distribution modelling and analysis of overlap between seabird populations, prey species/fisheries, and ORE developments would produce stronger evidence for non-significant effects, especially for indirect and cumulative effects.”*

Response to Points 2& 3 – Displacement buffer for red-throated diver

This point was raised by An Bord Pleanála in RFI Section (8aiii) and has been addressed in the Response to RFI document. The assessment of potential displacement effects on red-throated diver has been updated to consider effects extending up to 10 km from the Projected Footprint of Infrastructure, with findings reported

in the EIAR and NIS. Full details of the survey design, coverage and results are provided in the Appendix A15.1: Offshore and Intertidal Ornithology Technical Baseline.

Response to Point 3

The Developer understands that Individual Based Models (IBMs) are powerful tools to predict population responses to offshore windfarm impacts. However, their application in offshore windfarm assessments remains highly complex and limited by several key factors.

Most importantly, the outputs are only as good as the underlying data supporting the model predictions. IBMs require detailed, accurate information on seabird behaviour, energetics, and prey availability. Much of this information is either unavailable at the necessary resolution or highly variable over time and space. Therefore, the model prediction will still contain a huge amount of uncertainty. This uncertainty is compounded when attempting to understand cumulative effects at the scale required for impact assessments.

In addition, while IBMs have been explored in academic settings (e.g., Searle et al. 2018; Layton-Matthews et al. 2023), due to several challenges with model accuracy and confidence in the outputs, they have not yet been widely adopted within industry or regulatory assessments. Therefore, current industry-standard approaches, such as the displacement matrices, remain the most widely accepted and practical tool for assessing displacement effects.

While IBMs may offer future potential, given the challenges presented above, the Developer maintains that the displacement matrix approach remains the most appropriate and proportionate methodology for assessing displacement and disturbance effects.

Point 4 – Modelling

The MI states *“Comparing two model options using both genetic and site-specific flight parameters (e.g., from DAS surveys, GPS tracking data shown in Appendix 15.1) would be recommended over a single Band model option using generic flight parameters. While noted in Appendix 15.3 that data inconsistencies between boat-based and DAS data prevented this, additional data collection and/or selecting flight parameters from only one data source while acknowledging relevant uncertainty would be preferable to only one model option. GPS data (Appendix 15.1) can also provide flight parameter data for select species.”*

Response to Point 4 – Modelling

It should be noted that only two species were recorded flying at a height greater than 30m during the boat-based surveys, namely 1 gannet which equated to 1% of gannet observed and 9 herring gull which equated to 7% of the herring gull observed. Therefore, it should also be noted that if boat-based data were used, almost all species would have collision estimates of zero.

Furthermore, the DAS data clearly overestimates flight heights, as species which generally have consistently low flight heights namely Manx shearwater and guillemot have disproportionately high flight heights in this dataset. For example, the DAS report estimates roughly 50% of guillemots fly at heights >50m, which is clearly not accurate. According to the Johnston et al. (2014) data <0.001% of guillemots fly above 50m and 99.7% of birds fly below 22m. The Johnston et al. (2014) data is derived from an extensive dataset collected across various locations, making it the most comprehensive and robust dataset available. This dataset is widely utilised in other jurisdictions (including England, Wales and Scotland) and is recommended for use in CRM assessments by both Natural England and NatureScot over site-specific flight height data gathered from boat-based surveys or estimates derived from digital aerial survey telemetry (Parker et al., 2022c; NatureScot, 2023: Guidance Note 7). Furthermore, evidence indicates that flight height triangulation based on DAS may be unreliable due to several factors, including image quality, species, size, position, and behaviour, as well as potential inaccuracies in GPS altimeter and as such in the height of the plane (Thaxter et al., 2015; Johnston and Cook, 2016; Humphries et al., 2023).

Given the inconsistency in flight height distribution between the two site-specific datasets, the flight height data derived from Johnston et al. (2014) was considered most appropriate for the CRM assessment given its large sample size (data from over 10,000 birds for most included species) and is recommended for use in

CRM assessments by both Natural England and NatureScot. This is therefore considered a robust approach for the proposed development.

Point 5 – Graphical representation of PVA results

The MI states “*Graphical representation of the PVA results would be beneficial for interpretation (i.e., plots of population trajectories for baseline and impacted from the Project with confidence intervals).*”

Response to Point 5 – Graphical representation of PVA results

The Developer advises against scrutinising population trajectories within Leslie matrix models, such as those used in the PVA tool (Beissinger et al., 2002). These models are designed to compare two or more scenarios based on evidenced demographic data, with impacts modelled as a difference in survival rates.

When interpreting results, the population trend should not be the focus. Instead, attention should be given to the counterfactual of population growth rate—i.e., the difference in growth rate between impacted and unimpacted populations (Brook et al., 2000). This is because the model relies on generic regional or national demographic rates, which do not accurately predict/simulate population trajectories.

The appropriate approach is to compare model outputs (e.g., the counterfactual of population growth rate) with monitored population trends from surveys. This allows for a more accurate assessment of how a reduction in growth rate might impact a population over the long term. This method has been applied in the Developer’s assessments and is considered the most robust way to interpret PVA outputs.

Point 6 - Recommended monitoring

The MI states “*We recommend monitoring during the operational phase to validate the results of collision risk models, such as the use of autonomous monitoring (e.g., imaging, radar, acoustic) and/or direct observation of the array area. If mortality is found to be higher than estimated, mitigation (e.g., collision deterrents) and/or compensatory measures (e.g., funding of conservation measures by the Project outside of the Project area) would need to be considered.*”

Response to Point 6 - Recommended monitoring

The Developer will commit to a monitoring plan that is fit for purpose involving the relevant stakeholders (e.g., NPWS). Additionally, the Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the draft height of the turbines to 40m LAT. The number of birds at collision risk height at 40m is considerably reduced compared to 22m. For example, the number of common tern flying at collision risk height is reduced by 90.6% between 22m and 40m. Likewise, kittiwake have a reduction of birds at collision risk height of 82.2% between 22m and 40m, and gulls show a reduction of approximately 65% (Johnston et al., 2014).

Post construction monitoring has been undertaken to assess collision risk and provide in situ evidence of the effectiveness of blade clearance above sea level at offshore wind farms. For example, post-construction collision risk monitoring for the Aberdeen Bay Offshore Wind Farm utilised radars and cameras to monitor how birds behaved in the Aberdeen Bay and wider North Sea over a period of two years. The result of the survey concluded that birds amended their movements to avoid rotor blades and as such not a single collision between a bird and a rotor blade was recorded throughout the two-year monitoring campaign (Vattenfall, 2023).

As stated above the Developer will commit to a post-construction monitoring plan fit for purpose, it should also be noted the Developer suggests monitoring to inform data gaps around displacement and tern behaviour in association with offshore windfarms would be more informative, given the proposed development’s proximity to Rockabill SPA and location within the North-West Irish Sea SPA.

Furthermore, the Developer notes compensatory measures are only required in relation to the Habitats Regulations if an adverse effect on integrity (AEoI) cannot be ruled out at an SPA. Based on the proposed development’s assessments presented in North Irish Sea Array Offshore Wind Farm- Natura Impact

Statement, Volume 1: Main Report at Planning Application there will be no AEoI, particularly for species at collision risk.

Point 7 – Impact of pollutants in relation to ORE developments and seabirds

The MI states “*While research may be limited on the specific impact of pollutant release in relation to ORE developments and seabirds, consultation with groups such as Birdwatch Ireland and Oiled Wildlife Response Network may provide more detailed information, e.g., risk associated with different oil types and receptors to allow for a matrix approach to risk assessment.*”

Response to Point 7 – Impact of pollutants in relation to ORE developments and seabirds

The Developer welcomes the opportunity for further engagement with stakeholders such as Birdwatch Ireland and Oiled Wildlife Response Network.

When considering pollutant impacts in general, the sensitivity of seabird species is variable, with pursuit diving seabirds (e.g., divers and auks) being more susceptible to impacts compared with more aerial species such as gulls (HiDef, 2016). The vulnerability of auks may also be considered higher due to increased vulnerability during post-breeding moult when they have reduced mobility. However, in general birds are considered mobile receptors and able to avoid areas of pollution.

It should be noted the Developer is committed to the use of good practice, due diligence and pollution prevention guidelines at all times. The potential for any impact is very low with adherence to a Marine Pollution Contingency Procedure (MPCP) (as detailed in Appendix A6.1: Offshore Environmental Management Plan). The Offshore Environmental Management Plan includes Marine Pollution Contingency elements and incorporates procedures to cover accidental spills, potential contaminant release and will include key emergency contact details (e.g. Marine Survey Office (MSO), Commissioners for Irish Lights (CIL) and Irish Coast Guard (IRCG) and the proposed development site co-ordinator). Guidance for Pollution Prevention 5 (GPP5): Works and maintenance in or near water has been used to inform the development of the Offshore EMP. Furthermore, the potential for significant effects from this impact are so low that this impact is generally not scoped in for further assessment in UK offshore wind projects. This impact was scoped out of the EIA assessment for Morgan Offshore Wind Project (F2.5: Environmental Statement - Volume 2, Chapter 5 Offshore ornithology) and Mona Offshore Wind Project (F2.5: Environmental Statement - Volume 2, Chapter 5: Offshore ornithology) provided that the implementation of a MPCP would avoid the risk of any significant pollution effects on birds.

4.8.3.3.4 Vulnerable species

The proposed development has significant overlap with certain species/habitats of conservation concern. See Section Annex 3: Species and habitats of conservation concern in this report for further points made by the MI.

- “*For seapens and burrowing megafauna habitat, disturbance at the construction phase will have an impact, but this may be expected to be temporary. It is not possible to predict any positive benefits for these, from potential reduction in fishing activities which may be able to continue within the array and cable areas. These considerations would probably also apply to quahog and to marine fishes with restricted movements or local distributions such as S. maximus, G. cynoglossus, H. platessoides and R. clavata.*”
- “*For widely distributed/highly migratory sea fish the overlap may not be very significant at a population level. This would apply to R. montagui, L. naevus, M. asterias, G. galeus and C. maximus. For the catadromous A. anguilla, the mouth of the river Bracken has been identified as important estuarine habitat.*”

Response to Vulnerable species

Refer to Sections 4.1.3.8 and 4.8.3.9 in this report which considers species and habitats of conservation importance.

4.8.3.3.5 Noise from construction phase

The MI makes the following points relating to noise during the construction phase;

- *“An important concern is the impact of noise on marine biota, during the construction phase. In the absence of adequate scientific studies on these impacts, the Marine Institute neither supports nor rejects claims that such activities are detrimental.”*
- *“The Marine Institute recommends that monitoring programmes be established to measure the effects of noise from the construction phase. These should establish baselines before the construction phase, and then monitor the relevant ecosystem components during and after construction has been completed. Monitoring should be at appropriate spatial and temporal scales. The Institute is available to assist with the design of these monitoring schemes. The fishing industry should be involved, in a consultative capacity, in the design and operation of monitoring programmes.”*

Response to Impact of noise on marine biota during construction

Following further design refinement, wind turbine generators (WTGs) are now proposed with suction bucket jacket (SBJ) foundations, and Offshore Substation Platforms (OSPs) with jacket foundations installed with either drilled pin piles or suction buckets (Refer Appendix A5.1: Design Refinements). Therefore piling is no longer required. These refinements significantly reduce the range of effects of underwater noise from the proposed development, and the fish and shellfish and marine mammal ecology assessments have been updated to reflect these changes in Chapter A13: Fish and Shellfish Ecology and Chapter A14: Marine Mammal Ecology respectively.

No additional mitigation to that already identified in Chapter 13: Fish and Shellfish Ecology and Chapter 14: Marine Mammal Ecology is considered necessary, and no significant adverse residual effects on fish and shellfish and marine mammal receptors have been predicted in respect to the impact. It is on this basis that there are no monitoring requirements in relation to fish and shellfish ecology. Environmental management commitments relevant to the construction and operational phases of the proposed development are detailed in Appendix A16.2: Fisheries Management and Mitigation Strategy and Appendix A6.1: Offshore Environmental Management Plan. Monitoring measures for marine mammals is set out in Table A14.19 in Chapter 14: Marine Mammal Ecology.

4.8.3.3.6 Risk of chemical contamination

The MI makes the following points relating to the risk of chemical contamination;

- *“There is currently no specific guidance for chemical use in offshore energy industry, however, OSPAR has guidance on chemical use and discharge for offshore oil and gas industry through its Harmonised Mandatory Control System. Some of the chemicals used in windfarm construction are common to both (see references provided).”*
- *“Sulphur hexafluoride (SF₆) is an effective insulating material for medium and high voltage electrical installations, however it is also the most potent greenhouse gas known. SF₆ should be subject to correct and approved storage procedures to prevent any accidental release. Guidance from EPA for Operators of Equipment Containing SF₆ and Equipment Containing PFCs should be followed.”*

Response to OSPAR guidance and SF₆ use

Sections 11.4.2 - 11.4.4 of Chapter 11: Marine Water and Sediment Quality (MW&SQ) of the EIAR outline the potential causes of accidental release of spills/materials/chemicals during all stages of the proposed development. Table 11.22 of Chapter 11: MW&SQ provides additional detail regarding the substances which could be involved in such accidental releases. It should be noted that the OSPAR oil and gas guidelines are not appropriate to be applied to an offshore renewable development due to the difference in chemical types and volumes between them.

As stated in Section 11.5.2.2 of Chapter 11: MW&SQ, the Developer is committed to the use of good practice, due diligence and pollution prevention guidelines. Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to the International Convention for the Prevention of Pollution from Ships (MARPOL) in order to ensure any potential risk is minimised.

Any planned discharges should be under permit, in small volumes, would be intermittent, and are expected to dilute and disperse quickly. Should an accidental spill occur, the appropriate reporting procedure would be followed and all relevant parties would be informed to manage any such event.

Appendix A6.1: Offshore Environmental Management Plan (EMP) details the mitigation measures which will be incorporated as part of the proposed offshore development in relation to each EIA chapter topic, including measures pertaining to pollution prevention and contingency measures, including those detailed in Table 4.8.1.

Table 4.8.1 Pollution prevention and contingency measures detailed in the Offshore Environmental Management Plan (EMP) to be implemented during the construction and operation and maintenance (O&M) phases of the proposed offshore development

Measure	Detail
Marine Pollution Contingency Procedures (MPCP)	- Informed by the Guidance for Pollution Prevention 5 (GPP%): Works and Maintenance in or near Water - Compliance with MARPOL - Spill kits on board all vessels and on each WTG to contain any fluids in the unlikely event of pollutant release - Each WTG will be equipped with sensors to enable early detection of fluids and leaks - Emergency response procedures to cover accidental spills and potential contaminant release – including key emergency contact details - A chemical risk review including how and when chemicals (including vessel fuels) are to be used, stored and transported in accordance with recognised best practice guidance and national and international regulations and commitments; - Navigational safety measures (e.g., guard vessels, safety buoys, lighting of active working zones) to reduce the likelihood of collision events; - Implementation of these measures would reduce the likelihood of potentially harmful pollutants to be released into the marine environment, thereby reducing the likelihood of pollution impacts on sensitive fish and shellfish receptors.
Offshore Waste Management Procedure (OWMP)	- Disposal of sewage and other waste in a manner which complies with all regulatory requirements, including but not limited to the International Maritime Organization (IMO) International Convention for the Prevention of Pollution from Ships (MARPOL) requirements - Application of the waste hierarchy (prevention, re-use, recycle, recovery, and disposal) to minimise the amount of waste produced, and reduce, as far as possible, the amount of waste that is disposed of in landfill; - Waste disposal procedures, ensuring all waste that cannot be reused, recycled or recovered will be kept onboard vessels and safely disposed of onshore in a suitable licensed waste facility; - Code of conduct for vessel operators with respect to the discharge of wastewater and handling and storing of hazardous materials
Environmental Vessel Management Plan (EVMP)	- Measures to ensure safe passage of vessels and avoid collision - Measures to address the risks, methods and procedures to deal with any collision incidents

In addition, Section 6 (Training and Awareness) of the Offshore EMP (Appendix A6.1) details the proposed development personnel induction procedure, which includes:

- Environmental documentation of relevance (e.g. EMP);
- Environmental aspects and impact issues associated with the scope of work;
- Key mitigation measures employed; and
- Environmental regulatory requirements.

Section 6 outlines the specific information that would be provided at daily/weekly briefings to personnel involved in activities where there could be a risk of occurrence of pollution incidents. This information would include control measures to implement in order to mitigate the likelihood of the pollution incidents, for example:

- Dealing with oil and chemical spills

- Type of spill kits and their use
- Storage and handling of hazardous material (according to Control of Substances Hazardous to Health (COSHH))
- Minimising waste; and
- Waste separation, appropriate storage and Duty of Care.

Sections 11.5.2.2 - 11.5.4.2 of Chapter 11: MW&SQ provide a detailed assessment of the overall significance of effect caused by any accidental releases of spills/materials/chemicals (a metric incorporating the sensitivity of potential MW&SQ receptors and the predicted magnitude of impact). These sections conclude that the magnitude of impact of any potential accidental releases or spills of materials or chemicals (considering the inclusion of embedded mitigation) would be negligible, and therefore the effect would not be significant in EIA terms. As such, no additional mitigation measures have been considered necessary for the construction, operation and decommissioning phases specific to the potential impacts of planned discharges or accidental release spills/materials/chemicals on marine water and sediment quality.

4.8.3.3.7 Cumulative effects

Whilst not providing an evaluation of the Cumulative Effects Assessment, the MI raises the following points regarding cumulative effects;

Point 1 – Cumulative Effects Assessment

The MI states “The NISA application incorporates a Cumulative Effects Assessment (CEA) approach to assessing interactions and impacts. The methodology is not easy to follow, with outputs and processes and methods spread across multiple different documents making the process quite difficult to track. While a substantial number of components are assessed, overall it is not integrated fully for a holistic assessment of cumulative impacts. The effects of the windfarm on each of the receptors are assessed individually. Cumulative impacts from multiple ‘projects’ (after exclusion criteria were applied) are assessed for each EIA topic. The projects were identified largely from licencing and planning documents, and do not account for land-based activities which may contribute to cumulative marine impacts (land-based industry, agriculture, waste water, etc.). The Marine Institute does not provide a full evaluation of this work. Cumulative Effects Assessment (CEA) is a developing field. There is insufficient evidence to state whether cumulative effects due to this proposed development are significant or not. This impacts our ability to assess any existing or proposed pressure in Irish waters.”

Response to Point 1 – Cumulative Effects Assessment

In Section 5 of the RFI, An Bord Pleanála requests that the Developer revises the 2024 cumulative assessment in line with NSIP, 2024. Refer to Chapter 38: Cumulative and Inter-Related Effects and the Response to RFI Document.

The EIAR contains a robust and comprehensive CEA, that assesses the proposed development cumulatively with the other Irish Sea Phase One ORE proposed offshore developments as well as other Irish and international maritime businesses such as amenity, tourism and fishing uses.

The methodology for the CEA is detailed in Chapter 38: Cumulative and Inter-related Effects, of the EIAR: *“The EIAR has provided a description of the likely significant effects of the proposed development on the environment resulting from the cumulation of effects arising from “other existing and/or approved projects” as per the EIA Directive, taking into account any existing environmental issues relating to areas of particular environmental importance likely to be affected or the use of natural resources. The cumulative effects assessment (CEA) has specifically considered whether any of the identified proposed developments in the local or wider area have the potential to exacerbate (i.e. alter the significance of) effects associated with the proposed development.”*

The cumulative effects between the proposed development and other “screened in” proposed developments are described within each offshore topic chapter (Chapters 10 to 20 of the EIAR) and within Chapter 38 for all onshore topics. The cumulative assessments are addressed in each topic chapter (Chapters 10 to 20 of the EIAR) due to the level of cross-reference within each chapter.

Point 2 – Data gaps

The MI states “Multiple knowledge and data gaps exist which present substantial impediments to meeting the challenges of cumulative effects assessment.”

Response to Point 2 – Data gaps

The Developer can confirm that the CEA methodology is detailed in Chapter 38: Cumulative and Inter-related Effects and reflects current best practice. Refer to Section 5 of the Response to RFI Document.

Point 3 – Ongoing monitoring

The MI states “Also, data from ongoing monitoring for realised impacts must be iteratively incorporated into future CEAs to assess these impacts.”

Response to Point 3 – Ongoing monitoring

In Section 1 (d) of the RFI, An Bord Pleanála requests an operational monitoring programme of the proposed development is provided. Refer to Appendix A6.3 Operational Monitoring Plan and to Section 1 (d) of the Response to RFI Document. The assessments undertaken for the EIAR have incorporated, where available, existing data relating to operation offshore wind farms.

Point 4 – Evaluation in the wider context

The MI states “The Marine Institute recommends that, before consideration of a grant application, this and other such applications be evaluated in the wider context of proper marine planning for Irish waters on the one hand and the wider Irish Sea basin on the other. Such planning must be supported by an overall State-led cumulative effects assessment (CEA) drawing in all relevant pressures and ecosystem components (sea and land-based) in both the UK and Irish sectors of the Irish Sea. The Marine Institute does not provide an outline here of how this should be done, but is available for further consultation on design of such a programme of work.”

Response to Point 4 – Evaluation in the wider context

As explained in Point 1 above, in Section 5 of the RFI, An Bord Pleanála requests that the Developer revises the 2024 cumulative assessment in line with NSIP 2024. Refer to Chapter A38: Cumulative and Inter-Related Effects and the Response to RFI Document.

4.8.3.4 On-going monitoring

In Section 4 of the submission, the MI makes a number of points relating to on-going monitoring;

Point 1 – Baseline data collection

The MI states “In advance of the construction phase, a clear description of baseline data collection efforts including key parameters to be monitored (e.g., water and sediment quality, benthic habitats, fish populations etc) is advised. It is stressed that these pre-construction conditions are established, against which future changes can be subject to on-going monitored during construction, operation, and decommissioning phases.”

Response to Point 1 – Baseline data collection

Suitable monitoring and mitigation measures as they relate to inter alia can be found in the relevant Chapters and sections of the EIAR:

- Chapter 10 Marine Geology, Oceanography and Physical Processes-
- Chapter 11 Marine Water and Sediment Quality-
- Chapter 12 Benthic Subtidal and Intertidal Ecology
- Chapter 13 Fish and Shellfish Ecology
- Chapter 14 Marine Mammal Ecology

- Chapter 36 Mitigation, Monitoring and Likely Significant Residual Effects
- Appendix A6.1 Offshore EMP
- Appendix A16.2 Fisheries Management and Mitigation Strategy.

In relation to commercial fisheries, monitoring and adaptive management will also be supported through the FMMS and SFC. The SFC provides a formal fisheries-led governance mechanism through which the Developer and fisheries stakeholders can review coexistence outcomes, reported interactions, monitoring evidence and any emerging displacement issues.

The DETP will provide a fisheries-led evidence base for monitoring actual fishing activity in and around the proposed development, including the spatial footprint of participating vessels, activity patterns and potential displacement. This will be used alongside fisher engagement, FLO/OFLO reporting, gear interaction reporting and other available fisheries data to inform adaptive management where required.

Point 2 - Definition of thresholds

The MI states *“Because there is insufficient evidence to support definitive conclusions on impacts and cumulative effects, caution must be urged. This and other such developments should be closely monitored and assessed during all development stages to safeguard the environment and avoid unintended impacts and/or consequences. Definition of thresholds or trigger points for key indicators that would prompt management actions or mitigation measures is advised.”*

Response to Point 2 - Definition of thresholds

The Developer notes the suggestions to implement definitions of thresholds and trigger points for key indicators. However, the Developer acknowledges that this would need to be further discussed at industry level and actioned by An Coimisiún Pleanála at a regulatory level and is not specific to the proposed development.

Point 3 – Align monitoring with national programmes

The MI states *“It is also advised that the project's monitoring activities align with existing national monitoring programmes to ensure consistency and avoid duplication.”*

“Any development such as this will require a programme of ongoing monitoring to assess the pressures arising from it. Apart from some observations above, the Marine Institute does not provide advice on the design or operation of such a scheme. Rather, the Institute advises that a national scheme be established, following a uniform design and international best practice. The Institute is available to support efforts to design and operationalise such monitoring.”

“The parameters to be monitored should be defined in consultation with existing national monitoring programmes and based on international best practice. It is the advice of the Marine Institute to ABP, that the scale of effects of the proposed development be considered beyond the footprint of the turbines and the licenced area.”

Response to Point 3 – Align monitoring with national programmes

The Developer notes the suggestions to implement a national monitoring programme to monitor the effects of the proposed development and to formalise a centralised database for storing and managing the offshore energy monitoring data. The Developer would be open to participating in such a group but acknowledges that this would need to be further discussed at industry level and actioned by An Coimisiún Pleanála at a regulatory level and is not specific to the proposed development.

Point 4 – Sources of information

The MI makes recommendations to ABP for sources of useful information on the interactions between marine features and marine renewables, such as The International Council for the Exploration of the Sea (ICES), the Royal Belgian Institute of Natural Sciences, and Tethys, supporting the U.S. Department of Energy (DOE) Wind Energy Technologies Office and Water Power Technologies Office.

Response to Point 4 – Sources of information

The Developer acknowledges the useful sources of information.

Point 5 – Data management

“Based on a holistic view of the Irish sea, not just specifically for one development site, it is expected that considerable amounts of new data will need to be acquired. Data management processes that comply with recognised international standards will be required,”

Response to Point 5 – Data management

The Developer notes the suggestions to implement a national monitoring programme to monitor the effects of the proposed development and to formalise a centralised database for storing and managing the offshore energy monitoring data. However, the Developer acknowledges that this would need to be further discussed at industry level and actioned by An Coimisiún Pleanála at a regulatory level and is not specific to the proposed development.

4.8.3.5 Availability of marine data and evidence to ABP

In Section 5 of the submission, the MI recommends to ABP that the Marine Institute is designated as the centralised database centre for storing and managing offshore energy monitoring data, ensuring accessibility for researchers, regulators, policymakers, and the public. Examples of existing national monitoring, data and evidence programmes that could inform future OW monitoring are provided by the MI in Annex 4. Marine Planning Evidence Base

The MI goes on to state *“Marine data are collated and managed centrally by the Marine Institute. They can be readily used as part of the national offshore windfarm management process. The Marine Institute has international accreditation for its Data Management Quality Management Framework by the UNESCO International Oceanographic Commission's IODE (International Oceanographic Data and Information Exchange) programme.”*

Response to Availability of marine data and evidence to ABP

The Developer notes the suggestions to implement a national monitoring programme to monitor the effects of the proposed development and to formalise a centralised database for storing and managing the offshore energy monitoring data. However, the Developer acknowledges that this that would need to be further discussed at industry level and actioned by An Coimisiún Pleanála at a regulatory level and is not specific to the proposed development.

4.8.3.6 Summary of Recommendations

In Section 6, the MI provides a summary of recommendations in the following points;

Point 1 – Monitoring programme

The MI states *“There is a need for a significant new and ongoing monitoring programme to assess the impact of OWF. This must extend beyond the footprint of the windfarm and consider a holistic view of all OWF developments in the Irish Sea. It should start now in the pre- development phase;”*

Point 2 – Coordinates for the cable corridor

The MI states *“The coordinates for the cable corridor and array area were not available with the planning application. It would be convenient if ABP would oblige applicants to provide the coordinates of the proposed development in an easily accessible format;”*

Point 3 – National reporting process

The MI states *“The Marine Institute recommends that a national coordinated reporting process is established for all offshore wind farms. This should be in an agreed format that complies with international best practice. It will provide the necessary evidence to assess the socio- economic and environmental impact of OW in Irish waters;”*

Point 4 – Data collection and management

The MI states *“Integrated data collection, collation and management procedures for all OWF should be established nationally. These should comply with international standards and best practice. As the national oceanographic data centre, we recommend that the Marine Institute is designated as the centralised agency for storing and managing offshore energy monitoring data, ensuring accessibility for all stakeholders;”*

Point 5 – Socio-economic data

The MI states *“Socio-economic data for all marine activities is required at local and regional levels to inform trade-offs and impacts in marine spatial planning;”*

Point 6 – Chemical use

The MI states *“In the absence of an assessment framework for chemical use and discharge for offshore energy industry, MI proposes that the OSPAR Harmonised Pre-screening Scheme for Offshore Chemicals could be utilised for evaluating risk for assessment of construction and operation chemicals associated with chemical use in construction and operation of offshore wind farms. MI also recommends the use of chemicals already registered under the OSPAR Harmonised Mandatory Control System for the offshore oil and gas industry). Where possible, chemicals should be selected from the OSPAR PLONOR list or those of lowest risk. This would ensure that the risk of chemical contamination through accidental release is minimised;”*

Point 7 – Cumulative effects assessment

The MI states *“The cumulative effects assessment of multiple offshore wind farms and other activities is of particular relevance and will require new approaches to effects assessment, research and monitoring;”*

Point 8 – Resources and funding review of the impacts of OWF

The MI states *“Adequate allocation of resources and funding will be required to plan, implement, manage, monitor, and review the impacts of OWF. It is recommended that Irish marine scientists are represented at international fora to learn from best practice and colleagues (e.g. ICES, OSPAR, GNSBI);”*

Point 9 – Addressing knowledge gaps

The MI states *“The Institute recognises that there are significant knowledge gaps for the relating to networks of Offshore Wind Farms in Irish waters. These must be considered holistically, ensuring the coexistence with other marine activities and the seafood sector;”*

Point 10 – Mitigation measures

The MI states *“Possible mitigation measures for reduction of impact of OWF developments where they arise should be scoped more fully for OWF.”*

Point 11 - On-going research, surveying and mapping

The MI states *“There is a need for new and on-going research, surveying and mapping to ensure that sufficient evidence is available to determine the impact of OW developments on Ireland's marine environment and economy. This will also inform future decisions about DMAP locations, monitoring, impacts, climate change and MPA implementation.”*

Response to Points 1 to 11 – Recommendations

The Developer recognises the importance of the industry wide recommendations made above and would be pleased to be involved in discussing this further with the regulator and wider industry, if helpful.

In response to Point 2 – Coordinates for the cable corridor; Figure 4.8.1 below shows the location of the proposed development boundary. The coordinates for the proposed development can be found in Table 4.8.2 and correspond to Figure 4.8.1.

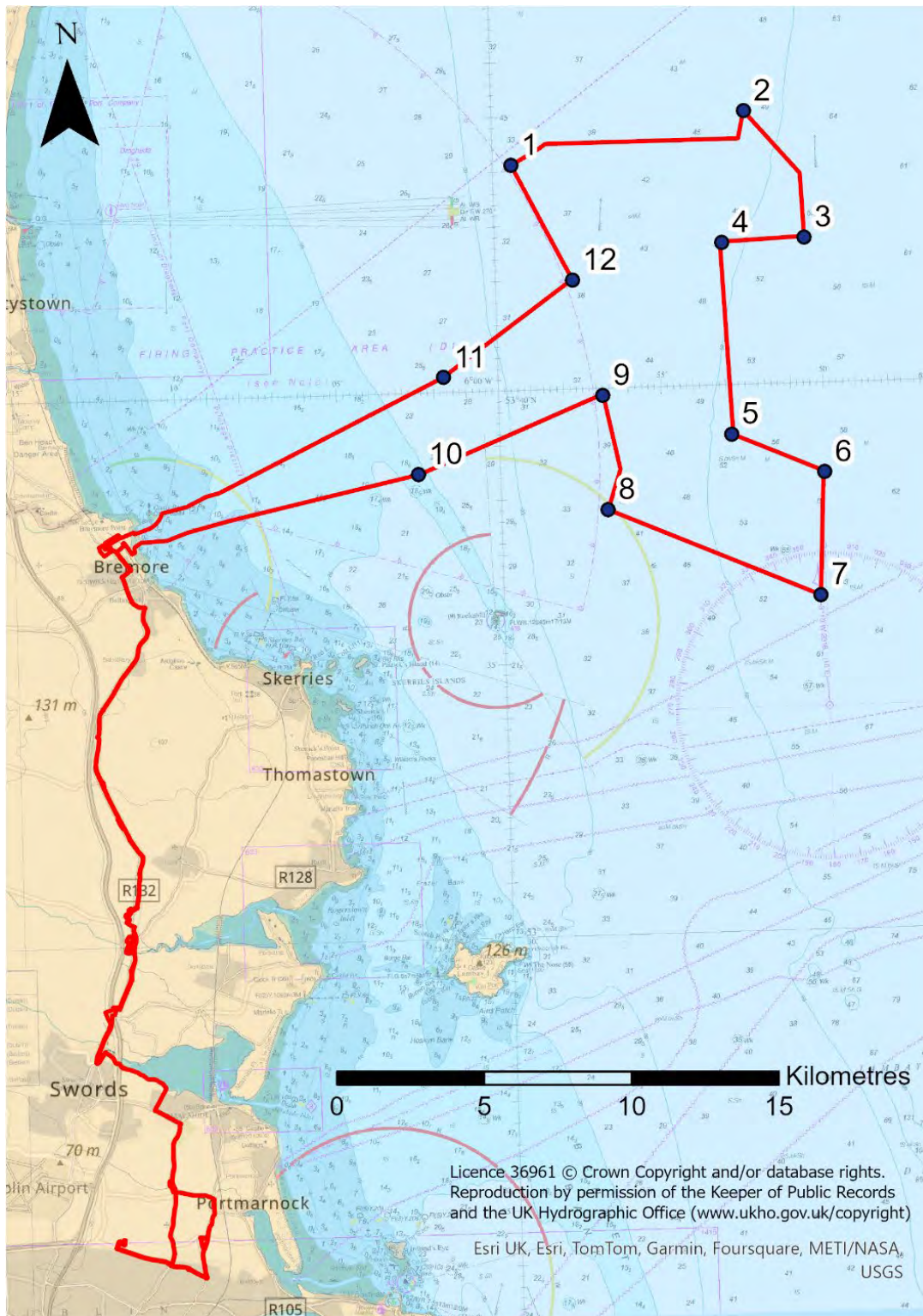


Figure 4.8.1 Location of the proposed development boundary (taken from Figure 6.1 in Chapter 6 of the EIAR)

Table 4.8.2 Coordinates of offshore development area (taken from Table 6.1 in Chapter 6 of the 2024 EIAR)

ID	System: WGS84	
	Latitude (Deg Min Sec)	Longitude (Deg Min Sec)
1	53° 44' 7.093" N	5° 59' 25.321" W
2	53° 44' 59.840" N	5° 52' 12.499" W
3	53° 42' 40.327" N	5° 50' 26.646" W
4	53° 42' 36.594" N	5° 53' 2.805" W
5	53° 39' 4.930" N	5° 52' 48.342" W
6	53° 38' 22.396" N	5° 50' 3.801" W
7	53° 36' 6.166" N	5° 50' 15.269" W
8	53° 37' 46.436" N	5° 56' 43.354" W
9	53° 39' 53.427" N	5° 56' 47.162" W
10	53° 38' 30.691" N	6° 2' 30.316" W
11	53° 40' 16.279" N	6° 1' 42.322" W
12	53° 41' 59.806" N	5° 57' 37.617" W

4.8.3.7 Annex 1. Impact on Fisheries from North Irish Sea Array Offshore Wind Farm Proposal

In Annex 1 of the submission, the MI explains that “*The Marine Institute is the national body with competence in assessing fish stocks and provides advice to government on sustainable exploitation levels for these. Having access to fisheries logbooks and vessel monitoring systems (VMS) data, the Marine Institute also assesses the extent and impact of proposed developments on commercial fisheries. Methods used to process VMS and logbook data are described in the Atlas of Commercial Fisheries around Ireland (Gerritsen, 2024).*” The information base used in these analyses is subject to certain caveats which are set out in the submission as a series of bullet points.

The MI makes points relating to the impact on fisheries from the proposed development on the following;

- Coordinates of cable corridor;
- Significance of impact; and
- Selection of the development area.

4.8.3.7.1 Coordinates of cable corridor

“*The coordinates for the array area were obtained from Appendix 17.1 of the EIA report (Navigational Risk Assessment). The Marine Institute was not able to locate the coordinates of the cable corridor in any part of the application. Therefore, the Marine Institute is not able to quantify the potential impact on commercial fisheries.*”

Response to Coordinates of cable corridor

See response to Section 4.8.3.6 which provides the coordinates of the development boundary.

4.8.3.7.2 Significance of impact

Point 1 – Residual impacts

The MI states “After mitigation (outlined in the Fisheries Management and Mitigation Strategy, Appendix 16.2), the residual effects are all assumed to be reduced to slight or moderate. The Marine Institute is not in a position to confirm that the residual effects are not significant.”

“However, the understanding of whether commercial fisheries can productively operate within the vicinity of offshore wind farms is still developing. In the absence of a detailed understanding of co-existence, it is not possible to rule out significant residual effects on fisheries.”

Response to Point 1 – Residual impacts

Information on the commercial fisheries operating within the offshore development area is presented in Appendix A16.1 – Commercial Fisheries Technical Report. Through this, several receptors (fishing fleets) were identified and assessed within Section 16.5 of Chapter 16: Commercial Fisheries.

Receptors assessed, within Section 16.5 of Chapter 16, were:

- Irish demersal otter trawlers
- UK demersal otter trawlers
- Irish potting vessels
- Irish razor dredges
- Irish scallop dredgers
- UK scallop dredgers
- Irish mussel dredgers
- Irish beam trawlers and demersal seine
- Belgian beam trawlers; and
- Irish pelagic trawlers.

Potential impacts assessed, within Section 16.5 of Chapter 16, were:

- Array area construction activities and physical presence of offshore infrastructure during the construction period leading to reduction in access to, or exclusion from established fishing grounds
- ECC construction activities and physical presence of constructed infrastructure leading to reduction in access to, or exclusion from established fishing grounds
- Displacement from within the offshore development area due to construction activities leading to gear conflict and increased fishing pressure on adjacent grounds
- Construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity
- Increased vessel traffic associated with the construction of the proposed development within fishing grounds leading to interference with fishing activity
- Physical presence of array area infrastructure during operation, leading to reduction in access to, or exclusion from established fishing grounds during operation
- Physical presence of the export cable during operation, leading to reduction in access to, or exclusion from established fishing grounds during operation
- Operational activities leading to displacement or disruption of commercially important fish and shellfish resources

- Increased vessel traffic during operation, within fishing grounds as a result of changes to shipping routes and maintenance vessel traffic from the proposed development leading to interference with fishing activity
- Physical presence of infrastructure during operation, leading to gear snagging
- Array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds
- ECC decommissioning activities leading to reduction in access to, or exclusion from established fishing grounds
- Displacement from the offshore development area due to decommissioning activities leading to gear conflict and increased fishing pressure on adjacent grounds
- Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources
- Increased vessel traffic within fishing grounds as a result of changes to shipping routes and transiting decommissioning vessel traffic from the proposed development leading to interference with fishing activity; and
- Physical presence of any infrastructure left in situ leading to gear snagging.

The Developer acknowledges that the 2024 EIAR and update identify significant pre-mitigation effects for certain commercial fisheries receptors, in particular Irish demersal otter trawlers targeting Nephrops within the array area, and Irish potting vessels during construction of the ECC. The FMMS has therefore been prepared in accordance with the NMPF, including Fisheries Policy 1, Fisheries Policy 2 and Co-existence Policy 1.

The updated residual effects assessment concludes that, following implementation of the mitigation measures set out in the FMMS and delivered through the SFC and associated governance, liaison and monitoring processes, residual effects on commercial fisheries are reduced to moderate to slight, slight, or lower, and are therefore not significant in EIA terms. This includes the previously significant effects on Irish demersal otter trawlers, Irish potting vessels and Irish razor dredgers, which are reduced to a not significant level following mitigation.

Point 2 – The western Irish Sea Nephrops grounds

The MI states “*The array development area is located on the western Irish Sea Nephrops grounds. This is the most intensively trawled area in Irish Waters (Gerritsen, 2024). While the proposed array area is relatively small (approx. 88km²), which represents around 3.3% of the total area used by Irish bottom trawlers targeting Nephrops in the western Irish Sea (2700km²), VMS data indicate that 6.6% of their fishing effort currently takes place inside the proposed array area. There are 60 vessels (49 Irish and 11 UK) that have registered fishing activity in proposed array development area during the years 2019-23. In total, almost 12 thousand fishing hours were spent inside the array area during that period, the vast majority of this was by Irish vessels.*”

Response to Point 2 – The western Irish Sea Nephrops grounds

The Developer acknowledges the Marine Institute’s analysis that the array area overlaps with the western Irish Sea Nephrops grounds and that Nephrops is the key commercial species targeted within the array area. This is consistent with the commercial fisheries baseline and with Chapter 16, which identifies Irish demersal otter trawlers targeting Nephrops as the principal receptor affected by the proposed development.

The 2024 EIAR and update therefore assess Irish demersal otter trawlers as a specific receptor and identify significant pre-mitigation effects in relation to reduction in access and displacement during relevant phases. The FMMS has been prepared because significant impacts requiring additional mitigation were identified for Irish demersal otter trawlers targeting Nephrops within the array area.

The updated mitigation package includes the FMMS, Fisheries Liaison Strategy, Co-existence Strategy, SFC, disturbance payment framework, Technical Co-existence Assessment and DETP. These measures are intended to minimise effects on the Nephrops fleet as far as reasonably practicable, support continued fishing access where safe and practicable, improve the evidence base for monitoring and displacement, and provide a mechanism for adaptive management where required.

Point 3 – Dredging, potting and gillnetting

The MI states *“The cable corridor also crosses fishing grounds used by inshore vessels engaged in dredging, potting and gillnetting. The impact on fishing activities will be minimised if they can continue once the windfarm is established. However operational or other considerations could preclude fishers from being active in the proposal areas. Therefore, it is difficult to predict the impact on the fisheries in the area.”*

Response to Point 3 – Dredging, potting and gillnetting

The Developer acknowledges that some inshore vessels may operate flexibly across more than one static-gear métier, including potting and seasonal netting, depending on target species, licence conditions, grounds, weather and market conditions. The commercial fisheries assessment has therefore considered the potential for effects on inshore fishing activity, including potting, dredging and netting activity within and around the ECC. Any restrictions on fishing activity within the cable corridor would be limited principally to the construction phase and to temporary advisory safety zones around active construction activities and associated vessels. Following completion of construction activities, fishing activity would be expected to resume within the cable corridor where safe and practicable. Information on the final cable location, cable burial status and any areas of cable protection would be communicated to the fishing industry through the established fisheries liaison procedures.

The updated FMMS includes measures of particular relevance to inshore and static-gear fisheries, including ongoing fisheries liaison, timely notification of works, FLO/OFLO support where required, procedures for static gear interaction, dropped object reporting and recovery procedures, cable burial as the preferred means of cable protection, a Cable Burial Risk Assessment, and procedures in relation to gear fastening or loss.

The outline disturbance compensation protocol in the FMMS provides a framework for evidence-based disturbance payment claims where construction-related disruption can be evidenced. The SFC will provide a governance mechanism through which local inshore fisheries concerns can continue to be raised, reviewed and addressed during detailed design, construction and operation.

Point 4 – Co-existence of fisheries with the windfarm

The MI submission states *“The array and subsidiary areas overlap with trawl, dredge, netting and potting activities. If these activities can, in reality, continue when the windfarm is established, the impact on fisheries may be mitigated. However, it is difficult to predict whether fishing activities could indeed continue within the windfarm, or the cable corridor, even if such activities are permitted. Operational or other considerations could preclude fishers from being active in the proposal areas. Given these uncertainties about co-existence of fisheries and ORE, it is difficult to predict the impact on the fisheries in the area.”*

Response to Point 4 – Co-existence of fisheries with the windfarm

The Developer acknowledges the Marine Institute’s point that the ability of fishing to continue within and around the array area and ECC is central to the assessment of residual effects. The updated FMMS therefore includes a detailed Co-existence Strategy, supported by a Technical Co-existence Assessment.

The Developer’s approach to coexistence is that the proposed development and fishing activity should be capable of continuing at the same time, where safe and practicable, within and around the array area and along the ECC. Fishing will not be prohibited from the array area during operation. The assessment has nevertheless adopted a precautionary approach by considering the potential for reduction in access, exclusion, displacement, gear conflict, increased fishing pressure on adjacent grounds, and snagging risk.

The Technical Co-existence Assessment examines the practical fisheries implications of the updated WTG layouts, including navigable trawl space, WTG spacing, cable protection, tidal constraints and operational requirements. It concludes that coexistence between the proposed development and commercial fishing activity is technically achievable, provided that appropriate corridor design, cable burial standards, fisheries-informed operational protocols and monitoring measures are incorporated into proposed development design and operational management.

For Project Option 1, the assessment identifies a minimum centre-to-centre WTG spacing of 1,000 m and an effective trawlable width of approximately 850 m once operational buffers are applied. Project Option 2, with fewer WTGs, provides wider corridors and greater spatial flexibility. In both options, designated trawling corridors are aligned with known conventional trawling directions in a NNW–SSE direction to support practical fishing access.

Coexistence will be further supported by the Fisheries Liaison Strategy, continued appointment of the FLO and OFLO where required, advance notification procedures, advisory safety zones, cable burial and protection standards, guard vessels where appropriate, dropped object procedures, gear fastening/loss procedures and ongoing monitoring through the SFC and DETP.

Point 5 – Displacement of fishing effort

The MI states *“Restrictions to access by fishing vessels are likely to result in a displacement of fishing effort. It is not possible to predict where this effort will be displaced to, but this displacement will increase fishing pressure and competition in some of the remaining accessible areas.”*

Response to Point 5 – Displacement of fishing effort

The Developer acknowledges that displacement is one of the principal fisheries concerns associated with the proposed development, particularly in relation to smaller vessels that may have limited operational range. Chapter 16 assesses displacement during construction, operation and decommissioning, including the potential for gear conflict and increased fishing pressure on adjacent grounds.

The updated FMMS also includes a cumulative mitigation strategy which recognises that displacement must be considered in a holistic and evidence-led manner, particularly in the context of other Irish Sea Phase One ORE projects. The SFC will be used as the primary governance mechanism to support long-term fisheries engagement, evidence gathering, monitoring and adaptive management.

A key part of this approach is the Digital Effort Traceability Project (DETP), which has already been implemented through the SFC. DETP is designed to provide a more detailed fisheries-led evidence base by recording high-resolution fishing activity, spatial footprint, gear activity, catch and landings information, and traceability outputs. This will support before-and-after analysis, displacement assessment, monitoring of fishing intensity, and consideration of socio-economic dependency and vulnerability for participating vessels.

The assessments presented in Chapter 16: Commercial Fisheries of the 2024 EIAR concluded Significant effects (which are Significant in EIA terms) to the Irish demersal otter trawlers in relation to:

- The physical presence of array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds during the operational phase.

The assessment concluded a moderate effect (which is not Significant in EIA terms) in relation to displacement, acknowledging that some displacement may occur into areas currently targeted for Nephrops, but that given access within the array area during operation, displacement is not expected to be Significant.

The assessment assumes that commercial fisheries will be prevented from actively fishing within the footprint of installed infrastructure within the array area, together with associated advisory safety zones and advisory clearance distances for maintenance activities and assumed safe operating distances during operation. The layout of the WTGs and OSP has aimed to align with the direction of the trawling lanes where practicable to aid passage through the array area.

Outside of this footprint area, the assessment assumes that fishing will be possible within the array area. Within the array area, the proposed development option with the greatest magnitude of impact (Project Option 1) for permanent reduction in access equates to a loss of 4.5km², including infrastructure footprint, scour protection and cable protection. The array area is 89km²; the permanent reduction of 4.5km² equates to 5% of the array area that cannot be fished due to presence of infrastructure and cable protection.

For Irish demersal otter trawlers, due to the nature of the gear, which is typically deployed as twin or quad-rigged trawl nets, it is expected that *Nephrops* trawling activity will be affected within the array area during the operational phase. It is recognised that vessels may choose to deploy single rigged nets to allow better manoeuvrability and access into the site. This may affect the overall efficiency of the gear in catching *Nephrops* and also incur effort and cost to change technical gear configurations.

Additional mitigation is proposed in the form of the FMMS and SFC to promote co-existence and maximise opportunity for fishers to target areas within the array area. This includes clear and transparent communication of proposed development infrastructure locations and timing and location of major maintenance activities.

In addition, the FMMS includes development of a co-existence strategy related to promoting the continuation of both the proposed development and fishing industry activities at the same time within and around the array area and along the ECC including during the operational phase. The co-existence strategy includes commitments related to:

- Cable burial
- Safe passing distances and guard vessels
- Safety of navigation
- Dropped objects
- Code of good practice for all vessels; and
- Procedures in relation to gear fastening or loss.

4.8.3.7.3 Selection of the development area

The MI states “*While the MAC area only partially overlaps with the Irish Sea Nephrops grounds, the proposed array development area almost fully overlaps with these grounds. If the array were to be situated in the southern part of the MAC area, this would have reduced the interaction with the bottom trawl fisheries substantially, without additional impact to other types of fisheries.*”

Response to Selection of the development area

An Bord Pleanála in Section 6 of the RFI, requests that the Developer updates Chapter 5 to provide further rationale and justification of the suitability of the site for the proposed development. Refer to the Response to RFI Document.

Chapter 5; Alternatives of the EIAR explains the evolution of the proposed development site selection, “*With regard to the proposed development, the Developer commenced site selection and design evolution in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in this EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPA) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.*”

Other studies that were undertaken to assist the site selection process, as detailed in Chapter 5, include;

- The Irish Marine Study Assessment - Gaelectric and University College Cork (2008) - an integrated geological and marine desktop study of the Irish Sea in the Irish Economic Exclusion Zone (EEZ) between Dunmore East (Co. Waterford) and Carlingford Lough (Co Louth), from a minimum distance of 5km from the coast to a maximum water depth of 60m.

- The Irish Sea Marine Assessment (2009) - to provide integrated seabed and sub-seabed mapping data of the areas identified in the desktop study of the Irish Sea and to assist in a fundamental understanding and evolution of the seabed.
- The IMAR Study (2009) – a desktop study to identify key constraints.
- Constraints analysis undertaken by the Developer, considering;
 - Technical considerations of the metocean, wind, and seabed characteristics
 - Overlapping Foreshore licences
 - Distance to shore (visibility perception from the coast) - siting of infrastructure at the furthest distance practicable from the coast – due to the ground conditions and water depths required for deployment of fixed foundations a 10km buffer from the coast was applied
 - Avoidance of Designated Sites
 - Shipping and navigational features
 - Commercial fisheries activity
 - Proximity of the onshore electrical and grid infrastructure
 - Potential interaction with civil and military aviation and Radar and military danger areas
 - Proximity to the energy demand centres e.g. larger population centres where the electricity will be required
 - Onshore grid constraints and upgrade requirements
 - Economic efficiency for the Irish electricity consumer
 - Bathymetry - water depths not exceeding 60m and
 - Avoidance of existing offshore cables and pipelines.

Following the robust process detailed in Chapter 5: Consideration of Alternatives, the preferred location and extent of the proposed development offshore development area were identified, and this formed the boundaries of the area identified in the Maritime Area Consent (MAC) application.

Further refinements have been made to reduce the offshore development area are listed in Section 5.6.1.1 Environmental Considerations and 5.6.1.2 Offshore Development Area – Environmental Comparison (Ornithology) in Chapter 5 of the EIAR. Site specific DAS data was used to identify ‘hotspots’ of birds indicating key foraging/loafing areas. By reducing the extent of the offshore development area in the southern extent, the distance from Rockabill Island is increased, which leads to a reduction in interaction with bird species that inhabit Rockabill Island and are qualifying features of the Rockabill SPA, and therefore reducing ornithological connectivity between the Rockabill SPA and the proposed development where possible and consequent potential impacts upon those species.

As a result of the RFI, further design refinements have been made (Refer Appendix A5.1: Design Refinements). to refine the WTG layouts and further reduce the offshore development area to 88.5km². The Projected Footprint of Infrastructure (PFI) represents a defined ornithology study sub-area within the overall array area, where all permanent offshore array infrastructure will be located. The PFI has been developed following design refinements to minimise spatial overlap with sensitive receptors and occupies just 57.7 km², representing 2.5% of the NWIS cSPA.

4.8.3.8.1 Rock and biogenic reef

The MI compared the footprint of the MAC (which includes the array and the subsidiary areas) to benthic broad habitats present. The MI states that in areas where rock or other hard substrata are present, “*The proportion of these habitats occur in the subsidiary area with approximately 0.5% classified as circalittoral rock and biogenic reef and infralittoral rock and biogenic reef. These reef areas should be avoided.*”

Response to Rock and biogenic reef

The Developer acknowledges this comment and notes that the figure within the response mirrors the data displayed in Volume 7A: Figures for Chapter 12 Benthic Subtidal and Intertidal Ecology - Figure 12.3 of the 2024 EIAR.

Section 12.5.2.3 of Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR, Impact 3 – temporary habitat disturbance in array area and ECC assesses the impacts of the proposed development on the biotopes present. No Annex I reef features were recorded during the site-specific surveys or during any desk-based studies. Consequently, no pathway for direct impact to this receptor is evident and thus no disturbance is anticipated. The magnitude of impact to potential Annex I reef is therefore regarded as negligible.

The following mitigation measures have been taken into account when determining the significance of the potential impact to the benthic environment.

Table 4.8.3 Mitigation measures relating to benthic subtidal and intertidal ecology (taken from Table 12.13 in Chapter 12 of the 2024 EIAR)

Type of mitigation measure	Description of mitigation measure
Cable installation measures/Cable Burial Risk Assessment/Cable burial	- Cable installation measures will minimise adverse impacts to potentially sensitive receptors. It will also set out appropriate cable burial depth in accordance with industry good practice, reducing the risk of cable exposure and will be based on results from a cable burial risk assessment. Cables will be buried to a sufficient depth to ensure that they are not exposed by sandwave movements. Where target cable burial depth cannot be achieved during the cable installation process (for any of inter-array, interconnector, or export cables), cable armouring will be implemented (e.g. mattresses, or rock placement etc). - The suitability of installing rock or mattresses for cable protection will be investigated, based on (inter alia) the seabed current data at the location of interest and a risk assessment of the potential for cable damage to occur. Cable installation measures are captured in the Offshore Environmental Management Plan (EMP). - Cable installation will follow the burial hierarchy, where practicable two attempts will be made to bury cables before cable protection is used.
Project Design	Presence of sensitive habitats will be identified through a review of the latest available benthic datasets and pre-construction surveys. Proposed development infrastructure will avoid protected habitats wherever reasonably practicable to an extent not resulting in a hazard for marine traffic and Search & Rescue capability.
Offshore Environmental Management Plan (EMP)	- An Offshore EMP will be developed and will include details of: - Marine pollution contingency measures to address the risks, methods and procedures to deal with any spills and collision incidents of the proposed development in relation to all activities carried out below the HWM; - A chemical risk review to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance; - Marine biosecurity measures detailing how the risk of introduction and spread of invasive nonnative species will be minimised; - Waste management and disposal arrangements; - A vessel management plan, to determine vessel routing to and from construction sites and ports, to include a code of conduct for vessel operators; and - The appointment and responsibilities of a company fisheries liaison officer.

Type of mitigation measure	Description of mitigation measure
Pre-construction profile survey	Where necessary, before works commence and following reinstatement, a topographical survey of the nearshore subtidal area will be carried out to identify and map the contours of the subtidal HDD exit pit to ensure a profile similar in nature to the profile recorded during the pre-construction survey is reinstated, as far as practicable.

Presence of sensitive habitats will be identified through a review of the latest available benthic datasets and pre-construction surveys. Proposed development infrastructure will avoid protected habitats wherever reasonably practicable

4.8.3.8.2 Physical disturbance

The MI reviews the disturbance by fishing activity in the proposed planning area (OSPAR's Extent of Physical Disturbance to Benthic Habitats: Fisheries with mobile bottom-contacting gears (BH3) assessment (Matear et al. 2023)). The MI concludes that *“If bottom trawling is excluded from the areas between the turbines, then a reduction in disturbance could be expected. This could potentially be beneficial to the habitats in question.”*

Response to Physical disturbance

The Developer notes the conclusions of the MI.

4.8.3.9 Annex 3. Species and Habitats of Conservation Concern

In Annex 3 of the submission, the MI compared the footprint of the array with spatial data collated and assessed by the Irish Sea Ecological Sensitivity Analysis (2023).

“The proposed development has significant overlap with OSPAR listed seapen and burrowing megafauna habitat, IUCN red-listed elasmobranchs such as smooth-hound and thornback ray, and IUCN red-listed teleost fish such as turbot and long rough dab (although see case reports of both species for discussion of their conservation status in the Irish Sea). Smaller overlaps are seen with many other elasmobranch species, the Icelandic cyprine or ocean quahog, and the mouth of the river Bracken that was identified as important estuarine habitat for the critically endangered European eel. There is also overlap with the distribution of tape shark (Galeorhinus galeus) that is not depicted here (see appendix 10, case report 16 of the Irish Sea Ecological Sensitivity Analysis for further details of data used and sensitivity assessment).”

Response to Annex 3. Species and Habitats of Conservation Concern

The Developer notes the MI's observations regarding species and habitats of conservation concern and welcomes the clarification provided. In relation to the OSPAR listed biotope seapen and burrowing megafauna habitat, this habitat was recorded during the site-specific surveys at a single site located to the south of the array. This, allied to the ubiquity of the habitat through the western Irish Sea, would indicate that any overlap with this habitat with the proposed development is proportionally insignificant. It should also be noted that, as discussed in Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR, no significant impacts on this habitat were identified related to the proposed development. With respect to fish and shellfish receptors, the MI's comments align with the conclusions presented in Chapter 13: Fish and Shellfish Ecology of the EIAR and its associated appendices. Notably, the MI acknowledges that for widely distributed or highly migratory fish species, the spatial overlap with the proposed development *“may not be very significant at a population level.”* This is consistent with the EIAR's assessment, which concludes that such species, owing to their broad distributions, mobility, and life-history traits are unlikely to experience population-level effects from the proposed development.

Despite the absence of any records of *Anguilla anguilla* within the baseline characterisation surveys, the assessment within Chapter 13: Fish and Shellfish Ecology adopted a precautionary approach and assumed that European eel may transit the fish and shellfish ecology study area during their marine migration. As detailed in Chapter 13: Fish and Shellfish Ecology of the EIAR, even under this precautionary assumption, no potential for significant impacts on European eel were identified. This reflects the lack of interaction with freshwater and estuarine habitats essential to the species, and the temporary and localised nature of effects from the proposed development. Accordingly, in the event that eel do migrate through the wider area, no adverse effects on the species are predicted.

The MI also notes that any potential reduction in fishing activity within the array or cable areas cannot be relied upon to generate ecological benefits for fish or shellfish species. This is consistent with the conclusions of Chapter 13: Fish and Shellfish Ecology, which did not identify or assume any positive impacts arising from disturbance or from potential changes in fishing activity.

4.8.3.10 Annex 4. Marine Planning Evidence Base

The MI provides examples of existing national monitoring, data and evidence programmes.

Response to Annex 4. Marine Planning Evidence Base

The Developer acknowledges the extensive list of data and evidence programmes that are actively collating marine data in Ireland.

4.8.4 Conclusion

The Developer acknowledges the issues raised herein and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the 2024 EIAR and NIS.

4.9 Minister for Housing, Local Government and Heritage: National Monuments Service

4.9.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the Development Applications Unit of the Department of Housing, Local Government and Heritage (herein referred to as DHLGH) in relation to onshore archaeology, marine archaeology and cultural heritage.

4.9.2 Summary of the Key Points Raised by DHLGH

DHLGH raised a number of key points, which are presented as sub-themes below.

- Archaeology
- Underwater Archaeology
- Requested archaeological conditions

4.9.3 Response to Key Points Raised

4.9.3.1 Archaeology

DHLGH's submission provides recommended conditions to be included with any grant of permission in relation to onshore archaeology.

Response to Archaeology

See Section 4.9.3.3 in this report for the full table of recommended conditions.

4.9.3.2 Underwater Archaeology

DHLGH introduces their response to the submission in the context of Ireland's climate target and acknowledges the pre-application consultation undertaken by the Developer with DHLGH with regard to EIAR Scoping consultations, review of offshore survey related reports and numerous telecons. This is followed by a short review of the documents relating to offshore archaeology within the EIAR and their general content.

On page 8 of their submission, DHLGH makes several comments on the EIAR which are presented below:

Point 1 - Commitment in the EIAR for archaeological assessment

DHLGH states *"It is noted that there is no commitment in the EIAR for archaeological assessment and prior NMS National [Monument Service] approval of the proposed extensive post consent confirmatory pre construction marine geophysical surveys and geotechnical campaign. It is recommended that the phase 2 geotechnical campaign is the subject of archaeological assessment, for the review and approval of the NMS."*

Response to point on no commitment in the EIAR for archaeological assessment and prior NMS approval

As noted within Section 18.2.4 of Chapter 18 of the EIAR, a series of site-specific surveys were undertaken to aid a desk-based review to inform the baseline for offshore archaeology and cultural heritage; *"Geophysical surveys within the offshore development area were undertaken by Fugro and N-Sea Ltd, with archaeological advice and reporting from ADCO Ltd, as per the requirements of Foreshore Licences FS007031 and FS007358 held by the Developer. Geophysical surveys within the offshore development area were undertaken by Fugro and N-Sea Ltd, with archaeological advice and reporting from ADCO Ltd, as per the requirements of Foreshore Licences FS007031 and FS007358 held by the Developer."*

"These data included (Magnetometer (Mag.), Sidescan Sonar (SSS), Sub-Bottom Profiler (SBP), Multibeam Echosounder (MBES) bathymetry and Multibeam Backscatter (MBBS)). Archaeological assessment of the results of these surveys was completed by ADCO Ltd (ADCO 2022; ADCO 2023b). and provided to NMS"

“Additional archaeological assessment of the SBP data to identify potential for seabed prehistory was completed by Wessex Archaeology and forms Appendix 18.1.” (Palaeogeographical Investigation). The archaeological assessments completed by ADCO were provided to NMS. These surveys informed the baseline presented in the application.

As part of the updates to the 2024 EIAR, further consultation with the National Monuments Service, (NMS) was undertaken and a Marine Archaeology Management Plan was requested. The MAMP is for the proposed offshore works within the array area, the Export Cable Corridor (ECC) and any temporary works related to the construction, operation and maintenance, and decommissioning of the proposed development, seaward side of the High Water Mark (HWM). For completeness archaeological mitigation related to pre-construction geotechnical works and geoarchaeological investigations under Maritime Usage Licence 230001 are also included within the MAMP, albeit it is acknowledged these are licensed under a separate licencing regime with agreed conditions.

Point 2 - NMS approval of the final offshore wind farm design

DHLGH states *“It is noted that there is no mechanism provided for within the EIAR for NMS approval of the final offshore wind farm design arising from the proposed further confirmatory pre construction marine surveys and micro-siting of infrastructure. It is recommended that the final offshore wind farm design is the subject of archaeological assessment, for the review and approval of the NMS.”*

Response to Point 2 - NMS approval of the final offshore wind farm design

The Developer can confirm that an archaeological assessment of the final offshore wind farm design will be completed and the results submitted to the NMS for review. The Developer requests that approval by NMS is time-bound in the condition and proposes that agreement must be provided within 3 months of submission.

Point 3 - on the complete recovery, retention and archaeological assessment and geoarchaeological analysis by a qualified and experienced geoarchaeologist of geotechnical cores

DHLGH states *“It is noted that there is no provision made for the complete recovery, retention and archaeological assessment and geoarchaeological analysis by a qualified and experienced geoarchaeologist of geotechnical cores. This is required in order to include a sediment deposit model that will determine the importance of the buried seabed sediments and the potential for palaeoenvironmental and submerged prehistoric evidence, and to facilitate the making of recommendations for any further pre-construction surveys or geoarchaeological laboratory investigations. It is also required to facilitate the palaeoenvironmental analysis and scientific dating of suitable core samples. It is recommended that all future geotechnical cores are archaeological assessed and where anthropogenic/palaeolandscape material is identified, they are subject to geoarchaeological analysis and scientific dating.”*

Response to Point 3 - on the complete recovery, retention and archaeological assessment and geoarchaeological analysis by a qualified and experienced geoarchaeologist of geotechnical cores

As noted previously, further geotechnical surveys and detailed design geophysical surveys are licensed under the Maritime Usage Licence (MUL) (LIC230001) for the proposed development and hence are not included in the scope of the planning application. However, for completeness archaeological mitigation related to pre-construction geotechnical works and geoarchaeological investigations under Maritime Usage Licence 230001 are also included within the MAMP.

Geotechnical cores and core logs from previous project-specific geotechnical will be made available for geoarchaeological assessment by a suitably qualified archaeological contractor. The scope of any geoarchaeological assessment will be set out in a separate archaeological method statement, prepared by the Project Archaeologist and methodology reviewed by the NMS.

Point 4 - Archaeological monitoring provision

DHLGH states *“It is noted that there is commitment in the EIAR for onboard archaeological monitoring of works that impact on the seabed and/or on underwater cultural heritage. We recommended archaeological onboard monitoring encompass all construction activities which have the potential to impact on the seabed and/or on underwater cultural heritage.”*

Response to Point 4 - Archaeological monitoring provision

Archaeological monitoring will be undertaken by a suitably qualified and experienced marine archaeologist who will operate under the required licences issued by the Department of Housing, Local Government and Heritage. Archaeological monitoring facilitates the identification and immediate protection of unexpected archaeological discoveries and ensures that preventative measures such as preservation in situ, or further investigation is undertaken as required.

Archaeological monitoring would require a works specific archaeological method statement, which would be based on the specifics in the approved MAMP (Appendix A18.3: Marine Archaeology Management Plan) and would be undertaken in line with relevant guidance and should be approved by the NMS prior to works being undertaken.

Archaeological monitoring will be conducted during construction works with potential for the discovery of archaeological material on the seabed and/or recovery of archaeological material to the surface. Relevant work packages may include:

- UXO target investigation; and/or
- Seabed preparation activities within previously unimpacted areas, such as boulder clearance using a grab, dredging of seabed sediments and/or pre-lay grapnel run.

A finds retrieval strategy will be in place for the duration of the works, in compliance with requirements of the NMI and in agreement with the NMS. Finds that are exposed in the course of the proposed development activities will be recovered by the Project Archaeologist or Archaeological Contractor. Where recovery is impracticable, preservation by record is undertaken, with prior approval from the NMS.

As outlined within Chapter 18 of the EIAR and the MAMP there are two mitigation provisions, which will be in place throughout the construction, O&M and decommissioning phases: Archaeological Exclusion Zones (AEZs) around high value offshore archaeology and cultural heritage receptors to prevent direct impacts on these receptors and a Protocol for Archaeological Discoveries (PAD) which is a system for reporting and investigating unexpected archaeological discoveries encountered during the different phases of the proposed development. The Developer will appoint a Retained Archaeologist post-consent to operate the MAMP and provide guidance and advice industry staff on the implementation of the AEZs and PAD. The AEZs prevent direct impacts on the known high value offshore archaeology and cultural heritage receptors and an agreed buffer around them, where no construction, O&M or decommissioning work can be completed. These have been included in the design information. The PAD provides a safety net for any unexpected discoveries that may occur outside other archaeological mitigation works specific to tasks with increased potential to impact on known and unknown archaeological material. It also makes provision for the implementation of temporary exclusion zones around areas of possible archaeological interest, for prompt archaeological advice, and, if necessary, for archaeological inspection and recording of important features prior to further activities in the vicinity. The PAD provides a mechanism to comply with legislation, including notification to the NMS. These two mitigations will be in place throughout the proposed development's lifetime.

Point 5 - Commitments made in the EIAR

DHLGH states *"In light of the above, the Department regards the commitments made in the EIAR regarding the mitigation of impacts and effects on underwater cultural heritage deficient in ensuring the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project."*

Response to Point 5 - Commitments made in the EIAR

The mitigation measures that are incorporated as part of the proposed development design process can be considered to be industry standard practice. With reference to the scope of this planning application, Table 18.16 in Chapter 18 of the EIAR, identifies additional mitigation measures that are not included in the proposed development design. With the adoption of the additional mitigation measures, the magnitude of significant effects will be reduced to negligible (not significant in EIA terms).

As part of the updates to the 2024 EIAR to satisfy that RFI, further consultation with the National Monuments Service (NMS) was undertaken and a Marine Archaeology Management Plan was requested.

The MAMP is for the proposed offshore works within the array area, the Export Cable Corridor (ECC) and any temporary works related to the construction, operation and maintenance, and decommissioning of the proposed development, seaward side of the High Water Mark (HWM). The MAMP provides an overarching framework by which the Developer will manage potential risks to marine archaeological cultural heritage from the proposed development throughout its lifetime (see Appendix A18.3: Marine Archaeology Management Plan).

The Protocol for Archaeological Discoveries (PAD) system will enable archaeological reporting and investigation of unexpected archaeological discoveries encountered during the different phases of the proposed development during works within areas with lowered archaeological potential as identified during the archaeological assessment of geophysical and geotechnical datasets, is provided in Appendix A18.3. A Retained Archaeologist will provide guidance and advising industry staff on the implementation of all mitigation including the PAD, as well as supporting the various archaeological works set out in the EMP (Appendix A6.1 Offshore EMP).

4.9.3.3 Requested archaeological conditions

On page 9 of their submission, DHLGH advises that the following requirements set out in Table 4.9.1 should be included as a condition of any grant of permission.

Response on Recommended conditions

These conditions are listed in Table 4.9.1 below as follows:

Table 4.9.1 Schedule of Conditions

No.	Condition	Developer's Response
1	All mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 25 of the EIAR (IAC Ltd; date June 2024) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	A Project Archaeologist shall be appointed to oversee and advise on all aspects of the scheme from design, through inception to completion. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	a. The Project Archaeologist shall liaise with the National Monuments Service (NMS) to agree in advance the appropriate scope for all archaeological works required as part of mitigation for the project (as identified in Chapter 25 of the EIAR or by any subsequent investigations associated with the project). Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	b. The Project Archaeologist shall advise on and establish appropriate Exclusion Zones around the external-most elements of vulnerable Heritage Assets that are to be preserved in situ (as identified in Chapter 25 of the EIAR or by any subsequent investigations associated with the project). – Exclusion Zones shall be fenced off or appropriately demarcated for the duration of construction works in the vicinity of the monuments. The location and extent of each Exclusion Zone and the appropriate methodology for fencing off or demarcating at each location shall be agreed in advance with the National Monuments Service and the planning authority.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	– No groundworks of any kind (including but not limited to advance geotechnical site investigations) and no machinery, storage of materials or any other activity related to construction will be permitted within Exclusion Zones. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	
3	The Construction Environment Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed development as set out in Chapter 25 of the EIAR (IAC Ltd; date June 2024) and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of all archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
5	All recommendations and mitigation measures in relation to marine archaeology as set out in Volume 3: Offshore Chapters Chapter 18 Offshore Archaeology and Cultural Heritage (Arup and Partners Ltd) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order. Compliance with this condition shall require a formal statement in writing from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála that all mitigation measures have been implemented and approved. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
6	A Project Archaeologist shall be appointed to oversee and advise on all aspects of the Project, including detailed design, construction activities and maintenance. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	An Underwater Archaeological Impact Assessment (UAIA) report shall be forwarded by the Developer to the National Monuments Service of the Department of Housing, Local Government and Heritage for review and approval prior to all geotechnical investigation works taking place. The UAIA shall augment previous archaeological assessments and shall include the following:	Further geotechnical surveys are licensed under the Maritime Usage Licence (MUL) (LIC230001) for the proposed development and hence are not included in the scope of the planning application. While the Developer fully understands the proposed condition, it does note that there are no geotechnical investigation works proposed under this consent application. All geotechnical works are the subject of a separate Marine Usage Licence (MUL) and these works are subject to an Underwater

No.	Condition	Developer's Response
		Archaeologist Impact Assessment (UAIA) which will be provided under the relevant MUL. As such, the Developer respectfully suggests that An Coimisiún Pleanála consider whether this condition is relevant to this consent application.
7	a. Results of geophysical survey data sets assessment and archaeological interpretation by a suitably qualified and experienced maritime archaeologist, to ensure that any proposed geotechnical works do not negatively impact on locations where there is known or potential underwater cultural heritage, including historic wrecks, archaeological objects, submerged palaeolandscapes, sites and features, and to ensure no samples or cores are taken from an area where a wreck site is located. The archaeologist shall also be suitably experienced, with a track record in dealing with and the interpretation of marine geophysical data for archaeological purposes, including ensuring it is of sufficient specification for the identification of underwater cultural heritage.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála The Developer does note that there is a separate Marine Usage Licence (MUL) for all pre-construction geotechnical works, with associated conditions attached.
7	b. The geophysical surveys shall be licenced under the National Monuments Acts 1930-2014. A Dive Survey Licence (Section 3 1987 National Monuments Act) and Detection Device consent (Section 2 1987 National Monuments Act) shall be required. Licence applications, accompanied by Method Statements, shall be sent for approval to the National Monuments Service of the Department of Housing, Local Government and Heritage. Any dive surveys required in connection with proposed geophysical surveys or other works shall also be licenced (Section 3 1987 National Monuments Act). Any dive survey shall be accompanied by a handheld metal detection survey which shall also be licenced (Section 2 1987 National Monuments Act). All archaeological diving shall comply with the Health and Safety Authority's Safety, Health and Welfare at Work (Diving) Regulations 2018/2019.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	c. Once all geophysical surveys and archaeological interpretations have been completed, the full information shall be compiled into a final UAIA report and submitted to the National Monuments Service for review and approval, prior to undertaking any geotechnical works. The UAIA Report shall contain a detailed Archaeological Impact Assessment that addresses all identified or potential impacts on underwater cultural heritage, including on historic wrecks, archaeological objects, submerged palaeolandscapes, sites and features, and shall also make recommendations on measures to avoid (through the institution of Archaeological Exclusion Zones) or, where necessary, mitigate (by archaeological dive surveys/archaeological test excavations/archaeological geophysical surveys/archaeological monitoring/preservation by record or any other means as recommended by the National Monuments Service) all potential/identified impacts and effects on underwater cultural heritage. The Developer shall be prepared to be advised by the National Monuments Service in this regard or in regard to any subsequent recommendations that may issue. No geotechnical works shall be undertaken until approval in writing from the National Monuments Service has been received by the Developer. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the UAIA report. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. However, as noted above, the Developer notes that any assessments undertaken to inform geotechnical investigations are consented through a separate MUL and as such the Developer would respectfully request ABP to consider whether this is relevant for the proposed development.

No.	Condition	Developer's Response
	is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
8	Following the completion of all geotechnical works, the Developer shall furnish the Project Archaeologist with the results of all site investigation works and shall provide access to site investigation cores and physical samples for archaeological and geoarchaeological review by a qualified geoarchaeologist. Where potential submerged palaeolandscapes deposits or other anthropogenic materials are identified, they shall be subject to geoarchaeological and palaeoenvironmental analysis and scientific dating, in agreement with the National Monuments Service and subject to approval of Licences to Alter and Export from the National Museum of Ireland. Following the completion of all geotechnical and archaeological works and any necessary post-excavation specialist analysis, the National Monuments Service shall be furnished with a final archaeological report describing the results of the works. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the geoarchaeological report. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	As noted above, any assessments undertaken to inform geotechnical investigations and the management of the findings thereafter are subject to a separate MUL with associated conditions. Therefore, the Developer respectfully suggests that An Coimisiún Pleanála consider whether this condition is of relevance to the proposed development application, or rather to the separately consented geotechnical investigations themselves. Notwithstanding, the Developer notes that as outlined in the MAMP, the Developer is committed to the following mitigation: Geotechnical cores and core logs from previous project-specific geotechnical will be made available for geoarchaeological assessment by a suitably qualified archaeological contractor. The scope of any geoarchaeological assessment will be set out in a separate archaeological method statement, prepared by the Project Archaeologist and methodology reviewed by the NMS.
9	The Final Design for the offshore windfarm shall be the subject of an Underwater Archaeological Impact Assessment (UAIA), to be submitted to the National Monuments Service for review and approval, prior to the commencement of any seabed preparation or construction works. The UAIA report shall contain a synthesis of the archaeological outcomes of all prior geophysical, geotechnical, intertidal archaeological investigations and any other relevant investigations. The UAIA report shall contain a detailed Archaeological Impact Assessment that addresses all identified or potential impacts on underwater cultural heritage, including on historic wrecks, archaeological objects, submerged palaeolandscapes, sites and features, and shall also make recommendations on measures to avoid (through the institution of Archaeological Exclusion Zones) or, where necessary, mitigate (by archaeological dive surveys/archaeological test excavations/archaeological geophysical surveys/archaeological monitoring/preservation by record or any other means as recommended by the National Monuments Service) all potential/identified impacts and effects on underwater cultural heritage. The Developer shall be prepared to be advised by the National Monuments Service in this regard or in regard to any subsequent recommendations that may issue. No seabed preparation or construction works shall be undertaken until formal approval in writing from the National Monuments Service has been received by the Developer. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the UAIA report. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála The Developer does request a minor amendment to the condition wording that the NMS provide approval within a reasonable timescale (3 months) to ensure effective and efficient project development.
10	Archaeological monitoring shall be undertaken as follows: The services of a suitably qualified and experienced, to the satisfaction of the National Monuments Service, maritime archaeologist shall be engaged to carry out full-time	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála but would respectfully request a slight amendment as detailed herein. The

No.	Condition	Developer's Response
	onboard archaeological monitoring of all construction activities that impact on the intertidal/foreshore, seabed and/or on underwater cultural heritage and any works where material of archaeological importance may be uncovered. Archaeological monitoring shall include works for seabed preparation, foundation installation and scour protection installation, offshore export cable — landfall installation punch out, offshore export cable — offshore installation, inter-array and interconnector cable installation. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	requirement for a maritime archaeologist to be engaged full-time, 24 hours a day is not practicable. As detailed in the EIAR and MAMP, the main mitigation for the protection of known archaeological receptors is avoidance, in line with EPA guidance (EPA 2022). The implementation and monitoring of Archaeological Exclusion Zones (AEZs) achieve this for the identified high value offshore archaeology and cultural heritage receptors. the mitigation applies to direct and indirect physical disturbance of archaeological receptors. Further, in terms of any unexpected archaeological discoveries, as noted in Section 18.6 of the EIAR and the MAMP, a Protocol for Archaeological Discoveries (PAD) will be maintained throughout the lifecycle of the proposed development. It is the Developer's view that the above protocol is sufficient and mitigates the requirement for an archaeologist to be present throughout the duration of construction and operation of the proposed development. Therefore, the amendment to the condition proposed by the NMS is as follows: The services of a suitably qualified and experienced, to the satisfaction of the NMS, maritime archaeologist shall be retained by the Developer for consultation and as required, for onboard Archaeological monitoring to be conducted during construction works with potential for the discovery of archaeological material on the seabed and/or recovery of archaeological material to the surface.
10	b. The archaeological monitoring shall be carried out by a suitably qualified and experienced, to the satisfaction of the National Monuments Service, maritime archaeologist, under a Section 26 (National Monuments Act 1930) excavation licence and in accordance with an approved method statement. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
10	c. A Finds Retrieval Strategy shall be implemented and agreed with the National Monuments Service, as part of the archaeological licence application. This shall include for metal detection for finds retrieval, which shall be undertaken by a suitably qualified and experienced archaeologist working under a Detection Device consent (Section 2 1987 National Monuments Act). All monitoring works that have the potential to uncover human skeletal remains shall be undertaken in conjunction with a suitably qualified and experienced osteoarchaeologist. Secure finds storage that ensures the protection and conservation of wet and dry finds, including human skeletal remains, shall be provided onboard and within the construction site compound. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála A Finds Retrieval Strategy is presented in the MAMP.
10	d. Sufficient, suitably experienced and qualified, to the satisfaction of the National Monuments Service, maritime archaeologists shall be in place to ensure continuous archaeological monitoring works, including 24-hour	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála but would respectfully request a slight amendment as detailed herein. The

No.	Condition	Developer's Response
	onboard archaeological monitoring of construction activities. An archaeological team shall be on standby to deal with any rescue excavation and may be augmented as required. An archaeological dive team shall be on standby in the event that underwater archaeological inspection is required by means of archaeological diving. All dive surveys shall be licenced (Section 3 1987 National Monuments Act) and shall include handheld metal detection survey, which shall also be licenced (Section 2 1987 National Monuments Act). All archaeological diving shall comply with the Health and Safety Authority's Safety, Health and Welfare at Work (Diving) Regulations 2018/2019. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	requirement for a maritime archaeologist to be engaged full-time, 24 hours a day is not practicable. As detailed in the EIAR and MAMP, the main mitigation for the protection of known archaeological receptors is avoidance, in line with EPA guidance (EPA 2022). The implementation and monitoring of Archaeological Exclusion Zones (AEZs) achieves this for the identified high value offshore archaeology and cultural heritage receptors. the mitigation applies to direct and indirect physical disturbance of archaeological receptors. Further, in terms of any unexpected archaeological discoveries, as noted in Section 18.6 of the EIAR and the MAMP, a Protocol for Archaeological Discoveries (PAD) will be maintained throughout the lifecycle of the proposed development. It is the Developer's view that the above protocol is sufficient and mitigates the requirement for an archaeologist to be present throughout the duration of construction and operation of the proposed development. Therefore, the amendment to the condition proposed by the NMS is as follows: <i>The services of a suitably qualified and experienced, to the satisfaction of the NMS, maritime archaeologist shall be retained by the Developer for consultation and, as required, for onboard Archaeological monitoring to be conducted during construction works with potential for the discovery of archaeological material on the seabed and/or recovery of archaeological material to the surface.</i> <i>Sufficient, suitably experienced and qualified, to the satisfaction of the NMS, maritime archaeologists shall be in place to ensure archaeological monitoring works as required for construction activities. An archaeological dive team shall be on standby as required in the event that underwater archaeological inspection is required by means of archaeological diving.</i>
10	e. In order to ensure full communication is in place between the monitoring archaeologist(s) and the works contractor(s) at all times, a communication strategy shall be implemented that facilitates onboard direct archaeological monitoring of all construction activities that impact on the seabed/intertidal zone and/or on underwater cultural heritage, and provides the former with adequate notice (minimum eight weeks) of all forthcoming works that require their attendance. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
10	f. Should suspected/verified underwater cultural heritage materials, including wrecks, palaeolandscapes materials, archaeological features or sites and/or archaeological objects be identified during the course of the archaeological monitoring activities, the monitoring archaeologist shall be authorised by the Developer to suspend all construction activities on the affected area (as defined by the monitoring archaeologist). The Developer shall immediately institute a Temporary Exclusion Zone (TEZ) to the proposed find location and its environs (as defined by the monitoring	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála but would request the Board to consider a minor amendment to the wording.

No.	Condition	Developer's Response
	archaeologist) and all construction activities shall immediately cease within the TEZ in order to facilitate investigative assessment, protection and prompt notification to the NMS and other statutory authorities, as required. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
10	g. The Developer shall undertake any ensuing mitigating action as is required by the National Monuments Service. Mitigation shall prioritise redesign or partial redesign to facilitate full or partial preservation in situ by the institution of permanent Archaeological Exclusion Zones. Mitigation may also include underwater archaeological inspection by means of archaeological diving, underwater archaeological surveys (geophysical, ROV), underwater archaeological test- excavations, underwater archaeological excavations ('preservation by record'), stabilisation works and/or archaeological monitoring, or any combination of the above or any other mitigation measures as may be recommended by the National Monuments Service. No construction activities shall recommence within the Archaeological Exclusion Zone until formally agreed in writing with the National Monuments Service. Where ensuing mitigation is required, no archaeological works shall be undertaken until after an amended method statement that describes the mitigation strategy has been submitted, reviewed and agreed in writing by the National Monuments Service. All resulting and associated archaeological costs shall be borne by the Developer. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Bord Pleanála but would request the Board to consider a minor amendment to the wording. The proposed amendment requests that the NMS provide approval within a reasonable timescale to ensure effective and efficient continuation of construction activities. The proposed amendment to this condition is as follows: <i>(g) The Developer shall undertake any ensuing mitigating action as is required by the NMS. Mitigation shall prioritise redesign or partial redesign to facilitate full or partial preservation in situ by the institution of permanent Archaeological Exclusion Zones. Mitigation may also include underwater archaeological inspection by means of archaeological diving, underwater archaeological surveys (geophysical, ROV), underwater archaeological test-excavations, underwater archaeological excavations ("preservation by record"), stabilisation works and/or archaeological monitoring, or any combination of the above or any other mitigation measures as may be recommended by the NMS. Where ensuing mitigation is required, no archaeological works shall be undertaken until after an amended method statement that describes the mitigation strategy has been submitted, reviewed and agreed in writing by the NMS within a reasonable timeframe. All resulting and associated archaeological costs shall be borne by the Developer.</i>
10	h. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of all archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological works and any post-excavation analysis, scientific dating programmes, palaeoenvironmental analysis, geoarchaeological analysis and conservation of archaeological objects, as required by the National Monuments Service and the National Museum of Ireland, with all resulting and associated archaeological costs to be borne by the Developer. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the final report submission. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Bord Pleanála.
11	The Construction Environment Management Plan (CEMP) shall be updated to include the location of any and all archaeological or underwater cultural heritage constraints relevant to the proposed development as set out in the Final Design UAIA and EIAR. The	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or underwater cultural heritage environment during all phases of site preparation and construction activity. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
12	An Archaeological Management Plan (AMP) shall be forwarded by the Developer to the National Monuments Service of the Department of Housing, Local Government and Heritage for review and approval prior to all confirmatory investigation and/or construction works taking place. The AMP shall set out the commitments made by the Developer in the EIAR, regarding archaeological procedures and protocols for the archaeological monitoring of construction activities and the recording, reporting of any and all archaeological materials discovered during the construction phase. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As part of the updates to the 2024 EIAR to satisfy that RFI, further consultation with the National Monuments Service, (NMS) was undertaken and a Marine Archaeology Management Plan was requested. The MAMP is for the proposed offshore works within the array area, the Export Cable Corridor (ECC) and any temporary works related to the construction, operation and maintenance, and decommissioning of the proposed development, seaward side of the High Water Mark (HWM) (Appendix A18.3: Marine Archaeology Management Plan).
13	In default of agreement on any requirements of the National Monuments Service, the matter shall be referred to the Marine Area Regulatory Authority/An Bord Pleanála for determination. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

4.9.4 Conclusion

The Developer acknowledges the issues raised herein and has addressed these concerns, as well as noting the conditions proposed by NMS.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.10 Minister for Housing, Local Government and Heritage: National Parks and Wildlife Service

4.10.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the Minister for Housing, Local Government and Heritage: National Parks and Wildlife Service (hereafter referred to as ‘NPWS’ or ‘the Department’).

The submission from NPWS contains:

- A copy of the ‘Review of Method Statement’ by ABPmer, December 2023;
- Comments provided by the National Monument Society (NMS) to the Minister on Archaeology and Underwater Archaeology, which are addressed in Chapter 18 of this document; and
- Comments on Nature Conservation from NPWS, which are addressed in this chapter.

4.10.2 Summary of the Key Points Raised by NPWS

The Department raised a number of key points under the theme of Nature Conservation, which are dealt with under the following sub-themes:

- Potential impacts on marine habitats (estuaries, mudflats and sandflats and reefs) listed under Annex I of the EU Habitats Directive
- Birds
- Marine Mammals
- Bats (offshore and migratory)
- Onshore Biodiversity
- Summary of Recommendations.

4.10.3 Response to Key Points Raised

4.10.3.1 *Potential impacts on marine habitats (estuaries, mudflats and sandflats and reefs) listed under Annex I of the EU Habitats Directive*

Section 1 of submission No.48 (the ‘submission’) states that whilst the Department agrees that the proposed development is not likely to affect the integrity of any Special Areas of Conservation (SAC) with respect to the three marine habitats (estuaries, mudflats and sandflats and reefs) listed in Annex I of the EU Habitats Directive, there is the potential for accidental introduction of contaminants during the construction, operation and decommissioning of the proposed project and that this can be reduced by adherence to the proposed Construction and Vessel Environmental Management Plans.

The Department also notes that whilst the Department may be invited to comment on such plans, any agreements should only be made between the Developer and the competent authority.

The Department makes the following recommendation in relation to agreement on management plans:

“As a result, it is recommended that the proposal for such post-consent agreements with NPWS is not accepted by An Bord Pleanála.”

Response to Potential Impacts on marine habitats

The Developer notes this recommendation and confirms that the relevant plans will be agreed with the competent authority/authorities and adhered to.

4.10.3.2 Birds

The key points raised by the Department within the submission under the sub theme of Birds are as follows:

- 2.1 Review of Offshore Ornithology Assessment Methodology Note
- 2.2 Migratory waterbird species
- 2.2 Terrestrial Bird Species
- 2.3 Seabirds
 - 2.3.1 Red-throated Diver, Great Northern Diver and Common Scoter
 - 2.3.2 Kittiwake – displacement
 - 2.3.3 Predicting mortalities of seabirds resulting from collision events
 - 2.3.4 Migratory movements by seabirds within the array area
 - 2.3.5 The contextualisation of predicted mortalities on the marine birds of the North-west Irish Sea SPA and the wider marine regional area
 - 2.3.6 Displacement effects

This structure will be followed in the proceeding section to address the key points raised by NPWS. It should be noted that this is not a line-by-line response. Rather, the key points are addressed thematically, with related matters grouped together.

4.10.3.2.1 Review of Offshore Ornithology Assessment Methodology Note

Section 2.1 of the submission provides the following statement on the ABPmer 2023 Review of Method Statement (which is appended to their submission):

“In November 2023, NPWS commissioned an independent review of an Offshore Ornithology Assessment Methodology Note (dated December 2022) prepared by consultants representing ARUP and GoBe (APEM Group) on behalf of the (unnamed) applicant of several proposed wind energy developments (including the current proposed development).

The objective of the Note was to inform and consult stakeholders of their intended approach to the ornithological impact assessment. NPWS' Review was undertaken by ABPmer with contributions from leading experts in this field. The full Review report is provided as Appendix I to this submission. The Board is advised that this Review was undertaken prior to the submission of the application for development consent. The Board are also advised that the review focused on the proposed methods of assessment and not on the quality and accuracy of the underpinning data.”

Response to Review of Offshore Ornithology Assessment Methodology Note

The Offshore Ornithology Assessment Methodology Note (December 2022) was originally prepared collaboratively by Phase One Developers (including the Applicant) to set out a proposed, evidence-based approach to impact assessment, drawing on the best available guidance and scientific literature at that time. The Note was issued to NPWS in December 2022.

Subsequently, NPWS commissioned an independent review of the Methodology Note, undertaken by ABPmer in November 2023. The purpose of this review was to evaluate the proposed assessment methods rather than the underlying datasets. Following receipt of this review, the Applicant considered the

recommendations and refined elements of the assessment approach where appropriate, with a particular focus on improving clarity of justification and transparency.

Key updates incorporated at application stage included:

- Adoption of a Zone of Influence (ZOI) informed by foraging ranges (Woodward et al., 2019);
- Removal of site-specific flight height modelling outputs; and
- Inclusion of additional species (e.g. Manx shearwater, fulmar, little tern) within the collision risk assessment on a precautionary basis, despite low inherent risk.

These changes, alongside full justification of the adopted approach, are documented in Appendix 15.9 (Method Statement Review Consultation and Justification Log, Volume 9 of the 2024 EIAR).

Importantly, since submission of the application, further guidance, prescribed body submissions, and Requests for Further Information (RFIs) have emerged, resulting in continued evolution of accepted methodologies. As a result, several elements of the original 2022 Methodology Note are no longer fully aligned with current best practice.

Accordingly, while the Methodology Note and subsequent ABPmer review formed an important step in the evolution of the assessment framework, they should be viewed as historical and iterative documents, rather than definitive statements of current methodology. The assessment presented in the addendum to the EIAR and subsequent submissions reflects the most up-to-date, justified, and consensus-driven approach, superseding earlier positions set out in the original Methodology Note in the 2024 EIAR.

4.10.3.2.2 Migratory waterbird species

Section 2.2 of the submission discusses the importance of waterbird species that migrate to Ireland.

Within the submission the Department notes the following key points in relation to the Developer's assessment on migratory waterbird species:

Point 1- potential significant impacts upon migratory species

Ireland is of international importance for a range of waterbird species that migrate and the proposed development has the potential to have significant impacts upon migratory waterbirds and the conservation objectives of the SPAs for which these species are listed as special conservation interests (SCIs).

Response to Point 1

This point was raised by An Bord Pleanála in RFI Section 8 (a)iv and has been addressed in the Response to RFI document.

Point 2 - collection of field data on migratory waterbird species

The application does not appear to have included sufficient collection of field data on migratory waterbird species at key migration times to inform a robust assessment.

Response to Point 2

This point was raised by An Bord Pleanála in RFI Section 8(a)iv and has been addressed in the Response to RFI document.

Point 3- avoidance rates within the CRM

The EIAR contained the outcome of a collision risk model (CRM) within which a key parameter is the avoidance rate of bird species however, there appears to be conflicting statements between the Natura Impact Statement (NIS) and its various relevant appendices as to the source of the avoidance rates used (and various errors in associated citations and references).

Response to Point 3

The submission from the NPWS notes discrepancies between the 2024 NIS and various appendices with respect to avoidance rates. The Developer has reviewed the relevant documentation and confirms that no such discrepancies exist. It should be noted that the CRM for seabirds and the migratory CRM are separate models and separate appendices were provided within the 2024 planning application (Appendix 15.3 and Appendix 15.4 of the 2024 EIAR). The avoidance rates used are presented across multiple studies and guidance documents, which is why they may be referenced differently between the NIS and Appendices. Within the updated CRM (Appendix A15.3) for seabirds the avoidance rates match those presented in the latest JNCC guidance (JNCC, 2024), which also matches the latest Natural England (2022) guidance for almost all species, with very minor differences in avoidance rate due to rounding for gannet, kittiwake, Sandwich tern, small gulls and other marine species, and matches those in the literature within Ozsanlev-Harris *et al.* (2022).

The avoidance rates used for migratory species were in-built within the Marine Scotland mCRM tool and based on published avoidance rates in Cook (2014), and match those presented in the most recent review of collision risk to migratory birds in Scotland (Woodward *et al.* 2023). The Developer can therefore confirm that the rates presented for the two different collision risk models across the suite of documentation are correct, consistent and in line with industry standards.

Point 4- low confidence levels associated with avoidance rates

The NPWS submission notes that the rates included for waterbirds are from the cited resource Woodward *et al.* (2003) which clearly states that there are very low confidence levels associated with avoidance rate estimates for 24 of the 26 migratory species included in the CRM.

Response to Point 4

The avoidance rates used within CRM are applied in a highly precautionary manner, ensuring that any uncertainties in the rates are treated appropriately within the model. The Developer agrees that there are uncertainties around avoidance rates for a number of the migratory species. However, the parameters presented in Woodward *et al.* (2023) have been calculated through a comprehensive literature review and review of tagging/ringing data on the movements of migratory species across their biogeographic ranges. As such, current best practice considers it the most suitable source of evidence on avoidance rates (Cook *et al.*, 2014). The Developer used the most up-to-date guidance and assessment tools to estimate collision risk to migratory waterbirds (in both the original planning application from 2024 and Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment). The assessment is precautionary, for instance assuming that 100% of birds fly in the collision zone, despite the fact that many species fly much lower. For example, Johnston *et al.* (2014) modelled proportions of red-throated diver and common scoter at collision risk height to be 0.010 and 0.001 respectively, using data that have been shown to over-estimate flight height in some species due to reliance on calm weather conditions. Woodward *et al.* (2023) estimate a proportion at collision risk height for red-throated diver and common scoter of 0.25 and 1 respectively. Therefore, the Developer is confident that appropriate ecological estimates were selected, uncertainties have been addressed by taking a precautionary approach, and that a robust assessment has been carried out. Refer to the response to the recommendation for further detail.

Point 5- NPWS recommendation

The NPWS makes the following recommendation in relation to migratory waterbird species:

“It is recommended that the applicant develop and implement more appropriate methodologies to gather detailed empirical data so that the level of (water)bird migration through the proposed development area, and the potential impact of the proposed development, can be robustly assessed, e.g. considering technologies such as radar. Furthermore, the applicant should consider how such survey methods can be

used for further monitoring and to support actions to mitigate any potential negative impacts on migratory (water)bird species that move through the proposed development area, for use during operation (at least), should the development proceed.”

Response to Point 5

This point was raised by An Bord Pleanála in RFI Section 8 (a)iv and has been addressed in the Response to RFI document.

4.10.3.2.3 Terrestrial Bird Species

Section 2.2 of the submission discusses the data sources, tools and surveys used to assess the impacts on terrestrial bird species.

Within the submission the Department notes the following key points in relation to the Developer’s assessment on terrestrial bird species:

Point 1- further data sources could have been more fully considered

Further data sources could have been more fully considered in the initial ‘screening’ with respect to land-based avifauna, this includes BTO Bird Track; ringing and tracking studies, and National Biodiversity Data Centre Citizen Science Data Portal.

Response to Point 1

This point was raised by An Bord Pleanála in RFI Section 8 (a)v and has been addressed in the Response to RFI document.

Point 2- no new empirical data has been sought

For land-based birds, no new empirical data for the proposed offshore development area (or adjacent) has been sought/collected as part of the completed monitoring programme. Thus, any assertions regarding avoidance/reduced collision risk are based on very general assumptions.

Response to Point 2

This point was raised by An Bord Pleanála in RFI Section 8 (a)v and has been addressed in the Response to RFI document.

Point 3- the SOSS Migration Assessment Tool (SOSSMAT)

The applicant used the SOSS Migration Assessment Tool and has not considered, the more recent Woodward et al. (2023) Scottish Government report that incorporated more updated estimates of flight speeds for migrating birds.

Point 4- SOSSMAT

The SOSSMAT Tool cannot typically provide robust yearly collision estimates for land-based birds with a high degree of confidence.

Response to Point 3 and 4

In response to the point made on the tool used to assess the risk of offshore windfarm development to migratory birds this is incorrect; the Developer did not use the SOSS Migration Assessment Tool as the Developer considers this tool to be outdated. The Developer used the most up-to-date guidance, namely Natural England interim advice on updated Collision Risk Modelling parameters (July 2022) (Natural England, 2022) and Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks in both the original 2024 planning application and the update in response to the RFI

(Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment). Whilst there are limitations, for example the tool presumes that all flights are straight lines from coast to coast and the migration zones derived from Woodward et al (2023) are overly precautionary, the Marine Scotland mCRM tool is currently considered the most robust and appropriate way to quantify impacts to migratory species. It makes evidenced assumptions on migratory paths and incorporates precaution into the parameters for which there is uncertainty. For example, it assumes that most species always fly within the collision risk zone, which in reality is highly unlikely. Finally, it should be noted that the mCRM model is not reliant on any site-specific data, including DAS, as an input parameter. It assumes that species migrate through the array even if they weren't recorded in the DAS. In this case assumptions are necessary because collecting data in the real world for such extremely rare events is unfeasible. See Response to Point 2 above for further details.

The assessments used the information in Woodward et al. (2023) to determine avoidance rates, flight paths and flight heights.

Whilst impacts are expected to be minimal, updates to the assessments were undertaken to address the concerns outlined in this submission and are listed in RFI Section 8 (a)v in the Response to RFI document.

Point 5- Strategic Survey Efforts

Strategic survey efforts combined across territorial waters in the Irish Sea and wider would greatly increase understanding of bird movements and usage of these marine waters and would have helped to inform cumulative assessment.

Point 6- Survey/monitoring options

Survey/monitoring options that were not considered and/or taken forward by the applicant include passive acoustic devices at headlands and offshore nocturnal boat transects; review of available ringing/tracking data for migratory species; and thermal imaging devices and boat-based surveys.

Response to Point 5 and 6

This point was raised by An Bord Pleanála in RFI Section 8 (a)v and has been addressed in the Response to RFI document.

Point 7- NPWS Recommendation- implementation of appropriate survey methodologies

The Department makes the following recommendation in relation to terrestrial bird species:

“In summary, the applicant should have not only considered but implemented appropriate survey methodologies in order to detect and assess the level of bird migration through the proposed development area, working collaboratively with other ORE applicants, to determine more fully the potential impact and cumulative impacts of the proposed development/s across the territorial waters in the Irish Sea. It is recommended that the applicant is requested to respond to these observations by provision of clarifications or further information as the Board deems appropriate.”

Response to point 7

Whilst there remain other methods of gathering empirical data, these methods are not without their limitations and in some circumstances those methods would not be proportionate to the level of assessment required for the EIA process. The Developer does not consider that further data collection is required to assess collision risk to migratory birds.

This point (or similar) was raised by An Bord Pleanála in RFI Section 8 (a)v and has been addressed in the Response to RFI document.

Further points are made by the Department on data and the assessment in relation to terrestrial bird species:

Point 8— vertical radar systems

The applicant should also have considered how vertical radar systems and emerging technologies could be employed to further monitoring and support mitigation.

Response to Point 8

This point (or similar) was raised by An Bord Pleanála in RFI Section 8(a)v and has been addressed in the Response to RFI document.

Point 9- results of CRM and assessment of barrier effects

In the absence of substantive empirical data on the migratory movements of land-based avifauna through the proposed development area, and wider, the applicant has not expressly detailed any results for these species in their collision risk model (CRM); assessment of barrier effects etc.

Response to Point 9

While barrier effects should be considered in assessments, evidence suggests that they are unlikely to pose significant risks to migratory bird populations, especially when the number of additional passes is limited and the detours involve low energetic expenditure. Detours around an operational windfarm on migration may increase the distance travelled, but this additional distance is negligible relative to the large distances travelled on migration, and as such the additional energetic costs are minimal. Research suggests that these detours often represent less than 2% of a bird's daily energy reserves, a level that is well within the tolerance of most species (e.g., Masden et al., 2009 – common eider; Speakman et al., 2009 – red-throated diver, whooper swan, common scoter). This is considered negligible when compared to energy costs associated with other factors including natural weather variations during migration. These conclusions are reflected in the NIS and Chapter 15: Offshore Ornithology of the EIAR.

Furthermore, the ability of birds to adapt their behaviour—such as adjusting flight height, speed, or direction—often minimises the impact of barrier effects. For the majority of species, the energetic costs associated with these changes are minimal compared to their overall energy budget for migration.

This point (or similar) was raised by An Bord Pleanála in RFI Section 8 (a)v. For a summary of the migratory collision risk assessment screening process, methodology and conclusions see the Response to RFI Document.

Not all species mentioned by NPWS are available in the migratory tool because they are not considered to be at risk of collision from offshore windfarms, further context on assessment approach for species not included in the CRM is set out in RFI Section 8 (a)v.

Point 10- consideration of Kingfisher and River Boyne and River Blackwater SPA

The application does not appear to include any consideration of potential indirect effects of the proposed development on the likely prey-base (i.e. Salmon) for resident Kingfisher, an Annex I species and a Special Conservation Interest for the River Boyne and Blackwater SPA (004232).

There does not appear to be any consideration of the potential effects with respect to either the associated construction works and/or operation of the development on the Conservation Objectives of the River Boyne and River Blackwater SPA (004232); which is connected to the River Boyne SAC (002299), Boyne Coast and Estuary SAC (001957) and the offshore marine waters of the Irish Sea.

Response to Point 10

This point was raised by An Bord Pleanála in RFI Section 8 (c)vii and has been addressed in the Response to RFI document.

Point 11- source information and populations

The offshore ornithology assessment does not explicitly provide sufficient details on the source information used to estimate populations of terrestrial birds passing through the development site and details are lacking regarding how “new Irish populations” or how the “flyway” populations for migratory raptor species (which were not specified) and Corncrake were derived.

Response to Point 11

The Developer notes the point on not explicitly providing sufficient details on population estimates for terrestrial birds. The Irish waterbird populations were derived from Burke et al. (2018) and represent wintering populations in Ireland. To tailor the migratory collision risk modelling (mCRM) tool for use in the Irish Sea, adjustments were made based on migratory populations to ensure an accurate representation of flyway populations and their proportions passing through the Irish Sea.

A description for these populations is provided in Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment (Section 3.2). A more detailed methodology and justification is provided below. The key adjustments made to populations from Burke et al. (2018) were:

- Populations are primarily drawn from Burke et al. (2018), with Irish populations considered most appropriate given the inshore Irish Sea location of the Phase One developments.
- Where Burke et al. (2018) does not define populations, Irish Wetland Bird Survey data or species-specific monitoring (e.g. hen harrier, corncrake) are used.
- For species without defined Irish populations (merlin, snipe, short-eared owl), a precautionary 50% of the UK population is applied following Codling Wind Park Limited (2024).

For further details regarding the points above see Section 15.5.3.4 of Chapter 15 the EIAR.

Where all-Ireland and flyway population data were unavailable in Burke et al. (2018), default parameters in the Marine Scotland mCRM tool were applied with the adjustments noted above. The parameters in the Marine Scotland mCRM tool are as follows:

- Biogeographical population;
- Proportion of biogeographical population in UK; and
- UK population.

The default parameters listed above are derived from the British Trust for Ornithology (BTO). Furthermore, the default avoidance rates set within the mCRM tool are based on published avoidance rates in Cook (2014), and match those presented in the most recent review of collision risk to migratory birds in Scotland (Woodward et al. 2023) and closely align with NatureScot guidance (NatureScot, 2023) which is based on several literature sources that incorporate collision data from all suitable terrestrial, coastal and marine offshore wind farms (OWFs).

Considering the majority of the species populations are larger than the Irish populations provided by Burke et al. (2018), the results derived from this approach can be considered precautionary.

An updated cumulative migratory collision risk assessment has been conducted to comprehensively quantify the potential impacts on migratory species. This assessment includes a broader range of species, incorporating those additional species specifically requested by the NPWS where data availability allows (Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment).

Red-throated Diver, Great Northern Diver and Common Scoter

Section 2.3.1 of the submission discusses the data and information used to assess impacts on Red-throated Diver, Great Northern Diver and Common Scoter.

Within the submission the Department notes the following key points in relation to the Developer's assessment:

Point 1: Data collection along the cable route

The applicant's DAS does not appear to cover the marine waters along and adjacent to the proposed cable route and instead the assessment relies on the ObSERVE Phase I data (Jessop *et al.*, 2018).

Response to Point 1

The Developer notes the comment regarding the DAS coverage along and adjacent to the proposed cable route and the use of the Jessop *et al.* (2018) ObSERVE Phase I data. The offshore and intertidal ornithology study area was initially identified at the proposed development scoping phase as the MAC boundary plus 4km buffer, in line with Department of Communications, Climate Action and Environment (DCCAE) (now the Department of the Environment, Climate and Communications; DECC) Guidance (DCCAE, 2017) (See the Scoping report: Appendix 2.1 for further details). This initial study area was used to scope the survey methodologies and inform baseline data gathering. The extent of the DAS that was undertaken to inform assessments at the application stage was the MAC Boundary with a 4km buffer but excluded the offshore ECC, and as such, the Developer used DAS data from Jessop *et al.* (2018). This is standard practice in the UK because many seabirds are not considered to be sensitive to vessel disturbance and therefore the majority of effect pathways are scoped out of the assessment. In addition, the Developer was aware that the ObSERVE dataset could provide a robust basis for assessing the ECC, particularly as the ECC area of search was not well defined at the time the DAS were commissioned.

The confidence in the ObSERVE data (Jessop *et al.*, 2018) is considered high, with the surveys representing a 10.5% coverage of the ECC plus 4km buffer (in line with the industry standard of 10% coverage) (See the Disturbance and Displacement Appendix for further details).

The Developer considers the baseline data collected for the proposed development to be of a sufficient standard to robustly inform the assessment of likely significant effects on ornithological receptors. However, since the planning application was submitted in 2024 a further 12 month DAS survey between September 2024 and August 2025, covering the entire NWIS cSPA (covering the array area and ECC) was conducted. Therefore, density estimates used in the updated assessment are derived from updated DAS data that combines the original 29-month period used at the application stage with the additional 12 months of DAS covering the full NWIS cSPA. Baseline data was thus collected over 41 months to record the different species, and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025). The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance (Parker *et al.*, 2022a; NatureScot, 2023: Guidance Note 2), and the data collection period exceeds the recommended duration to ensure appropriateness and reliability.

Furthermore, a similar point raised by An Bord Pleanála in RFI Section 8 (a)iii and has been addressed in the Response to RFI document.

Point 2: Use of HiDef 2019 data in the assessment

- The desktop review within the EIAR did not appear to include the results of the HiDef 2019 digital aerial surveys off Gormanstown by the Marine Institute, which overlaps with the proposed cable route. Within this study the densities of Red-throated Diver are notably larger than in the applicant's assessment, and the surveys may also be relevant for other species.

Response to Point 2

This point was raised by An Bord Pleanála in RFI Section 8 (a)ii and has been addressed in the Response to RFI document.

Point 3: Buffer size for divers

The application assessment utilises a 4km buffer to inform the assessment of mortality as a result of displacement. The Department notes that the SNCB 2022a and 2022b recommends a buffer of 10km is to be used.

Response to Point 3

This point was raised by An Bord Pleanála in RFI Section 8 (a)iii and has been addressed in the Response to RFI document.

Recommendation 1:

“The Department requests that further information be provided to inform a revision of the assessment of impacts of the marine birds of the North-west Irish Sea SPA in relation to this proposed development. Specifically, that the survey data from HiDef (2019) be integrated into the displacement analyses; and secondly the findings of the following papers indicating displacement impacts of greater than 4km for Redthroated Diver: Webb et al. 2017; APEM 2021; Heinanen et al. 2016; Zydalis et al. 2016; Mendel et al. 2019; Heinanen et al. 2020; and Vilela et al. 2020 be taken into account as part of the revision of the assessment.”

Response to Recommendation 1:

Please see Response to Point 2 for information related to Recommendation 1.

This point (or similar) was raised by An Bord Pleanála in RFI Section 8 (a)iii and has been addressed in the Response to RFI document.

4.10.3.2.5 Kittiwake – displacement

Section 2.3.2 of the submission discusses the approach to the assessment of displacement impacts on Kittiwake.

The Department notes the following key points in relation to the Developer’s assessment:

Point 1- kittiwake sensitivity to displacement

The ABPmer 2023 review document stated that there was a need to clarify the ‘limited evidence’ for displacement more fully. The applicant provided a response within the Method Statement Review Consultation and Justification Log (appended to both the 2024 EIAR and NIS) of why kittiwake was not included based on low levels of displacement sensitivity as well as relatively low densities within the offshore development area.

Response to Point 1

This point was raised by An Bord Pleanála in RFI Section 8 (c)ii and has been addressed in the Response to RFI document.

Point 2-screening for kittiwake displacement

The NIS screened Kittiwake in for Spatial distribution and disturbance and Barrier effects for the North-west Irish Sea cSPA however, it did not screen it in for Ireland’s Eye SPA, Howth Head SPA, and Lambay Island SPA even though the estimated foraging range of Kittiwake is greater than the distances of these SPAs from the proposed array area. The NIS also screens out Kittiwake for displacement impacts.

Response to Point 2

This point was raised by An Bord Pleanála in RFI Section 8 (c)ii and has been addressed in the Response to RFI document.

Point 3-density of kittiwake

The Department makes reference via the ABPmer (2023) review to studies that demonstrate that relative density of Kittiwake in proposed offshore wind energy developments decreased by 45% in the breeding season. This study also estimated that the response to radii to the proposed offshore wind energy development, finding that Kittiwake showed a response radius of ~20km in the breeding season.

Response to Point 3

This point was raised by An Bord Pleanála in RFI Section 8 (c)ii and has been addressed in the Response to RFI document.

Point 4-combined (collision and displacement) assessment

The Department highlights that NatureScot (2023) advise that for species where both collision risk and displacement are considered (e.g. gannet, kittiwake), that these impacts should be considered as additive. Table 1 of that advice sets out a displacement rate and mortality rate of 30% and 1 — 3% for Kittiwake displacement and associated mortality respectively. SNCBs (2022a) sets out their position in that *“the two impacts (collision and displacement) as additive and advise that they should be summed”*.

Response to Point 4

Based on the evidence set out in Appendix A15.5 Offshore Ornithology Displacement Analysis of the EIAR, it is not considered appropriate to assess kittiwake for displacement effects. See also the Developer Response to RFI Section (8cii) for further detail on the Developer position regarding kittiwake displacement and the use of the NatureScot (2023) approach. Without prejudice to its position that the best available evidence indicates that black-legged kittiwake are not prone to displacement from operational offshore wind farms, the Developer has provided an assessment of kittiwake displacement for a range of impact scenarios within Section 15.5 of Chapter 15 of the EIAR and Section 5.4 of the NIS. Overall, displacement effects were lower than collision risks. Neither impact pathway resulted in significant cumulative effects (as reported in Chapter 15 of the EIAR), nor did they give rise to an Adverse Effect on Integrity (AEoI) in view of the sites' conservation objectives, either alone or in combination (as concluded in the NIS). These conclusions are considered robust, as they are based on precautionary assumptions, up-to-date survey data, and established assessment methodologies applied consistently across all relevant SPAs.

Whilst the assessment of kittiwake displacement has been included in response to RFI 8cii, the developer position is that there is limited empirical support for applying standardised displacement rates, and the precautionary approach adopted by NatureScot is likely to overestimate effects. As such, summed impacts are not provided, based on the fact that the Developer position aligns with the UK Joint SNCB Interim Displacement Advice Note (SNCBs, 2022) within which kittiwake are not identified as a priority species for displacement assessment.

It should be noted that if impacts were to be considered together, the Developer would not consider the summing of impacts appropriate. In that situation, the Developer considers it would be appropriate to apply a macro-avoidance¹ correction to the density input into collision risk models or collision mortalities to account for displaced birds. This is standard advice from Natural England and Natural Resources Wales when assessing gannet and ensures that impacts are not overinflated by double counting of birds impacted by collision and displacement simultaneously (which, of course, is not possible). Current NatureScot guidance (2023) advises that macro-avoidance is only applied to the non-breeding season impacts. However, NatureScot are in the process of reviewing their advice and the Developer cannot speculate about what the

¹ Macro-avoidance is defined as avoiding the whole wind farm array area and buffer as per Cook et al. (2014).

updates may entail. Consequently, if kittiwake were assessed for displacement using a rate of 30% in line with NatureScot (2023), collision impacts would be reduced by 30% to account for macro-avoidance and so the resulting overall impact would show no material difference to a scenario where kittiwake were assessed for collision effects alone without macro-avoidance (as is currently presented in the Developer's assessments).

Point 5- NPWS Recommendation

The Department makes the following recommendation in relation to Kittiwake – displacement:

“Therefore, taking into account the facts noted above, It is regarded that the evaluation of impacts of specific SCI birds (e.g. Kittiwake) associated with the North-west Irish Sea SPA; Lambay Island SPA; Ireland's Eye SPA; and Howth Head SPA in relation to this proposed development cannot currently support the making of a determination as to the impact on the relevant conservation objectives. It is recommended that the applicant re-analyse the impact of displacement of such marine birds by the proposed development in relation to the attributes for specific relevant conservation objectives such as population size; spatial distribution; and forage spatial distribution, extent, abundance and availability.”

Response to Point 5

This point was raised by An Bord Pleanála in RFI Section 8 (c)ii and has been addressed in the Response to RFI document.

4.10.3.2.6 Predicting mortalities of seabirds resulting from collision events

Section 2.3.3 of the submission provides a discussion on the justification of flight height parameters used within the CRM assessment in relation to roseate tern. Following this it also provides a discussion on the uncertainty and lack of available flight height data on other behavioural parameters of roseate tern, which may be required for the CRM.

Within the submission the Department notes the following key points in relation to the flight height data for roseate tern:

Point 1- flight height data variation

Appendix 18 of the 2024 NIS (also Appendix 15.4 of the 2024 EIAR) notes that there was a high degree of variation on flight height data between digital aerial surveys (DAS) and boat based surveys. Owing to these discrepancies, only generic flight height data from Johnston et al. (2014) was used in the assessment. The Department notes that roseate tern flight height data and its analysis were not presented in the Johnston et al (2014) paper. It is unclear what particular dataset determined the flight parameters used for the roseate tern CRM undertaken as part of the application.

Point 2-NPWS Recommendation

The Department makes the following recommendation in relation to predicting mortalities of roseate tern resulting from collision events:

“It is recommended that clarification be sought as to the sources of the precise parameters for Roseate Tern flight behaviour used in the CRM as well as a statement regarding the robustness of such data.”

Response on Point 1 and 2

This point was raised by An Bord Pleanála in RFI Section 8 (c)iv and has been addressed in the Response to RFI document.

Within the submission the Department notes the following key points in relation to available data for the roseate tern:

Point 3- uncertainty in available data

The Department notes that the effects of marine renewable energy developments on seabirds are uncertain because of the relative infancy of the industry. The Department provides specific reference to roseate tern and Wade et al (2016) which determined that the uncertainty level is 'very high' with regard to the percentage of time this species flies at altitudes overlapping with turbines blades and a 'high' level of uncertainty with regard to displacement cause by structures, as well as displacement cause by vessels and/or helicopters.

Response to Point 3

The Developer notes the Department's comment regarding the Wade et al (2016) study and the uncertainty level for roseate tern when considering collision effects and displacement by structures and vessels and/or helicopters.

A screening exercise was undertaken, that considered the vulnerability of species to disturbance and displacement in relation to activity during the construction phase, based on a range of available data sources (e.g. Bradbury et al., 2014; Garthe and Hüppop, 2004; Furness and Wade, 2012, Wade et al., 2016, Dierschke et al., 2016). Species were screened out of the assessment if they had a low vulnerability to disturbance and displacement and/or a low relative abundance/frequency in the array area plus 2km buffer. According to Bradbury et al. (2014) and Dierschke et al. (2016) roseate tern sensitivity to disturbance and displacement is 'low' therefore the presence of wind turbines is unlikely to deter them from entering the array area.

A screening exercise was undertaken to evaluate which species should be included in the collision risk assessment. Species were screened in if they were considered susceptible to collision impacts, and if a high abundance of birds in flight were recorded in the array area during site-specific DAS. Sensitivity values are based on information provided in Garthe and Hüppop, (2004), Furness and Wade (2012), Bradbury et al., (2014), and Wade et al., (2016). As per Table A15.33 in Chapter 15 of the EIAR, roseate tern were screened in for further assessment of collision effects. Furthermore, a section on the sensitivity of this species to collision effects is provided in Section 15.5.3.2 of the EIAR (and also within the NIS for key SPA colonies (e.g. Rockabill)).

It should be noted that an additional 12 months of DAS was conducted September 2024 and August 2025, covering the entire NWIS cSPA, thereby providing greatly expanded spatial and temporal coverage of usage within and around the array area. This DAS campaign recorded small numbers of Roseate tern within the breeding season and in July. Collision risk modelling has been re-run using the expanded dataset and updated Collision Risk Model (CRM) parameters, delivering a more comprehensive and precautionary assessment. The updated Roseate tern results are presented in Section 3.7 (with supporting detail) in the Appendix A15.3: Offshore Ornithology Collision Risk Modelling Assessment.

Point 4- density for Roseate Tern

The Department notes the Developers calculated density of the roseate tern used for the CRM "*Abundance and density peaked at 23 birds and 0.26 birds/km² respectively*".

Apparently, the 0.12 birds km² used for the CRM is an average of the three values presented in the technical baseline i.e. 0.10, 0.26, and 0.00 birds km² for the period 2020-21 inclusive. The reported frequency of occurrence is higher when one assesses the proposed array are plus 2km buffer (see Table 2.31 of the technical baseline)."

Response to Point 4

The Developer notes the NPWS comment on the density of flying roseate tern within the array area. They are correct that the density used within the CRM was 0.12 birds km⁻² for roseate tern at the submission of the planning application in 2024. However, the density used within the updated CRM was 1.17 birds km², based on the additional 12 months of data from the NWIS SPA DAS, for roseate tern within the Projected Footprint of Infrastructure (PFI) plus a 2km buffer. The PFI represents a defined ornithology study sub-area within the

overall array area, where all permanent offshore array infrastructure will be located. The PFI has been developed following design refinements to minimise spatial overlap with sensitive receptors.

Furthermore, the Developer used the most up-to-date guidance, namely the most recent guidance produced by the joint SNCBs (JNCC et al., 2024) and Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment).

Point 5- Perrow et al (2019)

The Department provides an overview of Perrow *et al*'s (2019) track data for roseate tern, which is not provided in the Developers technical baseline.

Response to Point 5

This point was raised by An Bord Pleanála in RFI Section 8 (a)i and has been addressed in the Response to RFI document.

Point 6- collisions for Roseate Tern in the month of July

The Developers CRM analysis predicts zero collisions for roseate tern in the month of July however, the Department notes that Perrow *et al* track data demonstrates birds flying within the array area in July 2018.

Response to Point 6

The Developer notes the NPWS comment regarding slight variations between the baseline DAS data and the Perrow *et al.* (2019) data however these do not undermine the adequacy or robustness of the data for conducting a reliable assessment.

It should be noted that the tracking data from Perrow *et al.* (2019) does not contain flight height data so although roseate tern were recorded here in 2018, there is no evidence provided to determine if they would have been flying at heights which would make them susceptible to collision. The available evidence suggests that this is highly unlikely (see response to Point 1 and 2). Furthermore, the presence of roseate tern during one month in 2018 does not undermine the density estimates provided by DAS or the robustness of the assessment presented by the Developer.

Additional data collection or incorporation of alternative sources is highly unlikely to alter the assessment's outcomes or conclusions in any significant way. The Perrow *et al.* (2019) tracking data does not include density of roseate tern, and it is not possible to calculate it from the provided data. Furthermore, even if the density of roseate tern could be determined, it could not be combined with the baseline DAS data collected by the Developer.

The Developer undertook a dedicated 41 month DAS campaign to record the different species and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025), with the latter surveys covering the full NWIS cSPA (NWIS DAS). The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance, and the data collection period exceeds the recommended duration to ensure appropriateness and reliability. The NWIS DAS campaign recorded Roseate tern within the breeding season and in July. Collision risk modelling has been re-run using the expanded dataset and updated Collision Risk Model (CRM) parameters, delivering a more comprehensive and precautionary assessment. The updated Roseate tern results are presented in Section 3.7 (with supporting detail) of Appendix A15.3: Offshore Ornithology Collision Risk Modelling Assessment.

The Developer confirms that Perrow *et al.* (2019) was reviewed in detail and cited in the Technical Baseline (Appendix A15.1, Paragraph 2.15.60) due to its relevance to roseate tern use of waters within and around Rockabill Island and the proposed development. The assessment therefore took account of the published findings, including spatial distribution, insofar as these inform understanding of receptor presence and behaviour.

Point 7- bird movements changing between years

The Department suggests that the Perrow *et al.* (2019) track data, Thaxter *et al.* (2015) and Warwick-Evans *et al.* (2016) studies demonstrate that it is possible for bird movements (including foraging) to change between years. “Such evidence would suggest that the applicant’s DAS data informing the CRMs may not capture all relevant inter-annual and intra-annual variation...”

Response to Point 7

The Developer undertook a dedicated 41 month DAS campaign to record the different species and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025), with the latter surveys covering the full NWIS cSPA (NWIS DAS). This produced a substantial dataset that characterises the baseline environment across multiple years and three full breeding seasons allowing both seasonal and interannual variation to be captured. Both the data collection methodology (DCCAE, 2018) and the analysis align with industry guidance (SNCB, 2017; 2020; NatureScot, 2023; Natural England 2022) and the data collection period exceeds the recommended duration to ensure appropriateness and reliability. The data is comparable to that collected for other relevant projects (both Phase one Irish Projects and all UK OWFs) and complies with general guidance on baseline characterisation from UK SNCBs (Parker *et al.*, 2022a; NatureScot, 2023: Guidance Note 2).

Refer to the response to the recommendation for further detail. The Perrow *et al.* (2019) was reviewed in detail and cited in the Technical Baseline (Appendix A15.1, Paragraph 2.15.60) due to its relevance to roseate tern use of waters within and around Rockabill Island and the proposed development. The assessment therefore took account of the published findings, including spatial distribution, insofar as these inform understanding of receptor presence and behaviour.

Point 8- power analysis

The SNCBs (2022a) note that two years of pre-construction monthly survey data should be considered the minimum required for assessment purposes; and that a more appropriate approach is to initially conduct a power analysis to confirm how many years of survey data are required to adequately characterise any potential changes to bird abundances (on a species-by-species basis) in response to future proposed offshore wind energy development.

Response to Point 8

A power analysis was not conducted at the initial baseline monitoring stage for the offshore windfarm ornithology assessment for several reasons:

- Over three years (29 months) of pre-construction surveys were conducted at the baseline monitoring stage, generating a comprehensive and reliable dataset to evaluate potential impacts. This dataset provides a strong foundation for assessing ornithological impacts without the need for a power analysis. Despite this, the Developer carried out a further 12 month DAS campaign (12 surveys between September 2024 and August 2025) across the entire NWIS cSPA and combined this with the 29 month DAS dataset to provide comprehensive and up-to-date dataset to base assessments on.
- It is not standard practice to perform a power analysis before baseline data collection commences. This is because power analyses require baseline data to inform the parameters and ensure meaningful outputs. Conducting a power analysis without prior knowledge of baseline abundances would render the analysis speculative and of limited utility.

A meaningful power analysis depends on:

- Knowledge of baseline abundances, which are not available prior to data collection.
- A specific hypothesis or question to test, which is typically formulated after baseline data is collected. For instance, post-consent monitoring might aim to detect specific changes, such as a 50% displacement of auks from the array area and a 2 km buffer zone. Without baseline data, it is impossible to define such hypotheses or predict relevant effect sizes, making power analysis impractical and premature.

Power analyses are more appropriately employed during post-consent monitoring stages. By this point, baseline data has already been collected, allowing for the design of data collection methodologies with sufficient statistical power to answer specific questions. For example, power analyses can be used to ensure monitoring can detect specific changes in bird displacement or abundance with statistical confidence.

Point 9- NPWS Recommendation – to re-evaluate the CRM

The Department makes the following recommendation in relation to predicting mortalities of seabirds resulting from collision events:

“It is recommended that the applicant is requested to re-evaluate the CRM in the context of the limitations that have been identified in these observations, through the collection of additional information or re-analysis of existing data and to reassess the implications of these on the conservation objectives of the listed species for the relevant SPAs.”

Response to Point 9

The Developer does not consider it necessary to re-evaluate the assessment based on the tracking data from Perrow et al. (2019). Baseline data for the array and its 4km buffer zone was collected over 29 months, plus a further 12 months of the entire NWIS cSPA since the submission of the planning application in 2024 (thus 41 months in total for the array area plus 4km buffer).

The data collection methodology and the analysis align with industry guidance, and the data collection period exceeds the recommended duration to ensure appropriateness and reliability. DAS is the best data to inform the baseline and for use in a CRM assessment, as it provides the most extensive and consistent dataset available, ensuring high-quality, consistent data over multiple seasons. Unlike data from different survey methodologies (e.g. boat based, tracking etc.), which can be inconsistent and potentially introduce biases, DAS provides a comprehensive, structured dataset that aligns with the assessment requirements. Tagging and similar methods, while useful to inform aspects of the assessment (for example foraging ranges and flight speeds), don't offer the necessary information on bird density distributions within the site and buffer.

While alternative datasets, (such as those mentioned above), or isolated evidence may indicate slight variations (such as a different bird density in a specific month), these do not undermine the adequacy or robustness of the data for conducting a reliable assessment. The monthly mean density estimates used to assess collision risk were extracted from site specific DAS data.

The density estimates used in the assessment are derived from updated DAS data that combines the 29-month period used in the CRM Report (MAC DAS) with an additional 12 months of DAS conducted between September 2024 and August 2025 (NWIS DAS), thus characterising the baseline environment across multiple years and three full breeding seasons. On this basis the Developer considers the DAS dataset to provide a sufficiently robust and comprehensive characterisation of baseline conditions to support the assessment. The use of additional or alternative datasets would not materially influence the outcomes or conclusions of the assessment.

4.10.3.2.7 Migratory movements by seabirds within the array area

Section 2.3.4 of the submission provides a discussion on the assessments of seabird movements on migration through the array area in terms of data collection and desk review.

Within the submission the Department notes the following key points in relation to migratory movements by seabirds:

Point 1- DAS data disproportionately influenced the assessments

The Department suggests that *“empirically derived data from DAS disproportionately influenced the outcomes of some of the assessments, even though such data can only be collected during the day and when wind speeds and sea states are relatively low. This constraint is further compounded in that the frequency of such survey flights are optimised to get an understanding of marine birds using the array area and environs throughout the year as opposed to getting a sufficient understanding on bouts of migratory activities which are by their nature, not uniformly distributed across the year”*.

Response to Point 1

The Developer notes NPWS’ concerns regarding the potential influence of DAS data, particularly its limitation to daylight hours and favourable weather conditions, and the implications for capturing episodic migratory activity.

Migratory collision risk for birds passing through the array area was assessed using the Marine Scotland Avian Migration Collision Risk Model Shiny Application (mCRM App; HiDef Aerial Surveying Ltd., 2024). The mCRM is a stochastic adaptation of the Band (2012) migration collision risk model and was run locally in R (v0.4.1).

Importantly, the mCRM does not rely on DAS-derived observations to determine migratory passage rates. Instead, the tool estimates the number of birds potentially passing through the array by sampling migratory pathways represented as straight-line movements between Ireland and non-UK countries. These population estimates are then used to parameterise a stochastic collision risk model. As such, the core inputs to the mCRM are independent of survey effort, timing, or weather constraints associated with DAS.

The role of DAS within this assessment is therefore not to quantify migratory flux directly, but to provide contextual information on species presence and distribution within the array area. The estimation of migration intensity and therefore collision risk is derived from the modelled migratory pathways and associated population assumptions, rather than from empirically observed flight activity within the site.

On this basis, the Developer considers that the limitations of DAS (i.e. restriction to daylight hours and suitable weather windows, and the non-uniform temporal distribution of migratory events) do not materially influence the outcomes of the migratory collision risk assessment. The mCRM approach explicitly avoids reliance on site-specific observation of migration events and instead applies a precautionary, pathway-based modelling framework to estimate collision risk. For other migratory waterbirds, DAS not flying at night or during certain weather conditions does not affect the assessment because the mCRM assumes species are present even if they weren't recorded in the DAS.

Point 2– absence of Arctic terns within the DAS data

The Department questions a statement within the Developers Technical Baseline on the absence of Arctic terns within the DAS data.

“Firstly, the DAS data presented in Table 2.36 and Table 2.37 during the migratory periods may not include the likely proportion of Arctic Tern recorded as ‘commic’ terns as presented Tables 2.38 and 2.39. Also, the sentence, which is supported by the reference “WWT & MacArthur Green, 2014” is potentially misleading without reference to the full text. The relevant sentence in the WWT & MacArthur Green (2014) report reads as follows: “Migration of Scottish and Scandinavian Arctic terns through Scottish waters is likely to track coastlines in a narrow band from 0 to 20 km from shore.” It should be noted that the array area comes within circa 11km of the mainland shoreline of Ireland and circa 11km of the shore of Rockabill island and therefore could feasibly be included in such a migration corridor.”

Response to Point 2

The Developer notes NPWS' concerns regarding the assessments of seabird movements on migration through the array area.

The Developer acknowledges NPWS's comment regarding the migratory corridor for terns and highlights that the assessment was conducted assuming terns migrate through the area despite the evidence presented in the WWT & MacArthur Green (2014) report. As captured within in Appendix A15.1 Offshore and Intertidal Ornithology Technical Baseline Section 2.7, the Developer apportioned unidentified seabirds as follows:

- Individuals identified to group level were assigned to species using the proportion of identified birds within corresponding species groups from that month's survey, ensuring uncertainty in both species- and group level abundances was accounted for through bootstrap sampling. Confidence intervals and CV were calculated from these samples.
- Where no species-level identifications were available, a hierarchical approach expanded temporal and spatial scope (month, season, year, area, and behaviour) until suitable data were available for apportioning. Definitions of 'same area', 'survey area', 'bio-season', and 'season' clarify the spatial and temporal context used.

The Developer notes the observation regarding the WWT & MacArthur Green (2014) report. A collision risk assessment was carried out using the densities of terns detected within the array area during site-specific surveys. The assessment resulted in very low number of collision mortalities (<1 birds), predominantly due to the increased minimum lower tip height that the Developer has committed to. For the reasons stated above and in Response to Point 1, the Developer considers the assessment to cover all aspects and be robust. However, if for example, densities are increased the impacts would still amount to less than one bird, which will have no material effect on the natural mortality rate of the Rockabill populations.

Point 3

The Department states that Burke et al (2020), a study on Irish post-breeding, was not referenced in the Developers application documents. Murray et al 2021 provides additional information on tern migration.

Response to Point 3

Please see the Response to Point 1 above. Reference to Murry *et al.* (2021) is provided in Response to 1 and 3. It should be noted both these studies have been reviewed. and relevant information has contributed to the development of the ornithology baseline see Table A2-1 within Appendix A15.1 Offshore Ornithology Technical Baseline.

Point 4- CRM and migration through the night

The CRM analysis presented in Appendix 18 of the 2024 NIS (also Appendix 15.4 of the 2024 EIAR) used species-specific mean nocturnal activity levels used in the models (see Table 2-6). For all tern species modelled a value of zero was used. This runs contrary to the fact that terns can migrate during the night e.g. roseate Tern, (Gochfeld, M. and J. Burger, 2020); and Sandwich and Common Tern (Ward, 2000).

Response to Point 4

The Developer notes NPWS' concerns regarding the assessments of seabird movements on migration through the array area. The species biometrics used with the migratory collision risk modelling have been updated for terns. A Nocturnal Activity Factor of 0.25 has now been used for terns in response to NPWS' concern over tern NAF. See Section 2.2 Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment for further details.

Adjustment to the assessment to consider terns that may be migrating at night does not materially change the assessment outcomes.

4.10.3.2.8 The contextualisation of predicted mortalities on the marine birds of the North-west Irish Sea SPA and the wider marine regional area

Section 2.3.5 of the submission provides a discussion on some of the predicted mortality assessment outcomes within the EIAR and the survey effort and data related to those assessments.

Within the submission the Department notes the following key points on the Developer's Digital Aerial Survey (DAS):

- The Department notes that the applicant's DAS programme aimed at the array area and immediate hinterland and that the coverage of the North-west Irish Sea SPA was low.
- The survey approach by Jessopp et al. (2018) differs in some regards from the applicant's DAS approach. Therefore, due to the different methodologies and intensities of the ObSERVE Phase I fine scale survey and the applicant's DAS, direct comparisons of marine bird use of the array area and the wider SPA are not meaningful.
- The Department makes the following recommendation in relation to bespoke reference populations for the NWIS cSPA:

"To summarise, the Board are advised that the applicant's approach to defining bespoke reference populations for this SPA relies upon larger population estimates pertaining to a wider region (as opposed to the smaller defined footprint of the SPA) as the basis for the impact assessment. It is the Department's view that this approach does not permit a full understanding of the implications of the proposed development on the conservation objectives of the relevant SPAs."

Following the recommendation the Department includes a further point on the impacts of the Proposed Development being assessed against the full scope of the conservation objectives for the NWIS cSPA. It notes *"favourable conservation status of a species is achieved when inter alia: there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis."*

Response on the contextualisation of predicted mortalities on the marine birds of the North-west Irish Sea cSPA and the wider marine regional area

For appropriate assessment, the predicted collision and displacement mortalities should be considered in the context of population size and background mortality rates. Based on the assessment of the proposed development alone and in-combination, it is concluded that there is no potential for AEoI. The Developer provides a clear explanation and methodology for the assessment of impacts on North-west Irish Sea SPA within the NIS (NIS, Section 5.4.2).

Baseline data for the array and its 4km buffer zone was collected over 29 months, plus a further 12 months of the entire NWIS cSPA (12 surveys between September 2024 and August 2025) since the submission of the planning application in 2024 (thus 41 months in total for the array area plus 4km buffer). The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance (Parker et al., 2022a; NatureScot, 2023: Guidance Note 2), and the data collection period significantly exceeds the recommended duration to ensure appropriateness and reliability.

The Developer is aware of the Jessopp et al. (2018) dataset and has used the data consistently where appropriate throughout the assessment. NWIS cSPA. It should be noted that there is no single SPA citation population within the Conservation Objectives that adequately reflects species abundance in the NWIS cSPA across the year, as available estimates are based on limited survey snapshots and are likely to under-represent cumulative seasonal use (e.g. ObSERVE; Jessop et al., 2018). To address this, population-level effects have been assessed across multiple, ecologically relevant population contexts. These include:

- breeding populations of adjacent SPAs.
- the NWIS cSPA citation population.

- the relevant regional population.
- maximum abundance estimated from the recent site-specific NWIS DAS collected between September 2024 and August 2025.

This approach reflects the strong seasonal variability and wide dispersal of species outside the breeding season, avoids over-reliance on highly precautionary snapshot values, and it is considered that it provides a more robust, evidence-based assessment than assessing against the stated NWIS citation populations. For further information see Section 5.4.2 of the NIS and Section 2.11 and 2.13 of the Appendix A15.1 Offshore and Intertidal Ornithology Technical Baseline.

The Developer provided a robust assessment against all published conservation objectives within the NIS for the NWIS cSPA (see NIS, Section 5.2.4).

Additionally, the Developer notes that since the submission of the Planning Application further refinements to the MAC boundary have been made in response to the RFI (8(e)vi)) to provide additional mitigation, with the array of permanent infrastructure assessed now occupying 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the SPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas during the non-breeding season. The revised boundary now avoids several identified hotspots, further reducing displacement risk. These refinements have led to a lower abundance of birds within the assessed area and have further reduced potential effects on spatial distribution and habitat loss by decreasing the spatial extent occupied by the proposed development within the array area.

4.10.3.2.9 Displacement effects

Section 2.3.6 provides observations on displacement effects on vulnerable species, focusing on Guillemot as an example.

Within the submission the Department notes the following key points in relation to displacement effects:

Point 1- distance between the Array Area and the Lambay Island SPA

The Developers Technical Baseline states that Lambay Island SPA is located 22.2km away from the Array Area, a more accurate estimate is <15km however, the correct distance is set out in the main NIS document.

Response to Point 1

The Developer notes the comment in regard to the distance between the array area and Lambay Island SPA. Some of the distances presented in the NIS were measured from the centre of the SPA to the centre of the array area (14.4 km for Lambay Island SPA). This is because these are the distances used in apportioning calculations. Within the Technical Baseline, distances are measured from the edge of the SPA to the closest point of the array area (22.2 km for Lambay Island SPA).

Point 2- – ObSERVE aerial surveys and auk species

The Department states that the western Irish Sea and the marine waters of the NWIS cSPA are of importance to auk species. It justifies this with evidence from density results of auk species from Rogan et al. (2018) and Jessopp et al. (2018) (as part of ObSERVE Phase I).

The Department has compared these studies with Wakefield et al. (2017) and unpublished analyses of data from ObSERVE Phase II. It is considered that the majority of auks occurring in the western Irish Sea are Guillemots.

Point 3- Observe and Auk species

The auk and or guillemot/razorbill densities reported out under ObSERVE Phase I for the western Irish Sea are notably less than those values estimated from the DAS for the proposed array area.

Point 4- Observe data and availability bias

It should be noted that the Guillemot density values presented in the Technical Baseline (and which informed the EIAR and NIS) accounted for ‘availability bias’ which was not factored into the ObSERVE estimates.

Response to Point 2, 3 and 4

The Developer notes the comment on the ObSERVE Phase I data and agrees that the western Irish Sea is an important area for auks at certain times of year, showing noticeably high numbers of auks in the post breeding dispersal period. The updated assessments are based on a 41 month of DAS campaign undertaken to record the different species and numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km (12 surveys between September 2024 and August 2025) buffer, with the latter surveys covering the full NWIS cSPA. The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance (Parker et al., 2022a; NatureScot, 2023: Guidance Note 2), and the data collection period significantly exceeds the recommended duration to ensure appropriateness and reliability.

The ObSERVE surveys have been used consistently where appropriate throughout the assessment namely to define citation population sizes for the NWIS cSPA. It should be noted, there is no single SPA citation population within the Conservation Objectives that adequately reflects species abundance in the NWIS cSPA across the year, as available estimates are based on limited survey snapshots and are likely to under-represent cumulative seasonal use (e.g. ObSERVE; Jessop et al., 2018). To address this, population-level effects have been assessed across multiple, ecologically relevant population contexts, including breeding populations of adjacent SPAs, the NWIS cSPA citation population, the relevant regional population, and maximum abundance estimated from the recent site-specific NWIS DAS. It should also be noted that the array area has since undergone significant refinement with auk densities as one of the key driving factors. The area over which displacement may impact auks is now less than half the initial MAC boundary area, significantly reducing the project’s impact on auk species. For further details see the Response to Point 1 on the contextualisation of predicted mortalities on the marine birds of the North-west Irish Sea SPA and the wider marine regional area, above.

In response to the observation by the Department on Wakefield et al. (2017), site-specific surveys of the array area also showed high abundance and densities comparable or higher than ObSERVE and Wakefield et al. (2017). It should be noted that the Wakefield et al. (2017) modelled at-sea utilization distributions (UD) is skewed towards larger breeding colonies and represents the distribution in the breeding period rather than the post-breeding season. Additionally, the ObSERVE I dataset was collected during a single survey across three seasons, using a broader survey coverage. As a result, it provides only a limited snapshot of the bird activity in the area. The Developer appreciates the insight provided by the unpublished data (ObSERVE II), but notes that the location of this dataset, across the southern coast of Ireland, is of limited relevance and use to the proposed development.

In the proposed development assessment, site-specific data was utilised to determine an appropriate guillemot-to-razorbill ratio within the ObSERVE dataset. Based on this, the vast majority of auks were assumed to be guillemots (93.2%), aligning with the statement from NPWS.

Point 5— extremely high Guillemot monthly density estimates

It was noted that relative to ObSERVE data and other data sets, some of the guillemot monthly density estimates presented in the technical baseline document area are extremely high.

Response to Point 5

This point was raised by An Bord Pleanála in RFI Section 8 (a)ix and has been addressed in the Response to RFI document.

Point 6— zero counts

The Department notes miscalculations or typographical errors with the display of the survey data and its analyses. *“Firstly, there appears to be miscalculations or typographical errors with the display of the survey data and its analyses. Table 2.40 of Appendix 12 Offshore and Intertidal Ornithology Technical Baseline presents a zero count of Guillemot for the November 2020 survey. This is at odds with the non-zero density Guillemot heat map for November 2020 (page 84), nor does it correspond to the estimate of density and abundance for Guillemot for November 2020. The Guillemot Density Heat map (dated February 2021, page 85) indicates that no Guillemots were present during that particular survey, which corresponds to the zero count in Table 2.40 but which appears to be at odds with the non-zero estimates of abundance and density for Guillemot for February 2021.”*

Response to Point 6

This point was raised by An Bord Pleanála in RFI Section 8 (a)x and has been addressed in the Response to RFI document.

Point 7— peak abundance in July

The Technical Baseline sets out the applicant’s position that project-specific DAS data showed earlier post-breeding dispersal from breeding colonies and that this large peak in Guillemot abundance in July is therefore highly likely to be a result of post-breeding dispersal of Guillemots from colonies across the wider regional population (as opposed to being breeding birds). Which is contrary to Furness et al (2015).

Response to Point 7

This point was raised by An Bord Pleanála in RFI Section 8 (a)ix and has been addressed in the Response to RFI document.

Point 8— Guillemot breeding season ending in June

On foot of this data, the applicant considered that the breeding season ceases at the end of June in the waters of the western Irish Sea. Not only is this position contrary to Furness et al. (2015), it is also at odds with NatureScot (2020) guidance. The applicant’s view also runs contrary to the understanding of the Guillemot breeding period in Irish waters (see Merne and Walsh, 2005).

Response to Point 8

This point was raised by An Bord Pleanála in RFI Section 8 (a)ix and has been addressed in the Response to RFI document.

Point 9— abundance of Guillemot and DAS within July

Section 2.40 of the Technical Baseline Appendix quoted increases in the number of Guillemot recorded on DAS transects from May-June, in July 2022 and to a lesser extent in July 2020 but not in July 2021. These differences may well be a function of when precisely in July the DAS flights were undertaken. It is very likely that a proportion of the high July counts are made up of young of the year with attending adults. However, it is also very likely that some proportion of unfledged Guillemot chicks remain on the cliff faces of Lambay and elsewhere into early July.

Response to Point 9

This point was raised by An Bord Pleanála in RFI Section 8(a)ix and has been addressed in the Response to RFI document.

Point 10— flight direction of Guillemot during the July 2022 survey

The DAS data with regard to recorded flight direction activity of Guillemot during the survey of July 2022 shows a pronounced SW direction possibly indicating birds flying either from, or through the proposed array area broadly towards the breeding colony at Lambay or Ireland’s Eye.

Response to Point 10

In July 2022, there were estimated to be 7,550 guillemot in the array area, of which only 59 birds were estimated to be flying. The Developer therefore suggests that little weight should be given to the flight direction data. In addition, the low proportion of flying birds is representative of a post-breeding moult period when auks are flightless². This further supports the case for the large majority of these birds to no longer be associated with a breeding colony.

In addition, there is little evidence to conclude that the peak counts in August are an aggregation of birds. It is likely that these birds are quickly dispersing throughout the region (Buckingham *et al.*, 2022). During their flightless stage and during dispersal a one off avoidance of an area is highly unlikely to result in mortalities.

Point 11– Furness et al. 2015

It is further considered that the description of Guillemot phenology as set out in Furness et al. (2015) i.e. “Breeding colonies in the UK are deserted in August, with modal departure in July” is broadly similar to an Irish context.

Response to Point 11

This point was raised by An Bord Pleanála in RFI Section 8 (a)ix and has been addressed in the Response to RFI document.

Point 12– consequences of regarding the July period as non-breeding results

There are consequences of regarding the July period as non-breeding results in the breeding mean peak count bio season for the proposed array area plus 2km, to be 1,813 (95% CIs 1,258 - 2,385) individuals as opposed to 13,703 (95% CIs 8,940 - 18,414) individuals (see Table 3-1 of Appendix 17 Offshore and Intertidal Ornithology Displacement Analysis). This has consequences when apportioning estimated mortality figures arising from displacement impacts to guillemot populations breeding at Lambay Island SPA, Ireland’s Eye SPA and others.

Response to Point 12

This point was raised by An Bord Pleanála in RFI Section 8 (a)ix and has been addressed in the Response to RFI document.

Point 13-NPWS Recommendation– assessment of the Guillemot breeding season

The Department makes the following recommendation in relation to the Developer’s assessment of the Guillemot breeding season:

“The Board are advised that the Department does not agree with the applicant’s determination that the Irish east coast Guillemot breeding season ends at the end of June.

It is recommended that the applicant is requested to re-evaluate the data in this context and to re-interpret the consequences for the impacts on the conservation objectives of the SPA.”

Response to Point 13

This point was raised by An Bord Pleanála in RFI Section 8 (a)ix and has been addressed in the Response to RFI document.

Further within Section 2.3.6 of the submission, the Department provides additional key points on the parameters of the displacement assessment which are summarised here:

² Adult guillemot and razorbill undergo a complete moult after the breeding season. This includes the replacement of flight feathers, thus rendering them flightless for a brief period (6 to 7 weeks) while the new feathers replace the old ones. Flight is possible once these new feathers are approximately 75% fully grown.

Point 14- displacement assessment parameters

The Department notes that the applicant has applied a mortality rate of 1% and a range of 5% within the displacement assessment however, the recommended SNCBs guidance sets out a mortality range of 1-10%.

Response to Point 14

This point (or similar) was raised by An Bord Pleanála in RFI Section 8 (c)i and has been addressed in the Response to RFI document.

Point 15

The Department notes that the application presents displacement rates in relation to five recent wind energy development proposals in the UK within which a displacement rate of 70% was recommended however, the applicant presents displacement impacts at 50% displacement and 1% mortality.

Response to Point 15

This point (or similar) was raised by An Bord Pleanála in RFI Section 8 (c)i and has been addressed in the Response to RFI document.

Point 16

Using abundance estimates within the Developers Offshore and Intertidal Ornithology Displacement Analysis, the Department presents the projected mortality levels for 50% displacement and 1% mortality and for 70% displacement and 2% mortality. In addition, it presents the projected mortality levels for lower and higher case scenarios using the NatureScot (2023) displacement rates and mortality rates.

Response to Point 16

This point (or similar) was raised by An Bord Pleanála in RFI Section 8 (c)i and has been addressed in the Response to RFI document.

Point 17– mortality estimate range

The Department estimates *“Using the 95% Confidence Intervals set out in the tables above, the annual mortality levels could be 6 — 552 individual Guillemots during the breeding season and 105 — 690 during the non- breeding season.”*

Response to Point 17

The Developer notes the comments made by the Department on the factors that determine mortality levels of Guillemot and the presentation of a full range of possible displacement mortality. However, the Developer considers that a range providing such a large degree of uncertainty to be unhelpful.

A meta-analysis was conducted by GoBe (2024a) for Outer Dowsing Offshore Wind (ODOW), the results of two analyses: a 2022 analysis carried out by APEM using all available displacement data on guillemot and razorbill (as part of work commissioned for the Hornsea Four project) and a study by Lamb et al. (2024) which carried out a similar exercise using a larger dataset for several more species.

The APEM study collated data from displacement effects of guillemot and razorbill at 21 OWFs in the UK and in northwest Europe and concluded that some of the statistics and estimate levels of displacement were not appropriate for use where datasets contained a large proportion of observations reported as zero (0), known as zero-inflated datasets and commonplace in at-sea observations of seabirds (APEM, 2022). As such, APEM determined that displacement rates based on zero-inflated datasets should be treated with caution as they would likely reveal overestimated values due to these datasets being prone to greater variability in outputs than otherwise expected. Taking the average rate of displacement from all studies collated for the APEM (2022) review (not including ones where an attraction was demonstrated), a displacement rate of 25% to 30% across all seasons is considered appropriate. A displacement rate of 50% has been used in the assessment but remains precautionary for both the breeding season and across the annual cycle. Lamb et al.

(2024) reviewed the results of 39 displacement studies and found that auks showed greater displacement effects during the non-breeding season than during the breeding season, with upper and lower confidence intervals of effect size set at 69% and 49%, respectively. As such, the mean level of displacement across all studies analysed by Lamb et al. (2024) for auks was in the region of 60%, although this is an annual displacement rate and therefore less appropriate for the Project as displacement is lower during the breeding season. Additionally, two years of post-construction monitoring at Beatrice Offshore Windfarm has shown low displacement rates for guillemot and even potential attraction for razorbill (Trinder *et al.*, 2024).

The results of the meta-analysis suggest a 50% displacement and 1% mortality rate is appropriately precautionary. The Developer, however, has presented a more conservative rate of 60% displacement and 3-5% (breeding mortality) and 1-3% (non-breeding mortality) (Guidance Approach to displacement rates) as requested in RFI (8ci) and NatureScot guidance (NatureScot, 2023a). Despite this, the Developer maintains that concluding on the 50% displacement and 1% mortality rate is robust and suitably precautionary based on the above evidence.

Point 18– revised assessment of the SPA

As per the preceding section of these observations (i.e. the contextualisation of predicted mortalities on the marine birds of the North-west Irish Sea SPA and the wider marine regional area), the assessment needs to revised take due regard of North-west Irish Sea SPA on its own merits.

Response to Point 18

The Developer provided a robust assessment against all published conservation objectives within the NIS for the NWIS cSPA (NIS, Section 5.2.4).

Additionally, the Developer notes that since the submission of the Planning Application, further refinements have been made in response to the RFI 8(e)vi to provide additional mitigation, with the spatial extent of infrastructure or PFI now occupying 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the SPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas during the non-breeding season.

These refinements have led to a lower abundance of birds within the PFI and have further reduced potential effects on spatial distribution by decreasing the area occupied by the proposed development.

Point 19— survey effort comparison

Also as stated above, issues arise when comparing numbers derived from more intensive survey effort against denominator values from a larger area that was subject to more extensive survey effort. This led the applicant to conclude that, as no population estimate was derived from a series of surveys of similar intensity to the applicant's DAS for Guillemot occurring within the North-Irish Sea SPA for each bio-season, that *"no conclusions regarding integrity can be drawn from this assessment."*

Response to Point 19

The Developer acknowledges the Department's comment on comparing numbers derived from more intensive survey effort against denominator values from a larger area that was subject to more extensive survey effort.

For appropriate assessment, the predicted collision and displacement mortalities should be considered in the context of population size and background mortality rates. Based on the assessment of the proposed development alone and in-combination, it is concluded that there is no potential for AEoI. The Developer provided a clear explanation and methodology for the assessment of impacts on North-west Irish Sea SPA within the NIS (NIS, Section 5.4.2).

In addition to the original 29 months of Digital Aerial Surveys (DAS) data collection across the Maritime Area Consent (MAC) Boundary (May 2020 – October 2022; MAC DAS), after submission of the NIS, the

Developer has conducted a 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS cSPA, collectively referred to as the Survey Area, covering up to 2,396 km². The primary purpose of the programme was to establish robust baseline information on the distribution and abundance of seabirds and marine mammals within the NWIS SPA (alongside collecting further data on the proposed development Study Area), addressing several bird-related RFI responses as outlined in the Response to RFI document (RFI 8 (a)ii, 8 (a)vi, and 8 (a)vii).

This data was used to inform further design refinements (post-application) response to the RFI 8 (e)vi to provide additional mitigation (see Section 5.4.2 of the NIS for further details), as well as to inform one of the populations against which the Developer assessed population-level effects, namely maximum abundance estimated from the recent site-specific NWIS DAS. Population-level effects have also been assessed across multiple, ecologically relevant population contexts, including breeding populations of adjacent SPAs, the NWIS cSPA citation population, the relevant regional population, and maximum abundance estimated from the recent site-specific NWIS DAS.

This approach reflects the strong seasonal variability and wide dispersal of species outside the breeding season, avoids over-reliance on highly precautionary snapshot values, and is considered to provide a more robust, evidence-based assessment than assessing against the stated NWIS citation populations. For further information see Section 5.4.2 of the NIS and Section 2.11 and 2.13 of the Appendix A15.5 Offshore and Intertidal Ornithology Technical Appendix.

Point 20– site specific conservation objectives for the SPA

The site-specific conservation objectives for this SPA include a target for a sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support Guillemot across both the breeding and non-breeding periods (NPWS, 2023).

Response to Point 20

This point was raised by An Bord Pleanála in RFI Section 8 (e)vi and has been addressed in the Response to RFI document.

Point 21- the proposed array area +2km area accounts for circa 8.5% of the SPA area

The proposed array + 2km area (and factoring out the circa 2.8km² of this area overlapping with Rockabill SPA) accounts for circa 8.5% of the total marine area under designation as North-west Irish Sea SPA.

Response to Point 21

This point was raised by An Bord Pleanála in RFI Section 8 (e)vi and has been addressed in the Response to RFI document.

Point 22– high density areas within the array area

The boundary of the North-west Irish Sea SPA was defined in part due to the relatively high suitability of these marine waters as a resource for Guillemot. Recent modelling of auk densities in Irish waters based on ObSERVE II data show that the proposed array + 2km area contains, relative to some other areas within the SPA, high density areas.

Response to Point 22

The Developer acknowledges that the NWIS cSPA supports relatively high densities of auks, including within the proposed array area. Site-specific DAS data collected across the NWIS cSPA confirms that auks are widely distributed throughout the SPA, with elevated densities occurring across a broad spatial extent rather than being confined to the development area. For further information regarding the 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS cSPA see Section 2.7 of Appendix A15.1 Offshore Ornithology Technical Baseline. These

findings are consistent with ObSERVE II data and provide higher-resolution evidence demonstrating that the array is located within a wider area of suitable habitat that supports auk populations across the SPA.

It should be noted, the NWIS DAS data were used to inform further design refinements (post-application) in response to the RFI (8evi) to provide additional mitigation (see Section 5.4.2 of the NIS for further details). The PFI now occupies 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the cSPA overlapped by the PFI. Furthermore, removal of the northern sections of the array area has eliminated overlap with high guillemot density areas ('Hotspots'; see Appendix A15.5: Offshore and Intertidal Ornithology Technical Baseline) during the non-breeding season. The revised spatial extent of infrastructure (PFI) now avoids several identified hotspots, further reducing displacement risk.

Overall, these refinements have led to a lower abundance of birds within the PFI and have further reduced potential effects on spatial distribution, habitat loss, barrier effects and changes to prey species by decreasing the area occupied by the proposed development.

Point 23– reduction of the suitability of the SPA

The proposed development would reduce the suitability of an area equating to 8.5% of the North-west Irish Sea SPA. The Board is advised that it is NPWS's view that this would contravene the conservation objective for the SPA, which is to maintain its favourable conservation condition.

Response to Point 23

This point was raised by An Bord Pleanála in RFI Section 8 (e)vi and has been addressed in the Response to RFI document.

4.10.3.3 Marine mammals

The key points raised by the Department within the submission under the sub theme of Marine mammals include:

- 3.1 Pinniped Species, and
- 3.2 Cetaceans.

4.10.3.3.1 Pinniped species

Point 1 – specific surveys of the site for pinnipeds

In Section 3.1 Pinniped Species of their submission, the Department highlighted *“that both pinniped species, grey seal and harbour seal, occur within the offshore windfarm area. As part of their normal ecological activity both pinniped species travel varying distances from haul-out sites and thus may forage within the offshore windfarm area or transit the offshore windfarm area to foraging areas further afield. The nearest SACs designated for an Annex II pinniped species are situated at Lambay Island SAC (14.8 km).”*

The Department states *“that monitoring for pinniped species at the location where the proposed development interacts with the shore was not carried out by the applicant and therefore there is no information on whether seals use this site.”*

The Department makes the following recommendation in relation to pinniped species:

“It is recommended that further information is provided by means of specific surveys of the site for pinnipeds and that this should also be set in the context of seasonal changes in distribution of these species.”

Response Point 1 - specific surveys of the site for pinnipeds

Response to this query is also included in the Response to the RFI document (RFI Section 10 (d)iii) completed alongside this Response to Submission document.

The Developer notes that the nearest SAC designated for an Annex II pinniped species is situated at Lambay Island SAC, located 14.8km from the Array Area. As such, Annex II pinniped species may occur within the offshore wind farm area. The Developer provided a robust assessment against all conservation objectives for Lambay Island SAC within Section 5.3.3 of the NIS and concluded that neither the construction nor the operation and maintenance of the proposed development will result in an AEoI of the Lambay Island SAC with respect to the grey or harbour seal QI for Project Option 1 or Project Option 2.

In response to the Department's recommendation for further information by means of specific surveys of the site for pinnipeds present, the Developer carried out a survey at the proposed landfall site at Balbriggan, Co. Dublin. Consequently, seal haul-out surveys were undertaken in November 2024 following guidance from NPWS Harbour Seal Survey 2009 Guidelines (NPWS, 2010) using vantage points (VPs) within the landfall location and a surrounding 500m survey buffer, see Figure A3.5 Appendix A14.2 Marine Mammal Baseline Characterisation. Disturbance stimuli and their effects on any seals present were also recorded (refer to Appendix A14.3: Seal Vantage Point Survey Report).

The survey recorded a peak count of six seals (grey and harbour) hauled out at Cardy Rock in the nearshore habitat. There were no observations of seals hauled out on the beach at the landfall site. There were four records of disturbance events, only one of which eliciting a response from the seals whereby they lifted their heads following the arrival of four scrambler bikes at the landfall site.

The seal haul-out survey was designed as a scoping visit to assess the need for further two surveys, as recommended by the published guidance (NPWS, 2010). The breeding season for grey seals in Ireland is considered to be between September and December. Therefore, as no seals were recorded as present within the landfall site during the survey, it has been concluded that the landfall site does not currently host a breeding seal colony and additional surveys to assess the presence of breeding seals are not required at this time.

The Developer is confident with the conclusion of the assessment within the NIS that there will be no AEoI to Annex II pinniped species from the Proposed Development.

The Developer confirms that the recommendation made by the Department has been met.

4.10.3.3.2 Cetaceans

Point 1 – use of the area by cetaceans

In Section 3.2 of their submission, the Department provides discussion on the use of the area by cetaceans:

“The use of the proposed development area and area immediately adjacent to it by various species of cetacean (i.e. whales, dolphins and porpoises) is described and referred to in the documentation provided. The available data collectively indicate that several species of cetacean occur regularly within the area. Most appear to be small-toothed cetacean species, particularly harbour porpoise, short-beaked common dolphin and minke whale. Other species, such as bottlenose dolphin and Risso's dolphin also occur.

All are wide-ranging pelagic species that may travel over many tens or hundreds of kilometres as part of their normal ecological activity and annual life history cycles. The SACs designated for an Annex II cetacean species are situated at Rockabill to Dalkey Island SAC (2.4 km).

All available data collectively indicate that the offshore windfarm area represents an area of importance for harbour porpoise. Describing the outputs of the ObSERVE Phase I series of aerial surveys Rogan et al. (2018) highlight the importance of the Irish Sea for harbour.”

Response to Point 1 – use of the area by cetaceans

The Developer recognises that the offshore proposed development area is located in close proximity to an area of importance for harbour porpoise (Rockabill to Dalkey Island SAC designated for an Annex II

cetacean species situated 2.4km from the array area). As such, Annex II cetacean species (including porpoise) may occur within the offshore proposed development area. The Developer provided a robust assessment against all conservation objectives for the Rockabill to Dalkey SAC within Section 5.3.2 of the NIS. The Developer is confident with the conclusion of the assessment that there will be no AEoI to the Conservation Objectives of Annex II cetacean species (including porpoise) from the proposed development.

The Developer provided substantial baseline information on marine mammals in the Irish Sea in Appendix 14.2 of the 2024 EIAR, highlighting the importance of the Irish Sea and the relevant marine mammal SACs. This included data from site-specific surveys, the ObSERVE surveys and the SCANS IV surveys. These have been updated in Appendix A14.2: Marine Mammal Baseline Characterisation with additional new survey data including ObSERVE2 surveys, SCANS IV density surfaces, seal vantage point surveys, and additional Digital Aerial Survey (DAS).

Point 2 – acoustic surveys

“Acoustic surveys do not appear to have been undertaken as part of the baseline data collection.” “The omission of acoustic monitoring does not allow the site to be fully characterised for all Annex IV species.”

Response to Point 2 – acoustic surveys

Response to this query is also included in the Response to the RFI document (RFI Section 10 (d)ii) completed alongside this Response to Submission document.

The Developer disagrees that the lack of site-specific PAM data means the site cannot be fully characterised. In order to assess whether a development could result in a significant effect on marine mammal receptors, the EIAR, in accordance with the relevant guidance, aims to characterise the receiving environment with regards to likely receptors present, quantify (where possible) the number of individuals impacted through specific impact pathways, and establish whether the predicted level of impact is sufficient to result in a population level effect. To quantify potential impacts in terms of the number of animals impacted, it is necessary to know the density of a given marine mammal receptor within the impacted area. Thus, the primary purpose of the marine mammal baseline characterisation report is to identify the appropriate density, and abundance estimates to take forward to the quantitative assessment in the EIAR for each marine mammal species.

Baseline characterisation PAM can be useful to understand the species of vocalising marine mammals present in the area. While PAM can provide good information on species presence or absence and how this changes temporally on a fine scale (especially for odontocete species), it currently remains difficult to obtain a density estimate from PAM data for most species. This is due to issues relating to estimating the cue rate and subsequent detection probability function (e.g. the likelihood that the PAM systems will log acoustic cues from cetaceans at different distances, which is a key requirement for density estimation), and differentiating between species (especially dolphin species). Since the quantitative assessment in the EIAR is focussed on predicting the number of individuals impacted, the use of baseline characterisation PAM will not provide the necessary data to inform this assessment.

Point 3 – data used in the assessment of collision risk

The Department provides further discussion on the following key point in relation data used in the assessment of collision risk:

“When assessing the risk of collisions between marine mammals and vessels, the Developer must include all data relevant to Irish waters and not solely rely on reports from UK monitoring programmes, e.g. those reported in Irish Whale and Dolphin Group Cetacean Stranding Schemes and Irish Whale & Dolphin Group Deep Diving and Rare Species Investigation Programme (both supported by NPWS funding).”

Response to Point 3 – data used in the assessment of collision risk

- Response to this query is also included in the Response to the RFI document (RFI Section 10(m)) completed alongside this Response to Submission document.
- The Developer welcomes the comment from NPWS. The Developer requested further strandings data from IWDG. The request was declined by IWDG as the data is not relevant to the application as it does not include any information on the cause of death given that detailed necropsies have not been consistently carried out and as they have not previously shared data with other Phase 1 projects.

It is noted that while strandings are reported to IWDG by the public, there is no “*regular, standardized post-mortem examinations of suitable carcasses to establish the cause of death*” (McGovern *et al*, 2018), and therefore there is unlikely to be sufficient data available on the risk of vessel collision mortality in Irish waters to provide any further context to the assessment.

Point 4 – Injury to marine mammals

The Department provides further discussion on the following key points in relation to injury and mitigation:

Under current legislation in Ireland, it is an offence to disturb or injure a marine mammal whether this occurs via introduced sound or another anthropogenic source. Temporary Threshold Shift (TTS) in hearing can have a negative effect on the ability of a marine mammal to use natural sounds for a period of minutes, hours or days and thus may constitute such an injury. Therefore, anthropogenic sound sources with the potential to cause TTS in a receiving marine mammal contain the potential for both disturbance and injury to the animal.”

Response to Point 4 – Injury to marine mammals

- Response to this query is also included in the Response to the RFI document (RFI Section 10(o)) completed alongside this Response to Submission document.
- Please see the TTS Position Statement (Appendix A14.4: Temporary Threshold Shift Position Statement) submitted in response to the RFIs. A summary is provided here:
- Whilst there is a lack of legal and regulatory consensus regarding the definition of 'auditory injury', most countries do not consider TTS to be auditory injury.
- TTS represents a short-term reduction in hearing sensitivity, typically recovering within an hour for small shifts (4–5 dB). Not all TTS-inducing exposures lead to tissue damage (and thus lead to physical injury).
- Current TTS-onset thresholds (NMFS, 2024) are based on the smallest measurable changes in hearing, not on levels likely to cause functional impairment. These thresholds were originally developed to support estimations of PTS-onset, not to serve as regulatory thresholds for ecologically significant impact.
- What level of threshold shift might be considered biologically meaningful is currently unknown, and no biologically meaningful TTS thresholds have been established.
- TTS predictions based on SEL_{cum} are highly conservative as they omit: (i) the potential for TTS recovery between pile strikes or during breaks in pile driving, and (ii) distance-related effects on the impulsive characteristics of the sound. These factors likely lead to overestimations of impact ranges.
- Until there is sufficient scientific evidence to indicate a level and duration of TTS that may have a biologically meaningful effect on individuals, it is more appropriate to focus environmental impact assessments on PTS (as true auditory injury) and behavioural disturbance (e.g. disruption to foraging or migration)

The current guidance (DAHG, 2014) states that “TTS may constitute an injury”, and that “anthropogenic sound sources with the potential to induce TTS in a receiving marine mammal contain the potential for both (a) disturbance, and (b) injury to the animal”. Thus, the current guidance is ambiguous.

It is also important to highlight that the latest guidance on PTS and TTS thresholds from NMFS (2024) clearly differentiates between TTS and auditory injury:

- “Temporary threshold shift (TTS): A temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual’s hearing range above a previously established reference level (ANSI 1995; Yost 2007). Based on data from cetacean TTS measurements (see Southall et al. 2019 for a review), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to session variation in a subject’s normal hearing ability (Schlundt et al. 2000; Finneran et al. 2000; Finneran et al. 2002).
- Auditory injury (AUD INJ): Damage to the inner ear that can result in destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Houser 2021; Finneran 2024). Auditory injury may or may not result in a permanent threshold shift (PTS).
- Permanent threshold shift (PTS): A permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual’s hearing range above a previously established reference level (ANSI 1995; Yost 2007).”

Point 5– disturbance and injury ranges and mitigation measures

NPWS requests that the Developer determine sound ranges over which both disturbance and injury could occur to all marine mammal species and determine the appropriate mitigation measures.

Response to Point 5 – disturbance and injury ranges and mitigation measures

Following further design refinement in response to the RFIs, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. As a result, pile driving is no longer required and all impact assessments and mitigation measures specific to pile driving have been removed from the EIAR. The Developer has provided both auditory injury (PTS) and disturbance impact ranges within Chapter 14: Marine Mammal Ecology. None of the impacts were considered to be significant in EIA terms. Mitigation measures for geophysical surveys and UXO clearance are provided in Appendix A14.4: Marine Mammal Mitigation Protocol (MMMP).

Point 6 – use of ADD as a mitigation tool

The Department raises a concern with the information provided on the use of acoustic deterrent devices (ADD) as a mitigation tool:

- “It is not clear as to whether acoustic deterrent devices (ADD) will be used as a mitigation tool.... If an ADD is to be included as a mitigation tool, then clear decisions regarding the reasoning/justifications for proposed ADD methodology need to be included. The proposed use of ADD as a potential mitigation tool would be improved if justifications for plan and estimation of individuals of each species that are likely to be affected was assessed and included.”

The Department makes the following recommendation in relation to the use of ADD:

- “It is recommended that further information is requested regarding the proposed use of ADD as a potential mitigation tool. Such information should include a consideration of any in-combination effects with surrounding anthropogenic source and estimation of individuals of each species that are likely to be affected. Consideration as to whether such deliberate disturbance will require derogation under Article 16 of the Habitats Directive should also be provided.”

Response to Point 6 – use of ADD as a mitigation tool

The Developer notes the recommendation that further information is requested in regard to the use of ADD as a potential mitigation tool.

The Developer confirms that following further design refinement (detailed in Appendix A5.1 Design Refinements), WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. The use of suction buckets and drilled piles removes the option of driven monopile or driven pin piles for both Project Option 1 and Project Option 2, meaning no percussive piling is required for the proposed development, resulting in a significant reduction in underwater noise generated. As a result, pile driving has been removed from the Appendix A14.5: MMMP.

ADDs are still proposed in the updated MMMP as mitigation during high-order UXO clearance. Pre-clearance ADD deployment is not necessary for low-order clearance as the maximum injury range of 990m can be effectively monitored by MMO and PAM within the 1km mitigation zone thus reducing the risk of injury to negligible (refer to Appendix A14.5).

ADDs are a widely used mitigation measure in other jurisdictions. As stated in the MMMP, the Lofitech AS seal scarer has been used for the purposes of marine mammal mitigation at a range of European OWF projects during the construction phase, including the C-Power Thornton Bank OWF in Belgium (Haelters *et al.*, 2012), and the Horns Rev II, Nysted and Dan Tysk OWFs in Denmark (Carstensen *et al.*, 2006, Brandt *et al.*, 2009, Brandt *et al.*, 2011, Brandt *et al.*, 2013, Brandt *et al.*, 2016). Within the UK, Lofitech AS seal scarer has been used as mitigation for Dudgeon OWF (Vattenfall, 2017) Beatrice OWF and Race Bank OWF (Seagreen Wind Energy Ltd, 2020).

In the absence of Irish guidelines regarding use of ADDs, guidance published by the JNCC are applied here. The JNCC conducted a literature review and collated evidence for ADDs available commercially, their acoustic characteristics, and their proven effectiveness on different species (McGarry *et al.*, 2022 and Phillips *et al.*, 2025). This review provides a clear comparison of common ADDs and concludes that the risk of injury for marine mammals from all the ADDs included in the report is likely to be low. Given that the DAHG (2014) guidance does not cover the UXO clearance, the Developer has referred to other jurisdictions and their relevant guidance and best practices. As such, the mitigation measures for the UXO clearance are based on the most updated JNCC guidance (JNCC, 2025), which includes use of ADDs. On this basis, the Developer will continue to include ADDs as a mitigation measure for UXO clearance on marine mammals within the MMMP.

A short summary of the ADD evidence base for harbour porpoise is provided in Appendix E of Appendix A14.5: MMMP. This includes information from an updated review of various ADDs provided in Phillips *et al.* (2025): Evidence base for application of Acoustic Deterrent Devices (ADDs) as marine mammal mitigation (Version 5). JNCC Report 615.

The Developer is mindful of the fact that ADDs can cause disturbance, which is why any ADD use will be specifically designed to ensure deterrence from the auditory injury zone for porpoise while limiting the ADD duration in order to ensure excessive disturbance is avoided.

Point 7 – use of Passive Acoustic Monitoring

The Department provides further discussion on the following key point in relation to Passive Acoustic Monitoring (PAM):

“The applicant’s approach in using Passive Acoustic Monitoring) as a monitoring tool in addition to MMO is noted. It must too be noted that as per NPWS (2014) guidance, PAM may be used as a supplementary mitigation tool in order to optimise marine mammal detection, but not as a primary mitigation tool. The mitigation methods for geophysical acoustic surveys as outlined in NPWS (2014) guidance should also be considered.”

Response to Point 7 – use of Passive Acoustic Monitoring

Response to this query is also included in the Response to the RFI document (RFI Section 10 (p)) completed alongside this Response to Submission document.

The MMMP has been updated following the 2024 EIAR submission and is presented as Appendix A14.5 in the EIAR. It outlines mitigation measures to minimise the risk of auditory injury (PTS) arising in marine mammals from underwater noise resulting from pre-construction geophysical surveys and UXO clearance. Whilst the DAHG guidance does not cover UXO clearance mitigation measures, the updated MMMP contains UXO specific mitigation methodology, which have been informed by JNCC (2025). Mitigation proposed for the pre-construction surveys aligns with the DAHG (2014) guidance. PAM will be used as a supplementary method to visual monitoring by an MMO, not as a primary mitigation tool.

Point 8 – Final project design and noise abatement

NPWS also note that *“As per NIS Appendix 10: Marine Mammal Mitigation Plan, the final project design has not been presented and thus further information on the final noise abatement systems would be required to fully understand the effectiveness of any measures proposed in this context”*.

Response to Point 8 – Final project design and noise abatement

The Developer confirms that following further design refinement (detailed in Appendix A5.1 Design Refinements), WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. The use of suction buckets and drilled piles removes the option of driven monopiles and pin piles for both Project Option 1 and Project Option 2, meaning no percussive piling is required for the proposed development, resulting in a significant reduction in underwater noise generated. As a result, pile driving is no longer required and has been removed from Appendix A14.5.

Appendix A14.5: MMMP commits to the use of Noise Abatement Systems (e.g. bubble curtains or similar) in the event that high-order UXO clearance is required.

Requests to update the MMMP were also raised by An Bord Pleanála in RFI Section 10 and these have been addressed in the Response to RFI document.

4.10.3.4 Bats (offshore and migratory)

Section 4 of the submission summarises the Developer’s survey efforts and assessment in relation to impacts to bats found foraging or migrating offshore.

Within the submission the Department notes the following key points:

- The results of the Developers surveys provide strong evidence of Leisler’s bats migrating into Ireland from the UK
- There is the potential for a roost of pipistrelles on Rockabill that needs further investigating.
- The Department makes the following recommendation in relation to Bats (offshore and migratory):
- *“It is recommended further data should be acquired or more data analysed to allow further consideration of the implications of the proposed development on offshore bat activity. These analyses should include use of the data collected during vessel and headland surveys in 2024 as well as further surveys of the buildings at Rockabill Island to determine if a bat roost is present and should address the potential for any interaction between bats on Rockabill and the offshore development area. Consideration as to whether there is need for mitigation of significant impacts on bats and secondly, a risk a potential for deliberate disturbance which will require derogation under Article 16 of the Habitats Directive should also be addressed.”*

Response to Bats (offshore and migratory)

This point was raised by An Bord Pleanála in RFI Section 15 (a) and (c) and has been addressed in the Response to RFI document.

4.10.3.5 Onshore Biodiversity

In Section 5 of the submission, the Department raises concerns in relation to the use of native seed mix for semi-natural grassland planting and habitat enhancement at the grid facility, including a native species rich grassland seed mix and a native riparian grass and herb seed mix proposed for the attenuation basin at the grid facility.

The Department makes the following recommendation in relation to the landscaping plan for the grid facility:

“It is recommended that if any permission is granted in response to the current application, that in order to preserve local floral biodiversity, it should be a condition of the permission that the landscaping plan for the grid facility site in Bremore should be amended to remove proposals to use wildflower seeds and replace with management of the existing seedbank to encourage natural germination and recolonisation. It is recommended that the modified HSMP shall be submitted to the Fingal County Council for their written agreement. The modified HSMP should include either a strategy for sourcing wildflower seeds of local origin to utilise in establishing areas of species rich grasslands proposed for the grid facility and Blake’s Cross North sites or a methodology to promote wildflowers establishing themselves on these sites by germinating from the existing soil seed banks and by natural dispersal. The modified HSMP shall also include proposals for sourcing, subject to the permission of the relevant landowners, aquatic plants and their seeds from local sites where such plants grow abundantly to use in planting up the attenuation basin area at the grid facility.”

Response to Onshore Biodiversity

While a natural reseeding method using hay-transfer has been proposed along the cable route, with the exception of habitat enhancement planting at Blakes Cross North, this method was not proposed at the grid facility. An area measuring 33,483m² is proposed for grassland planting at the grid facility. At the time of the proposed development design, the timeline of grassland establishment and success of establishment using the hay-transfer method over this scale was not certain. As such planting seed mixtures which would preferably be sourced locally, or at a minimum, consist of species that are of native Irish origin, and which are well-suited to the soil conditions was proposed, as set out in Section 2.2.1 of Appendix 23.10 of the EIAR. However, NPWS note that planting a seed mix outside of a garden setting is contrary to the All-Ireland Pollinator Plan. NPWS state *“the genetic integrity of what remains of Ireland’s rare and ecologically significant native species is therefore threatened by the introduction of seed from external sources.”* Based on the response, NPWS’s recommendations are welcome that the Habitat and Species Management Plan (HSMP), EIAR Appendix 23.10, should be amended to remove proposals to use wildflower seeds, albeit that any seed mix proposed was to be sourced locally, and replace with management of the existing seedbank to encourage natural germination and recolonisation. These amendments will be recognised in all relevant documentation (EIAR Chapter 23 and Appendix A23.9, in agreement with Fingal County Council.

Amendments will align with NPWS recommendations as set out in their response.

4.10.4 Summary of Recommendations

Following the observations provided on Nature Conservation, the submission provides a summary of recommendations. These have been replicated in Table 4.10.1 with a response to each provided by the Developer.

Table 4.10.1 Submission 48 – NPWS – Summary of Recommendations

Recommendation	Response
It is recommended that any proposal for post-consent agreement of method statements, Construction Environmental Management Plan or similar documentation with NPWS is not adopted by An Bord Pleanála.	The Developer notes this recommendation and confirms that the relevant plans will be agreed with the competent authority/authorities and adhered to.
It is recommended that the applicant develop and implement more appropriate methodologies to gather detailed empirical data so that the level of (water)bird migration through the proposed development area, and the potential impact of the proposed development, can be robustly assessed, e.g. considering technologies such as radar. Furthermore, the applicant should consider how such survey methods can be used for further monitoring and to support actions to mitigate any potential negative impacts on migratory (water)bird species that move through the proposed development area, for use during operation (at least), should the development proceed.	The Developer agrees that there are uncertainties with the assessment impacts on migratory waterbird species however, these have been addressed within the assessment process by taking a precautionary approach and by using the most up-to-date guidance and assessment tools. The Developer does not consider that further data collection is required to assess collision risk to migratory birds. Collision risk was assessed using the most up-to-date Marine Directorate migratory Collision Risk Modelling (mCRM) tool, applied as a cumulative, Irish Sea-specific model covering all Irish East Coast Phase One projects. The survey and assessment approach adopted is consistent with current best practice for offshore ornithology, combining site-specific survey data with recognised modelling techniques (mCRM). This aligns with UK and Irish guidance, which recognises that radar and similar techniques are not routinely relied upon for quantitative assessment of collision risk for migratory species. The resulting evidence base is therefore robust and proportionate. A full response to this recommendation is provided in Section 4.10.3.2.2 Migratory waterbird species.
In regards to assessment of impacts on land-based birds, the applicant should have not only considered but implemented appropriate survey methodologies in order to detect and assess the level of bird migration through the proposed development area, working collaboratively with other ORE applicants, to determine more fully the potential impact and cumulative impacts of the proposed development/s across the territorial waters in the Irish Sea. It is recommended that the applicant is requested to respond to these observations by provision of clarifications or further information as the Board deems appropriate.	The Developer does not consider that further data collection is required to assess collision risk to land-based migratory birds. A full response to this recommendation is provided in Section 4.10.3.2.3 Terrestrial Bird Species.
The Department requests that further information be provided to inform a revision of the assessment of impacts of the marine birds of the North-west Irish Sea SPA in relation to this proposed development. Specifically, that the survey data from HiDef (2019) be integrated into the displacement analyses; and secondly the findings of the following papers indicating displacement impacts of greater than 4km for Red-throated Diver: Webb et al. 2017; APEM 2021; Heinänen et al. 2016; Zydels et al. 2016; Mendel et al. 2019; Heinänen et al. 2020; and Vilela et al. 2020 be taken into account as part of the revision of the assessment.	While the HiDef (2019) dataset provides useful wider contextual information, it offers more limited spatial coverage of the key ZOIs used within the assessment and is based on data that are now superseded by the targeted, site-specific 12-month DAS programme across the NWIS cSPA. In light of the NWIS DAS, the assessments have been reviewed and updated for all species (including red-throated diver) to ensure that the baseline characterisation and subsequent impact assessments reflect this evidence. The Developer has reviewed the available evidence on RTD disturbance, including that cited in the NPWS recommendation and has adopted the following operational-phase displacement rates: • Array area PFI+ 4 km buffer: 100% displacement. • 4 km to 10 km buffer: 52% displacement. These rates are considered precautionary and represent the upper end of displacement responses reported in the literature.
It is regarded that the evaluation of impacts of specific SCI birds (e.g. Kittiwake) associated with the North-west Irish Sea SPA; Lambay Island SPA; Ireland's Eye SPA; and Howth Head SPA in relation to this proposed development cannot currently support the making of a determination as to the impact on the relevant conservation objectives.	Based on the scientific evidence on kittiwake displacement set out in Appendix A15.5 Offshore Ornithology Displacement Analysis of the EIAR, it is not considered appropriate to assess kittiwake for displacement effects.

Recommendation	Response
It is recommended that the applicant re-analyse the impact of displacement of such marine birds by the proposed development in relation to specific relevant conservation objectives' attributes such as population size; spatial distribution; and forage spatial distribution, extent, abundance and availability.	The Developer position aligns with the UK Joint SNCB Interim Displacement Advice Note (SNCBs, 2022) within which kittiwake are not identified as a priority species for displacement assessment. Based on the evidence provided it is not considered appropriate to assess kittiwake for displacement effects, however, for completeness the Developer has provided an additional assessment, including both displacement and collision mortalities for kittiwake for a range of impact scenarios within Section 15.5 of Chapter 15 of the EIAR and Section 5.4 of the NIS. A full response to this recommendation is provided in Section 4.10.3.2.5 Kittiwake – displacement.
It is recommended that clarification be sought as to the sources of the precise parameters for roseate tern flight behaviour used in the CRM as well as a statement regarding the robustness of such data.	The Developer strongly supports the use of the flight height data from Johnston et al. (2014) in Collision Risk Modelling (CRM), as it is derived from an extensive dataset collected across various locations, making it the most comprehensive and robust dataset available. This dataset is widely utilised in other jurisdictions and is preferred over site-specific flight height data gathered from boat-based surveys or estimates derived from digital aerial survey telemetry. Common tern flight height distribution from Johnston et al. (2014) has been used as a proxy for roseate tern. This approach was adopted as common tern most closely reflects the flight ecology and behaviour of roseate tern and is the most precautionary of the small tern species considered (common and Arctic), due to its higher flight height distribution. A full response to this recommendation is provided in Section 4.10.3.2.4 Predicting mortalities of seabirds resulting from collision events.
It is recommended that the applicant is requested to reevaluate the CRM in the context of the limitations that have been identified in this section (see 2.3.3 in this submission), through the collection of additional information or re-analysis of existing data and to reassess the implications of these on the conservation objectives of the listed species for the relevant SPAs.	The Developer does not consider it necessary to re-evaluate the assessment based on the tracking data from Perrow et al. (2019). DAS is the best data to inform the baseline and for use in a CRM assessment, as it provides the most extensive and consistent dataset available, ensuring high-quality, consistent data over multiple seasons. Baseline data for the array and its 4km buffer zone was collected over 29 months, plus a further 12 months of the entire NWIS cSPA since the submission of the planning application in 2024 (thus 41 months in total for the array area plus 4km buffer). The data collection methodology and the analysis align with industry guidance, and the data collection period exceeds the recommended duration to ensure appropriateness and reliability. While minor datasets or isolated evidence may indicate slight variations (such as a different bird density in a specific month), these do not undermine the adequacy or robustness of the data for conducting a reliable assessment. Additional data collection or incorporation of alternative sources is highly unlikely to alter the assessment's outcomes or conclusions in any significant way. A full response to this recommendation is provided in Section 4.10.3.2.4 Predicting mortalities of seabirds resulting from collision events.
The Board are advised that the applicant's approach to defining bespoke reference populations for this SPA relies upon larger population estimates pertaining to a wider region (as opposed to the smaller defined footprint of the SPA) as the basis for the impact assessment.	The Developer confirms that population-level effects have been assessed across multiple, ecologically relevant population contexts. These include: • breeding populations of adjacent SPAs.

Recommendation	Response
It is the Department's view that this approach does not permit a full understanding of the implications of the proposed development on the conservation objectives of the relevant SPAs.	- the NWIS cSPA citation population. - the relevant regional population. - maximum abundance estimated from the recent site-specific NWIS DAS collected between September 2024 and August 2025. This approach reflects the strong seasonal variability and wide dispersal of species outside the breeding season, avoids over-reliance on highly precautionary snapshot values, and it is considered that it provides a more robust, evidence-based assessment than assessing against the stated NWIS citation populations. A full response to this recommendation is provided in Section 4.10.3.2.7 – Migratory movements by seabird in the array area.
The Board are advised that the Department does not agree with the applicant's determination that the Irish east coast Guillemot breeding season ends at the end of June. It is recommended that the applicant is requested to re-evaluate the data in this context and to re-interpret the consequences for the impacts on the conservation objectives of the SPA.	The Developer has provided clear explanation and methodology for the reference population size within the NIS. It is standard practice within other jurisdictions to adjust the bio-seasons where robust site-specific data/evidence strongly suggests a slightly different definition a more appropriate. A full response to this recommendation is provided in Section 4.10.3.2.9 - Displacement effects.
It is recommended that further information should be provided by means of specific surveys of the site for pinnipeds and that this should also be set in the context of seasonal changes in distribution of these species.	Seal vantage point (VP) surveys have been undertaken at the landfall site at Balbriggan, County (Co.) Dublin in November 2024 and between June 2025 and May 2026, using VPs within the landfall site and a surrounding 500 metre (m) survey buffer, and following guidance from the following source: NPWS and Department of Communications Climate Action and Environment (NPWS, 2010; DCCAE, 2018) there were no seals observed hauled out on the shore or along the landfall site. No grey or harbour seal pups were observed across any of the months, indicating that the area is not used as a pupping or breeding site by these species. The Developer confirms that the recommendation made by the Department has been met. A full response to this recommendation is provided in Section 4.10.3.3.1 - Pinniped species.
It is recommended that further acoustic information to fully characterise the site is requested from the applicant to understand the implications of the proposed development. Acoustic surveys to allow for monitoring of baleen whales, such as minke whale, should also be considered.	The Developer considers that the data analysed within the assessment of impacts within the EIAR and NIS to be sufficient to determine the significance of impacts from the project and does not propose to undertake acoustic surveys at this stage. A full response to this recommendation is provided in Section 4.10.3.3.2 - Cetaceans.
It is recommended that further information is requested regarding the proposed use of ADD as a potential mitigation tool. Such information should include a consideration of any in-combination effects with surrounding anthropogenic source and estimation of individuals of each species that are likely to be affected. Consideration as to whether such deliberate disturbance will require derogation under Article 16 of the Habitats Directive should also be provided.	The Developer notes that the MMMP is a live document and will be subject to revisions once the final design and installation methods are finalised. The final MMMP will take into consideration the relevant technologies and methodologies that emerged in the interim, along with any relevant updated guidance. A full response to this recommendation is provided in Section 4.10.3.3.2 - Cetaceans.
It is recommended further data should be acquired or more data analysed to allow further consideration of the implications of the proposed development on offshore bat activity.	Survey has been undertaken at headlands, on boats and at Rockabill, the latter of which confirmed that there is no permanent roost on the island and no risk of deliberate disturbance. The Developer confirms that the recommendation made by the Department has been met.

Recommendation	Response
These analyses should include use of the data collected during vessel and headland surveys in 2024 as well as further surveys of the buildings at Rockabill Island to determine if a bat roost is present and should address the potential for any interaction between bats on Rockabill and the offshore development area. Consideration as to whether there is need for mitigation of significant impacts on bats and secondly a risk a potential for deliberate disturbance which will require derogation under Article 16 of the Habitats Directive should also be addressed.	A full response to this recommendation is provided in Section 4.10.3.4 - Bats (offshore and migratory).
It is recommended that if any permission is granted in response to the current application, that in order to preserve local floral biodiversity, it should be a condition of the permission that the landscaping plan for the grid facility site in Bremore should be amended to remove proposals to use wildflower seeds and replace with management of the existing seedbank to encourage natural germination and recolonisation. It is recommended that the modified HSMP shall be submitted to the Fingal County Council for their written agreement. The modified HSMP should include either a strategy for sourcing wildflower seeds of local origin to utilise in establishing areas of species rich grasslands proposed for the grid facility and Blake's Cross North sites or a methodology to promote wildflowers establishing themselves on these sites by germinating from the existing soil seed banks and by natural dispersal. The modified HSMP shall also include proposals for sourcing, subject to the permission of the relevant landowners, aquatic plants and their seeds from local sites where such plants grow abundantly to use in planting up the attenuation basin area at the grid facility.	The Developer agrees that landscape plan for the grid facility and the Habitat and Species Management Plan (HSMP), EIAR Appendix 23.10, should be amended to remove proposals to use wildflower seeds, albeit that any seed mix proposed was to be sourced locally, and replace with management of the existing seedbank to encourage natural germination and recolonisation. These amendments will be recognised in all relevant documentation (EIAR Chapter 23 and Appendix A23.9) in agreement with Fingal County Council. A full response to this recommendation is provided in Section 4.10.3.5 Onshore Biodiversity.

4.10.5 Conclusion

The Developer acknowledges the issues raised herein and has addressed these concerns, as well as noting the recommendations that have been made by the Department.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

4.11 Commissioners of Irish Lights

4.11.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by the Commissioners of Irish Lights (CIL). The submission has been made by CIL in its role as a prescribed body to ensure that offshore renewable projects are integrated into the marine environment in a way that supports navigational safety and aligns with the National Marine Planning Framework (NMPF).

4.11.2 Summary of the Key Points Raised by Commissioners of Irish Lights

This response to the Commissioners of Irish Lights (CIL) submission addresses the following points;

- The Application
- Typographical error in the EIAR
- Proposed conditions

4.11.3 Response to Key Points Raised

4.11.3.1 The Application

In their submission CIL states that they are generally satisfied with the position, layout and proposed mitigation measures included in the proposed development consent application documents. CIL also states that earlier concerns CIL raised during pre-application regarding the site proximity to Rockabill Lighthouse and the potential for inadequate sea room for vessels transiting through this gap have been taken onboard by the project team. CIL regards the draft Lighting & Marking Plan (LMP) as well considered and provides a good basis for refining the plan as the project proceeds and design options are finalised.

Response to Application

The positive feedback regarding the application and pre-application engagement offered by CIL to An Coimisiún Pleanála, is welcomed by the Developer.

The Developer further consulted with CIL in November 2025 on the refinements to the layout of the WTG in the offshore development area and feedback has been incorporated into the refined layout. Refer to Appendix A1.2 Consultation Report of the EIAR.

4.11.3.2 Typographical Error in the EIAR

CIL states that due to a typo in the EIAR report, Appendix 17.2 of the 2024 EIAR is titled "Vessel Management Plan" but refers to the Lighting & Marking Plan.

Response to Typographical error in the EIAR

It is noted by the Developer, with apologies, that Appendix 17.2 of the 2024 EIAR titled 'Vessel Management Plan' contains the Lighting and Marking Plan document, whilst Appendix 17.3: Lighting and Marking Plan of the 2024 EIAR, contains the Vessel Management Plan document. Please note that this has been corrected in the Addendum to the 2024 EIAR.

4.11.3.3 Proposed Conditions

CIL states that the draft Lighting & Marking Plan (LMP) is well considered and subsequently sets out a series of proposed conditions specific to marine aids to navigation that should be applied to any development consent granted.

The suggested CIL conditions for inclusion in any development consent for the proposed development are as follows;

Table 4.11.1 Commissioners of Irish Lights Proposed Conditions

No.	Condition	Developer's Response
1	The Developer shall during the whole period from the commencement of construction of the authorised project to the completion of decommissioning, exhibit such lights, marks, sounds, signals and other marine aids to navigation (AtoN), and take such other steps for the prevention of danger to navigation as Irish lights may from time to time direct.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that the Lighting and Marking Plan (Appendix A17.3 of the EIAR) follows IAA guidance, specifically: - IAA Guidance Material on Off-Shore Wind Farms (IAA, 2015) - Statutory Instrument (S.I.) No. 215/2005 - IAA (Obstacles to Aircraft in Flight) Order, 2005 (IAA, 2005). It is important to ensure that the requirements of the Commissioners of Irish Lights do not conflict with the requirements of IAA guidance.
2	The Developer must during the whole period from the commencement of construction of the authorised project to the completion of decommissioning keep Irish Lights informed of progress of the authorised project including: notice of commencement of construction of the authorised project within 24 hours of commencement having occurred. notice within 24 hours of any aids to navigation being established by the developer; and. notice within 5 days of completion of construction of the authorised project.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
3	The Developer must submit a close out report to Irish Lights within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following details: The final number of installed wind turbine generators (WTG) As-built plans Latitude and longitude coordinates of the centre point of the location for each WTG and offshore platform (OSP), substation, and meteorological mast; provided as Geographical Information System data referenced to WGS84 datum.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	The Developer must provide reports to Irish Lights on the availability of marine aids to navigation (AtoN) in accordance with Irish Lights guidance and using the online portal reporting system provided. Irish Lights works closely with Local Lighthouse Authorities and Developers to ensure that AtoN standards in offshore developments meet International Association of Marine Aids to Navigation & Lighthouse Authorities (IALA) standards. To ensure these criteria are met each developer provides access to records and information concerning the aids to navigation under their management to Irish Lights. Irish Lights conduct inspections and audits on a regular basis to assist the developer in maintaining records and policies/procedures for the operation of AtoN. The Developer must agree to such inspections and audits by Irish Lights.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
5	The Developer must during the whole period from the commencement of construction of the authorised project to the completion of decommissioning notify Irish Lights of any failure of the aids to navigation and the timescales and plans for remedying such failures, as soon as possible and no later than 24 hours following the developer becoming aware of any such failure. During the construction and decommissioning phase, it is recommended that working areas be established and marked as appropriate. As construction areas become larger the spacing between marine aids to navigation and ranges of lights, need to be assessed so that it is readily apparent to the mariner that the AtoN are marking a zone.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
6	In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, the Developer must as soon as reasonably practicable and no later than 24 hours following their becoming aware of any such damage, destruction, or decay, notify Irish Lights. In the event of this occurrence the developer must lay down such buoys, exhibit such lights and take such other steps for preventing danger to navigation as directed by Irish Lights.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	In case of exposure of cables on or above the seabed, the developer must, within three days following identification of a potential cable exposure, notify mariners, DOT and Irish Lights of the location and extent of exposure.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
8	The Developer must submit an application for statutory consent on each occasion to Irish Lights prior to the establishment, alteration, or disestablishment of any required aid to navigation associated with the Project. Such a consent must be sought in good time and cannot be granted in retrospect.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
9	The Developer must, no later than 6 months prior to the Commencement of the Development, agree a Lighting and Marking Plan (LMP) with Irish Lights. The LMP must make provision for amending the marking and lighting of the OSPs, as required by Irish Lights, in the event that any OSPs are constructed prior to the construction of WTGs within the Site, to ensure the marking and lighting of any OSP suits the layout of any surrounding WTGs that form part of any wind farm development located within the Site.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that the Lighting and Marking Plan (Appendix A17.3 of the EIAR) follows IAA guidance, specifically: - IAA Guidance Material on Off-Shore Wind Farms (IAA, 2015) - Statutory Instrument (S.I.) No. 215/2005 - IAA (Obstacles to Aircraft in Flight) Order, 2005 (IAA, 2005). It is important to ensure that the requirements of the Commissioners of Irish Lights do not conflict with the requirements of IAA guidance.
10	All marine aids to navigation must be published on nautical charts, in relevant publications and by promulgation of Maritime Safety Information.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála, although would note that this is the responsibility of Commissioner of Irish Lights and/or the UK Hydrographic Office rather than the Developer.

Response to Proposed Conditions

The Developer notes that CIL retains the statutory authority under the Merchant Shipping Act to instruct an Offshore Windfarm project to effect changes to the provision of marine aids to navigation in future, if changes occur in the level of maritime activity such that the volume of marine traffic and/or the degree of risk changes from that considered as part of the LMP.

Should An Coimisiún Pleanála grant permission for the proposed development and attached conditions such as noted above, the Developer would have no objection.

4.11.4 Conclusion

The Developer acknowledges the issues raised herein by CIL and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.12 An Taisce

4.12.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by An Taisce.

4.12.2 Summary of the Key Points Raised by An Taisce

The An Taisce submission raises a number of key points which are addressed under a number of sub-themes as follows:

- Policy Context
- Adherence to Key EU Directives
- Design Flexibility
- Underwater Noise Impacts
- Ecological Sensitivity Analysis of the Western Irish Sea Report
- Seabed Habitat Impacts
- Rockabill to Dalkey Island SAC
- Impacts to Birds
- Impacts to Bats
- Invasive Species Risk
- Archaeology

4.12.3 Response to Key Points Raised

4.12.3.1 Policy context

- Section 1 of the An Taisce submission highlights the current marine planning policy context.

Point 1 - Current Marine Policy Planning Context

An Taisce raises concern over the relevance of policy framework within which the proposed development application has been made: *“As a preliminary matter, we wish to highlight the current marine planning policy context, as the application is being made within a legislative and policy framework that remains incoherent and non-compliant with crucial EU Marine Directives.”*

Response to Point 1 - Current Marine Policy Planning Context

Chapter 3: Legal and Policy Framework of the EIAR includes all relevant policy and legislation and summarises the legal framework through which consent of the proposed development is sought. Section 3.4 (of Chapter 3) specifically sets out all key EU Directives in relation to the proposed development.

Ireland transposed the MSP Directive through Part 5 of the Planning and Development (Amendment) Act 2018, with its transposition restated once the Maritime Area Planning Act, 2021 (the MAP Act) came into effect. This established the legal basis and broad framework for Ireland to implement the MSP Directive through the development of a maritime spatial plan. Ireland established its first National Marine Planning Framework (NMPF) in 2021.

The NMPF is in full compliance with relevant legal environmental requirements, a Strategic Environmental Assessment (SEA), a Natura Impact Statement (NIS) and an Appropriate Assessment (AA) have also been

carried out as part of the preparation of the NMPF. This is to ensure that the national objectives and outcomes respond to the sensitivities and requirements of the wider natural environment.

The NMPF supports the development of offshore renewable energy (ORE) in Ireland, to, inter alia: significantly reduce greenhouse gas emissions and accelerate the move to cleaner energy in line with national and EU policy; increase the sustainable use of ORE use of Ireland's extensive marine resource; support Ireland's decarbonisation journey through increased use of ORE while delivering significant and sustained benefits; and provide enhanced security of energy supply for Ireland in accordance with the Climate Action Plan. The proposed development's compliance with the NMPF is outlined in the NMPF Compliance Report at Appendix A3.1 of its planning application.

Refer to Section 4.12.3.1 Policy context, Points 2 – 5, for further information on policy.

Point 2 – Integrated Maritime Policy

An Taisce states the role of the Marine Strategy Framework Directive (MSFD) within the Integrated Maritime Policy (IMP):

“European marine policy is set out in a framework called the Integrated Maritime Policy (IMP). Recital 2 of the Maritime Spatial Planning Directive 2014/89/EU explains:

"The objective of the IMP is to support the sustainable development of seas and oceans and to develop coordinated, coherent and transparent decision-making in relation to the Union's sectoral policies affecting the oceans, seas, islands, coastal and outermost regions and maritime sectors, including through sea-basin strategies or macro-regional strategies, whilst achieving good environmental status as set out in Directive 2008/56/EC "

The Marine Strategy Framework Directive (MSFD, 2008/56/EC as referenced above) is considered to be the environmental pillar of the IMP and requires the achievement of "Good Environmental Status" in the marine area based on a set of 11 descriptors. The Maritime Spatial Planning Directive (MSPD) on the other hand sets out the framework requirements for the spatial planning of human activities in the marine area. Neither Directive stands alone, however, as they sit within the IMP. "

Response to Point 2 – Integrated Maritime Policy The Developer acknowledges the requirements and considers that it is in full compliance with the MSFD in providing a source of renewable energy in an effort to tackle rising global temperatures, the proposed development will contribute to the management of rising sea temperatures and will indirectly support the objectives of the MSFD.

In accordance with RFI Section 3, the Developer has undertaken an assessment in Appendix A3.2 Marine Strategy Framework Directive Assessment (refer to Response to RFI Document). The potential effects of the proposed development were assessed against the four thresholds established for habitat loss (D6C4), adverse effects on habitats (D6C5), impulsive noise (D11C1) and continuous noise (D11C2). It is concluded that the proposed development will not result in a deterioration of the current overall status of the Celtic Sea North Inner MRU or broad habitat types therein or jeopardise the attainment of GES, nor will the proposed development result in any significant effects, with no risk to GES, under impulsive noise (D11C1) and continuous noise (D11C2).

Point 3 – National Marine Planning Framework

An Taisce discuss the validity of the National Marine Planning Framework (NMPF):

“Ireland's National Marine Planning Framework (NMPF) is supposed to be a Maritime Spatial Plan under the MSPD. Yet we submit that the NMPF does not constitute what can be meaningfully described as a plan for the purposes of the Directive - it does not actually provide a spatial plan for where marine activities will take place, what those activities will be, and what the level of intensity of those activities will be across their distribution. The MSPD also requires an ecosystems-based approach to be taken in Maritime Spatial Plans, but the NMPF also does not provide any spatial assessment of ecological sensitivities and potential sensitivities in relation to human activities.

Consequently, it is virtually impossible to meaningfully assess the potential impacts of human activity in the sea. It is therefore not compliant with the requirements of the MSPD regarding Maritime Spatial Plans and the ecosystems-based approach."

Response to Point 3 - National Marine Planning Framework

In the context of the NMPF, it was recognised that the delivery of offshore renewable targets must be consistent with national policy, including the OREDP. ORE Policy 1 recognised that the proposed development, along with other Relevant Projects would be prioritised for assessment.

The Developer has undertaken an Ecosystem Functions and Services Assessment within respective chapters of the EIAR, in compliance with RFI Section 4. A synopsis report of ecosystem functions and services has been provided in Appendix A3.3 Ecosystem Functions and Services Assessment. The outcome of individual receptor assessments concluded no material impact on ecosystem services, and no impediment to the ability of normal ecosystem functions and services to function, resulting from the proposed development Appendix A3.3 of the EIAR.

Point 4 – Maritime Area Planning

An Taisce discuss the relevance of the Designated Maritime Area Plans with respect to the Irish Sea and proposed offshore developments (including the proposed development):

“The Maritime Area Planning (MAP) Act then provides for Designated Maritime Area Plans (DMAPs) to cover specific regions of Ireland's marine area. DMAPs must be consistent and aligned with the NMPF and need to be developed in the same way and to the same standard as a Maritime Spatial Plan under the requirements of the MSFD. However, even if DMAPs were done in full compliance with the MSFD, they cannot fix the issues with the NMPF's non-compliance - the problems with the NMPF cannot be incrementally fixed with individual DMAPs. This leaves the EU-required ecosystems-based approach still compromised. Furthermore, the overarching Offshore Renewable Energy Development Plan II (ORED II) has yet to be completed which is supposed to "Provide an evidence base to facilitate the future identification of Broad Areas most suitable for the sustainable development of ORE in Ireland's maritime area/ This is important for the development of DMAPs.

Currently we face a situation where no DMAPs for the Irish Sea have yet been prepared (containing critical regional environmental sensitivity analyses) while applications for offshore development are proceeding.”

Response to Point 4 – Maritime Area Planning

The MAP Act provided a pathway to permit a select number of offshore renewable projects which had advanced under the existing foreshore regime to transition to the new Maritime Area Consent (MAC) regime once established, to enable achievement of Ireland's 2030 offshore renewable energy targets.

The proposed development and all other Phase One projects, pre-date the announcement and publication of the first draft DMAP proposal. The approach to developing offshore renewable projects moved from a developer to plan led approach in March 2023. The changes made are only applicable to Phase Two projects and beyond, which will now be developed within a DMAP identified by the state. As a Special MAC case under the MAP Act, the announcement of the first draft DMAP proposal is not applicable to the proposed development nor other Phase One projects.

The location and site selection and refinement process for the proposed development is described in full in Chapter 5; Alternatives of the EIAR

Point 5 – Provision of MPAs

An Taisce comments on the provision of MPAs under the Marine Strategy Framework Directive:

“On top of these issues, there is an ongoing failure to provide for Marine Protected Areas (MPAs) as required by Article 13(4) of the Marine Strategy Framework Directive. Designating MPAs at the start of marine spatial planning processes is key to a truly ecosystems-based approach. Very regrettably, the long-awaited MPA legislation still has not been published at the time of writing. Despite the target of 30% of the marine area to be protected by 2030, less than 10% our waters have been designated as protected areas while multiple offshore development proposals, including the subject application, move forward.

Leaving MPA designation until after multiple projects go through planning, after the development of DMAPs, etc. poses the risk that planning applications may be granted in some of the most diverse and ecologically important areas in Ireland's marine waters, which would likely be designated as MPAs in the

future, or presently, had the provisions for MPA designation been finalised sooner. It could also lead to the designation of MPAs occurring in the remnant areas after all of the other marine sectors have been allocated their geographical area. This runs completely counter to the ecosystems-based approach required by the MSPD and MSFD.”

Response to Point 5 – Provision of MPAs

Pursuant to OSPAR, contracting parties were required to submit a list of Marine Protected Areas (MPAs) for the designation and conservation of marine areas. Ireland has established protection for these MPAs through designation of the areas as Special Areas of Conservation (SACs). There is a duality in these sites in that they have been protected under the Habitats Directive and are also recognised as worthy of protection under OSPAR as MPAs. All relevant SACs have been carefully assessed within the NIS in the proposed development’s planning application.

The Developer has considered and assessed the potential impacts of the proposed development on all sites and areas designated for nature protection, (as well as the wider environment) in the EIAR and NIS submitted as part of the 2024 planning application and the 2026 update. It has been concluded that the proposed development will have no adverse effect on site integrity of any site designated for nature protection.

Point 6 – Approach to renewable energy

An Taisce concludes their remarks on policy context by stating:

“While there is of course a need to bring more renewable energy on stream quickly, the overall marine planning approach taken to date is not yet plan-led or ecosystems-based and remains inconsistent with EU Directives.”

Response to Point 6 – Approach to renewable energy

The proposed development has long been considered in the context of Ireland’s maritime spatial planning. It is within the consenting framework outlined above and following a robust site selection process that the proposed development was granted its MAC, and it is within this policy framework that the Developer prepared and submitted its application for planning for the proposed development.

As highlighted above, the Developer has undertaken an Ecosystem Functions and Services Assessment within respective chapters of the EIAR, in compliance with RFI Section 4.

4.12.3.2 Adherence to key EU Directives

- Section 2 of the An Taisce submission raises a concern in relation to EU Directives, as follows:

“It is submitted that the Board should ensure the subject application's adherence to the provisions of key EU Directives and provide reasoned conclusions on same. This includes but is not limited to:

- *Environmental Impact Assessment Directive (2014/52/EU);*
- *Habitats Directive (92/43/EEC) and Birds Directive (2009/147/EC);*
- *Water Framework Directive (2000/60/EC) - particularly in light of Article 4 and whether the proposal may cause a deterioration of the status of a water body or if it may jeopardise the attainment of good water quality status, good ecological potential or good water chemical status;*
- *Marine Strategy Framework Directive (2008/56/EC) - in particular whether the subject application would jeopardise attainment of Good Environmental Status and any of the 11 indicators therein”.*

Response on adherence to key EU Directives

The Developer can confirm that the application adheres to the EU Directives as listed in Section 2 of the An Taisce submission.

Chapter 3 of the EIAR includes all relevant policy and legislation and summarises the legal framework through which consent of the proposed development is sought. Section 3.4 (of Chapter 3) specifically sets

out all key EU Directives in relation to the proposed development. The key EU Directives relevant to the NIS are the Habitats Directive (92/43/ECC) and Birds Directive (2009/147/EC). The NIS is in full compliance with the Habitats and Birds Directives. More details can be found in Section 4.12 of the NIS.

Compliance of the proposed development with both the WFD and MSFD was assessed and secured within Appendix A11.1: WFD Compliance Report, which was a signposting document to Offshore EIA Chapter 11: MW&SQ. Additionally, Appendix A22.1: Onshore WFD Compliance Report has also been assessed for onshore water quality impacts (assessed in Chapter 22: Water)

The WFD Compliance Report confirmed that the proposed development would not cause deterioration in water body status or jeopardise the potential to achieve 'Good' status. Similarly, the findings align with the MSFD, with no identified risks to achieving Good Environmental Status (GES) under water quality and invasive non-native species (INNS) policies.

A Marine Strategy Framework Directive Assessment has been provided in response to RFI Section 3 (see Appendix A3.2: Marine Strategy Framework Directive Assessment). This report concludes that the proposed development will not result in a deterioration of the current overall status of the Celtic Sea North Inner MRU or broad habitat types therein or jeopardise the attainment of Good Ecological Status. It is also considered that the proposed development will result in no significant effect and no risk in relation to GES under D11C1 Impulsive Noise and D11C2 Continuous Noise.

4.12.3.3 Design flexibility

- Section 3 of the An Taisce submission raises several points in relation to design flexibility and the use of a design envelope. An Taisce states that *"The issue of design flexibility was the subject of Sweetman v An Bord Pleanála ([2021] IEHC 390) (the Derryadd decision). The High Court ruled that the design envelope approach is contrary to the requirement under the Planning and Development Regulations 2001 (PDR) to provide "plans and particulars" in relation to the relevant application. The Court did not rule on the question of whether or not "design envelopes" are compliant with the Environmental Impact Assessment Directive. Following on, from that, the Planning and Development, Maritime and Valuation (Amendment) Act 2022, passed in July of that year, set out provisions amending the Planning and Development Act to allow for design flexibility. The Regulations were subsequently amended by S.I. No. 655 of 2023."*
- An Taisce concludes that *"the Board should ensure that the assessment of the design options set out in the planning application, the setting of conditions in relation to approved options, and the selection process for the final option all comply fully with the requirements of the Environmental Impact Assessment Directive and the Habitats Directive."*

Response on Design Flexibility

- The submission notes the design flexibility granted in respect of the proposed development and queries whether this process complies fully with the requirements of the EIA and Habitats Directives. The background and framework of the design flexibility granted in respect of the proposed development is outlined below but to confirm at the outset that the Developer has not submitted a design envelope and that the selection process for the final project options are fully compliant with the requirements with the EIA Directive and Birds and Habitats Directives.

In order for a prospective applicant to submit a planning application for maritime development that incorporates design flexibility and/or design parameters, it must first attain an opinion (The DF Opinion) as to flexibility under section 287B of the Planning and Development Act, 2000 (as amended) (the Planning Acts) from An Bord Pleanála, following pre-application consultations under section 287A of the Planning Acts. This requirement follows an amendment to the Planning Acts, following the High Court decision in Sweetman -v- An Bord Pleanála [2021] IEHC 390 (the Derryadd decision) which found that a design envelope approach did not satisfy the requirement to provide sufficient "plans and particulars" of the proposed development.

- Following the Derryadd decision, the Planning Acts was amended by the Planning and Development, Maritime and Valuation (Amendment) Act 2022 (the 2022 Act), to introduce a formal pre-application process for applicants seeking to use design flexibility. This allows flexibility in specified aspects of a

proposal while maintaining enough certainty for case-by-case planning assessment and ensuring robust environmental assessment, including compliance with the Birds and Habitats Directives.

- In Section 2.7.2 of Chapter 2: EIA and Methodology (EIAR), and Section 2.2.1 of the NIS (NIS), the Developer demonstrates it entered into pre-application consultation for an opinion design flexibility pursuant to section 287A of the Planning Acts with An Bord Pleanála. In October 2023, the Developer submitted its application to An Bord Pleanála (ABP-316332-23). In February 2024, the Developer received its opinion on design flexibility under section 287B, signed 30 January 2024 (the DF Opinion). The DF Opinion was subsequently clarified by way of letter dated 4 April 2024 and updated by way of decision pursuant to Section 146A of the Planning Acts on 16 April 2024.
- An Bord Pleanála determined that it was appropriate to allow for design flexibility in the proposed development's planning application because of "ongoing advanced in technology and the recognition of the need to install the most efficient and effective proposed development elements". The DF Opinion has been provided in Appendix 2.4 of the 2024 EIAR.
- The planning application, and particularly the EIAR and NIS comprehensively assess both project options outlined in the DF Opinion to ensure compliance with both EIA and Habitats Directive. The details provided by the Developer under section 287A(e) of the Planning Acts, and subsequent issuance of a DF Opinion will ensure that An Bord Pleanála, in its assessment of the proposed development, will be able to conduct both EIA and AA. The amendments to the Planning Acts following the Derryadd decision now provide for much greater certainty for planning authorities in conducting their environmental assessments.

4.12.3.4 Underwater noise impacts

- Section 4 of the An Taisce submission raises several points in relation to underwater noise impacts as follows.

Point 1 – Mitigation

- An Taisce state the importance of mitigation: *"We note the likelihood of acoustic impacts, particularly to marine mammals, associated with the piling activities to facilitate turbine placement. The application particulars state that either monopiling or jacket piling will be used, depending on the design option selected. Consequently, noise-related mitigation measures are crucial in respect of this application."*

Response to Point 1 on Mitigation

Following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs as jacket foundations with suction buckets (see Appendix A5.1: Design Refinements for further information). Therefore, pile driving and thus mitigation measures related to pile driving, will not take place and has been removed from Appendix A14.5 MMMP and the EIAR.

Point 2 – Consideration of Temporary Threshold Shift

An Taisce discuss the relevance of Temporary Threshold Shift (TTS) as an impact:

"Impacts to marine mammals as a result of underwater noise are classed as Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS), both of which impact hearing. PTS causes permanent deafness in the animal which, given marine mammals' reliance on their hearing, will in all likelihood prove fatal. TTS is a temporary loss or decrease in hearing and is often non-lethal but does disable the animal for a time. TTS has been shown to cause neural network degeneration that may result in future hearing loss. However, we would highlight that hearing loss, even when temporary, can have very significant impacts on species with high foraging rates, such as the harbour porpoise. These animals need to feed almost continuously to survive, thus temporary hearing loss or impairment can have severe impacts and can be fatal if the animal cannot feed. Therefore, TTS does in fact pose a very significant potential risk to marine mammals."

Furthermore, TTS is also still considered to be an injury under the 2014 Irish Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (from the then Department of Arts, Heritage and the Gaeltacht).³ Dolphins, whales and porpoises are listed under Annex IV of the Habitats Directive, and as such they are strictly protected wherever they occur, including their breeding and resting

places. As such, we submit that TTS impacts require consideration and mitigation under the requirements of the Habitats Directive.”

Response to Point 2 – Consideration of Temporary Threshold Shift

Regarding TTS, please see the TTS Position Statement (Appendix A14.4) submitted in response to the RFI. A summary is provided here:

- Whilst there is a lack of legal and regulatory consensus regarding the definition of 'auditory injury', most countries do not consider TTS to be auditory injury.
- TTS represents a short-term reduction in hearing sensitivity, typically recovering within an hour for small shifts (4–5 dB). Not all TTS-inducing exposures lead to tissue damage (and thus lead to physical injury).
- TTS effects from pile driving have been shown to be frequency-specific (e.g. 4-8 kHz in harbour porpoises). As such, their impact on marine mammal biological functions (communication, predator/prey detection) is currently considered to be limited. Furthermore, the proposed development will no longer be pile driving.
- Current TTS-onset thresholds (NMFS, 2024) are based on the smallest measurable changes in hearing, not on levels likely to cause functional impairment. These thresholds were originally developed to support estimations of PTS-onset, not to serve as regulatory thresholds for ecologically significant impact.
- What level of threshold shift might be considered biologically meaningful is currently unknown, and no biologically meaningful TTS thresholds have been established.
- TTS predictions based on SEL_{cum} are highly conservative as they omit: (i) the potential for TTS recovery between pile strikes or during breaks in pile driving, and (ii) distance-related effects on the impulsive characteristics of the sound. These factors likely lead to overestimations of impact ranges.
- Until there is sufficient scientific evidence to indicate a level and duration of TTS that may have a biologically meaningful effect on individuals, it is more appropriate to focus environmental impact assessments on PTS (as true auditory injury) and behavioural disturbance (e.g. disruption to foraging or migration).

The current guidance (DAHG, 2014) states that “TTS may constitute an injury”, and that “anthropogenic sound sources with the potential to induce TTS in a receiving marine mammal contain the potential for both (a) disturbance, and (b) injury to the animal”. Thus, the current guidance is ambiguous.

It is also important to highlight that the latest guidance on PTS and TTS thresholds from NMFS (2024) clearly differentiates between TTS and auditory injury:

- “Temporary threshold shift (TTS): A temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual’s hearing range above a previously established reference level (ANSI 1995; Yost 2007). Based on data from cetacean TTS measurements (see Southall et al. 2019 for a review), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to session variation in a subject’s normal hearing ability (Schlundt et al. 2000; Finneran et al. 2000; Finneran et al. 2002).
- Auditory injury (AUD INJ): Damage to the inner ear that can result in destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Houser 2021; Finneran 2024). Auditory injury may or may not result in a permanent threshold shift (PTS).
 - Permanent threshold shift (PTS): A permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual’s hearing range above a previously established reference level (ANSI 1995; Yost 2007).”

Point 3 – Marine Mammal Mitigation Protocol (MMMP) and PTS

An Taisce states the inclusion of PTS within the MMMP but the lack of TTS:

“We note that the Marine Mammal Mitigation Protocol (MMMP) focuses on PTS, however, the risks posed by TTS should not be discounted. We therefore recommend further information be sought in this regard.”

Response to Point 3 - MMMP and PTS

Please see response to the above Point 2 in regard to consideration of TTS.

Point 4 – International Best Practice on Noise Mitigation

An Taisce states that international best practice guidance is more relevant than the 2014 Irish guidance:

“The application, and in particular the MMMP, relies heavily on the aforementioned 2014 Irish guidance. We note, however, that this guidance is now very much out of date and is currently under review by the Department of Housing, Local Government and Heritage (though this is not acknowledged by the applicant). We recommend that in assessing the subject application's noise mitigation measures, the Board consult international best practice guidance on noise mitigation, including from Germany and Denmark, and that the Board seek further information on the application of that guidance to the subject case.”

Response to Point 4 – International Best Practice on Noise Mitigation

It is noted that the DAHG (2014) guidance is outdated and does not reflect the latest industry standards or best practice and is not based upon the most up-to-date scientific knowledge. Consequently, the guidance is in the process of being updated. However, as requested in the RFI from An Bord Pleanála, the MMMP (Appendix A14.5) is aligned with the DAHG (2014) guidance.

Following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs as jacket foundations with suction buckets. Therefore, pile driving will not take place and has been removed from the MMMP (Appendix A14.5) and the EIAR.

Point 5 – Noise Abatement

An Taisce recommends the inclusion of noise abatement measures within the proposal:

“In general, we recommend that a noise abatement approach be taken in the subject proposal to actually reduce overall underwater noise. Noise abatement technology, for example bubble curtains and other physical barriers to noise, is available and is used as standard in other EU jurisdictions (again see, for example, guidance from Germany and Denmark). Noise abatement also benefits other marine species beyond mammals, including fish. We recommend the inclusion of such measures in the subject proposal.”

Response to Point 5 – Noise Abatement

Following further design refinement in response to the RFI (see Appendix A5.1), pile driving will not take place and has been removed from the MMMP (Appendix A14.5) and the EIAR.

Additionally, the Developer has committed to the use of a Noise Abatement System (NAS) (e.g. bubble curtains or similar) in the unlikely case high order UXO clearance is required.

Point 6 – Combination of Noise Abatement and Mitigation

An Taisce comment on the combination between noise abatement measures and other mitigation measures:

“The prevention of noise-related impacts and injuries is most effective when combining a noise abatement approach with measures such as the use of an Acoustic Deterrent Device (ADD), soft- starts to piling, the use of a Marine Mammal Observer (MMO), Passive Acoustic Monitoring (PAM), etc. We therefore welcome the fact that the MMMP proposes a suite of mitigation approaches, including some noise abatement.”

Response to Point 6 – Combination of Noise Abatement and Mitigation

Following further design refinement in response to the RFI, pile driving will not take place and has been removed from the MMMP (Appendix A14.5) and the EIAR.

Point 7 – Use of ADDs

An Taisce note the comment from the Irish Whale and Dolphin Group on the use of ADDs:

“We would highlight the following recommendation from the Irish Whale and Dolphin Group regarding these mitigation measures. On the use of an ADD:

“ADDs should be used to reduce the threat of auditory injury, where they are known to be effective for the species present ADD use should not exceed the noise levels of the mitigated activity itself and be only used prior to commencing activities. ADD use should apply standard assessment practices as defined under CMS (2017) (Convention on Migratory Species) COP12 Resolution, EIA Guideline for Pingers (Acoustic Deterrent/Harassment Devices, Navigation), page 28, which will include details of source level and frequencies used as well as impact on species likely to be present.””

Response to Point 7 – Use of ADDs

The Developer welcomes the recommendation on the use of ADDs and has committed to the use of a Noise Abatement System (NAS) (e.g. bubble curtains or similar) in the unlikely case high order UXO clearance is required.

A short summary of the ADD evidence base for harbour porpoise is provided in Appendix E of the MMMP (Appendix A14.5). This includes information from an updated review of various ADDs is provided in Phillips et al (2025): Evidence base for application of Acoustic Deterrent Devices (ADDs) as marine mammal mitigation (Version 5). JNCC Report 615.

The Developer is mindful of the fact that ADDs can cause disturbance, which is why any ADD use will be specifically designed to ensure deterrence from the auditory injury zone for porpoise while limiting the ADD duration in order to ensure excessive disturbance is avoided.

Point 8 – Soft-Starts

An Taisce requests that soft starts are used where possible:

“Soft starts or ramp-ups, while unproven in efficacy, should be used where possible, with stepped increases of approximately 6dB in pressure level. Soft starts should be of an appropriate length based on the number of steps and a duration (number of minutes) per step should be determined and reduce noise in the environment. The default 20-40 minutes currently for piling with only a 5dB change in received levels, indicates little opportunity for soft starts to be effective. Any soft start used in pile driving should be recorded acoustically and included in monitoring and mitigation reporting for evaluation and improvement of mitigation efficacy.”

Response to Point 8 – Soft-Starts

Following further design refinement in response to the RFI, SBJ foundations are now proposed for WTGs and jacket foundations with SBJ foundations or drilled pin piles for the OSP. Therefore, pile driving will not take place and has been removed from the MMMP (Appendix A14.5) and the EIAR.

Point 9 – Breaks in Soft-Starts

An Taisce emphasise the importance of a full start-up procedure in the event of any breaks in the soft-start procedure:

“We would also highlight the importance of redoing a full start-up procedure, including all relevant mitigation procedures, whenever there is a 30 minute or longer pause in piling.”

Response to Point 9 – Breaks in Soft-Starts

Following further design refinement in response to the RFI, SBJ foundations are now proposed for WTGs and SBJ foundations or drilled pin piles for the OSP. Therefore, pile driving will not take place and has been removed from the MMMP (Appendix A14.5) and the EIAR.

Point 10 – Design flexibility

An Taisce comments on the design flexibility within the MMMP and how that feeds into mitigation proposals:

“We note the following statement from section 4.1 of the MMMP:

“As the Proposed Development continues to obtain further data on ground conditions within the array area and this feeds in to more detailed ground models, the pile drivability understanding will continue to develop. As such, prior to construction, additional noise modelling will be undertaken based on the further developed understanding of ground conditions at that point and a piling scenario developed on that understanding. This MMMP, being intended as a live document will therefore be updated following the new noise modelling, with the final mitigation measures required for the Proposed Development identified within the final MMMP.”

*“While it is acknowledged that the Board has allowed for design flexibility for certain elements of the subject proposal, we have concerns about the fact that further noise modelling (and perhaps further geophysical and geotechnical surveying) is yet to be done and that the final mitigation proposals are yet to be determined. It appears that this will be done post-consent prior to construction, and as such, any changes to the mitigation measures or any additional mitigation which may be provided via this likely cannot be considered by the Competent Authority as part of the Appropriate Assessment. We would observe that it would be far preferable to have this information available for the public and the decision maker prior to the decision being made, particularly as it relates to noise impacts on marine mammals, and the safeguards which may be proposed. In the case *People Over Wind v An Bord Pleanála (2015)* it was argued that, in regard to post consent conditions and Habitats Directive requirements:*

“in respect of which there would be no public consultation or participation, there would be no possibility for the examination, analysis and evaluation under Article 6(3). It would not be possible to establish, in advance of the consent to the development whether such mitigation measures would protect the integrity of the River Barrow and River Nore SAC (Para. 202).”

“It must be ensured that the MMMP is fully compliant with the requirements of the Habitats Directive both at this stage and when finalised. Further information should be sought on these issues.”

Response to Point 10 – Design flexibility

Following further design refinement in response to the RFI, SBJ foundations are now proposed for WTGs and SBJ foundations or drilled pin piles for the OSP. Therefore, pile driving will not take place and has been removed from the MMMP (Appendix A14.5) and the EIAR.

Point 11 – Noise modelling

An Taisce states that the noise modelling should be assessed against recent research:

“Additionally, in assessing the noise modelling done for the subject application we would refer the Board to research by Wood et al (2023) for Marine Scotland. We recommend that the applicant's noise modelling be assessed against the findings of that research.”

Response to Point 11 – Noise modelling

Following further design refinement in response to the RFI, SBJ foundations are now proposed for WTGs and SBJ foundations or drilled pin piles for the OSP. Therefore, pile driving will not take place and has been removed from the underwater noise modelling report (Appendix A14.1: Underwater Noise Assessment). On the same basis, Wood et al (2023) is not applicable to the proposed development as it was a review of energy conversion factors (ECFs) focussing on the point-source equivalent ECF method used to predict underwater noise from offshore piling.

Point 12 – Good Environmental Status

An Taisce states the use of the Marine Strategy Framework Directive in determining good environmental status:

“We would also highlight that one of the Annex 1 on qualitative descriptors for determining good environmental status under the Marine Strategy Framework Directive requires that the “Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.”

Response to Point 12 – Good Environmental Status

The Developer notes the use of the Marine Strategy Framework Directive in determining good environmental status. Annex III to Part 1 of Ireland's Marine Strategy (2024) identifies bottlenose dolphin as the selected receptor organism for the assessment of impulsive noise and identifies a value for LOBE of 176dB re 1 $\mu\text{Pa}^2\text{s}$ SEL, as it was the lowest reported sound level at which bottlenose dolphins experience TTS-onset. Annex III to Part 1 of Ireland's Marine Strategy (DCEE, 2025) identifies harbour porpoise as the selected receptor organism for the assessment of continuous noise. The exact threshold LOBE value is currently being established on a regional basis. Average sound pressure levels between 100 and 120dB are being considered as threshold values for GES for continuous noise across Europe.

The Developer has drafted a Marine Strategy Framework Directive Assessment (Appendix A3.2). This includes an assessment against Descriptor 11 for both Impulsive noise and Continuous noise:

- For impulsive noise, the only impact pathway assessed is UXO clearance, since pile driving is no longer required (following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations). The assessment concluded there is no significant effect in EIAR terms and no risk in relation to GES under D11C1 Impulsive Noise.
- For continuous noise, the impact pathways assessed included operational noise and vessel traffic. The assessment concluded there is no significant effect in EIAR terms and no risk in relation to GES under D11C1 Continuous Noise.

4.12.3.5 Ecological sensitivity analysis (ESA) of the Western Irish Sea report

An Taisce wishes to highlight findings from the report “*Ecological sensitivity analysis of the western Irish Sea to inform future designation of Marine Protected Areas*”. An Taisce recommends that “*the Board utilise the data and findings from the Ecological Sensitivity Analysis to assist in assessing the subject proposal's potential ecological impacts, particularly in areas known to have a high concentration of sensitive species, and the proposed mitigation measures.*”

Response on Ecological sensitivity analysis (ESA) of the Western Irish Sea report

The data and findings from the ESA informed the baseline habitat characterisation and was included within the consideration of the baseline habitat and the subsequent assessment of impacts within Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR. As recommended in the ESA the routine guidance from the Marine Life Information Network (MarLIN) on assessing habitat sensitivity using Marine Evidence based Sensitivity Assessment (MarESA) was followed in conjunction with Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine. Good ecological status (GES) has also been assessed in the Marine Strategy Framework Directive (MSFD) assessment (Appendix A3.2) which concludes that the proposed development will not impact on the GES of the Celtic Sea North Inner Marine Reporting Unit (MRU) in relation to seabed integrity. Consequently, the Developer reaffirms that the conclusion reached within the EIAR of the potential magnitude of impact (of the proposed development) on seabed habitats being negligible is the correct one, and consideration of potential impacts in terms of the wider region are industry standard.

4.12.3.6 Seabed habitat impacts

The Developer notes that An Taisce have raised concerns around the impact of the development on seabed habitats.

Point 1 – Impacts on marine seafloor ecosystems

In Section 5.1 of their submission, An Taisce raise a discussion around the impacts of cables on seafloor habitats:

“We note that the proposed offshore export cable corridor and wind farm area appear to overlay an area of circalittoral sand, circalittoral mud, offshore circalittoral sand and offshore circalittoral mud (according to a map from the Ecological Sensitivity Analysis of the Western Irish Sea report). The passing of the cable infrastructure in particular through areas of circalittoral sand, circalittoral mud and offshore circalittoral sand raises concerns over impacts to potential sandbank habitats during cable infrastructure construction,

which may harbour marine organisms which are key ecosystem engineers and food sources within the marine food web. Consequently, there is a need for rigorous assessment and mitigation measures where necessary.”

Response to Point 1 – Impacts on marine seafloor ecosystems

The presence of circalittoral sand and mud habitats across the Array, ECC and wider study area are discussed in Chapter 12: Benthic Subtidal and Intertidal Ecology Section 12.3.2.1, while assessment of the impacts of the proposed development of these habitats and associated biota is discussed in detail in Chapter 12: Benthic Subtidal and Intertidal Ecology Section 12.5.

Mitigation measures were identified and adopted as part of the evolution of the proposed development design (embedded into the proposed development design) and that are relevant to benthic subtidal and intertidal ecology are listed in Chapter 12, Table A12.7. It should be noted that the MSFD assessment (Appendix A3.2) concludes that the proposed development will not impact on the GES of the Celtic Sea North Inner MRU in relation to seabed integrity. No additional mitigation or monitoring measures are considered necessary for the construction, operation and decommissioning phases specific to the potential impacts on subtidal and intertidal benthic ecology.

Point 2 – Cable Installation Methodologies

In the second paragraph of Section 5.1, An Taisce states the methodologies considered for cable installation and potential environmental implications:

“This is important with regard to the cable installation methodology which “will consist of one or a combination of trenching, dredging, Jetting, ploughing, vertical injection, and rock cutting; activities which we consider having potential to impact benthic organisms in the seabed due to the burial depth being between 1m and 3m. Therefore, we would advise that the Board gives close consideration to Chapter 8: Construction Strategy- Offshore. This is also particularly pertinent given that the cable trenching for both project options will release a total volume of 441,000m³ and 381,000m³ of suspended sediment respectively, with implications for seabed habitats due to deposition effects”

Response to Point 2 – Cable Installation Methodologies

Section 12.5.2.1 of Chapter 12 of the 2024 EIAR sets out a full assessment of the potential for a temporary increase in suspended sediment concentrations (SSC). It is noted that whilst seabed disturbance during the construction phase is expected to produce discrete sediment plumes, the spread of which will be determined by the prevailing tidal conditions, the material will be predominantly fine in character, and as such, plumes will be dispersed over several tides before completely settling, with the flood-dominant tidal flow resulting in a net drift of the plume to the north. However, SSC are expected to reduce quickly over time to background levels (i.e., within a couple of tidal cycles).

Point 3 – Suspended sediment from foundation drill cuttings

An Taisce request that the details surrounding the magnitude of impacts are carefully considered with respect to seabed habitats:

“Additionally, the wind turbine foundation drill cuttings across both project options will lead to volumes of 338,243m³ and 356,257m³ being released respectively, with suspended sediment deposition effects being a likely consequence. Further comprehensive details on the magnitude of impacts are provided in Table 12.14 of Chapter 12: Benthic Subtidal and Intertidal Ecology and should be carefully considered when comparing the two project options in terms of their seabed habitat impacts.”

Response to Point 3 – Suspended sediment from foundation drill cuttings

It should be noted that there has been a design refinement from monopiles and jackets with pin pile foundations to jackets with suction bucket foundations for WTGs, and SBJs or jackets with drilled pin piles for the OSP (see Appendix A5.1: Design Refinements). The installation of SBJ is not expected to lead to any locally elevated levels of turbidity and drilling of pin piles is considered to represent the method with the greatest magnitude of impact (see Appendix A10.2: Marine Physical Processes Numerical Modelling) The model output shows the maximum suspended sediment concentration that occurs at any time from the initial

release and over a successive period of 144 hours (equivalent to around 12 phases of ebb and flood tides), noting the actual outcome would follow a single tidal pathway within this footprint and according to the tidal conditions at the time of release. Notably, the sediment plume is expected to be fully dispersed after this period.

The SSC will be lower following the design refinement to SBJs for the WTGs, therefore, the overall magnitude of impact of increased SSC across the receiving environment is determined to be slight and therefore not significant in EIA terms.

The assessment of the impacts of the proposed development of the habitats and associated biota is discussed in detail in Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR, Section 12.5.

Point 4 – Consideration of benthic features outside of designated sites

An Taisce state that the assessment exclusively focuses on designated sites:

“The approach adopted by the applicant with regard to the determination of impacts on benthic ecology is to focus solely on designated sites. Consequently, it determines no direct adverse impacts on benthic ecology due to the absence of designated sites within the confines of the subject proposal:

“no designated sites with benthic ecology features or Annex I habitats directly overlap with the array area or export cable corridor there will be no direct impact on any designated sites.”

However, this appears to overlook the sensitive and ecologically important habitats identified within the area of the subject proposal, as evidenced by the seabed habitat mapping and areas of ecological importance identified by the MPA Advisory Group in the Ecological Sensitivity Analysis of the Irish Sea. Consequently, we would advise the Board to carefully assess the applicant's conclusion, "However, as the habitats and characterising biotopes are common and widespread throughout the wider region (Table 12.11) the magnitude of the loss of these habitats would be negligible. Consequently, the overall magnitude is therefore assessed as negligible"

Response to Point 4 – Consideration of benthic features outside of designated sites

The Developer can confirm that impacts on all benthic habitats and associated biota are assessed in detail in Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR, Section 12.5 with identified receptors detailed in Table A12.5. The assessment does not exclusively focus on designated sites and includes both Annex I habitats and those which are not proffered conservation status. Site-specific surveys for the proposed development are summarised in Table A12.2 of Chapter 12 and the desk-based sources relevant to benthic subtidal and intertidal ecology are set out in Table 12.3 of Chapter 12 of the 2024 EIAR.

Point 5 – Sensitivity to suspended sediment plumes

An Taisce point out the sensitivity of certain benthic features with respect to suspended sediment plumes:

“We would also note the medium to high sensitivity of three species in particular which are associated with the intertidal mudflat habitat type, present in the subject site area and outlined in Table 12.17 of Chapter 12: Benthic Subtidal and Intertidal Ecology. These three species are the Fucus vesiculosus and barnacle mosaics and Fucus vesiculosus on full salinity which both display medium sensitivity to longer term changes in suspended sediment and turbidity, light smothering and heavy smothering. Additionally, the Ascophyllum nodosum on full salinity displays medium sensitivity to light smothering and high sensitivity to heavy smothering. Consequently, we recommend that the Board carefully assesses mitigation measures proposed to avoid adverse impacts on these organisms. In carrying out this assessment, we advise that the applicant's determination that:

"Sediment plumes are expected to quickly dissipate after cessation of the construction activities, due to settling and wider dispersion with the concentrations reducing quickly over time to background levels (i.e./ within a couple of tidal cycles)"

is scrutinised with regard to these species.”

Response to Point 5 – Sensitivity to suspended sediment plumes

Table 12.17 in Chapter 12 of the 2024 EIAR refers to biotopes rather than species with the biotopes mentioned in point 5 above being typical of hard substrate rather than mudflat habitats as stated in point 5. As these are intertidal biotopes, they will potentially be influenced by the release of drilling muds. As stated in Chapter 12 section 12.5.2.1 *“The release of drilling fluid and drill cuttings from HDD operations will result in a localised and temporary plume of elevated SSC. The drilling fluid has an overall density and viscosity similar to seawater and so is expected to behave in a similar manner. The majority of the plume will be advected in the direction of the ambient tidal currents, which are broadly aligned to the coast. Modelling indicates that on a spring tide release a greatest excursion distance for the bentonite (at concentrations >1mg/l) will be around 1.1km to the north-west (on the flood) and 0.8km to the south-east (on the ebb); on a neap tide the plume will extend a shorter distance. The highest elevated concentrations of bentonite will remain close to the exit pits with levels up to 29mg/l estimated with greatest depths of deposition of between 0.3 to 0.7mm.”* Such levels of deposition are considered to be light deposition. While the three biotopes listed show medium sensitivity to light smothering, considering the short term nature of the works, the magnitude of smothering and the direction of advection The Developer would reaffirm that the conclusion reached within the EIAR of the potential magnitude of impact on seabed habitats being negligible is the correct one, and consideration of potential impacts in terms of the wider region are industry standard. The greater consideration of protected sites is also an industry standard as set out within the legislation that grants those sites a greater level of protection than areas which are still ecologically important but not afforded protected status.

4.12.3.7 Rockabill to Dalkey Island SAC

Point 1 - Rockabill to Dalkey Island SAC

In Section 6, An Taisce raises concerns over the potential impact of the Rockabill to Dalkey Island SAC as it *“contains both biodiverse reef and an abundant harbour porpoise population as its Qualifying Interests. The reef may be sensitive to the effects of suspended sediment deposition arising as a result of the subject proposal, thereby requiring stringent assessment and potentially mitigation measures to ensure that excess limitation does not smothering disturb this unique habitat.”*

Response to Point 1 - Rockabill to Dalkey Island SAC

In regard to the potential impacts of suspended sediment on the reef features within the SAC, it should be noted that, as stated in Section 12.5.2.1 of Chapter 12, *“For the ebb spring tide release from trenching, tidal advection has the potential to carry the plume into the Rockabill to Dalkey Island SAC but only with very low concentrations (1 to 2mg/l) and for a short period. The sensitive receptor of interest within the SAC are “Reefs” which surround rocky features such as Rockabill. The temporary period of raised suspended sediment (which increases turbidity and lowers light penetration) reaching the SAC are considered to be lower than the monthly variation of average suspended sediments and therefore insignificant.”*

Section 5.1.5.2 of the NIS addresses suspended sediment and deposition during all phases of the proposed development. The assessment concludes *“Taking into consideration the significant capacity of Dublin Bay to dilute elevated concentrations of suspended sediments, the naturally occurring variability of SSCs across the site, the temporary nature of the impact, and the low sensitivity of the geogenic reef biotopes identified across the site along with the adoption of mitigation measures it is evident that the risk of suspended sediments escaping into the wider marine environment beyond the offshore development area will not imperil the conservation target to conserve the intertidal and subtidal reef community complexes in Rockabill to Dalkey Island SAC in a natural condition.”*

“The impacts from offshore activities of increased SSC and deposition on the QIs of Rockabill to Dalkey Island SAC are therefore considered to have no AEoI.”

Point 2 – Harbour porpoise

An Taisce also states that *“with regard to the harbour porpoise, there is evidence that offshore wind farms have negative effects on the animal during construction phase, causing displacement particularly which would have detrimental health effects on the animal. Consequently, the marine mammal noise considerations outlined above and mitigation measures in this respect require close consideration by the Board.”*

Response to Point 2 – Harbour porpoise

Following further design refinement in response to the RFI, SBJ foundations are now proposed for WTGs and jacket foundations with SBJ foundations or drilled pin piles for the OSP. Therefore, pile driving will not take place and has been removed from the NIS.

Additionally, the Developer has committed to the use of a Noise Abatement System (NAS) (e.g. bubble curtains or similar) if high order UXO clearance is required. This is considered in the NIS.

The NIS details potential effects to the Rockabill to Dalkey Island SAC for harbour porpoise. This includes the assessment of Underwater Noise from UXO Clearance, Underwater Noise from Other Noise Sources (Construction), Vessel Disturbance, Vessel collision risk, Changes to Prey, Accidental Pollution, Underwater Noise (Decommissioning). The assessment concluded that the construction, operation and maintenance and decommissioning of the proposed development will not result in an AEoI to the harbour porpoise QI of the Rockabill to Dalkey Island SAC.

4.12.3.8 Impacts to birds

Section 7, of the An Taisce submission raises several points in relation to potential impacts to birds, including potential impacts on the North-West Irish Sea SPA, Skerries Island SPA and the Rockabill Island SPA, as well as other SPA's in the wider area.

Point 1 – North-West Irish Sea SPA

The Developer notes An Taisce's concern over the location of the development in relation to the North-West Irish Sea SPA:

“The offshore portion of the subject site lies within the North-West Irish Sea SPA (site code: 004236), which has been designated for the following bird species: Common Scoter; Red-throated Diver; Great Northern Diver; Fulmar; Manx Shearwater; Shag; Cormorant; Little Gull; Kittiwake; Black-headed Gull; Common Gull; Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Little Tern, Roseate Tern, Common Tern, Arctic Tern, Puffin, Razorbill and Guillemot. While it is acknowledged that the North-West Irish Sea SPA was only recently designated as a Natura 2000 site, we would have concerns about the location of the development entirely within a protected site. We would also highlight that many of the birds that are Qualifying Interests of this SPA are also listed on Annex I of the Birds Directive meaning they require special conservation measures.”

Response to Point 1 - North-West Irish Sea SPA

It is clarified that the majority of the species referenced were not screened out but were screened in and assessed within the NIS. A robust assessment of all relevant qualifying interests of the North-west Irish Sea (NWIS) cSPA, including but not limited to roseate tern, puffin and Manx shearwater, is provided in Section 5.4.2 of the NIS. This assessment concluded that the proposed development, beyond reasonable scientific doubt alone and in-combination, will not result in adverse effects on the integrity of the NWIS cSPA.

European Shag (*Gulosus aristotelis*) and Great Cormorant (*Phalacrocorax carbo*) were screened out for the relevant SPAs on the basis of a lack of there being no plausible impact pathways with respect to both collision risk and displacement effects. Accordingly, while both species were considered at the screening stage, they were screened out of further assessment because there is no impact pathway for either species in respect of:

- collision risk is not a credible impact pathway (due to low flight heights); and
- displacement or barrier effects are not supported by (demonstrated by the best available evidence base).

The conclusion that European shag and great cormorant do not require Appropriate Assessment for the identified SPAs remains unchanged. Justification for this position is now also found in Section 3.4.3 of the update to the SISAA.

Point 2 – Proximity to SPAs

An Taisce highlights the proximity to designated sites:

“The site is also in close proximity to Skerries Island SPA (site code: 004122) and Rockabill Island SPA (site code: 004014). We would highlight that Rockabill Island supports the most important colony of breeding Roseate Tern in Europe with over 1800 breeding pairs.”

“The site is in the area of multiple other SPAs including: Rogerstown Estuary SPA (site code: 004015), Malahide Estuary SPA (site code: 004025), Ireland's Eye SPA (site code: 004117), Baldoyle Bay SPA (site code: 004016), Lambay Island SPA (site code: 004069), River Nanny Estuary and Shore SPA (site code: 004158), Boyne Estuary SPA (site code: 004080), etc.”

Response to Point 2 – Skerries Island SPA and Rockabill Island SPA

A robust assessment against all published conservation objectives on species designated under the Skerries Island SPA; Rockabill Island SPA; Rogerstown Estuary SPA; Malahide Estuary SPA; Ireland's Eye SPA; Lambay Island SPA; River Nanny Estuary and Shore SPA and Boyne Estuary SPA, including roseate tern was provided within the NIS (see Section 5.4.2 of the NIS). Based on the assessment of the proposed development alone and in-combination, it was concluded that there is no potential for AEOI to the conservation objectives of all designated species of the designated sites listed by An Taisce in their response.

The conservation objectives for Ireland's Eye SPA; Lambay Island SPA and Skerries Island SPA were updated in November 2024, 6 months after the application was submitted. The Developer has reviewed those updates and has provided an update to the NIS to cover the additional assessment.

Point 3 – Thresholds for impacts to birds

An Taisce raises concerns relating to the thresholds for potential impacts to birds; *“It is submitted that the Board should have regard to European case law when assessing the thresholds for potential impacts to bird species as a result of the subject proposal. Several judgements of the European Court of Justice clearly set out very specific requirements in relation to site specific considerations and the thresholds of scientific certainty required for each of the different tests required to be addressed under Article 6(3) as clarified by the OEU. The Court's consideration of the case specific context for how effects need to be considered relies in large part on the specific ecological considerations at issue for the habitat or species at issue, and the nature of impacts. For example, in Case C258/11 Sweetman, the loss of approximately 1% of the protected habitat was considered to be an adverse effect on the integrity of the site. Furthermore, in assessing the potential effects of a plan or project, their significance must be established in the light, inter alia, of the characteristics and specific environmental conditions of the site concerned by that plan or project as clarified by the OEU in case c-127/02 Waddenzee. So, both the project and site characteristics are required to be considered.”*

Response to Point 3 – Thresholds for impacts to birds

The Developer notes the concerns raised by An Taisce in regard to thresholds for impacts to birds. NPWS raised similar concerns and suggested that the proposed development's location within the SPA could contravene the conservation objectives, citing relevant case law under Article 6 of the Habitats Directive. The Developer reviewed the cited case law including Case C258/11 Sweetman and considers that the mentioned cases can be distinguished from the proposed development and its effects on the NWIS SPA, and as such are not comparable to the proposed development. See Appendix A22: Senior Legal Counsel Opinion on NPWS Submission, of the NIS.

Point 4 – Impacts on migratory bird species

An Taisce raises concerns over the proposed development *“may have an impact on migratory bird species by presenting an obstacle to regular movements to and from breeding colonies and migration routes. These birds may be associated in particular with the Skerries Island SPA (site code: 004122), Rockabill Island SPA (site code: 004014), Rogerstown Estuary SPA (site code: 004015), Malahide Estuary SPA (site code: 004025), Ireland's Eye SPA (site code: 004117), Baldoyle Bay SPA (site code: 004016), Lambay Island SPA (site code: 004069), River Nanny Estuary and Shore SPA (site code: 004158), Boyne Estuary SPA (site code: 004080), and Dundalk Bay SPA (site code: 004026) but also potentially with SPAs that are further afield.*

The range of these birds may extend beyond the functional area of the designated site boundaries. The proposals could deter bird species from their usual migratory routes due to flight reorientation, therefore causing greater expenditure of energy to reach their target location.”

Response to Point 4 – Impacts on migratory bird species

Collision risk was assessed using the most up-to-date Marine Directorate migratory Collision Risk Modelling (mCRM) tool, applied as a cumulative, Irish Sea-specific model covering all Irish East Coast Phase One projects. The assessment considered all migratory qualifying interests of SPAs with potential migration pathways through the array area and was informed by VP surveys, published literature, telemetry data, and established species-specific parameters. The cumulative assessment identified no significant effects on any migratory waterbird species (Chapter 15), with the greatest predicted effect assessed as ‘imperceptible’.

In relation to the observation on flux and passage through the array area, the assessment does not rely solely on spatially constrained VP data. Passage rates were quantified within the mCRM using spatial modelling, with VP data used to inform species presence, flight directions and behaviours where available. A GIS-based approach was applied to define potential migration pathways, combined with species-specific parameters (including flight height distributions, biometrics and avoidance rates) to estimate the proportion of migratory populations passing through the array area. This approach reflects standard offshore practice, recognising that migration across the Irish Sea is diffuse and cannot be robustly characterised through fixed-point observation alone.

To address potential data gaps, additional VP surveys and passive acoustic monitoring (PAM) were undertaken on the mainland and at Rockabill Island (the closest landfall to the array area) (Appendix A15.7: Migratory Bird Survey Report 2026). These surveys did not identify any unexpected migratory movements or behaviour and were consistent with the assumptions applied in the mCRM. Observations indicated that the majority of migratory movements (e.g. geese) were coastal, with substantially lower numbers recorded offshore. Notably, the proximity of the Rockabill surveys to the array area significantly reduces any spatial limitations in survey coverage.

Radar was considered but not utilised due to technical and logistical constraints, including licensing limitations and operational constraints associated with Dublin Airport Authority. While such techniques can provide general movement information, they do not reliably identify birds to species level or provide the species-specific parameters required for quantitative CRM. Given the dispersed nature of migration across the Irish Sea and the modelling approach adopted, radar surveys would be unlikely to meaningfully reduce uncertainty or alter the assessment conclusions.

The survey and assessment approach adopted is consistent with current best practice for offshore ornithology, combining site-specific survey data with recognised modelling techniques. This aligns with UK and Irish guidance, which recognises that radar and similar techniques are not routinely relied upon for quantitative assessment of collision risk for migratory species. The resulting evidence base is therefore robust and proportionate.

The Developer therefore concludes that beyond reasonable scientific doubt that the proposed development will not result in adverse effects on the integrity of any relevant SPAs, having regard to their conservation objectives for migratory waterbirds.

Point 5 – Effects of Lighting on turbines

An Taisce submission highlights concern relating to “A further risk is attraction to lighting combined with poor weather conditions which can lead to birds flying at lower altitudes and consequently increasing collision risk.”

Response to Point 5 – Effects of Lighting on turbines

The presence of artificially illuminated structures has the potential to impact birds, acting as both a deterrent to some species and an attractant to other species. For deterred birds, any changes in flight path may increase energy expenditure and act in line with effects resulting from displacement whereas for birds attracted, this may have similar impacts but also potentially increase the risk of collision. The Developer used the most up-to-date guidance and assessment tools to estimate collision risks (Appendix A15.3 Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk

Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment). Whilst there are limitations, this tool is currently considered the most robust way to quantify impacts to migratory species by making several assumptions about flight paths and species avoidance rates. While detours around an operational windfarm on migration may increase the distance travelled, studies have shown that for most species, the additional energetic costs are relatively low and unlikely to have significant biological consequences (Masden et al., 2009). For example, many migratory birds pass through offshore windfarm areas only once or twice during their seasonal migrations. In such cases, detours may result in only minor additional energy expenditure. Research suggests that these detours often represent less than 2% of a bird's daily energy reserves, a level that is well within the tolerance of most species. Furthermore, the ability of birds to adapt their behaviour—such as adjusting flight height, speed, or direction, often minimises the impact of barrier effects. For the majority of species, the energetic costs associated with these changes are minimal compared to their overall energy budget for migration. The magnitude of impacts resulting from disorientation and/or collision of ornithological receptors as a result of artificial light is expected to be negligible for all receptors. In consideration of the greatest sensitivity of a receptor being high, the significance of effect would be no greater than not significant, which is not significant in EIA terms,

It should be noted that the Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the minimum lower tip height of the turbines to 40m LAT. This vastly decreases the predicted impacts to terns that tend to fly at low altitudes, both while foraging and in transit. For example, based on the data for common tern (CN) and arctic tern (AT) presented in Johnston et al. (2014), increasing the draft height from 22m to 40m reduces the proportion of birds flying at the rotor swept height by over 90%. At 40m, this leaves just a 0.22% (AT) and 0.47% (CN) chance that a bird is flying within the rotor swept zone.

Lighting design will avoid lighting levels that exceed those required to comply with navigational safety, aviation, emergency procedures and general activity to reduce the risk of WTG and OSP lighting attracting birds during periods of bad weather or at night. This measure will be provided as part of the Lighting Management Plan (Appendix A17.3: LMP).

Point 6 – Potential refuge area and collision risk

An Taisce also has concerns relating to “*the turbines potentially acting as an artificial reef area and providing refuge for reef-dwelling organisms, benthic habitats, fish and marine mammals due to the absence of fisheries and vessel activity, this may attract bird species to the turbine area which increases collision risk. Potential impacts on birds associated with these SPAs should be fully assessed and mitigated against if necessary.*”

Response to Point 6 - Potential refuge area and collision risk

The Developer notes the concerns raised by An Taisce. The increase in hard substrate and structural complexity due to the placement of subsea infrastructure was assessed within the Chapter 13: Fish and Shellfish Ecology, Impact 9 of the EIAR (Section 13.5.3.5). The maximum magnitude of the impact was assessed as Low for both Project Option 1 and Project Option 2, with the maximum sensitivity of the receptors being Medium. Therefore, the significance of effects on fish and shellfish associated with the introduction of hard substrate and structural complexity was Slight adverse, which is not significant in EIA terms. Based on these conclusions, there will not be any significant changes to fish species within the array (both positive and negative), therefore, there is not expected to be subsequent changes to bird densities within the array.

4.12.3.9 Impacts to bats

Point 1- Baseline data and Bat activity on Rockabill Island

In Section 8, An Taisce raises concerns around “*EIAR Chapter 35 on Offshore Bats acknowledges the general lack of baseline data on offshore bat activity, the need for further studies and monitoring, and the potential for impacts due to collision and barotrauma.*”

Specifically, An Taisce mentions that Chapter 35: Offshore Bats of the EIAR “*states that there is a potential bat roost and bat activity on Rockabill Island and that potential significant effects could not be ruled out.*”

Response to Point 1- Baseline data and bat activity on Rockabill Island

The Developer carried out its own survey work for bats as shown in Section 35.2.4.1, Chapter 35: Offshore bats of the 2024 EIAR, Appendix 35.1 Rockabill Island and Headland Offshore Bat Monitoring 2022 of the 2024 EIAR; and Appendix 35.2 Rockabill Island and Headland Offshore Bat Monitoring 2023 of the 2024 EIAR. These surveys comprised of vessel-based surveys throughout the proposed development area, in addition to static detectors being placed on Rockabill Island and nearby headlands to assess for any potential migratory or foraging activities within the area. Furthermore, the Developer has submitted an update to Chapter 35: Offshore Bats alongside Appendix A35.1 Offshore Bat Monitoring report 2024 which details further survey works that have been carried out on the basis of the findings of the first 2 years of surveys including preliminary roost assessments and roost surveys located on Rockabill Island.

Chapter 35 fully incorporates the 2024 vessel, headland and Rockabill survey data, providing the updated baseline. As set out in Sections 35.2.4 and 35.3.5 of Chapter 35, all 2024 survey results have been analysed, including offshore detections, coastal headland activity and the updated Rockabill roost inspections. These surveys confirmed a small, temporary Leisler's day roost within Building One and found no evidence of pipistrelle roosting in 2024. Potential interaction pathways between Rockabill-associated bats and the array area were reassessed within Impacts 3, 6, 7 and 8, with Section 35.7 of Chapter 35 confirming that no significant effects arise. Offshore activity across all three years remains extremely low and episodic, and no behaviour indicative of interaction with the array was recorded.

The Bat Conservation Ireland and BWI report presents initial results of bat monitoring on Rockabill Island from May to June 2024 which was not available prior to the submission of the EIAR. It is noted that the report demonstrates spring flight activity of Leisler's Bats over Rockabill. This has been incorporated into Chapter 35 and aligns with the findings of the 2022-2024 monitoring. The analysis based on this data robustly concludes no significant impact which is not significant in EIA terms on bats present at Rockabill.

Point 2 – Best practice mitigation measures and monitoring

An Taisce recommends that a *“highly precautionary approach is taken and that all possible best practice mitigation measures are implemented. Ongoing monitoring in relation to bats will be particularly necessary”* and requests that *“Mitigation measures should be adjusted and improved as needed based on that monitoring”*.

Response to Point 2 – Best practice mitigation measures and monitoring

The Developer has re-evaluated the need for bat-specific mitigation and monitoring measures. As detailed in Section 35.5 of Chapter 35, the updated assessment confirms that no significant effects on any bat species are predicted during the construction, operational or decommissioning phases. Offshore bat presence within the array area across the 2022–2024 monitoring period is extremely low, short-duration and involves very small numbers of individuals, with no evidence of sustained offshore use or any behavioural pathway that would result in regular interaction with turbine infrastructure.

The updated Artificial Light at Night (ALAN) and prey-mediated assessments (Impacts 3, 4, 6 and 7) confirm that no attraction mechanisms exist, and the revised collision and barotrauma assessment (Impact 8) concludes that any potential interaction would be rare and of negligible biological consequence. International monitoring evidence also shows that no confirmed bat collisions have been recorded at offshore wind farms. Given this evidence base, additional mitigation measures such as curtailment or feathering are not considered necessary or proportionate for the proposed development. Standard environmental management measures applicable to all offshore works will be implemented as part of the wider proposed development controls.

4.12.3.10 Invasive species risk

In Section 9 of their submission, An Taisce raises concerns around the potential for the introduction of marine invasive non-native species (MINNS) into the area from ballast water on ships and the movement of equipment from different regions. An Taisce requests *“The potential for underwater structures to be used as habitats by invasive species and thereby facilitate their spread should also be evaluated and mitigated against if necessary.”*

Response to Marine Invasive Non-Native Species

As stated in Section 12.5.2.5 of Chapter 12, offshore energy is recognised as one of the main pathways for the potential introduction of MINNS, alongside recreational boating, aquaculture, fisheries and shipping. Vessel movements represent the single highest potential risk for the introduction of MINNS primarily from discharge of ballast water at a site or via transportation on vessel hulls.

No MINNS were identified during the site-specific surveys, however records for a number of non-native species exist for the western Irish Sea and with an estimated 3,008 round trips (Project Option 1) or 2,530 trips (Project Option 2) to port during the construction phase, it is acknowledged that this will contribute to the risk of introduction or spread of MINNS.

Section 12.5.2.5 also acknowledges that there is a risk that the introduction of hard substrate into a sedimentary habitat will enable the colonisation of the introduced substrate by invasive/non-indigenous species that might otherwise not have had a suitable habitat for colonisation, thereby enabling their spread. This, along with the movement of vessels in and out of the proposed development area, has the potential to impact upon benthic ecology and biodiversity locally and in the broader region.

To this end, the Offshore Environmental Management Plan (Appendix A6.1) includes biosecurity measures aimed at ensuring that the risk of potential introduction and spread of MINNS will be minimised. A standard approach is outlined which includes understanding the site and how INNS may be introduced or spread to the site and the activities which represent risk, developing surveillance and monitoring procedures and a contingency plan in the event that INNS are discovered. These measures will be continually evaluated and reviewed. Mitigation measures within the plan include the requirement for all vessels used for construction, operation and maintenance and decommissioning activities to follow guidance as directed by the ‘Guidelines for the control and management of ships’ biofouling to minimize the transfer of invasive aquatic species’ (IMO, 2023), and where applicable, to comply with the ‘International Convention for the Control and Management of Ships’ Ballast Water and Sediments’ (IMO, 2021).

4.12.3.11 Archaeology

- Section 10 of the An Taisce submission discusses archaeology at the landfall.

Point 1 - Areas of archaeological potential at landfall and grid facility

- Section 10 of the submission states:
- *“The site of the cable landfall and start of the onshore grid connection is proposed to be located just south of Bremore Head, which is notable for its abundance of archaeological features and sites. The proposed landfall area has been designated as an Area of Archaeological Potential. A report by Dr. Mark Clinton on the area’s archaeological significance is appended to this submission.”*
- The submission also includes a graphic which shows *“The proposed landfall area on the left per the applicant’s Proposed Onshore Cable Route Map Key Plan and the Recorded Monuments in the area on the right from the Historic Environment Viewer”*.

Response to Point 1 - Areas of archaeological potential at landfall and grid facility

- Section 25.5.2.1 of Chapter 25 of the 2024 EIAR describes the potential effects of the proposed development on areas of archaeological potential at the landfall during the construction phase. Section 25.5.2.1 notes that *“Construction within the landfall site will not result in any direct construction impacts on recorded archaeological or architectural sites (AH/BH) as any such sites are located outside of the onshore development area (Figure 25.1)”*. Refer specifically to Table 25.14 of Section 25.5.2.1 of the 2024 EIAR which lists the potential impacts on archaeological areas at the landfall.
- Section 25.5.2.1 of the 2024 EIAR also notes that *“This area has been designated as AAP1 due to the proximity of the coast. The archaeological potential of the landfall site was proven during geophysical survey and archaeological testing carried out to inform this assessment. Seven areas of archaeological significance have been identified within the landfall site comprising an enclosure (AA5), five areas of burnt mound activity (AA6, 7, 8, 9 and 10) and one kiln (AA11). It is possible that ground disturbances associated with the construction of the onshore development area will result in direct, negative impacts on the archaeological remains, as detailed in Table 25.14. Impacts of significant significance or higher*

are considered as significant in EIAR terms. The scenario with the greatest potential impact means that it is possible that all seven archaeological sites will be affected. Alternatively, all or some of the sites, may be preserved in-situ”.

Section 25.5.2.2 of Chapter 25 of the 2024 EIAR describes the potential effects of the proposed development on areas of archaeological potential at the grid facility during the construction phase. Section 25.5.2.2 notes that *“Construction within the grid facility site will not result in any construction impacts on recorded archaeological or architectural sites (AH/BH) as any such sites are located outside of the onshore development area (Figure 25.1).”* Refer specifically to Table 25.15 of Section 25.5.2.2 of the 2024 EIAR which lists the potential impacts on archaeological areas at the grid facility.

Section 25.5.2.2 of the 2024 EIAR notes that *“The grid facility site has been designated as AAP1 due to the proximity of the coast. The archaeological potential of the site was proven during geophysical survey and archaeological testing carried out to inform this assessment. Four areas of archaeological significance have been identified comprising an enclosure (AA1), two areas of burnt mound activity (AA2, 4) and one field system (AA3). Due to the construction of the grid facility, it is likely that ground disturbances associated with the construction of the proposed development will result in direct, negative impacts on the archaeological remains, as detailed in Table 25.15. Impacts of significant significance or higher are considered as significant in EIAR terms. One CH site (CH01) is also located within this area, which comprises the ruined remains of a post medieval well (Figure 12.1).”* Furthermore, Section 25.5.2.2 of Chapter 25 of the 2024 EIAR notes that *“It remains possible that ground works associated with the construction of the grid facility may have direct, negative, and permanent impacts upon small archaeological sites that may survive beneath the current ground level and outside of the footprint of the excavated test trenches. The magnitude of impact may be very high, and effects may range from moderate to profound negative in significance, based on the nature and extent of any remains that may be present.”*

No impacts are predicted upon the archaeological, architectural, or cultural heritage resource during the operation of the development within the landfall site and grid facility as noted in Sections 25.5.3.1 and 25.5.3.2 of the EIAR.

Mitigation measures at the landfall site and grid facility are provided in Section 25.6.1 of Chapter 25 of the EIAR. In summary, the preservation in-situ of archaeological remains is the preferred method in which to conserve the archaeological resource. Following detailed design, a further programme of archaeological test trenching will be carried out within the refined development footprint with the aim of identifying any smaller archaeological remains that may survive within the onshore development area, which were not identified during geophysical survey or the first phase of archaeological testing.

If it is not possible to avoid direct impacts on the archaeological resource, the archaeological remains will be preserved by record prior to the commencement of construction. This will be carried out under licence, as issued by the National Monuments Service of the DHLGH. Full provision, within the programme of works, will be made for the resolution of any archaeological remains, both on site and during the post excavation process.

Furthermore, a draft Cultural Heritage Mitigation Strategy detailing the required mitigation measures is provided in Appendix 25.4 of the 2024 EIAR. This document will remain a live document and will require updating by the relevant he As noted in Section 25.6.1.3 of Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage in the 2024 EIAR *“A draft Cultural Heritage Mitigation Strategy detailing the required mitigation measures (including definitions of same) has been appended to this EIAR (Appendix 25.4). This document will remain a live document and will require updating by the relevant heritage contractors during the course of the project at pre-construction and construction stages.”*

As explained in Section 25.3 of Appendix 25.4 of the 2024 EIAR, the Developer *“proposed the following cultural heritage mitigation strategy, to be updated where required at detailed design and construction stage. The draft mitigation strategy is prepared as part of the planning application, in order to provide statutory heritage consultees to submit observations on same and in order to inform An Bord Pleanála in determining conditions that may be attached to any planning approval.”* The draft Cultural Heritage and Mitigation Strategy was issued to all statutory heritage consultees as part of the planning application process, including the National Monuments Section of the Department of Housing, Local Government and Heritage and relevant Local Authority Heritage Departments.

Should permission be granted, the conditions relating to onshore archaeology, architectural and cultural heritage attached by An Coimisiún Pleanála to the permission, will be incorporated into the cultural heritage strategy pre-construction.

The Developer can confirm that all mitigation measures as laid out in the mitigation strategy will be implemented in full.

Table 25.20 of Section 25.7.1 of Chapter 25 of the EIAR details the predicted residual effect following the application of mitigation in relation to the potential construction phase impacts. It notes that “*there are no likely significant effects arising from the construction phase on archaeology, architectural and cultural heritage as a result of the proposed development*”.

Point 2 - Passage tomb cemetery at Bremore

- The submission states that Section 25.2.1 of Appendix 25.4: Cultural Heritage and Mitigation Strategy states the following regarding potential construction phase impacts:
- *“It remains possible that ground works associated with the construction of the proposed development, both the landfall area and grid facility, may have directive, negative and permanent impacts upon small, unknown archaeological sites that may survive beneath the current ground level and outside of the footprint of the excavated test trenches. The magnitude of impact may be very high and significance of effects (in the absence of mitigation measures) may range from moderate to profound negative, based on the nature and extent of any remains that may be present”*
- An Taisce state that “*all proposed mitigation measures as laid out in the mitigation strategy should be implemented in full.*”

Response to Point 2 - Passage tomb cemetery at Bremore

- Section 25.2.2 of Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage of the EIAR defines the study area for the assessment as follows:
- *“The study area is defined as the onshore development area (all infrastructure located landward of the HWM) and an area measuring c. 250m from the edge of the onshore development area for archaeological, architectural, and cultural heritage sites and c. 50m (along the cable route of the onshore development area) for architectural sites”.*
- Section 25.3.2.1 of Chapter 25 of the 2024 EIAR notes that ‘*a passage tomb cemetery is located at Bremore (DU002-001001-5), c. 410m north of the proposed development area.*’ Due to the distance of the Bremore tombs from the proposed construction works (c. 410m north of the onshore development area), there will be no direct impact on the tombs during the construction phase.
- Section 25.3.19 of Chapter 25 of the 2024 EIAR considers the potential impacts from the offshore WTGs on the setting of cultural heritage sites. The passage tomb at Bremore is classified in Table 25.12 of the EIAR as CHVP 01 (Cultural Heritage View Point). An extract from Table 25.12 is provided below in Table 4.12.1.

Table 4.12.1 Cultural Heritage View Points (CHVP) within the study area for the WTGs (Republic of Ireland) (extracted from Table 25.12 of the EIAR)

CHVP No.	Reference	Location	Classification	Distance from array area	Status	Sensitivity of Receptor
CHVP01	RMP DU002-001-005 PO No. 27/1976) RPS 3	Bremore, Co. Dublin	A group of five Megalithic Passage Tombs	17km	RMP, PO, RPS	Very High

Table 25.17 of Chapter 25 of the EIAR lists the potential impacts arising from the operation of the WTGs and offshore substation platform on CHVP. An extract from Table 25.17 is provided below in 4.12.1.

Table 4.12.2: Potential Impacts arising from the operation of the WTGs and OSP (extracted from Table 25.17 of the EIAR)

Ref.:	Description	Distance from Array	Sensitivity of Receptor	Array Layout	Impact Type	Magnitude of Impact	Significance of Effect
CHVP01	A group of five Megalithic Passage Tombs	17km	Very High	Project Option 1	Indirect, negative, long term	Low	Moderate
				Project Option 2	Indirect, negative, long term	Low	Moderate
				Project Option 2	Indirect, negative, long term	Low	Slight

- The assessment concludes that whilst the sensitivity of the Bremore Passage Tombs is Very High, there is a low magnitude of impact from both Project Option 1 and Project Option 2. Therefore, there is a moderate significance of effect from the proposed development on the Bremore Passage Tombs during the operational phase which is not significant in EIA terms (see Table 25.17 of Chapter 25 in the 2024 EIAR). The Developer notes that as part of the response to RFI, an updated assessment of potential impacts arising from the proposed development on the setting of cultural heritage has been undertaken. The assessment concludes that with the revised WTG layout, the conclusion of effects from the 2024 EIAR remains unchanged and there are no significant effects arising from the proposed development on the Bremore Passage Tombs.

Therefore, the EIAR has fully assessed the potential impacts of the proposed development on the Bremore Passage Tombs and has concluded that there are no likely significant effects arising in either the construction or operational phase.

4.12.4 Conclusion

The Developer acknowledges the issues raised herein and has addressed these concerns. Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

4.12.5 References:

Wood, M.A., M.A. Ainslie, and R.D.J. Burns. (2023) Energy Conversion Factors in Underwater Radiated Sound from Marine Piling: Review of the method and recommendations. Document 03008, Version 1.2, Technical report by JASCO Applied Sciences for Marine Scotland

4.13 Loughs Agency

4.13.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by Loughs Agency. The submission has been made by Loughs Agency, the statutory body charged with the conservation, protection and development of inland fisheries within the Foyle and Carlingford systems, the promotion of development of Loughs Foyle and Carlingford, and catchments for commercial and recreational purposes in respect of marine, fisheries and aquaculture issues and the development of marine tourism. Loughs Agency recommends their submission should be considered in conjunction with advice provided by Inland Fisheries Ireland and Sea Fisheries Protection Agency.

The Developer notes that An Bord Pleanála has not received submissions as part of the public consultation process from Inland Fisheries Ireland or Sea Fisheries Protection Agency. The Developer has engaged with both stakeholders during the preparation of the planning application as part of its own public consultation strategy.

Loughs Agency have referenced the proposed development's Scoping Report within their submission. We assume that the submission made by the Loughs Agency is based on the Environmental Impact Assessment Report (EIAR).

4.13.2 Summary of the Key Points Raised by Loughs Agency

The Loughs Agency submission raises a number of key points, which are dealt with as the following sub-themes below:

- Fish and Shellfish knowledge gap
- Migratory movements of salmonids
- Monitoring considerations
- Climate Change
- Cumulative effects
- Working in partnership
- Phases considered within EIAR
- Inclusion of fish species in EIAR

4.13.3 Response to Key Points Raised

4.13.3.1 Fish and Shellfish knowledge gap

Loughs Agency are “*in agreement with the key issues that are likely to impact fish and shellfish from the development, there is a significant knowledge gap on how offshore developments such as wind farms impact fish and shellfish*”

Response to Fish and Shellfish knowledge gap:

The Developer notes that Loughs Agency agrees on the likely impacts on fish and shellfish from the development that have been included in the assessment. The likely significant effects including effects from the proposed development alone, cumulatively and transboundary effects for each stage of the development on fish and shellfish resources are discussed in Chapter 13 (which details the potential for transboundary effects in Manx territorial waters) and Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR.

In relation to the suggestion that there remain knowledge gaps regarding potential impacts on fish and shellfish, the Developer does not agree that significant uncertainties persist. Information on the ecology and distribution of fish and shellfish within and around the offshore development area is presented in Appendix

A13.1: Fish and Shellfish Ecology Baseline Characterisation. The baseline characterisation has been informed by an extensive review of the most up-to-date scientific literature and data sources. Importantly, Appendix A13.1 has been revised to incorporate additional data sources that have become available since submission of the 2024 EIAR. This new information has been reviewed and integrated to ensure the baseline reflects the most current evidence.

The determination of sensitivity of the different fish and shellfish species to the impacts assessed within Chapter 13 has, in the first instance, been informed by reference to peer-reviewed scientific literature as well as relevant Marine Evidence-Based Sensitivity Assessments (MarESA) from the Marine Life Information Network (MarLIN) database. To account for potential uncertainties due to data limitations, a precautionary approach has been applied to those receptors and/or impacts for which limited evidence was available. The evidence sources that were used to inform the sensitivity assessments and the instances where a more precautionary approach has been followed are detailed throughout Section 13.5 of Chapter 13. The potential extent and duration of impacts has been quantified based on the proposed design options and through project-specific sediment plume and underwater noise propagation modelling, following modelling approaches that have been successfully applied to other offshore wind developments.

The Developer therefore believes that the fish and shellfish baseline characterisation presented in Appendix A13.1 is robust and that there is also sufficient evidence included in Chapter 13 to inform the impact assessment for fish and shellfish receptors.

4.13.3.2 Migratory movements of salmonids

In relation to baseline survey collection for migrating species such as salmonids, Loughs Agency suggests that: *“consideration is given to carrying out a thorough baseline survey to monitor migration movements of salmonids and other highly mobile species in this area through an acoustic telemetry programme and hydrodynamic modelling. These scientific studies would help to identify potential impacts on mobile species which are protected under the EU Habitats Directive.”*

Response to Migratory movements of salmonids:

Potential impacts on salmonids and other mobile species are assessed in Section 13.5.2 to Section 13.5.4 for the proposed development alone and in Section 13.9 for cumulative impacts (with other projects) in Chapter 13. Impacts on migratory fish species protected in Special Areas of Conservation (SAC) are assessed in Section 5.2 and Section 6.2 within Volume 1 of the Natura Impact Statement (NIS). Information about the distribution and migration patterns of fish within and adjacent to the development area are presented in the Fish and Shellfish Technical Baseline (Appendix A13.1).

The fish and shellfish assessment has been prepared based on available information, including peer-reviewed literature and relevant monitoring data. In relation to salmonid migration, Section 3.6.9 of Appendix A13.1 Fish and Shellfish Ecology Technical Baseline of the EIAR notes that recent acoustic telemetry data suggest that smolts from the River Boyne and other rivers along the east coast of Ireland move north upon leaving their home rivers (Barry et al., 2020). These tracking data further suggest that on leaving their natal rivers, smolts move rapidly away from the coast towards the deep waters of the Irish Sea, possibly to take advantage of the northwards flowing surface currents. Inland Fisheries Ireland (IFI) publications on the status of salmon populations in river catchments throughout Ireland (2018-2023) were also used to inform the baseline and assessment (Chapter 13, Section 13.3.8).

Although, no project specific acoustic telemetry programme and hydrodynamic modelling was undertaken in relation to fish and shellfish, the Developer is confident that the baseline draws on a suitably robust body of evidence to inform the assessment. The assessment adopts a precautionary approach, including the explicit assumption that salmon and other migratory species may transit through the proposed development area during migration. This ensures that potential impacts are not underestimated. Based on the comprehensive nature of the baseline dataset used to inform the assessment and the precautionary assumptions, the Developer does not consider that any new data would alter the conclusions of the assessment regarding the likely impacts of the proposed development on migratory species or the appropriateness of the mitigation measures identified.

4.13.3.3 *Monitoring considerations*

Loughs Agency recommend that *“In addition to baseline surveys before works begin, monitoring should continue throughout the construction, operational and decommissioning phases of the wind farm”*.

Response to Monitoring considerations:

The Developer considers that the assessment presented in Chapter 13 of the EIAR, demonstrates that the potential effects on fish and shellfish receptors have been fully and appropriately assessed. To ensure that no residual impacts of significant effect arise on ecological receptors, the Developer has proposed several embedded mitigation measures. These measures are detailed in Chapter 13 and are incorporated into the design and delivery of the proposed development. In addition, following further design refinement in response to the RFI (refer to Appendix A5.1: Design Refinements), Wind Turbine Generators (WTGs) are now proposed with suction bucket foundations, and Offshore Substation Platforms (OSPs) with jacket foundations installed with either pin piles or suction bucket foundations. Impacts to fish and shellfish from piling has been removed from the NIS and the EIAR.

With the implementation of these embedded mitigation measures, the Developer is confident that there will be no significant residual effects on fish and shellfish receptors. Therefore, the Developer is confident that there will be no monitoring requirements in relation to fish and shellfish ecology. Environmental management commitments relevant to the construction and operational phases of the proposed development are detailed in Appendix A16.2 Fisheries Management and Mitigation Strategy and Appendix A6.1 Offshore Environmental Management Plan.

4.13.3.4 *Climate Change*

The Loughs Agency submission considers that *“Consequences of climate change are already impacting on mobile species behaviours. Coupling climate change with the expected changes to other offshore elements considered within the Scoping Report could have a significant negative impact on aquatic species;”*

Response to Climate Change

The Developer considers the potential impacts of climate change on mobile species in Chapter 13. The assessment considers likely naturally occurring variability in fish and shellfish receptors within the lifetime of the proposed development due to natural cycles including climate change. This is important as it enables a reference baseline level to be established against which the potentially modified fish and shellfish baseline can be compared throughout the lifecycle of the proposed development.

The impacts assessed on mobile species behaviour have been detailed in Chapter 13. Section 13.5.1 Do-Nothing Scenario in Chapter 13 of the EIAR, explains the likely future natural variations the baseline environment may experience in the absence of the proposed development: *“Climate effects may influence fish and shellfish in a variety of ways, including changes in species distribution and community composition, growth rates, recruitment, behaviour, survival and alterations to food web dynamics and connectivity. For example, ocean warming has caused several fish species to move northward or into deeper, colder waters (Simpson et al., 2013), a trend that is predicted to continue in the future (e.g. Townhill et al., 2023). The Celtic Seas ecoregion (which incorporates the Irish Sea) is at the edge of the geographical range of several species, potentially making these species more susceptible to environmental variation (ICES, 2022a).”*

As the proposed development is an offshore wind project it will offset the equivalent of 282,072 tonnes of CO₂ into the atmosphere (Chapter 28: Climate). The proposed development will therefore be required to help mitigate the impacts of climate change in the marine environment and assist Ireland in achieving carbon neutrality by 2050 in accordance with the Climate Action and Low Carbon Development Act 2015 (as amended).

4.13.3.5 *Cumulative effects*

Concerns were raised in the Loughs Agency submission in relation to the potential for cumulative effects: *“Potential changes in marine processes, benthic and intertidal ecology, marine mammals, offshore ornithology, commercial fisheries, shipping and navigation routes are all likely to impact upon highly mobile and migratory species and shellfish beds. The cumulative effect of all of these potential changes along with climate change impacts needs to be modelled.”*

Response to Cumulative effects

The likely cumulative and inter-related effects of the proposed development with existing and / or approved projects for fish and shellfish have been identified, considered and assessed in Section 13.9 Cumulative Effects in Chapter 13.

Projects screened into the cumulative impact assessment for fish and shellfish ecology are listed Section 13.9 and impacts relevant to the cumulative assessment of fish and shellfish ecology are presented.

As can be seen from Table A13.17, the assessment considered a range of impacts including cumulative changes in suspended sediments, sediment deposition, underwater noise, Electromagnetic Fields (EMF) as well as cumulative changes to supporting fish and shellfish habitats including spawning and nursery grounds. Consideration has also been given to a future baseline in Section 13.5.1 in Chapter 13, which includes both likely natural change and reasonably foreseeable alterations due to climate change. As such the Developer considers that cumulative effects, including the potential impact of climate change, have been adequately considered within the fish and shellfish impact assessments. The assessments conclude that, activities associated with the construction, maintenance and decommissioning of the proposed development would at most result in slight (adverse) cumulative effects, which is not significant in EIA terms. Therefore, no additional mitigation, including modelling, to that already identified in Table A13.15 in Chapter 13 is considered necessary, and no significant adverse residual cumulative effects on fish and shellfish receptors have been predicted in respect to the potential impacts. The EIAR has also considered the potential for inter-related effects between different environmental receptors. For example, where there is the potential for impacts in physical processes to affect fish and shellfish ecology, this has been considered within the Fish and Shellfish Ecology chapter. Likewise, where there is the potential for impacts to benthic ecology to effect fish and shellfish ecology, this has been considered within the Fish and Shellfish Ecology chapter. Subsequently, if impacts to fish and shellfish ecology are likely to affect commercial fisheries, seabirds or marine mammals, this has been considered within the relevant EIAR chapter. For example, effects on prey species for bird and marine mammal species have been assessed within the Fish and Shellfish Ecology chapter whereas indirect changes to birds and marine mammals resulting from changes to prey species have been assessed within the Offshore & Intertidal Ornithology and Marine Mammal Ecology chapters. The assessment approach for inter-related effects and a summary of key inter-related effects are presented in Chapter 38: Cumulative and Inter-Related Effects of the EIAR.

4.13.3.6 Working in partnership

Working in Partnership; Loughs Agency suggests there is a potential opportunity for the Developer to work in partnership with organisations such as Cetacean, Elasmobranch, Turtle, and Seabird distribution modelling platform (CETUS) to help fill in knowledge gaps.

Response to Working in partnership:

The Developer notes Loughs Agency's suggestion of potential partnership working with projects such as CETUS. As noted in response to Point 1 above, additional monitoring for fish and shellfish is not proposed by the Developer.

However, the Developer on behalf of the Sustainable Fisheries Community Initiative (SFC) is funding The Irish Whale and Dolphin Group, to create a 'Mobile Reporting app for Whales, Dolphins, Porpoises and Basking sharks' project. These funds will contribute towards the cost of designing and creating an app to record cetaceans and basking sharks in Irish waters, supporting biodiversity mapping, boosting public engagement in marine conservation, and providing enhanced data for researchers and policymakers, costs include; training, project management, support and design.

Further to this, the Developer is committed to participating in the 'East Coast Monitoring Group' (ECMG), to discuss and agree potential strategic monitoring initiatives in a number of themes, including offshore ornithology and offshore bats. The need for strategic monitoring, and the level of participation by individual projects, will be determined by the conclusions of the EIAR process, in consultation with statutory and technical stakeholders, and with a focus on validation and evidence gathering.

4.13.3.7 *Phases considered within EIAR*

The penultimate point in the Loughs Agency submission states *“Impacts from the development should be broken out to pre construction phase, construction phase, operational phase and decommissioning phase”*

Response to Phases considered within EIAR:

As can be seen in the Fish and Shellfish Chapter (Chapter 13 of the EIAR) the assessment covers the impacts relevant to the construction, operational and decommissioning phases of the proposed development.

4.13.3.8 *Inclusion of fish species in EIAR*

In the last point in their submission, Loughs Agency states that *“Fish species which are not of 'commercial value' should be given equal weighting to commercial species in the context of their intrinsic value and provision of ecosystem services.”*

Response to Inclusion of fish species in EIAR

The Developer notes Loughs Agency’s concern that fish species not of ‘commercial value’ aren’t given equal weight to commercially valuable species, in terms of their intrinsic value and provision of ecosystem services. The Developer confirms that such species are considered as detailed within Chapter 13 of the EIAR.

As detailed in Section 13.2.5 within Chapter 13 of the EIAR, the impact assessment for fish and shellfish species has taken a Valued Ecological Receptor (VER) approach to allow the assessment to focus on the most common and important species that might be affected by the proposed development. Therefore, not all species mentioned in the Fish and Shellfish Technical Baseline (Appendix A13.1) were taken forward to the impact assessment stage. The list of factors considered to identify VERs and the VER species list can be found in Section 13.3.10 of Chapter 13. As can be seen from Section 13.3.10, the importance of fish and shellfish species has been assessed using a range of factors, including their ecological and conservation value. The evaluation of importance has also considered the commercial value of species, the potential for migratory species to transit the fish and shellfish study area, and the importance of the fish and shellfish study area to support key life stages, such as spawning and nursery periods. Therefore, all species (both commercial and non-commercial) were also considered relative to their ecological value. As can be seen from Table A13.4 in Chapter 13, the assessment covered a wide range of fish and shellfish species, including commercially important species (e.g., plaice, Nephrops, brown crab), species that spawn and/or have nursery areas in the study area (e.g. whiting, sole, sandeel) and species of conservation interest (e.g., basking sharks, Atlantic cod, Atlantic salmon).

4.13.4 **Conclusion**

As can be seen above, the points raised by Loughs Agency have been considered within the EIA and the baseline data for the assessment is considered industry standard and proportionate to the potential impacts associated with the proposed development. Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.14 National Transport Authority

4.14.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the National Transport Authority (NTA). It is noted that two letters were submitted by the NTA to An Coimisiún Pleanála, both dated 9th August 2024. This response deals with the observations made in both letters.

4.14.2 Summary of the Key Points Raised by NTA

The NTA raised two key points, which relate specifically to interaction with/proximity of the proposed development with two transport projects, being:

- Metrolink
- BusConnects – Clongriffin to City Centre Core Bus Corridor Scheme

One letter deals with interactions with the Metrolink project only, while the second letter deals with interactions with both Metrolink and the BusConnects – Clongriffin to City Centre Core Bus Corridor Scheme.

4.14.3 Response to Key Points Raised

4.14.3.1 Metrolink

In respect of the Metrolink project, the NTA noted that *“the proposed Metrolink project, which is currently being considered by the Board under case reg. ref. no. NA29N.314724, and that the onshore cables associated with the wind farm are proposed to be routed along the R132 at Lissenhall in close proximity to the proposed Metrolink corridor, particularly in the vicinity of Estuary Roundabout.”*

The submissions note that *“the likely interface points of the two projects can be found on the NISA Route Map Sheet No. 's 37, 38 & 39 and Metrolink Railway Order, Alignment Documentation Ref. ML1-JAI-ARD-ROUT_XX-DR-Y-03011, ML1-JAI-ARD-ROUT_XX-DR-Y-03010, ML-JAI-ARD-ROUT_XX-DR-Y-03009 and ML1-JAI-ARD-ROUT_XX-DR-Y-03008.”*

The NTA observations note that given the proximity of the two projects, *“co-ordination will be required in terms of construction methodologies and traffic management.”* In this regard, NTA recommends *“that the applicant is conditioned to engage with the NTA as part of any grant of permission and that their detailed design and pre-construction stages are coordinated with that of Metrolink project design, to ensure that it does not prejudice the delivery of the Metrolink project.”*

Response

The Developer has engaged with Transport Infrastructure Ireland (TII) regarding the Metrolink Rail Project (An Bord Pleanála Reference No. 314724) and the Metrolink 110kv cable project (An Bord Pleanála Reference No. 317831) throughout the design development thus far, as reported in the EIAR which accompanied the consent application. See Section 6.2 of Appendix 1.2: Consultation Report of the 2024 EIAR for further details on the consultation undertaken regarding both Metrolink projects in addition to Section 5.7.4 of Chapter 5: Consideration of Alternatives of the EIAR. The Developer very much welcomes an opportunity to engage on an ongoing basis with the NTA (and Metrolink) through the detailed design and pre-construction stages for both projects associated with the Metrolink railway.

The potential interactions with both projects associated with Metrolink are fully addressed and considered within the EIAR and are detailed below.

The Metrolink projects were considered in the long list of projects during the cumulative effects assessment (project no 69 (Metrolink) and 70 (Metrolink 110kV line)) – refer to Appendix 38.1 Stage 1 and Stage 2 CEA (Onshore and Wider Scheme) of the 2024 EIAR. Both projects were screened in at Stage 3 for a

number of environmental topics as presented in Chapter 38: Cumulative and Inter-Related Effects of the EIAR. The traffic and transportation CEA of Chapter 38 notes *“Given that the proposed development alone has reported negative, significant but temporary residual effects on traffic, the significance of the cumulative effect of the impact of potential road closures on local and strategic diversion route operations in this area is likely to be at least negative, significant but temporary.”*

The Population and Human Health CEA of Chapter 38 notes *“During the construction phase, potential cumulative effects from the screened-in projects in-combination with the proposed development were identified in locations where cumulative traffic and transport impacts occur in conjunction with significant effects on accessibility and journey patterns. These cumulative effects were identified as potentially significant, negative and temporary with Projects... 69, 70....”*

The Material Assets CEA of Chapter 38 notes that *“There is the potential for construction overlap between the proposed development and Project 70 and 88 at Belcamp substation. However, given that it will not be feasible for construction of different projects to be undertaken at the same time within the same footprint, and that Construction Environmental Management Plans have been prepared for all projects, no likely significant direct or indirect cumulative effects are predicted during the construction phase of the proposed development”*.

Appendix 32.1: Electromagnetic Fields (EMF) Assessment notes that there is *“the potential that the 110Kv cables of the proposed Metrolink project and the 220Kv onshore cables of the proposed development will be in the R139 road in Belcamp. As these cables may share the same stretch of road, the cumulative field strength from the proposed cables and adjacent Metrolink 110 kV system was modelled with a separation distance of 2m between the Metrolink and proposed development cables.”* The assessment concluded that the International Commission on Non-Ionising Radiation Protection (ICNIRP) threshold of 100 μ T will not be exceeded. Therefore, there are no significant cumulative impacts with the onshore cable route of the proposed development and Metrolink.

It is important to note that through consultation with Metrolink early in the pre-application process, the Developer sought to minimise interactions with the Metrolink Railway Project through the extensive cable route refinement process outlined in Section 5.7.4 of Chapter 5 of the EIAR. Section 5.7.4.10 of Chapter 5 of the EIAR notes that route option Z5 which interacts directly with the proposed Metrolink rail project which required the preferred route to be reconsidered. In particular, *“[i]t was identified that this route would have significant lengths in parallel with the MetroLink project along the R132. The Developer team undertook extensive consultation with MetroLink during the cable routing stage between 2021 and 2022 (see Appendix 1.2 in Volume 2 of the EIAR for further details). At the time of consultations, the proposed MetroLink project was with An Bord Pleanála for planning approval. During those consultations, it emerged that there would be significant conflicts with key infrastructure planned for MetroLink rail track along the R132, including stations, existing services diversions, etc. MetroLink was very concerned about the impact of any such conflicts on both projects.”*

Mitigation for interaction with the Metrolink 110kV cables is embedded in the design and is described in Chapter 5 of the EIAR. Specifically, Section 5.7.4.13 of the EIAR notes that while the R107 is the preferred route, *“in the event that the Metrolink 110kV cables are installed along the R107 and if the onshore cable route infrastructure cannot be accommodated alongside, an alternative onshore cable route along Chapel Road/R124/R123 will be utilised.”*

The Developer has reviewed the route and details of the proposed Metrolink Rail project (Metrolink Railway Order alignment drawings referenced by NTA above) and confirms that this information has been considered in the design development of the proposed development thus far.

4.14.3.2 BusConnects – Clongriffin to City Centre Core Bus Corridor Scheme

In respect of the BusConnects – Clongriffin to City Centre Core Bus Corridor Scheme, NTA recommends that *“the applicant is conditioned to engage with the NTA as part of any grant of permission, as the applicant’s proposed primary route shares a scheme footprint with the Bus Corridor scheme, with the shared space extending along the R107/R139 junction at Clarehall, north, for approximately 170 metres.”*

Response

The potential interactions with BusConnects – Clongriffin to City Centre are fully addressed and considered in the EIAR and are detailed below.

The BusConnects project was considered in the long list of projects during the cumulative effects assessment (CEA) (project no 9) – refer to Appendix 38.1 Stage 1 and Stage 2 CEA (Onshore and Wider Scheme) of the EIAR. It was screened in at Stage 3 for a number of environmental topics as presented in Chapter 38: Cumulative and Inter-Related Effects of the EIAR.

The traffic and transportation CEA of Chapter 38 notes *“Given that the proposed development alone has reported negative, significant but temporary residual effects on traffic, the significance of the cumulative effect of the impact of potential road closures on local and strategic diversion route operations in this area is likely to be at least negative, significant but temporary.”*

The Population and Human Health CEA of Chapter 38 notes *“During the construction phase, potential cumulative effects from the screened-in projects in-combination with the proposed development were identified in locations where cumulative traffic and transport impacts occur in conjunction with significant effects on accessibility and journey patterns. These cumulative effects were identified as potentially significant, negative and temporary with Projects... 9....”*

As noted above, the Developer has committed in Appendix 9.1 of the EIAR to communicate with the local community and relevant stakeholders throughout the construction phase of the proposed development. This will include any potential interactions with the proposed BusConnects scheme project team.

The Developer has reviewed the route and details of the proposed BusConnects scheme and confirms that this has been considered in the design development of the proposed development thus far.

4.14.3.3 Recommended Conditions

The NTA has recommended two conditions in its submission. These are included in Table 4.14.1.

Table 4.14.1 Schedule of Conditions

No.	Condition	Developer's Response
1	Given the proximity of the two projects, it is the NTA's view that coordination will be required in terms of construction methodologies and traffic management. In this regard, it is recommended that the applicant is conditioned to engage with the NTA as part of any grant of permission and that their detailed design and pre-construction stages are coordinated with that of the Metrolink project design, to ensure that it does not prejudice the delivery of the Metrolink project.	Throughout the EIAR, the Developer has committed to ongoing engagement with stakeholders as required. Pre-application consultation was undertaken with the NTA as outlined in Appendix 1.2 of the EIAR. Specific engagement was undertaken with the Metrolink project and potential cumulative impacts with this project are assessed in Chapter 38 of the EIAR. The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer would respectfully request a minor amendment to the wording of the condition. The proposed amendment is as follows: <i>It is recommended that the applicant is conditioned to engage with the NTA as part of any grant of permission and that their detailed design and pre-construction stages are coordinated with that of the Metrolink project design.</i>
2	In the context of the Clongriffin to City Centre Bus Corridor Scheme, it is also recommended that the applicant is conditioned to engage with the NTA as part of any grant of permission, as the applicant's proposed primary route shares a scheme footprint with the Bus Corridor scheme, with the shared space extending along the R107 Malahide Road from the R107/R139 junction at Clarehall, north, for approximately 170 metres.	Throughout the EIAR, the Developer has committed to ongoing engagement with stakeholders as required. Pre-application consultation was undertaken with the NTA as outlined in Appendix 1.2 of the EIAR. Assessment of potential effects with the Clongriffin to City Centre Bus Corridor is included in Chapter 38 of the EIAR. The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála subject to a minor amendment in the wording of the condition.

No.	Condition	Developer's Response
		The proposed amendment is as follows: <i>In the context of the Clongriffin to City Centre Bus Corridor Scheme, it is also recommended that the applicant is conditioned to engage with the NTA as part of any grants of permission.</i>

4.14.4 Conclusion

The key points raised in the NTA submission in relation to the onshore cable route and other planned projects, namely Metrolink and BusConnects – Clongriffin to City Centre Core Bus Corridor Scheme, have been fully considered, and having considered those points, the conclusions in the relevant impact assessments remain as set out in the EIAR. Should An Coimisiún Pleanála grant permission for the proposed development and attach conditions as recommended herein, the Developer would have no objection.

4.15 Fáilte Ireland

4.15.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by Fáilte Ireland (FI). A summary of the key points raised by the FI submission is provided in Section 4.15.2. The Developer's response is provided in Section 4.15.3.

The Developer notes that Fáilte Ireland recognises “*the importance of developing the State's renewable energy sector and supports the government's ambitious Climate Action Plan targets and to position Ireland to take advantage of the economic opportunity created by the roll out of both fixed and floating offshore wind in Irish waters.*” As noted in Chapter 4 of the EIAR, the proposed development will help Ireland achieve the ambitious Climate Action Plan targets identified in Fáilte Ireland's submission.

This section provides a response to the submission made to An Bord Pleanála by Fáilte Ireland.

4.15.2 Summary of the Key Points Raised by Fáilte Ireland

Fáilte Ireland noted that pre-application consultation with Fáilte Ireland was undertaken by the Developer, and also raised a number of key points as follows:

- The baseline tourism description is high level and relatively generic, it does not provide a detailed list or any mapping of existing tourism facilities/products within the study area; The baseline tourism environment is lacking in terms of a significance or sensitivity analysis.
- The assessment of both the construction phase and operation phase impacts on tourism is high level, summary and generic in nature, relying overly on the SLVIA. The assessment does not describe potential changes, degree of change, and as no baseline sensitivity has been applied, an assessment of likely impacts is unsupported.
- Cumulative assessment of impacts on tourism is high level, summary and dismissive in nature, relying overly on the presence of a Community Benefit Fund and employment.
- Visual Impact Assessment notes markedly lower impacts from locations of similar distance between NISA and Oriel (NISA VP13 and Oriel VP14 at Clogher Head); Cumulative assessment of visual impacts should include other potential projects (which are assessed in Oriel project).
- Cumulative impacts of Phase One Projects does not give appropriate consideration to the potential for ‘near shore’ turbines to be visible along entire coast from Strangford Lough (NI) to Dublin City and to Wexford.

Based on the above key points, Fáilte Ireland requests that An Bord Pleanála in their assessment gives detailed consideration to:

- “*The adequacy of the detail provided in the description of the baseline tourism environment, particularly in terms of the absence of characterisation or sensitivity applied to the tourism environment.*”
- *The lack of a sufficiently detailed consideration of the potential construction and specifically the operation phase impacts on tourism.*
- *The absence of a sufficiently considered assessment of potential cumulative impacts on tourism, potentially along the full extent of the east coast of Ireland, and*
- *The appropriateness of the proximity and scale of the proposed development given its specific location along the east coast.*”

4.15.3 Response to Key Points Raised

4.15.3.1 Adequacy of the detail provided in the baseline tourism environment

Fáilte Ireland requests that An Bord Pleanála in their assessment gives detailed consideration to the adequacy of the detail provided in the description of the baseline tourism environment, particularly in terms of the absence of characterisation or sensitivity applied to the tourism environment.

Section 8.0 of the Fáilte Ireland submission notes that *“the baseline tourism description (Section 33.3.9) addresses Tourism in Fingal, Dublin City, Meath and Louth, referencing relevant tourism strategies and key attractions etc., however, the description is of high level and relatively generic manner. The baseline does not provide a detailed list or any mapping of existing tourism facilities/ products within the study area.”*

Response

Chapter 33 of the EIAR presents an assessment of likely significant effects arising from the proposed development in relation to socio-economic, tourism and recreation during the construction, operation and decommissioning phases. Socio-economic, tourism and recreation are addressed in Chapter 33 as elements of the environmental factor, population, which is listed in Article 3 and Annex IV of the EIA Directive. Effects on tourism arising directly from these environmental factors (such as visual impacts - Chapter 29 SLVIA) are also assessed in the EIAR.

Section 33.2 of Chapter 33 of the EIAR presents the methodology that was used to undertake the tourism assessment – this includes a definition of the study area (Section 33.2.1), relevant guidelines, policy and legislation (Section 33.2.2), data collection and collation (Section 33.2.3) and methodology for assessment of effects (Section 33.2.4). Section 33.2 of Chapter 33 of the EIAR notes that *“The assessment of impacts on tourism and recreation is based on expert judgement, professional experience and based on the relevant guidelines presented in Section 33.2.2”*.

The relevant guidelines listed in Section 33.2.2 include both EPA guidelines (2022)¹ and European Commission guidance (2017)² on the preparation of EIARs. The key National Marine Planning Framework (NMPF) policies which are applicable to the assessment of the effects on tourism are summarised in Table 33.1 of the EIAR. The table indicates where these policies have been addressed in the chapter. Section 33.3.9, which describes the tourism and recreation baseline, also considers the key tourism objectives and strategies in the county development plans of Fingal, Dublin City, Meath and Louth. The county development plan policies and strategies, the NMPF policy objectives and the relevant guidelines have informed the assessment of the impacts on tourism.

Extensive consultation, which is described in Appendix 1.2 of the EIAR, was undertaken with a range of stakeholders during the development of the EIAR. The feedback received from organisations such as Fáilte Ireland and the coastal planning authorities, and from local communities and others helped to identify the key issues to be considered in the tourism and recreation impact assessment. These key issues included visual aspects, that there should be no impact or damage to beaches or the coastline, and construction traffic restrictions/disturbance (See section 2.8 of Appendix 1.2 of the EIAR). The key topics discussed with Fáilte Ireland included beach access during landfall construction and potential visual impacts.

Annex IV, point three, of the EIA Directive lists the information required in an EIAR, and includes: *“A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project....”*

Section 1.2.2 of the European Commission guidance (2017) provides guidance on how to carry out the baseline assessment, which can be summarised as follows:

¹ Environmental Protection Agency (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports

² European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report

“Essentially, carrying out the Baseline assessment involves determining what is relevant and finding the data and information necessary to set the framework against which to assess impacts on the environment”.

The unique characteristics of a project in addition to stakeholder feedback are essential to identifying the *relevant aspects* of the baseline environment. Given that the proposed development is an offshore windfarm which will be visible from the coast, with onshore infrastructure at Bremeore, which will also be visible, and that, as Fáilte Ireland identified, *“the environmental and scenic quality of the Irish rural landscape is a key and distinctive determinant in the Irish tourism product”*, seascape, landscape and visual aspects (SLVIA) were considered a key *relevant aspect* to consider in the context of potential tourism impacts. Maritime recreational activities, access to beaches, and walking trails etc in the vicinity of Bremeore, are also *relevant aspects* for the assessment. The construction of the onshore infrastructure cabling will be located primarily on public roads and therefore traffic restrictions, access to tourist facilities and general disturbance are also *relevant aspects* to consider in the context of potential tourism impacts. As a result, the baseline environment in Chapter 33 focuses on these relevant aspects in order to set the framework against which to assess impacts on tourism.

The baseline tourism environment is described in substantial detail in Section 33.3 of the EIAR. Sections 33.3.9 to 33.3.11 address tourism and recreation together as these are very much interrelated. The do-nothing scenario is described in Section 33.5.1 of the EIAR. The baseline seascape, landscape and visual environment is presented in Chapter 29, it is not repeated in Chapter 33.

In relation to tourism in Fingal alone, Section 33.3.9.1 of Chapter 33 in the EIAR notes *“The tourism industry sustains a total of 20,000 jobs across the sectors of transportation, retail, entertainment, and other services. The tourism sector itself is characterised by approximately 800 businesses providing accommodation and catering. Within this, guest accommodation supports an estimated 3,000 full time job equivalents with a further 2,000 jobs supported by the catering industry.”* Furthermore, across Ireland’s Ancient East, Fáilte Ireland notes that approximately 55,200 tourism jobs are supported across the region³. Since the purpose of the assessment is to identify likely significant effects of the proposed development on tourism and recreation as an aspect of population, addressing the baseline and potential impacts in the context of the industry as a whole, rather than individual businesses, is considered appropriate.

This approach is consistent with the approach taken to other aspects of population such as Employment and GVA, human health, and meets the requirements of Section 1.2.2 of the European Commission guidance (2017) quoted above. Therefore, it was not considered necessary to map individual tourism facilities or products throughout the study area.

In addition, the Developer engaged with Fáilte Ireland in response to RFI Section 13 (a) (see RFI Response Report) in April 2026 to discuss the concerns raised in Fáilte Ireland’s submission. As a result, the Developer has undertaken an updated assessment of the baseline tourism environment to incorporate the experiential concept of a “sense of place”. Section 33.3.9 of Chapter 33 has therefore been updated in response to the RFI to provide additional baseline information to inform on the updated tourism assessment (see Section 33.5 of Chapter 33).

As outlined above, the establishment of the baseline for the EIAR is underpinned by a significant body of work: public consultation, engagement with stakeholders (including Fáilte Ireland), desktop analysis and significant inter-disciplinary expertise (as outlined in Section 33.2 of Chapter 33 of the EIAR) and it is the view of the Developer that the description of the baseline tourism environment complies with the relevant legislation and guidance on EIAR.

4.15.3.2 *Lack of a sufficiently detailed consideration of the potential construction and specifically the operation phase impacts on tourism*

Fáilte Ireland requests that An Bord Pleanála in their assessment gives detailed consideration to the lack of sufficiently detailed potential construction and specifically the operation phase impacts on tourism. It notes that the *“assessment of both the construction phase and operation phase impacts on tourism is high level, summary and generic in nature, relying overly on the Seascape, Landscape and Visual Assessment”*.

³ Fáilte Ireland (2023) *Ireland’s Ancient East Regional Tourism Development Strategy 2023-2027*

In addition, it notes that the “assessment does not describe potential changes, degree of change, and as no baseline sensitivity has been applied, an assessment of likely impacts, i.e. as presented in Tables 33.12, 33.16 is unsupported”.

Response

Section 33.5 of Chapter 33 provides substantial detail on the potential effects of the proposed development on tourism and recreation. Potential construction phase effects on tourism and recreation are presented in Sections 33.5.2.2 and 33.5.2.3 whilst potential operational effects are presented in Sections 33.5.3.3 to 33.5.3.4. Potential decommissioning effects are presented in Sections 33.5.4.2 and 33.5.4.3.

As noted previously, given that the proposed development is an offshore windfarm, the seascape and visual aspects (SLVIA) are a key *relevant aspect* to consider in the context of potential tourism impacts from the offshore infrastructure both during construction, operation and decommissioning phases. Effects on tourism arising directly from visual impacts are assessed in Chapter 29 - Seascape, Landscape and Visual Impact Assessment (SLVIA) of the EIAR.

It is noted that the effects of the construction and operation of the proposed development on biodiversity, water, air, lands and soils as well as the interaction with visual appearance, cultural heritage, people and communities, which were identified by Fáilte Ireland as crucial to the Irish tourism product, were addressed in the chapters of the EIAR dedicated to these topics.

The results of these assessments are all summarised in Chapter 36: Mitigation, Monitoring and Likely Significant Residual Effects in the EIAR.

Potential inter-related effects between other environmental factors and tourism were considered in Section 38.3 of Chapter 38 Cumulative and Inter-Related Effects of the EIAR. Table 38.8 of the 2024 EIAR firstly identifies a potential interaction of key effects between socio-economic, tourism and recreation with traffic and transport (construction and decommissioning phases), seascape, landscape and visual (construction and operational phases) and material assets (construction and decommissioning phases). These key inter-related effects are then explored in Table 38.9 of Chapter 38 as follows:

Inter-related effects were identified between traffic and socio-economic, tourism and recreation in Table 38.9 (page 38.54), extracted in Image 4.15.1 below. The outcome of the construction traffic impact assessment (Chapter 24) was therefore identified as of key importance to the outcome of the tourism impact assessment. The assessment concluded that significant negative effects on tourism arising from construction traffic were unlikely.

In Chapter 24 of the EIAR, the impact of the proposed development on traffic and transportation was assessed. The assessment was carried out following consideration of embedded mitigation measures as outlined in Section 24.6.1.2 of the EIAR. This concluded that due to the requirement for full and partial road closures, the significance of effect of the road closures on local and strategic diversion route operations is likely to be negative, significant but temporary. It is important to note that these impacts will not be felt simultaneously across the onshore cable route but will be temporary and localised in nature.

Section 33.5.2.2 of the EIAR notes that “*The Onshore development area construction may negatively impact walking and cycling routes, coastal paths, holiday parks and the tourism receptors listed in Section 33.3.4 [of the EIAR] through increased traffic in the peak tourism season*”. However, it also notes the potential for an increase in tourism related businesses due to the increased employment generation. There were no significant effects arising from the interactions between traffic related impacts and the tourism industry within the study area (defined in Section 33.2.1 of the EIAR).

Ch 33 Socio-Economic, Tourism and Recreation Section 33.5.2 Construction During the construction phase of the proposed development, increased construction traffic during the peak tourism season has the potential to negatively impact walking and cycling routes, coastal paths, holiday parks and tourism receptors. This has the potential to have a negative effect on tourism. Section 33.5.4 Decommissioning The potential effects of the decommissioning traffic on tourism and recreation will be similar to that of the construction phase but the duration of works will be shorter. Conclusion With the implementation of suitable mitigation measures as detailed in Volume 5, Chapter 33 Socio-economic, Tourism and Recreation and the short-term nature of the proposed works, no likely significant negative residual effects on tourism and recreation are predicted as a result of interactions with traffic and transport during of the construction and decommissioning of the proposed development.	Ch 24 Traffic and Transport and Ch 33 Socio-Economic, Tourism and Recreation

Image 4.15.1 Potential inter-related effects between traffic and transportation and socio-economic, tourism and recreation (page 38.54 of Chapter 38 of the 2024 EIAR)

Inter-related effects were identified between material assets and socio-economic, tourism and recreation in Table 38.9 (page 38.55), extracted in Image 4.15.2 below. The outcome of the material assets construction impact assessment on land use at the landfall (Chapter 26) was therefore identified as of key importance to the outcome of the tourism impact assessment. With regards to construction impact at the landfall, Section 26.5.2.1 of the EIAR notes that *“The land-use during the construction phase will inevitably differ from the zoning objectives for this land, as set out in the Fingal County Development Plan 2023-2029 and Dublin City Council Development Plan 2022-2028 and as a consequence, there are construction phase impacts on land-use. However, these impacts will be short-term in nature and the land (which is not acquired permanently) will be re-instated to its previous use (see Section 26.5.3.1 for operational impacts on land use where permanent land take is assessed). The land use sensitivity is assessed as high, with a medium impact arising during the construction phase. Therefore, an overall significance rating of negative, moderate and short-term is considered appropriate which is not significant in EIA terms.”* Therefore, the inter-related effects assessment concluded that no likely significant effects at the landfall and Bremore beach from a tourism perspective will arise during construction (as seen in Image 4.15.2 below)

Ch 33 Socio-Economic, Tourism and Recreation Section 33.5.2 Construction Land-use at the nearshore will be changed temporarily to a construction area, thereby resulting in a negative effect on recreational amenities. This change will affect beach users who participate in water sports, members of the population who launch small vessels and engage in angling. Section 33.5.4 Decommissioning The decommissioning of the proposed development work may cause some minimal onshore disruption in relation to tourists' footfall, but this will be temporary and localised in nature. Conclusion With the implementation of suitable mitigation measures as detailed in Volume 5, Chapter 33 Socio-economic, Tourism and Recreation, no likely significant negative residual effects are predicted as a result of interactions with material assets during the construction and decommissioning of the proposed development.	Ch 26 Material Assets and Ch 33 Socio-Economic, Tourism and Recreation

Image 4.15.2 Potential inter-related effects between material assets and socio-economic, tourism and recreation (page 38.55 of Chapter 38 of the 2024 EIAR)

Finally, inter-related effects were identified between seascape, landscape and visual and socio-economic, tourism and recreation in Table 38.9 (page 38.56/57), extracted in Image 4.15.3 below. The outcome of the SLVIA (Chapter 29) was therefore identified as of key importance to the outcome of the tourism impact assessment. In Chapter 29 of the EIAR, the impact of the proposed development on seascape, landscape and visual amenity was assessed. Viewpoints were selected which represented views along the east coast from County Down in Northern Ireland to County Wicklow, including popular amenity and recreational locations including (but not limited to) Gormanston Beach, Laytown Beach, Red Island Skerries, Balbriggan Beach, Ardgillan Castle Grounds, Donabate Beach, Portmarnock Beach and Howth Head. Photomontages were prepared to illustrate the impact of the proposed development from these locations.

Section 29.2.4.1 of Chapter 29 of the EIAR includes tourism, recreation and amenity as part of seascape and landscape sensitivity (see Table 29.2). Tourism, recreational and heritage features are specifically included as visual receptors in Section 29.2.4.5 of Chapter 29. The baseline environment (Section 29.3 of the EIAR) includes extensive information on tourism amenity and heritage features.

Specifically, in relation to operation, while the turbines would be visible on the horizon from coastal and inland viewpoints, the SLVIA concluded that the turbines would not result in significant adverse visual impacts in EIA terms.

Consequently, in the absence of significant effects on seascape, landscape and visual amenity, the assessment in Chapter 33 concluded that there will be no likely significant effects caused by the offshore development on tourism within the region.

This conclusion is reinforced by recent studies in the UK (Glasson et al., 2022, Hatch 2022 and BiGGar Economics, 2020) which concluded that offshore wind farms have had no correlating significant negative impact on tourism in their respective regions. An additional study (BiGGar Economics 2021) on the potential impacts of wind energy on the tourism sector concluded that in certain areas of Scotland, those areas within the vicinity of windfarms experienced a boost in tourism employment statistics. Further reports and studies undertaken by Fáilte Ireland (Fáilte Ireland, 2012) indicate that there is a positive disposition amongst tourists to wind farms.

Note Ch 29 Seascape, Landscape and Visual considers the effects on viewpoints, the results of which have then been considered in Chapter 33 Socio-Economic, Tourism and Recreation. <u>Ch 33 Socio-Economic, Tourism and Recreation</u> <u>Section 33.5.2 Construction</u> Chapter 33 notes that Chapter 29 states that the construction of wind turbine generators could make the area less attractive to tourists by disrupting the “panoramic views to sea and land” that makes the area popular for tourism, “given the scenic views and coastal interest” as outlined within the Seascape, Landscape and Visual chapter. <u>Section 33.5.3 Operation</u> Chapter 33 notes that Chapter 29 states that there will be no significant operational phase visual, landscape or seascape effects (onshore and offshore) on tourism receptors as reported in the Seascape, Landscape and Visual chapter. It is anticipated that there may be opportunities for marine tourism which will allow tourists to visit the offshore development area. <u>Conclusion</u> No significant negative residual effects are predicted on tourism as a result of changes to seascape, landscape and visual.	Ch 29 Seascape, Landscape and Visual and Ch 33 Socio- Economic, Tourism and Recreation

Image 4.15.3 Potential inter-related effects between SLVIA and socio-economic, tourism and recreation (page 38.56/57 of Chapter 38 of the 2024 EIAR)

The Developer also notes that the assessment of operational phase impacts of the proposed development on tourism has been updated following consultation with Fáilte Ireland in 2026 to incorporate impacts on the experiential concept of a “sense of place”. In establishing the baseline for the tourism assessment in Fingal, Section 33.3.9 of Chapter 33 of the EIAR specifically references the Fingal Tourism Strategy 2024-2029 and Ireland’s Ancient East in Co. Meath. As significant effects from the proposed development on tourism are not likely, the objectives of Fingal Tourism Strategy 2024-2029 and receptors within Ireland’s Ancient East will not be hindered by the proposed development.

In addition, Fáilte Ireland’s *Report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape* (Fáilte Ireland, 2026) confirms that “for those who noticed Renewable Energy Infrastructure [REI] at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident”. The Report further confirmed that “For two in three visitors, [REI] did not factor into their decision making when choosing their destination” and “Among those aware of [REI], 61% report no impact on enjoyment of landscape.” Therefore, it can reasonably be concluded that it is unlikely that the presence of the offshore infrastructure will negatively impact the Irish tourism industry.

In conclusion, it is contended that the EIAR presents detailed consideration of construction and the operation phase impacts of the proposed development on tourism.

4.15.3.3 The absence of a sufficiently considered assessment of potential cumulative impacts on tourism

Fáilte Ireland requests that An Bord Pleanála in their assessment gives detailed consideration to the absence of a sufficiently considered assessment of potential cumulative impacts on tourism, potentially along the full extent of the east coast of Ireland. Additional points include:

- Cumulative impact assessment on tourism is high level, summary and dismissive in nature, relying overly on the presence of a Community Benefit Fund and employment; and
- Cumulative impacts of Phase One Projects does not give appropriate consideration to the potential for ‘near shore’ turbines to be visible along entire coast from Strangford Lough (NI) to Dublin City and to Wexford. Fáilte Ireland also noted that Oriel included other projects in their SLVIA cumulative assessment including Mainstream Dublin and MaresConnect.

Response

Chapter 38: Cumulative and Inter-related Effects of the EIAR consists of an assessment of the likely significant cumulative effects of the proposed development on the receiving environment in combination with other projects.

The relevant guidance and policy that has been used in the cumulative effects assessment (CEA) is listed in Section 38.1.2 of Chapter 38 of the EIAR whilst the methodology is presented in Section 38.2.1 of Chapter 38 of the EIAR. The methodology for the CEA effects assessment is a three-part assessment as follows:

- Stage 1: Establishing long list of other projects
- Stage 2: Screening
- Stage 3: Assessment

Section 38.2.1.2 of Chapter 38 of the 2024 EIAR notes that there are four tiers of projects which were assessed in the CEA. Section 38.2.1.2 notes that *“given the location and nature of the proposed development spanning across both onshore and offshore, a tiered approach to establishing the long list of “other existing and/or approved projects” has been undertaken. The tiering of projects is not a hierarchical approach nor based on weighting. The CEA is based on the information which is publicly available at the time of the assessment. Projects which are already built and operating, and which are not identified in this chapter, are included in the baseline environment or have been assessed as not having the potential to exacerbate effects. The general approach for selecting projects is generally only to consider permitted/consented developments which are not yet operational. However, the assessment has gone beyond this in certain circumstances as described below.*

For example, some projects which are within the planning/consenting process but not yet consented have been included. In addition, some projects which are planned/pending (but the developer has not yet submitted applications for consent) have been included. In addition, the offshore long list goes beyond the required search criteria nominated within the relevant guidance and policy outlined for the onshore approach. Further explanation on rationale is provided below.

The results of the Tourism and Recreation CEA screening process is included in Section 38.2.2 of Chapter 38 of the EIAR. For the Tier 1, Tier 3 Onshore and Tier 3 Offshore projects, Section 38.2.2 notes *“During the construction phase, given the nature of the proposed development and the mitigation measures proposed, there will be no significant residual effects from the proposed development on tourism and recreation from an onshore and offshore perspective... The proposed development itself will have a not significant effect on Tourism and Recreation during the operational phase. Therefore, there is no potential for cumulative effects arising from the proposed development with any of the Tier 1, Tier 3 Onshore or Tier 3 Offshore projects from a tourism and recreation perspective and are therefore screened out for further assessment.”*

Similarly, for the other east coast offshore wind farms (Tier 2), and for the same reasons, the Tourism and Recreation CEA, Section 38.2.2 of the EIAR notes: *“Therefore, there is no potential for cumulative effects arising from the proposed development with any of the Tier 2 projects from a tourism and recreation perspective and are therefore screened out for further assessment during construction or operational phases.”*

The conclusions outlined above are the result of a significant degree of interdisciplinary assessment and consideration of factors. While these factors are outlined at a high level in the assessment, the results of the Stage 2: Screening exercise is the result of extensive assessment of all four tiers of projects against the tourism assessment undertaken in Chapter 33 of the EIAR which adheres to the EPA Guidelines (2022).

Fáilte Ireland also noted that the NISA cumulative impact assessment did not include the Mainstream Dublin OWF project and MaresConnect interconnector. Both these projects are at a very early stage and there is not yet enough information available publicly on details of the proposed developments to undertake a meaningful cumulative assessment. Furthermore, given the current national policy that future OWF must be located within the National Designated Maritime Area Plan (DMAP), the Mainstream Dublin OWF cannot be advanced at this time. This approach complies with the requirements of the EIA Directive and with EC and EPA guidance on cumulative assessment. For further information on the CEA methodology used throughout the EIAR, see Section 4.1.2.2.

Notwithstanding the above, the Developer notes that in response to the RFI from An Bord Pleanála, the cumulative effects assessment has been updated and is included in the EIAR which accompanies the Response to the Request for Further Information Report. Of particular relevance to this submission, it is noted that the CEA has been updated to align with the UK Guidance *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment*. In addition, following consultation with Fáilte Ireland in 2026, the Developer has undertaken an updated CEA of potential tourism impacts of all Phase One projects, including Arklow Bank II. The results of this assessment are included in Chapter 38 and conclude that there are no significant cumulative effects arising from the proposed development in combination with the other Phase One projects on the tourism industry.

Refer to Chapter 38 for further information on the updated CEA in relation to the points raised by Fáilte Ireland regarding the cumulative assessment of the proposed development.

It is also important to note that the CEA on Tourism and Recreation was conducted independently of the Community Benefit Fund (CBF). The application of the CBF in Chapter 38 of the EIAR is targeted at the CEA for Employment and Gross Value Added (GVA) which aligns with the assessment carried out in Chapter 33 of the EIAR. The assessment of the CBF is outlined in Section 33.5.3.2 which does not include reference to tourism receptors, instead noting the following: *“This fund will allow communities to develop new and existing initiatives in their own areas, support existing local amenities and clubs, develop environmental and energy efficiency schemes, and improve local industries including fishing industries within the region.*

The magnitude of the effect is considered to be medium given the positive and long-term nature of the effect. The sensitivity of the existing environment is considered high as the focus of the fund is on local communities which includes sensitive groups such as older people, women, children and those with disabilities. Therefore, the overall significance of effect is estimated to be positive, significant and long-term.”

Therefore, the CBF was not relied upon for the CEA of tourism receptors but rather for the socio-economic impacts which are also assessed in Chapter 33 alongside impacts to tourism. Furthermore, the application of the CBF assessment in the CEA for socioeconomic impacts is considered appropriate given the quantity of GVA provided by the CBFs to local communities by all Phase One projects.

From an SLVIA perspective, as noted in Section 4.15.3.1 above, SLVIA aspects are key *relevant aspects* to consider of potential tourism impacts from the offshore infrastructure both during construction, operation and decommissioning phases. Therefore, it is necessary to combine the tourism CEA with the outcomes of the SLVIA CEA. The results of which are presented below.

Cumulative effects with other Phase One offshore wind projects are assessed using the same representative viewpoints as used in the main / standalone visual impact assessment of the proposed development within the 40km radius principal study area. The cumulative study area is further extended to 60km which brings in another 10 specific cumulative viewpoints between 40km and 60km. The extension to 60km for the cumulative study area is in line with the Scottish Natural Heritage (SNH) 2012 Guidance Document ‘Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape’. Only Phase One developments that fall within 60km of the proposed development are considered in the cumulative assessment and these include:

- Oriel Array - 16km north of the proposed development array area consisting of c. 25 turbines
- Dublin Array- 36km south of the proposed development array area consisting of c. 48 turbines
- Codling Wind Park - 53km South of the proposed development array area consisting of c. 75 turbines.

The cumulative assessment at representative viewpoints is contained in Appendix 29.2 of the EIAR and summarised in Section 29.9 of Chapter 29. This considers the contribution of the proposed development to the overall cumulative effect and while it is acknowledged that there will be a significant cumulative effect in the southern extents of the cumulative study area, the contribution of the proposed development is very limited and it is not considered to materially contribute to the potential for significant cumulative effects between Dublin array and Codling Wind Park array or indeed, across the overall cumulative study area, which includes the Oriel array to the north. As a full description of the SLVIA CEA methodology and findings was presented in Chapter 29 of the EIAR, it was considered unnecessary to repeat this description in CEA for tourism in Chapter 33.

4.15.3.4 Comparison of SLVIA assessments with Oriel Wind Farm

The Fáilte Ireland submission raises issues of consistency between the SLVIA undertaken for Oriel and NISA. It is stated by Fáilte Ireland *“that it would appear that the assessment of visual impacts for the proposed NISA project notes markedly lower impacts and lower significance of impacts from locations of similar distance – even in the case of Clogherhead which is common in both (VP13 in NISA assessment and VP14 in Oriel assessment).”* It then cites that for the common Clogherhead receptor the NISA assessment registered a Moderate / Negative / Long term effect whilst the Oriel assessment registered a Moderate to Major / Adverse impact.

Response

It should first be noted that considerable effort was made by all of the Phase One SLVIA consultants to align methodologies and terminology so that comparisons could be made between the assessments. This collaboration was undertaken at the request of An Bord Pleanála and involved multiple workshops between the various SLVIA consultants, client representatives and EIAR coordinators (for further information see Section 6.4 of Appendix 1.2 of the EIAR). It is inevitable that different SLVIA consultants may arrive at slightly varied assessments, even for the same views because, unlike many of the more scientific environmental factors, SLVIA is based on professional opinion rather than data driven facts. In this regard all of the SLVIA consultants for the Phase One projects are highly experienced. A peer review was undertaken of NISA’s SLVIA for the proposed development by another independent and experienced SLVIA specialist to ensure robustness and consistency with relevant guidelines and best practice.

The fact that the assessment at Clogherhead differed between SLVIA specialists by only half of an assessment category (i.e. between Moderate and Major) should not be cause for concern and could readily be explained by differing viewing scenarios that go beyond simply a consideration of scale in relation to distance. It is also important to note that the distances between both developments and Clogherhead at 13km and 16km for Oriel Windfarm and NISA respectively which further contributes to differences in magnitudes of impact.

The Fáilte Ireland submission also suggests that *“the EIAR for the NISA project fails to appreciate the cumulative visual relationship between the proposed developments”* and uses VP13 at Clogherhead as an example stating that *“this assessment fails to appreciate that turbines at both the proposed NISA project and the Oriel project to the north will be similarly visible from this sensitive vantage point in effect considerably extending the extent of the offshore turbines visible across the full panorama from Clogherhead”*.

The Developer notes that VP13 is just one viewpoint of 45 representative viewpoints along the coastline within a 60km radius cumulative study area incorporating viewpoints from Northern Ireland to Wicklow. Most notably, there are two viewpoints that represent the contrasting nature of cumulative visibility in the immediate vicinity of Clogherhead. VP13 represents the settlement and beach at Clogherhead, whereas VP14 represents broad elevated views from a local road just above the settlement where both the Oriel and NISA turbines are openly visible. From the more enclosed VP13 location, Oriel is not visible, and the cumulative impact is deemed Imperceptible, but from VP14 the significance of cumulative effect is judged to be ‘Moderate’ which represents the highest of any of the cumulative effect judgements.

This represents a balanced and representative approach to SLVIA, whereas the focus on just the assessment for VP13 in isolation, is not.

Therefore, it is considered that the cumulative assessment of the phase one projects on the east coast of Ireland as presented in the EIAR is robust and comprehensive.

It is noted that the RFI issued by An Bord Pleanála raised a number of items which are relevant to this submission response and which the Developer has addressed in its Response to the Request for Further Information Report, which is submitted in parallel with this Response to Submissions Report. The RFI has resulted in some changes to the proposed development which have been fully assessed in the EIAR.

As a result of these changes, the photomontages prepared for the 2024 EIAR have also been updated to reflect the design refinements proposed to address other aspects of the RFI (see Appendix A5.1 of the EIAR Addendum for further information on these design refinements). However, the photomontages demonstrate that there are no changes to the cumulative effects arising from the design refinements of the proposed development in combination with Oriel described above.

Full details of these changes are provided in the Response to the Request for Further Information Report and the EIAR Addendum that accompanies that report.

4.15.3.5 The appropriateness of the proximity and scale of the proposed development given its specific location along the east coast.

Fáilte Ireland requests that An Bord Pleanála in their assessment gives detailed consideration to the appropriateness of the proximity and scale of the proposed development given its specific location along the east coast.

Response

As discussed in this submission, cumulative effects with other Phase One offshore wind projects was extended from 40km (principal study area) to 60km in line with Scottish Natural Heritage Guidance on offshore renewables. Phase One developments that fall within 60km include Oriel Array (16km north), Dublin Array (36km south) and Codling Wind Park (53km South). In addition, following consultation with Fáilte Ireland in 2026, the Developer updated the CEA of potential tourism impacts of all Phase One projects, including Arklow Bank II. The results of this assessment are included in Chapter 38 and conclude that there are no significant cumulative effects arising from the proposed development in combination with the other Phase One projects on the tourism industry.

In addition to the above, the location and site selection and refinement process for the proposed development is described in full in Chapter 5 in the EIAR. As noted in Section 3.7.3.1 of this report, the Developer notes that there is no set back distance requirement from the coastline for Irish offshore wind farms. There are multiple examples in other EU countries where the wind farms are closer than 22km which include:

- Middelgrunden Wind Farm in Denmark (3.5km);
- Vesterhav Nord and Vesterhav Syd in Denmark (5.5km);
- Nysed Wind Farm in Denmark (10km);
- Korsnaes Wind Farm in Finland (13km); and
- Hollandse Kust Zuid and Nord in the Netherlands (18km)

Further information regarding the proximity and scale of the proposed development given its specific location along the east coast is provided in Section 3.7.3.1 and Section 3.7.3.2 of this report.

4.15.4 Conclusion

The key points raised in the Fáilte Ireland submission in relation to tourism have been fully considered, and the conclusions in the relevant impact assessments remain as set out in the EIAR. These conclusions are further supported by research carried out in the UK which has demonstrated a positive effect from offshore wind farms on local tourism economies, and updated research conducted by Fáilte Ireland which demonstrate little correlation between offshore renewable energy developments and negative impacts on tourism receptors.

It is further noted that the photomontages have been updated, and additional photomontages have been added, to address key aspects of the RFI received from An Bord Pleanála. These, together with updated assessments are included in the EIAR Addendum which has been prepared to accompany with Response to the Request for Further Information Report, which is submitted in parallel with this Response to Submissions Report.

4.16 Department of Defence

4.16.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by the Department of Defence (DoD). The submission has been made by the DOD in its role as a prescribed body responsible for the regulation of military aviation.

4.16.2 Summary of the Key Points Raised by the Department of Defence

The DOD submission provides a response on the following points;

- Military Air Operations
- Lighting the proposed development
- Naval and SAR operations
- Impact on gas and electrical interconnectors
- Location of proposed development
- General planning considerations

4.16.3 Response to Key Points Raised

4.16.3.1 Military Air Operations

The DoD states that the Irish Air Corps safeguards Gormanston Aerodrome as a viable location for military air operations in area EI-D1. Gormanston Aerodrome is protected as a Code 2 Aerodrome. Safeguarding of the current navigational equipment located in Gormanston is also of importance to the Air Corps, through protection of Aerodrome Obstacle Limitation Surfaces, Non Directional Beacon (NDB) 334 KHz and Distance Measuring Equipment (DME).

Response on Military Air Operations

The Developer can confirm that it is noted in Section 19.3.2.2, Chapter 19: Aviation and Radar of the 2024 EIAR, that Gormanston Aerodrome lies 19km west of the array area and that the NDB and DME safeguarded areas do not overlap with the offshore development area. The 3,000m radius cone around the DME is 842m from the offshore Export Cable Corridor at its closest point (see Figure 13 from Appendix 19.1 of the 2024 EIAR).

However, Table A19.3 of Chapter 19 details the mitigation measures identified through the design and consultation process. These conditions include commitment to further consultation with DoD, *“Prior to installation of the offshore export cable, engagement will be undertaken with the DoD and the following of NOTAMs, NtMs and Marine Notices relating to Gormanston Danger Area EID1 will ensure that installation schedules do not conflict with IAC firing range activities.”*

The Developer is committed to continue discussions and further consultation with the Department of Defence and will adhere to the requirements of any Notice to Airmen (NOTAMs) Notice to Mariners (NtM)s and Marine Notices relating to Gormanston Danger Area EID1 which are published for the project life cycle.

4.16.3.2 Lighting the Proposed Development

A series of lighting recommendations for the WTGs are made by the DoD;

Single turbines, structures, or turbines delineating the windfarm should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week. Obstacle lighting should be incandescent or of a type visible to Night Vision equipment. Obstacle lighting must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light.

Response on lighting the Proposed Development

Section 19.4.5.1 of Chapter 19 details the lighting and marking requirements for the proposed development. The offshore development area is within 16nm (30km) of Dublin 2 PSR/SSR and therefore the Air Navigation Services Radar, the marking, lighting and radar enhancing requirements will require to be assessed on an individual basis. Table A19.3 of Chapter 19, details the embedded mitigation measures for the proposed development identified through the design and consultation process. Within this, compliance with the IAA and the CIL lighting and marking requirements is specified. *“The offshore infrastructure would be designed and constructed in accordance with the requirements of the IAA and the Commissioners of Irish Lights (CIL) in terms of the notification, charting, marking and lighting of obstacles in order to protect air and marine navigation. Refer to Section 19.4.5.1. for further details and Volume 9, Appendix 17.3: Lighting and Marking Plan.”*

The Developer acknowledges the lighting recommendations as set by DoD, however it should be noted that these conflict with the IAA guidance on lighting of structures at sea (Section 19.4.5.1 and Appendix A17.3: Lighting and Marking Plan) which requires use of white lights with minimum output of 2,000 candela. The IAA guidance is considered the primary guidance for aviation lighting requirements and therefore is given priority; however, the Developer welcomes further engagement with DoD on this item.

The obstacle lighting request can be considered, noting the need for agreement from Irish Lights, IRCG and IAA.

4.16.3.3 Naval and SAR operations

The DoD states *“The area in question is utilized extensively by the Naval Service for freedom of navigation by ships operating in the area and the windfarms should not interfere with this principle these are sea lines of communications and must be maintained. This area is utilised by fishing vessels and therefore the Naval Service will be required to operate here in order to conduct its legally mandated fisheries control activities as necessary. Windfarms can be hazardous to SAR (search and rescue) Operations with regards to Helo operations, small boat operations, Diving, towing etc.”*

Response on naval and SAR operations

The Developer notes the freedom of navigation required by the Naval Service in the area of the Proposed Development. The requirements of any published NOTAMs, NtMs and Marine Notices relating to Gormanston Danger Area EID1 will be adhered to throughout the project life cycle to ensure freedom of navigation is maintained.

Section 17.5.3.12 of Chapter 17: Shipping and Navigation of the EIAR, assesses the potential reduction of emergency capability due to the Proposed Development and concludes that in view of compliance with MGN 654 on the WTG layout, it is considered highly unlikely that in the event of a SAR operation SAR assets are unable to fulfil their objectives. In particular, the layouts have been revised in liaison with the IRCG and include a single line of orientation. IRCG have confirmed they are content with these revisions and approach (Appendix A17.5 Irish Coast Guard Response Letter). Subsequently, in line with The Department of Transport (DoT) Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) (DoT, 2025a) requirements, a safety justification has been undertaken for these revised layouts building upon the work undertaken as part of the NRA and demonstrates that the layouts are As Low As Reasonably Practicable (ALARP) (Appendix A17.4 North Irish Sea Array Safety Justification for Single Line of Orientation Layout).

The mitigation measures relating to shipping and navigation in Table 17.9 in Chapter 17 details a range of measures including; *“The Developer will liaise with the IRCG in relation to SAR resources to ensure the Emergency Response Cooperation Plan (ERCoP) is in place post consent.”*

The Developer has welcomed the engagement to date and is committed to continued discussions and further consultation with the Naval Service, Department of Defence, IRCG and other marine stakeholders to maintain freedom of navigation.

4.16.3.4 *Impact on gas and electrical interconnectors*

The Department of Defence note “*the gas interconnectors run directly through the proposed wind farm site and adjacent to that is the East West Electrical interconnector which fall under the protection of the Irish Naval Service.*”

Response on impact on gas and electrical interconnectors

The Developer notes the DoD’s comments relating to offshore gas and electrical interconnectors. However, the Developer can reassure the DoD that although identified in the EIAR study area (Chapter 20: Infrastructure and Other Users), neither of these interconnectors travel through the proposed development array or offshore ECC areas, see Figure 20.2 of the 2024 EIAR.

Table 20.6 of Chapter 20 and Volume 12, Appendix A38.2: Stage 1 and Stage 2 CEA Offshore outline the distances from the array area and ECC as shown in Table 4.16.1:

Table 4.16.1 Subsea cables and pipelines within the study area

Name	Type	Status	Distance to array area (km)	Distance to ECC (km)
Interconnector 2 Scotland to Ireland IC2	Pipeline (gas)	Active	0.5	2.7
Interconnector 1 Scotland to Ireland IC1	Pipeline (gas)	Active	4.2	10.6
Eirgrid East-West Interconnector	Power	Active	5.0	11.4

Furthermore, the Developer has- consulted with GNI (interconnector operator) and has completed a risk assessment conforming to DNV-RP-F107 Risk Assessment of Pipeline Protection in relation to IC2 which has been shared with GNI in January 2026 which proposes appropriate mitigation measures and concludes that the risk posed to both parties is tolerable and satisfies –As Low As Reasonably Practical (ALARP) methodology.

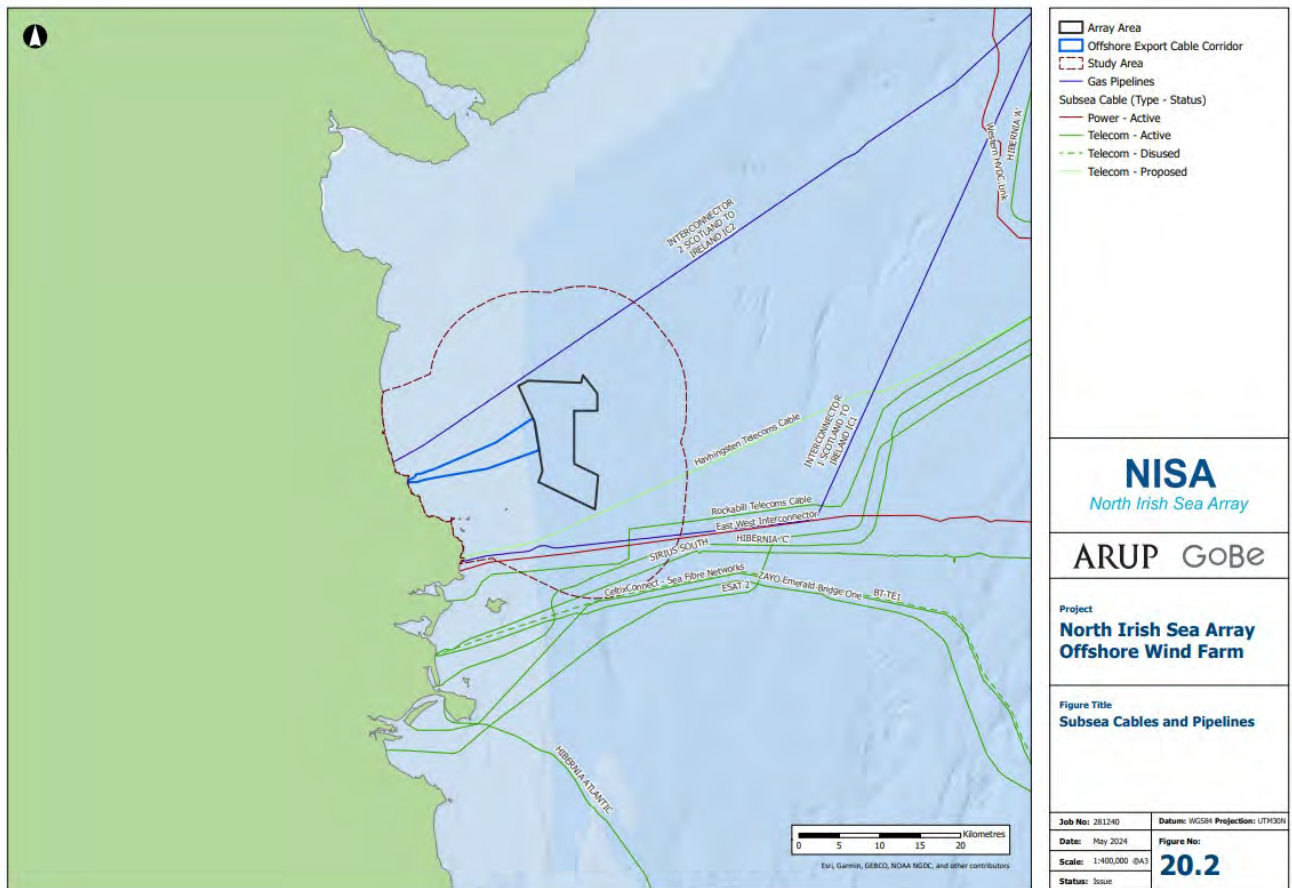


Figure 4.16.1 Subsea Cables and Pipelines

4.16.3.5 Location of proposed development

Point 1 - Impact on a firing range

In the submission, it is noted by DoD that the proposed development area whilst not directly impacting on a firing range, is directly adjacent to it and there is a risk that its proximity may reduce the size of the usable range due to safety rules. Therefore, the Department of Defence recommends that the Developer should take account of any possible ricochet range/High Explosive range for any munitions that might be fired in the area.

Response to Point 1 – Impact on a firing range

Table 19.6 in Chapter 19 of the EIAR details the mitigation measures identified through the design and consultation process. These conditions include commitment to further consultation with DoD, “Prior to installation of the offshore export cable, engagement will be undertaken with the DoD and the following of NOTAMs, NtMs and Marine Notices relating to Gormanston Danger Area EID1 will ensure that installation schedules do not conflict with IAC firing range activities.”

Further consultation with the Department of Defence (DoD) was undertaken in June 2025. During this consultation DoD acknowledged that the proposed development will not significantly impact on the operation of Gormanston Military Practice and Exercise Area.

Following this consultation, DoD also provided details of historical firing data for Danger Area EI-DI which was welcomed. The Developer is committed to continue discussions and further consultation with the Department of Defence and will adhere to the requirements of any NOTAMs, NtMs and Marine Notices relating to Gormanston Danger Area EID1 which are published for the project life cycle.

Point 2 - Proximity to EI-D1 area

The DoD states that the proposed development offshore export cable corridor (ECC) runs through Gormanston Danger Area EI-D1. The DoD recommends the developer engage with the DOD and the Air Corps to ensure any impact on the continued usage of Gormanston as a Joint Service training location, utilising existing Air to Ground, Ground to air and maritime capabilities for exercises, is minimised.

Response to Point 2 - Proximity to EI-D1 area

The Developer welcomes opportunity for continued engagement with the Department of Defence and AirCorps. During the pre-application phase (in 2022 and 2023), consultation was sought by the Developer with the Department of Defence (DoD) on the proposed development and specifically on the aviation operations undertaken in the Gormanston D1 Range Danger Area. Informal discussions and email correspondence with the DoD confirmed the use of the facility for air operations. No key issues were raised by DoD on the proposed development.

Further consultation with the Department of Defence (DoD) was undertaken in June 2025, which was welcomed by the Developer. During this consultation DoD acknowledged that the proposed development will not significantly impact on the operation of Gormanston Military Practice and Exercise Area.

The Developer is committed to continue discussions and further consultation with the Department of Defence and Air Corps.

It is established in Section 19.3.2 in Chapter 19: Aviation and Radar of the EIAR and Section 20.3.2.5 in Chapter 20: Infrastructure and Other Users of the EIAR, that the lateral extent of EI-D1 overlaps with the offshore ECC but not the array area. Section 20.3.2.5 in Chapter 20 of the EIAR notes that *“Live firing is unlikely to affect activities within the array however, firing from the military base may affect construction activities in the ECC. Military firing ranges operate under a set of range orders, which outline precautions to be observed during a training event. All vessels are required to remain outside the firing range exclusion zone whilst the range is active”*, and that *“Notice to Mariners (NtMs) and/or Marine Notices will be followed when issued in relation to Danger Area EID1”*. Section 19.5.3.2 in Chapter 19 of the EIAR identifies that *“The fixed WTG layouts for Project Option 1 and Project Option 2 comply with MGN 654 requirements to enable safe SAR access to the array area in the event of an emergency. Consequently, the magnitude of impact on military low flying and other offshore fixed-wing and helicopter operations from Project Option 1 and Project Option 2 would be negligible.”*

Table A19.3 in Chapter 19 and Table 20.9 of Chapter 20 of the 2024 EIAR detail the mitigation measures identified through the design and consultation process. These conditions include commitment to further consultation with DoD, *“Prior to installation of the offshore export cable, engagement will be undertaken with the DoD and the following of NOTAMs, NtMs and Marine Notices relating to Gormanston Danger Area EID1 will ensure that installation schedules do not conflict with IAC firing range activities.”*

4.16.3.6 General Planning Considerations

The DoD submission lists a series of general planning considerations for An Coimisiún Pleanála’s review.

Response to general planning considerations

For ease of reference, the items for general planning consideration can be found in the relevant sections of the EIAR and Application documents, see Table 4.16.2 below;

Table 4.16.2 Location of Topic within Application Documentation

General Planning Considerations	Application Document
The impact on the visual amenity of the area/ landscape	Chapter 29; Seascape, Landscape and Visual of the EIAR
Residential amenity of any nearby residences	Chapter 33; Socioeconomic, Tourism and Recreation
The potential impact on Natura sites, SACs and SPAs	Supporting Information Screening for AA (SISAA) Natura Impact Statement (NIS)

General Planning Considerations	Application Document
Potential impact on local ecology & archaeology etc	Chapter 12; Benthic Subtidal and Intertidal Ecology Chapter 13; Fish and Shellfish Ecology Chapter 14; Marine Mammal Ecology Chapter 15; Offshore Ornithology Chapter 18; Offshore Archaeology and Cultural Heritage Chapter 23; Biodiversity Chapter 25; Onshore Archaeology, Architectural and Cultural Heritage
EIAR Screening / AA Screening / EIA / NIS requirements	Chapter 2; EIA and Methodology for the Preparation of an EAIR Supporting Information Screening for AA (SISAA) Natura Impact Statement (NIS)
The impact on local road network during construction stage	Chapter 24; Traffic and Transportation
The relevant national and local development plans policies and objectives	Chapter 3; Legal and Policy Framework Appendix A31.1; Legislation, Policy and Guidelines
Health and Safety of general public	Chapter 32; Population and Human Health of the EIAR
Appropriate permissions / consents to carry out works on the lands / areas affected.	Chapter 3; Legal and Policy Framework Appendix A31.1; Legislation, Policy and Guidelines

4.16.4 Conclusion

The Developer acknowledges the issues raised by DOD and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.17 Louth County Council

4.17.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by Louth County Council (LCC). The submission has been made by Louth County Council in its role as a coastal planning authority.

4.17.2 Summary of the Key Points Raised by LCC

The LCC submission summarises the main characteristics of the proposed development and states the relevant planning and policy aspects related to the proposed development from the Louth County Development Plan 2021 – 2027 (as varied).

The format of the LCC submission is to provide commentary under each of the following headings, as per the Planning and Development Act:

- The implications of the proposed development for maritime spatial planning;
- The implications of the proposed development for proper planning and sustainable development;
- The likely effects on the environment or any European site of the proposed development, if carried out; and
- Recommended conditions.

4.17.3 Response to Key Points Raised

4.17.3.1 *The implications of the proposed development for maritime spatial planning*

The points raised by LCC relating to the implications of the proposed development for maritime spatial planning include:

- Policy;
- Commissioner of Irish Lights and safe navigation; and
- Dumping at Sea.

4.17.3.1.1 Policy

Section 5.2 (page 14) of the LCC submission states that “*The subject development is considered acceptable in principle from a maritime spatial planning perspective and seeks to deliver on the national government’s objective of delivering offshore wind energy so as to deliver decarbonisation targets. This needs to be balanced with ensuring marine eco-system conservation.*”

Response to Policy

The Developer can confirm that the proposed development has been considered in the context of Ireland’s maritime spatial planning from the outset, in particular the National Marine Planning Framework (NMPF) see Chapter 3: Legal and Policy Framework of the EIAR. The NMPF supports the development of offshore renewable energy (ORE) in Ireland, to, inter alia: significantly reduce greenhouse gas emissions and accelerate the move to cleaner energy in line with national and EU policy; increase the sustainable use of ORE within Ireland’s extensive marine resource; support Ireland’s decarbonisation journey through increased use of ORE while delivering significant and sustained benefits; and provide enhanced security of energy supply for Ireland in accordance with the Climate Action Plan.

The proposed development’s compliance with the NMPF is outlined in Appendix A3.1: NMPF Compliance Report of the EIAR of its planning application.

The Marine Strategy Framework Directive (MSFD) Assessment and Ecosystems Functions and Services Assessment (Appendix A3.2: MSFD Assessment and Appendix A3.3: Ecosystems Functions and Services Assessment) outline how the proposed development ensures marine-ecosystem function. The conclusion of the MSFD assessment determined that the proposed development will not result in a deterioration of the current overall status of the Celtic Sea North Inner MRU or broad habitat types therein or jeopardise the attainment of Good Ecological Status. Whilst Appendix A3.3 considered the full range of ecosystem services set out in the report ‘Valuing Ireland’s Blue Ecosystem Services’ (SEMRU of NUI Galway, 2018). The outcome of individual receptor assessments concluded no material impact on ecosystem services, and no impediment to the ability of normal ecosystem functions and services to function, resulting from the proposed development.

4.17.3.1.2 Commissioner of Irish Lights and Safe Navigation

Section 5.2 (page 14) of the LCC submission recommends the Commission “*take on board any comments received from the Commissioner of Irish Lights so as to ensure there is a coherent network of visual and electronic aids to navigation in the subject waters. Safe navigation for all sea users is key in particular for fishing vessels.*”

Response to Commissioner of Irish Lights and Safe Navigation

The Developer notes LCC’s submission and also notes that the CIL has made a submission to An Coimisiún Pleanála. The Developer’s response to the CIL submission is presented in Section 4.11 of this report.

Safe navigation for fishing vessels will be addressed in the Fisheries Management and Mitigation Strategy (FMMS), drafted by the independent consultant that undertook the commercial fisheries impact assessment (Chapter 16: Commercial Fisheries of the EIAR), in collaboration with the Developer and the Fisheries Liaison Officer (FLO). Within the FMMS, a co-existence strategy will be developed promoting the continuation of both the proposed development and fishing industry activities at the same time within and around the array area and along the ECC; including commitments related to:

- Cable burial
- Safe passing distances and guard vessels
- Safety of navigation
- Dropped objects
- Code of good practice for all vessels
- Procedures in relation to gear fastening or loss.

4.17.3.1.3 Dumping at Sea

Section 5.2 (page 14) of the LCC submission states “*A Dumping at Sea permit is required for the disposal of a substance or material at sea under the Foreshore and Dumping at Sea (Amendment) Act 2009. The soil and rock arising from the drilling for the installation of the foundations for the Project will be returned to the area adjacent to the foundation location. It is important that dispersion of the drill arisings are minimised*”. It states in this regard that “*This should also be considered in the context of short-term impacts to navigational routes for other vessels as well as appropriate assessment issues that may arise*”.

Response to Dumping at Sea

The Developer notes LCC’s submission and that the Environmental Protection Agency (EPA) is the competent authority in respect of Dumping at Sea licences. A Dumping at Sea licence will be required and the EPA is required to take into account material analysis, loading operations, dumping operations, impacts on the receiving environment and monitoring in determining such a licence.

4.17.3.2 The implications of the proposed development for proper planning and sustainable development

Louth CC addresses the implications of the proposed development for proper planning and sustainable development, under the following headings:

- Policy context, visual impacts and photomontages;
- In-combination visual impacts with other maritime proposals including Oriel; and
- Design flexibility.

4.17.3.2.1 Policy context, Visual Impacts and Photomontages

Section 5.3 (page 15) of the LCC submission states relevant policy context and states that the proposed development accords with this policy context, including the Louth County Development Plan (in respect of offshore wind).

Section 5.3 (page 15) of the LCC submission states that LCC is “*satisfied that the details and photomontages submitted contain adequate assessment of the visual impacts both on the seascape and landscape of the area in question along the coastline. The Louth coastline is typically broad estuarine bays, beaches and low-lying lands. There will be a visual impact as the turbines will be seen generally along coastal areas and higher grounds inland. In Louth this visual impact will be more apparent towards the south of the county, in headland locations and from higher ground levels including the Cooley Mountains. However, it is not considered such that [it] detracts from the views along the coastline.*”

Response to policy context, visual impacts and photomontages

The Developer notes the view of LCC in this regard.

4.17.3.2.2 In-combination visual impacts with other maritime proposals including Oriel

Section 5.3 (page 15) of the LCC submission states “*in-combination visual impact with other maritime proposals including the Oriel windfarm have not been considered.*”

Response to - In-combination visual impacts with other maritime proposals including Oriel

In-combination visual impacts with other maritime proposals including the Oriel windfarm have been considered in the EIAR. Cumulative effects are addressed in the following documents:

- Section 29.9 of Chapter 29: SLVIA - the cumulative “seascape and visual” effects between the offshore infrastructure of the proposed development and other “screened in” projects (including other Phase One Projects such as Oriel) are described. Further details are provided in Appendix A29.2 Cumulative Visual Impact Assessment at Representative Viewpoint Locations and Volume 7C1 Photomontages (offshore wind farm).
- Chapter 38: Cumulative and Inter-related Effects. The cumulative “landscape and visual” effects between the onshore infrastructure of the proposed development and other “screened in” projects are described in Section A38.2 of Chapter 38. Table A38.18 of Chapter 38 presents the results of the “landscape and visual” CEA for the ‘screened-in’ projects with the proposed development.

Specifically, in relation to the proposed Oriel project, Section 29.9 of Chapter 29 of the EIAR states “*The proposed development is not considered to give rise to any significant cumulative effects in conjunction with the Oriel array.*”

4.17.3.2.3 Design Flexibility

In respect of design flexibility, Section 5.3 (page 16) of the LCC submission states that for “*The elements of the proposed development for which design flexibility is sought is understandable in a rapidly changing technological environment and the potential for unexpected ground conditions. The EIAR has considered the worst-case scenario in respect of these elements.*” The submission further states that “*the Board did not accept the request for design flexibility for the extent and nature of the protection of subsea cables associated with the proposed development as this element was considered to relate to normal construction practices that are intrinsic to the installation for the development.*”

LCC requests that “Where a grant of permission is considered, the Board should ensure that final details in respect of the design flexibility elements are submitted in advance to the planning authority for prior written agreement that the final design elements are consistent with the design flexibility sought.”

Response to Design Flexibility

The Developer notes LCC’s submission with reference to design flexibility. The Developer also notes that, under Section 293 (4A) of the Planning and Development Act 2000, as amended, “where the Board grants permission for a development on foot of an application in respect of which the Board has given an opinion under section 287B(2), the permission shall include a condition in respect of any detail of the development that was not confirmed at the time of the application.”

In order for a prospective Developer to submit a planning application for maritime development that incorporates design flexibility and/or design parameters, it must first attain an opinion as to flexibility under section 287B of the Planning and Development Act, 2000 (as amended) (the Planning Acts) from the Board. In such circumstances, a prospective Developer must enter into pre-application consultations for an opinion on design flexibility pursuant to section 287A of the Planning Acts.

As referred to in Section 2.7.2 of Chapter 2: EIA and Methodology of the EIAR and Section 2.2.1 of the NIS, the Developer entered into pre-application consultation for an opinion on design flexibility pursuant to section 287A of the Planning Acts with the Board. In October 2023, the Developer submitted its application to the Board (ABP-316332-23). In February 2024, the Developer received its opinion on design flexibility under section 287B, signed 30 January 2024 (the DF Opinion). The DF Opinion was subsequently clarified by way of letter dated 4 April 2024 and updated by way of decision pursuant to Section 146A of the Planning Acts on 16 April 2024.

The DF Opinion has been provided in Appendix 2.4 of Volume 8: Introductory Appendices of the EIAR.

The selection process for the final project options is fully compliant with the requirements with the EIA Directive and Birds and Habitats Directives. The planning application, and particularly the EIAR and NIS comprehensively assess both project options outlined in the DF Opinion to ensure compliance with both EIA and Habitats Directive. In preparing these environmental reports the Developer considered longstanding best practice from other jurisdictions which have permitted and implemented design flexibility in the development of offshore renewable projects over a significant time period.

The Developer acknowledges the Board did not accept the request for design flexibility for the extent and nature of the protection of subsea cables associated with the proposed development as this element was considered to relate to normal construction practices that are intrinsic to the installation for the development.

The Developer has no objection in principle to a condition requiring the Developer to provide details in respect of the design flexibility elements and submit in advance to the planning authority for prior written agreement so that that the final design elements are consistent with the design flexibility sought being attached to any grant of permission by An Coimisiún Pleanála.

4.17.3.3 The likely effects on the environment or any European site of the proposed development

The points raised by Louth CC on the likely effects on the environment or any European site of the proposed development, if carried out, include:

- The likely effects on the environment or any European site;
- Transboundary considerations;
- Biosecurity Action Plan and Water Quality; and
- Final Design and associated Visual and Environmental Effects.

4.17.3.3.1 Likely Effects on any European site

In the first instance, section 5.1 (page 13) of the LCC submission states that “*An Bord Pleanála is the competent authority in respect of EIA and AA and that LCC will rely on them to carry out the relevant assessments in this regard*” LCC states that “*there are a number of significant European sites in county Louth not least the Boyne Coast and Estuary Special Area of Conservation which includes most of the tidal sections of the River Boyne, intertidal sand and mud flats, salt marshes, marginal grassland, and the stretch of coast from Bettystown to Termonfeckin that includes the Mornington and Baltray sand dune systems. The site extends to over 400 hectares and is an important wintering waterfowl sites that supports thousands of waterbirds. The turbines are located some distance from the bay itself. However, the flight paths of the birds should be considered. The potential for ‘In-Combination’ effects will be important*”.

Response to Likely Effects on any European site:

Supporting Information for Screening for Appropriate Assessment (SISAA Report) and a Natura Impact Statement (NIS) have been prepared by the Developer to provide information to An Coimisiún Pleanála, as the competent authority.

The SISAA Report has assessed the potential for the proposed development to have a Likely Significant Effect (LSE) on a European site, taking account of qualifying interests (QI) and site-specific conservation objectives (CO).

The NIS takes account of the QIs and COs of all relevant European sites identified within the SISAA Report, and considers whether a plan or project, alone or in combination with other plans or projects, will have an adverse effect on integrity (AEoI) of one or more European sites. Based on the assessment of the proposed development alone and in-combination, it is concluded that there is no potential for AEoI of the QIs of any European site. As the competent authority, An Coimisiún Pleanála will use this information to undertake an Appropriate Assessment. The competent authority is not bound to reach the same conclusions of either the SISAA Report or the NIS.

4.17.3.3.2 Transboundary considerations

Section 5.4 (page 16) of the LCC submission states that the marine environment is transboundary in nature and requests that “*The Board should satisfy themselves that the proposals have demonstrated that they can be implemented without adverse effects on the integrity of European Sites and as such align with the planning policies set out in the National Marine Planning Framework.*”

Response to Transboundary considerations

The Developer confirms that the potential for transboundary impacts on designated Manx sites have been assessed in the appropriate sections of the following chapters (where the study area or zone of influence extends into Isle of Man waters); Chapter 13: Fish and Shellfish Ecology; Chapter 14: Marine Mammal Ecology; and Chapter 15: Offshore Ornithology. For clarity, the Developer confirms that no potential for transboundary impacts have been concluded on designated Manx sites that have fish or shellfish, marine mammal; or ornithology qualifying features

The Developer has also addressed the Isle of Man observation in Section 5.9 of the Response to Submissions report.

4.17.3.3.3 Biosecurity Action Plan and Water Quality

Point 1 – Biosecurity Action Plan

Section 5.4 (page 16) of the LCC submission specifically requests that a condition requiring “*a bio-security action plan including monitoring of potential opportunities for the introduction and avoidance of non-native species should be attached to any grant of permission. Vessel traffic to offshore platforms should also be minimised.*”

Response to Point 1 - Biosecurity Action Plan

The Developer notes the concerns of LCC regarding invasive non-native species. In Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR, mitigation measures are found in Table 12.13. An offshore EMP will be further enhanced post-consent to include (details of marine biosecurity measures including how the

risk of introduction and spread of invasive non-native species will be minimised, and a Vessel Management Plan (Appendix A17.3: VMP), to determine vessel routing to and from construction sites and ports, to include a code of conduct for vessel operators.

Point 2 – Water quality

Section 5.4 (page 16) of the LCC submission also states that “*The Board should ensure that there are adequate water quality mitigation measures put in place to ensure there is not deterioration in water quality status.*”

Response to Point 2 – Water quality

Compliance of the proposed development with both the Water Framework Directive (WFD) and MSFD was assessed and secured within Appendix 11.1: WFD Compliance Report, which was a signposting document to Chapter 11: Marine Water and Sediment Quality of the 2024 EIAR.

The Developer notes that An Coimisiún Pleanála in its RFI Section 3, requested additional information in relation to the compliance with the Marine Strategy Framework Directive (MSFD). Refer to the RFI Response Document in which this request is addressed.

4.17.3.3.4 Final Design and associated Visual and Environmental Effects

Section 5.4 (page 16) of the LCC submission states that “*The planning authority is generally of the view that the final design and layout is such that [it] would minimise impact both from a visual impact and also an environmental perspective, although the latter is for the Board to determine as the competent authority.*”

Response to final design and associated visual and environmental effects

The Developer notes and welcomes the views of Louth County Council in this regard.

4.17.3.4 Recommended conditions

Section 7 of the LCC submission suggests the following recommendation in the event of a grant of permission, see Table 4.17.1 below.

Table 4.17.1 Louth County Council Recommended Conditions

No.	Condition	Developer's Response
1	The Board is recommended to take on board any comments received from the Commissioner of Irish Lights so as to ensure there is a coherent network of visual and electronic aids to navigation in the subject waters. Safe navigation for all sea users is key in particular for fishing vessels.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	A Dumping at Sea permit is required for the disposal of a substance or material at sea under the Foreshore and Dumping at Sea (Amendment) Act 2009. The soil and rock arising from the drilling for the installation of the foundations for the Project will be returned to the area adjacent to the foundation location. It is important that the dispersion of the drill arisings are minimised. This should also be considered in the context of short-term impacts on the navigational routes for other vessels as well as appropriate assessment issues that may arise.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
3	A condition requiring a bio-security action plan including monitoring of potential opportunities for the introduction and avoidance of non-native species should be attached to any grant of permission. Vessel traffic to offshore platforms should also be minimised.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	The Board should ensure that there are adequate water quality mitigation measures put in place to ensure there is no deterioration in water quality status.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
5	It is recommended that the Board grant permission for the offshore windfarm subject to conditions that ensure that the proposal is in accordance with the plans and particulars submitted and does not give rise in conflicts in terms of mitigation measures across the various reports submitted. As noted in the report a design flexibility condition should be attached with details to be submitted for the written agreement of the planning authority prior to the commencement of those elements of the development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála

4.17.3.4.1 Concluding remarks

In its conclusion (Section 6.1 and 7.1), the LCC submission states *“In essence, the project is considered critical in terms of contributing to the overall targets set out as part of the binding targets set for reduction in greenhouse gas emissions. The Louth County Development Plan supports the principle of offshore windfarms that demonstrate they will not have a significant impact on the environment. The planning authority will rely on the Board as the competent authority to undertake the EIA and AA assessments in line with legislative provisions.”*

“It is recommended that the Board grant permission for the subject offshore windfarm subject to conditions that ensure that the proposal is in accordance with the plans and particulars submitted and does not give rise in conflicts in terms of mitigation measures across the various reports submitted.”

Response to Concluding remarks

The Developer notes and welcomes the conclusion and recommendation of Louth County Council in this regard.

4.17.4 Conclusion

Finally, the key points raised in the submission by LCC have been fully considered, and having considered those points, the conclusions in the relevant impact assessments remain as set out in the EIAR.

4.18 Dublin City Council

4.18.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by Dublin City Council (DCC). A summary of the key points raised by the DCC submission is provided in Section 4.18.2. The Developer's response is provided in Section 4.18.3.

DCC, as a prescribed body and Coastal Planning Authority provided a Chief Executive's Report, as presented to the members of Dublin City Council on 2nd September 2024, together with recommendations specified in the resolution to the report (i.e. inclusive of the views and recommendations expressed by the members) in the submission.

In its submission, DCC notes that it has not, to date, received any notification arising from Section 291(5) of the Planning and Development Act, 2000, as amended.

4.18.2 Summary of the Key Points Raised by DCC

The DCC submission raised a number of key points and recommended a number of conditions for consideration by An Coimisiún Pleanála, should permission be granted for the proposed development. The sections below address both the points raised and the recommended conditions, under a number of headings as follows:

- Planning and Policy Context
- Visual Impacts
- Environment & Transportation
- Recommended Conditions

4.18.3 Response to Key Points Raised

4.18.3.1 Planning and Policy Context

The DCC submission provides a summary of relevant international, national, regional and local policy of relevance to the proposed development. The submission notes that "*Decarbonising the energy sector, by facilitating a shift from fossil fuels to low-carbon energy sources, forms a key element of the climate action policy within the DCDP*", and that "*the proposed development is situated close to one of Ireland's major load and growth centres in the Greater Dublin Area and as such supports the delivery of EirGrid's strategic aims in supporting the growth of the electricity network.*"

Response

The Developer notes and welcomes that DCC recognises that the proposed development supports the key policies of the DCDP 2022-2028 and EirGrid's strategic aims in supporting the growth of the electricity network.

4.18.3.2 Visual Impacts

In respect of visual impacts, the DCC submission states that "*overall, it is considered that the Seascape, Landscape & Visual Report gives a clear and unambiguous indication of the visual impact of the proposal and on balance there are not considered to be any significant visual effects arising from the offshore elements of the proposed development. This is considered acceptable*".

Response

The Developer notes and welcomes DCC's submission on the Seascape, Landscape and Visual Impact assessment presented in the EIAR.

4.18.3.3 *Environment & Transportation Department Comments*

The DCC submission includes a detailed report from the Environment & Transportation Department, which includes a number of relevant comments on the proposed development as well as a set of recommended conditions. The key points raised by each of the following divisions are captured in the recommended conditions in Section 4.18.3.4 below.

- Environment & Transportation: Roads Maintenance Services (RMS)
- District Heating Project
- Traffic
- Drainage Planning, Policy and Development Control (DPPDC)
- Air & Noise

4.18.3.3.1 Environment and Transportation: General Requirements

The Environment and Transportation (E&T) Department notes that prior to the commencement of development, a significant amount of time will be required to *“to prove the cable route through site investigations, to agree joint bay locations and to agree methods of construction including format of trench works etc. The works will require a Road Opening License and agreement will need to be reached on the above prior to application for a Road Opening License. Reinstatement will at a minimum be required to comply with the ‘Guidelines for Managing Openings in Public Roads’ (often referred to as ‘the purple book’) but the extent and detail of reinstatement required may be decided on a case by case basis having regard to the specific location and environment.”*

The E&T department also notes that *“the applicant will be required to agree an overall construction management plan for the project including construction traffic management plans and road closures etc. This will have to take cognisance of cumulative construction activity arising from planned and permitted infrastructure projects in the development area such as Metrolink and associated electrical upgrades Clongriffin to City Centre Bus Connects and Dublin City Council Active Travel projects.”*

The E&T Department also notes that proactive communication throughout the project through community liaisons and the implementation of the communication plan (Appendix C of the Onshore CEMP in Appendix 9.1 of the EIAR) is crucial. Further, the E&T Department notes that *“engagement prior to commencement of development and oversight of the construction of the development within the public road will require considerable resource input from Dublin City Council, some of the costs of which it is considered should be borne by the applicant.”*

The Environment and Transportation Department’s proposed conditions are included in Table 4.18.1 of this report under Conditions No. 2, 3, 5, 6 and 7.

4.18.3.3.2 Roads Maintenance Services

The Roads Maintenance Services department note that conditions outlining the requirements of the department should be met. These are included in Table 4.18.1 of this report under Condition No. 10.

4.18.3.3.3 District Heating Project

DCC encourages the future integration of the proposed development with future potential district heating networks in the North Fringe area of the city, should they be developed. DCC states *“A future connection point that allows for integration to a district heating network would be mutually beneficial to both developments and if feasible, should be identified and included.”*

The recommended condition relating to the District Heating Project is included under Condition No. 14 in Table 4.18.1 of this report.

4.18.3.3.4 Traffic

The Traffic department notes that *“although the majority of this project is outside the Dublin City Council area it does impact on major routes into the Dublin City Council area in particular on R107/ Malahide Road and also on the R139 There are a number of major projects in the area which will need to be considered as part of this installation, they include the MetroLink (including advanced works) and the Clongriffin to City Centre Bus Connects project.”*

The Traffic department also notes several conditions outlining the requirements of the department which should be met. These are included in Table 4.18.1 of this report under Condition No. 11.

4.18.3.3.5 Drainage Planning, Policy and Development Control (DPPDC)

The DPPDC section notes it “*has no objection to this development, subject to the developer complying with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0.*”

The DPPDC also notes several recommended conditions which are included in Table 4.18.1 of this report under Condition No. 12.

4.18.3.3.6 Air and Noise

Recommended conditions as they relate to Air Quality and Noise and Vibration are listed under Condition No. 13 in Table 4.18.1 of this report.

Response

The Developer has reviewed the list of recommended conditions proposed by DCC. The proposed conditions and responses from the Developer are listed in Table 4.18.1 in Section 4.18.3.4 of this report.

4.18.3.4 Recommended Conditions

DCC proposes a set of recommended conditions to be attached to any grant of permission by An Coimisiún Pleanála. The Developer’s response to these recommended conditions is indicated below:

Table 4.18.1 Schedule of conditions

No.	Condition	Developer's Response
1	Insofar as the Planning & Development Act 2000 (as amended) and the Regulations made thereunder are concerned the development shall be carried out in accordance with the plans, particulars and specifications lodged with the application, save as may be required by the conditions attached hereto. For the avoidance of doubt, this permission shall not be construed as approving any development shown on the plans, particulars and specifications, the nature and extent of which has not been adequately stated in the statutory public notices <u>Reason:</u> To comply with permission regulations	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	Prior to commencement of development, the applicant shall engage with Dublin City Council regarding the methodology and programme for agreement of precommencement works including those required to prove the route and inform the detailed design and layout of infrastructure. In this regard, the applicant is advised to incorporate sufficient time into their overall programme to agree such works.	The Developer notes that road opening licences and road closure notices will be required prior to the commencement of development, the conditions of which will require to be agreed with the relevant local authority. Notwithstanding, the Developer has no objection in principle to further engagement with Dublin City Council to agree the methodology and programme as suggested by this proposed condition, but would respectfully request that any such condition be amended as follows: Prior to the commencement of development, the Developer shall engage with Dublin City Council regarding the methodology and programme for agreement of precommencement works including those required to prove the route and inform the detailed design and layout of infrastructure. Dublin City Council shall provide a dedicated liaison to ensure that agreement on such methodology and programme is provided within a period of 3 months .
3	Prior to commencement of development, the applicant shall agree in writing with Dublin City Council: a. The exact location/route of the ducting trench within each individual section of road	Section 7.2.2 of Chapter 7 of the EIAR states that the Developer has “<i>defined a proposed development boundary which provides some necessary local flexibility regarding the placement of project infrastructure. Whilst in some locations this means that the proposed development boundary is larger than the likely final construction</i>”

No.	Condition	Developer's Response
	b. The layout and depth of the ducting trench cross sections c. Location and construction detail of Joint Bays including purpose built joint bay lids d. Details for road reinstatement works for each individual section of road. Reinstatement works shall be at a minimum as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book') but may additional reinstatement works as required on a case-by-case basis having regard to the specific location and environment.	<i>footprint, this approach provides confidence that the proposed development will be constructable entirely within the proposed development boundary. The proposed cable infrastructure centreline is shown on Figure 7.3 and on the planning drawings (Appendix 7.1) but remains subject to the final permitted location of other infrastructure and to the tolerance for immaterial deviation from the location shown. Thus, the location for cable infrastructure indicated may change within the proposed development boundary."</i> The Developer acknowledges the importance of working closely with DCC to agree the routing location of the onshore cable route. To this effect, the Developer requests this condition to be amended slightly to include the provision of a dedicated liaison from DCC while works on the road are ongoing. The Developer would also request the word 'exact' be removed from this condition due to the necessary flexibility required (as noted in the excerpt from the EIAR above) for the routing of the onshore cable.
4	Prior to commencement of development, a phasing plan for the overall proposed works on the public road shall be agreed with Dublin City Council. <u>Reason</u> To protect the amenities of the area.	The Developer notes that road opening licences and road closure notices will be required prior to the commencement of development, the conditions of which will require to be agreed with the relevant local authority. Notwithstanding, the Developer has no objection in principle to further engagement with Dublin City Council to agree a phasing plan as suggested by this proposed condition, but would respectfully request that any such condition be amended as follows: Prior to the commencement of development, the developer shall engage with Dublin City Council to agree a phasing plan for the cabling works proposed in the public road. Following this engagement, Dublin City Council shall provide agreement within a period of 3 months.
5	Prior to commencement of development, a Construction Management Plan to include traffic management and road closure proposals, for the overall works within Dublin City shall be submitted for the written agreement of Dublin City Council. This shall take cognisance of planned and permitted developments and infrastructure projects. The plan shall also align with the phasing plan requested at item 3 above. <u>Reason</u> To protect the amenities of the area.	The Developer has no objection in principle to this condition but request that the condition be amended such that agreement from DCC needs to be forthcoming within a period of 3 months.
6	All necessary consents from Dublin City Council shall be obtained before works commence, including the necessary road opening licences	The Developer fully understands the need to obtain any necessary consents from Dublin City Council in advance of the commencement of works and has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	As soon as may be subsequent to permission granted, if An Bord Pleanála is so minded, the applicant shall submit to the Planning Authority a communication plan for the overall project from pre-commencement through construction to operational stages. This shall include liaison details for engagement with the Local Authorities as well as the general public. All costs associated with the communication plan shall be borne by the applicant.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes the detail provided in the Onshore CEMP (Appendix 9.1 of the EIAR) which sets out in Section 8 its approach to communications and complaints for the duration of the construction phase, which includes a communications management plan, detailing proactive consultation and public communications activities required during construction, the available communication channels/points of contact for members of the public, requirements in respect of advance notice of works, complaints procedures, etc.

No.	Condition	Developer's Response
8	Prior to commencement of development, the applicant shall submit for written agreement to the Planning Authority a photographic pre-condition road survey of the entire proposed route for the ducting trench.	The Developer fully understands its obligation in this regard and has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Onshore CEMP, Section 3.8 notes that: <i>'Where requested by the local authorities prior to the commencement of construction operations, pavement condition surveys will also be carried out along roads forming part of the offline haul routes.'</i> <i>These will record the baseline structural condition of the road being surveyed immediately prior to construction'.</i>
9	Any damage caused to the pavement on the existing road network arising from the construction works (e.g. damage of the surface wearing course, etc.) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority in writing prior to the commencement of any development on site.	The Developer fully understands its obligations in this regard and has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
Specific Requirements of Technical Divisions		
10	The applicant shall comply with the requirements of Roads Maintenance Services throughout pre-commencement, construction and reinstatement stages of development: - Proper assessment of the route is required at pre-commencement stage. Green space, road verge or footpath preferable. Joint bays location 'Purple Book' (Guidelines for Managing Openings in Public Roads) standards are the basic requirements for permanent reinstatement. Site specific conditions also required, otherwise Dublin City Council may end up with a patchwork quilt of reinstatement. - The joint bays require purpose built lids to prevent reflective cracking in the road surface. Site investigation (SI) required to prove route under the public road. - Marker plates on public road are not desirable. Reference in the NISA planning application documents but no details given. - Straight runs of proposed service preferable, otherwise sterilisation of additional underground space will happen. - Technical Acceptance Report (TAR) process required for joint bays. - Operations and Maintenance (O & M) manuals required. - Stakeholder engagement and communications plan required. - Developer to fund site supervision on behalf of Dublin City Council. - Reasonable time is required for planning compliance prior to construction, to enable Dublin City Council teams to process/ approve documentation.	The Developer notes the following regarding these condition being attached to any grant of permission by An Coimisiún Pleanála: 3f - it is noted that proposed Condition 3d from Dublin City Council is very similar to proposed condition 3f. 3j - following construction, the joint bays will be an ESB Networks/EirGrid asset and will be maintained by them throughout the operational phase of the proposed development. The Developer therefore respectfully suggests that this condition is not appropriate as there will be no handover of assets to the local authority. 3h - The Developer notes the detail provided in the Onshore CEMP (Appendix 9.1 of the EIAR) which sets out in Section 8 its approach to communications and complaints for the duration of the construction phase, which includes a communications management plan, detailing proactive consultation and public communications activities required during construction, the available communication channels/points of contact for members of the public, requirements in respect of advance notice of works, complaints procedures, etc. 3l - The Developer has no objection in principle to this proposed condition but respectfully requests a reasonable timeline be included for the planning compliance process, within this condition. This will ensure that the construction programme is maintained and delivery of offshore wind energy by 2030 is achievable.
11	The following requirements of the Traffic Divisions shall be complied with: - Prior to the commencement of development, the developer shall submit for the written agreement of Dublin City Council a phasing plan for the cabling works proposed. The following details should be provided as part of this agreement: - The exact location/route of the ducting trench within each individual section of roadway, particular care should be taken to ensure that the	(i) Section 7.2.2 of Chapter 7 of the EIAR states that the Developer has <i>"defined a proposed development boundary which provides some necessary local flexibility regarding the placement of project infrastructure. Whilst in some locations this means that the proposed development boundary is larger than the likely final construction footprint, this approach provides confidence that the proposed development will be constructable entirely within the proposed development boundary. The proposed cable infrastructure centreline is shown on Figure 7.3 and on the planning drawings (Appendix 7.1) but remains subject to</i>

No.	Condition	Developer's Response
	ducting route impacts existing services as little as possible along the route. – The layout and depth of the ducting trench cross section. – The developer should map all existing DCC ITS equipment in the area and will be responsible for the replacement of any equipment which is damaged during the works. – The exact details for road reinstatement works for each individual section of road shall be as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book'). (ii) The phasing of the proposed works on the public road shall be agreed with Dublin City Council prior to the start of the works, including the phasing dates and duration of any proposed 'road closures' on the public road. (iii) Road closures should be kept to an absolute minimum and shall only be granted as a last resort and for a short duration once all other alternatives have been fully explored as potential road closures in the Dublin City Council areas in particular would likely result in significant local disruption to traffic in both the Dublin City Council and Fingal County Council areas. The developer will have to ensure that they works are coordinated so as to avoid the proposed development works conflicting with various planned and permitted developments along the proposed cable route. (iv) For any roadworks or closures that affect bus routes, agreement with the National Transport Authority and notification of the bus operators must be confirmed prior to the works commencing.	<i>the final permitted location of other infrastructure and to the tolerance for immaterial deviation from the location shown. Thus, the location for cable infrastructure indicated may change within the proposed development boundary."</i> The Developer acknowledges the importance of working closely with DCC to agree the routing location of the onshore cable route. To this effect, the Developer requests this condition to be amended to include the provision of a dedicated liaison from DCC while works on the road are ongoing, to agree such details on an ongoing basis to avoid unnecessary delays. The Developer would also request the word 'exact' be removed from this condition due to the necessary flexibility required (as noted in the excerpt from the EIAR above) for the routing of the onshore cable. (ii) The Developer notes that road opening licences and road closure notices will be required prior to the commencement of development. To this effect, the Developer is willing to engage with DCC to agree a phasing plan to limit disruption to the public and suggests alternative wording for this condition as follows: <i>Prior to the commencement of development, the developer shall engage with Dublin City Council to agree a phasing plan for the cabling works proposed in the public road. Following this engagement, Dublin City Council shall provide agreement within a period of 3 months.</i> (iii) The Developer notes that Section 9.3.3 of Chapter 9 of the EIAR highlights the requirement for full road closures on certain roads by stating "<i>Due to the narrow widths of certain roads, temporary full road closures with associated traffic diversions are likely to be necessary at some sections of the onshore cable route.</i>" Section 24.4.2.3 of Chapter 24 of the EIAR also notes that "<i>The full road closures have been identified along narrower roads where the construction width is limited and where it would not be possible to lay the cable while safely maintaining partial traffic flows. In the case of full road closures local property access will still be maintained for car, active travel (pedestrians and cyclists) and service/emergency vehicles throughout, through the contractor's implementation of safe traffic management measures.</i>" The Developer acknowledges the significance of disruption local road closures would have on the public in both DCC and FCC jurisdictions. These are fully assessed in Chapter 24 of the EIAR. It is important to note that the reliance on full road closures is only used in exceptional circumstances, and as a last resort. Section 24.6.1.3 of Chapter 24 of the EIAR outlines the Developer's commitment to minimising road closures as far as possible: "<i>Due to the potential negative, significant, temporary impact of the full road closures on local diversion route operations, strategic diversion route operations and bus services it is proposed to limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route, as an additional mitigation measure</i>". (iv) The Developer is willing to engage with both DCC and FCC to organise the road closures to ensure disruption is reduced as far as feasible. The Developer is committed to establishing a Communications Management Plan which specifies the approach and protocol in relation to community and stakeholder engagement (see Section 8.1.2 of Appendix 9.1 of the EIAR). This includes consultation with DCC and the National Transport Authority to notify any roadworks or closures which may impact on bus routes.

No.	Condition	Developer's Response
		Additional commitments are outlined in Section 24.6.1.3 of Chapter 24 of the EIAR which states "<i>Bus services will be prioritised at stop/go lane closures along partial road closures, however, could potentially still incur significant delays along heavily trafficked routes. Due to the potential negative, significant, temporary impact of the partial road closures on bus services it is proposed to reduce the likelihood of bus services incurring delays by diverting bus services currently operating along proposed partial road closures towards local diversion routes, as an additional mitigation measure. The appropriate bus route or local diversion route is to be determined the operator.</i>" The Developer respectfully suggests that given the above, and the need for compliance with these requirements under Condition 1 of any consent (as these requirements form part of the plans and particulars of the proposed development), this condition is not required.
12	The following requirements of the Drainage Planning, Policy and Development Control Division shall be complied with: (i) The Drainage Planning, Policy and Development Control (DPPDC) section has no objection to this development, subject to the developer complying with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0. In particular, the required separation distances between new utilities/cables and existing public surface water sewers, as specified in Section 3.13 Utilities, shall be adhered to. (ii) There are a number of locations where the proposed cable routes cross or run alongside existing public surface water infrastructure. Prior to the commencement of construction, the developer shall agree detailed plans for these interface locations with the Drainage Planning, Policy and Development Control (DPPDC) section. (iii) There are a number of locations where the proposed cable routes are shown to cross under the River Mayne. Prior to the commencement of construction, full details of the proposed crossings, including method of construction and flood risk management, shall be submitted for agreement to the DPPDC section. (iv) Records of public surface water sewers are indicative and must be verified on site. The developer must carry out a comprehensive site survey to establish all public surface water sewers that may be on the site. If surface water infrastructure is found that is not on public records the developer must immediately contact the DPPDC section to ascertain their requirements. Any damage to existing public surface water sewers shall be rectified at the developer's expense.	(i) The Developer has engaged with statutory bodies and other relevant stakeholders including Uisce Éireann as outlined in Section 6.2 and 6.5 of Appendix 1.2 of the EIAR. The Developer is committed to further engagement with DCC, Uisce Éireann and other stakeholders as required throughout the construction phase. However, the Developer notes that in specific locations, a deviation from the minimum separation distances is required. This is specifically necessary in areas where services are congested and the required separation distances in Section 3.13 of the Dublin Regional Code of Practice are relaxed, subject to a full asset protection design being agreed with the Local Authority. Therefore, the Developer proposes a slight amendment to this condition to note: <i>The developer shall generally comply with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0. In particular, the required separation distances between new utilities/cables and existing public surface water sewers, as specified in Section 3.13 Utilities, shall be adhered to except in situations required by the Developer and agreed with the Local Authority and other relevant stakeholders.</i>
13	The following requirements of the Air Quality Monitoring & Noise Control Unit shall be complied with: (i) The assessment methodology, mitigation and monitoring measures as detailed in Chapter 27 of the EIA assessment report on Air Quality shall be adhered to in full. The cumulative effects of all activities on site shall be considered at all times. Should exceedances be recorded, the Air Quality assessment methodologies/mitigation measures	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	shall be adapted to ensure limits are complied with. (ii) The assessment methodology, mitigation and monitoring measures as detailed in Chapter 30 of the EIA assessment report on Noise and Vibration shall be adhered to in full. The cumulative effects of all activities on site shall be considered at all times. Should exceedances be recorded, the Noise and Vibration methodologies/mitigation measures shall be adapted to ensure limits are complied with.	
14	The following requirement of the District Heating Project Team shall be complied with: (i) Dublin City Council encourages the future integration of the North Irish Sea Array Wind Farm with future potential district heating networks in the North Fringe area of the city, should they be developed. A future connection point that allows for integration to a district heating network would be mutually beneficial to both developments and if feasible, should be identified and included in the project. In this regard, the applicant shall engage with Dublin City Council's District Heating Project team with a view to agreeing, where feasible, a connection point for district heating.	The Developer notes that as described in Section 7.6.2 of Chapter 7 of the EIAR <i>"both substations will be unmanned and operated remotely"</i>. Further, the outcomes of the ORESS 1 auctions stipulate that the energy produced by the proposed development shall be connected directly to the national grid. As a result, no such future connection point as suggested by this condition has been included in the consent application. To that end, it is not considered that such a condition is feasible, nor is it appropriate, for this proposed development.
15	The following requirement of the Active Travel Programme Office (AcTPRO) shall be complied with: (i) Prior to commencement of development, the applicant shall contact the Active Travel Programme Office on activetraveloffice@dublincity.ie regarding Active Travel Projects within the development area. The outcome of the discussions shall be submitted to the Planning Authority prior to commencement of development for consideration and placement on the public planning file.	A comprehensive cumulative impact assessment has been undertaken and is presented in the EIAR which accompanied the consent application (Chapter 38). This considers and assesses the potential for cumulative and in combination effects with other projects in the vicinity, including any relevant active travel projects. Other proposed conditions herein, by both FCC and DCC require consultation and agreement on the methodology, phasing and programming of the proposed construction works prior to commencement. The Developer would respectfully suggest that these conditions are appropriate to ensure that any interactions with proposed active travel projects in the jurisdiction of both local authorities. Further, in respect of the operational phase of the project, as noted in the Developer's response to Condition No. 14 recommended by DCC, both substations will be unmanned and operated remotely. Section 7.6.3 of Chapter 7 of the EIAR notes that <i>"maintenance of the cables will comprise an inspection, approximately once every two years or ad-hoc whenever needed in response to a cable fault or issue, by means of the link box and communication chambers, which will be located at every joint bay."</i> Therefore, there will be no impact on any active travel infrastructure once the proposed development is operational. Given the above, the Developer respectfully suggests that this condition is not required and is appropriately covered by other proposed conditions of DCC herein.

4.18.4 Conclusion

The DCC submission notes that the proposed development complies with the planning and policy objectives outlined in the DCDP. Furthermore, DCC notes that the assessments pertaining to DCC are acceptable. Should An Coimisiún Pleanála grant permission for the proposed development, the Developer would welcome An Coimisiún Pleanála's consideration of the Developer's response in Table 4.18.1 above.

5. Transboundary Consultees and Other Bodies

5.1 Transport Infrastructure Ireland

5.1.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by Transport Infrastructure Ireland (TII).

5.1.2 Summary of the Key Points Raised by TII

TII raised key points in relation to the construction of the proposed development within the national road network which include:

- Motorway Crossing: R132 (Blakes Cross to Lissenhall);
- Infrastructure within the TII Motorway Maintenance and Renewal Contracts (MMaRC) Network Area Boundary;
- Cable Route M1 Flyover to Estuary Roundabout;
- Pre-Application Consultation; and
- The delivery of abnormal loads.

5.1.3 Response to Key Points Raised

5.1.3.1 Motorway Crossing: R132 (Blakes Cross to Lissenhall)

Section 1 of the Submission includes a list of general requirements for directional drilling under a motorway, including that:

- *The launch and reception pits for the crossing are located outside the Motorway boundary.*
- *The cabling will be installed at such depth so as not to conflict with the drainage for the Motorway.*
- *Neither the works nor the cable crossing will damage or interfere with the Motorway.*
- *Any maintenance and/or future planned upgrades of the cabling/pipeline at the crossing location can be carried out without access to the motorway boundary.*
- *There are no bolted joints in that part of the crossing within the motorway fence-line.*
- *A pre and post construction survey shall be required along the length of the crossing over the extents of the motorway boundary.*
- *Specific requirements may also arise for these proposed works.*

The Submission also notes that “any cable routing should avoid all impacts to existing TII infrastructure such as traffic counters, weather stations, etc. and works required to such infrastructure shall only be undertaken in consultation with and subject to the agreement of TII, any costs attributable shall be borne by the applicant/developer.”

Response

The cable route connecting from the grid facility in Balbriggan to the grid connection point in Belcamp requires a crossing under the M1 via horizontal directional drilling (HDD) (as described in Section 9.5.5.11 in Chapter 9 of the EIAR). This section states that “the HDD for the M1 will be approximately 180m long with an anticipated maximum depth of approximately 10m under the motorway carriageway”. The M1 HDD schematic is shown on Image 5.1.1 below

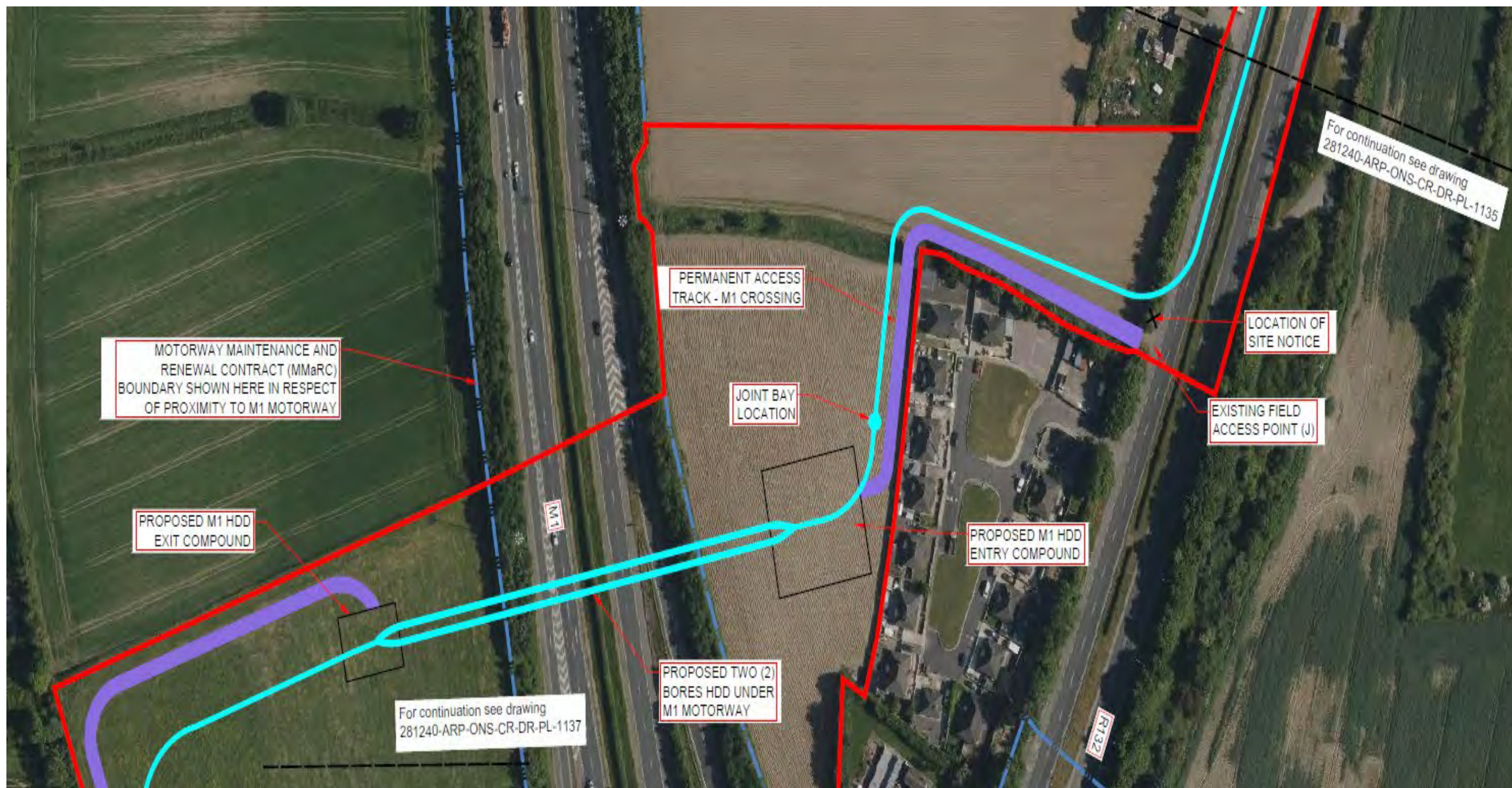


Image 5.1.1: M1 HDD Crossing (not to scale) (extracted from Planning Drawing No. 281240-ARP-ONS-CR-DR-PL-1136)

As can be seen from Image 5.1.1 the HDD launch and reception pits will be located outside the motorway (MMaRC) boundary. At a 10m depth under the motorway carriageway, the cable crossing will be well below the level of the motorway drainage and at a level which will not interfere with, damage or conflict with any parts of the motorway. There will be no bolted connections within the motorway fence-line. Any cable maintenance activity will be at the joint bays on either side of the motorway crossing and will not require access to the motorway. The Developer will undertake a pre and post construction survey along the alignment of the cable crossing. The cable route will also avoid existing TII infrastructure at the motorway crossing location.

The Developer has engaged with TII throughout the design of the proposed development as reported in Appendix 1.2 of the EIAR. As noted in Section 9.5.5.11 of Chapter 9 of the EIAR, “*Ongoing consultation with the asset owner, Transport Infrastructure Ireland (TII) is underway to finalise design details prior to works commencing.*” This consultation remains ongoing, and the Developer has committed in Appendix 9.1 of the EIAR to communicate with relevant stakeholders (including TII) throughout the construction phase of the proposed development. This will ensure that the general requirements outlined in the submission made by TII are agreed prior to construction.

5.1.3.2 Infrastructure within the TII Motorway Maintenance and Renewal Contracts (MMaRC) Network Area Boundary

The submission notes that the proposed development introduces new infrastructure within the TII MMaRC Network Area Boundary at M1 Junction 4 and 7. TII states that “*these interactions will have consequences for liability and maintenance responsibilities and as further detailed design will be required and necessary to address TII Publications standards.*”

Response

As noted in Section 5.1.3.2 above, the onshore cable route passes 10m underground beneath the M1 motorway in the vicinity of Junction 4. This represents the only infrastructure that will be introduced within the MMaRC boundary in the vicinity of Junction 4 of the M1.

No new permanent infrastructure is proposed within the MMaRC boundary at Junction 7 and indeed this junction is approximately 3.6km northwest of the proposed development boundary and any proposed permanent works. This junction is proposed to be used primarily as a construction compound delivery route (see Figure 24.2 of the 2024 EIAR). Engagement will be undertaken with TII prior to any abnormal load deliveries to agree the methodology for delivery. Abnormal load deliveries are addressed in Section 5.1.3.5 below.

5.1.3.3 Cable Route M1 Flyover to Estuary Roundabout

TII refers to TII Publications: Design DN-STR-03012 Design for Durability and in particular the requirements outlined in Section 5.5 Services which states:

“Electricity cables 10kV or greater shall not be located on or over road structures, including buried structures. Where electricity cables 10kV or greater are required to cross a road structure they shall pass below the structure, at a sufficient depth so as to remove the potential for any impacts on the structure during operation.”

TII also note that given the importance of ensuring the resilience of the M1 Broadmeadows Estuary Bridge, it is “essential that the developer shall be required to demonstrate and ensure that the proposed cable connection methodology does not encroach on the zone of influence of the foundations supporting the M1 Broadmeadows Estuary Bridge during and after construction. If evidence cannot be provided, TII advises that an alternative HDD crossing proposal will need to be developed.”

Response

The onshore cable route runs underground along Estuary Road, in Malahide. Estuary Road runs alongside the estuary, with the M1 Broadmeadows Estuary Bridge spanning over both the road and the estuary. The Developer notes the importance of the resilience of the M1 Broadmeadows Estuary Bridge and has been cognisant of this throughout. A technical assessment of the potential interactions with the bridge and the onshore cable route has been undertaken to identify any risk in this regard.

The assessment provided in Appendix 5.1.1 of this report indicates that the onshore cable route interfaces with the existing M1 Broadmeadow Estuary Bridge at its southernmost span. The assessment concludes that the offset distance between the supporting bridge piers and the cable trench in Estuary Road is sufficient to ensure there will be no direct impact on the M1 Broadmeadow Bridge during the construction or operational phase of the proposed development.

The assessment suggests that two additional conditions could be applied (if An Bord Pleanála considered it appropriate), to mitigate potential future maintenance impacts as follows:

1. The HV cable asset operator should inform TII of any proposed cable maintenance works in the vicinity of the M1 Broadmeadow Estuary Bridge, including the relevant information as recommended by this technical note.
2. TII should inform the HV cable asset operator of any proposed maintenance works to the M1 Broadmeadow Bridge in the vicinity of the cable, including the relevant information as recommended by this technical note.

The assessment also concluded that due to the distance between the existing M1 Broadmeadows Estuary Bridge and the M1 southern approach embankment to the Bridge, and the proposed watercourse crossing (Wx18) at Seapoint Stream, neither of the two watercourse crossing options (inline HDD or open-cut trenching) will have a potential impact on TII infrastructure.

5.1.3.4 Pre-Construction Consultation

TII notes that “the CTMP will be further developed by the contractor following consultation with An Garda Síochána, Fingal County Council and Dublin City Council, prior to the commencement of construction, to ensure that construction traffic will be managed and monitored safely and efficiently throughout the construction phase.

Therefore, it is with concern that although deliveries are proposed to use the motorway infrastructure and works are proposed to facilitate these loads within TII Motorway Maintenance and Renewal Contracts (MMaRC) Network Area boundary that consultation with the TII Motorway Maintenance and Renewal Contracts (MMaRC) has been omitted from these necessary consultations.”

TII also states that “*the applicant/developer needs to consult with all PPP companies, MMaRC Contractors and road authorities over which the haul route traverses to ascertain any operational requirements such as delivery timetabling, etc. and ensure that the strategic function of the national road network is safeguarded.*”

Response

The Developer notes the observation by TII in relation to the necessary consultations to be undertaken throughout the construction phase of the proposed development. The Developer notes that pre-application consultation with TII was undertaken to inform the route selection process and to agree details of the M1 HDD crossing. This consultation also included informal EIAR scoping consultation which was carried out from 20 May 2021 to 30 June 2021. Appendix 1.2 of the 2024 EIAR provides further details on pre-application consultation and notes that specific engagement was held with TII on 24th June 2021, 22nd July 2021, and 25th February 2022.

Construction deliveries will be planned in consultation with TII, the relevant local authorities and other relevant bodies as required, such as PPP companies, MMaRC Contractors. Abnormal Load and Exceptional Abnormal Load (EAL) deliveries are addressed in Section 5.1.3.5 below. The Developer welcomes the opportunity to engage further with TII to discuss the proposed deliveries and interactions within the MMaRC boundary prior to construction.

5.1.3.5 Abnormal loads

TII states that “*the applicant indicates the largest individual components of equipment are expected to be the transformers which will be installed at the grid facility and will be transported to site on specialised vehicles....*

However, TII is unclear where these loads are to originate from.

It is possible that these loads are to be delivered via the offshore port facility at Bremeore, but the details are hard to ascertain from the documentation available. The origin of these components needs clarification. As these components may be delivered via Dublin Port or elsewhere, further technical information and works may potentially be required.

In the interests of clarity, TII advises that any works to the national road network to facilitate delivery of abnormal loads (length, width, height, or weight) to site shall comply with TII Publications and shall be subject to Road Safety Audit as appropriate. Subject to the outcome of Road Safety Audit, works should ensure the ongoing safety for all road users.

In addition, although not clearly indicated as a feature of this application and development proposal, while an abnormal load is defined as anything above 46 tonnes and below 200 tonnes, any load above that, represents an 'Exceptional Abnormal Load' ('EAL'). All structure to be crossed will need a full structural assessment by the developer in accordance with TII Publications AM-STR-06048 to verify that they can sustain any 'EAL' load safely and without damage."

Response

The management of abnormal load deliveries is detailed in Section 5.5.1.1 of the Onshore Construction Environmental Management Plan (CEMP) in Appendix 9.1. It notes that *"Abnormal load deliveries will be routed to the grid facility via the M1 junction 7 and along the R132 as shown on Figure 24.2. The cable drums will be delivered to the cable contractor compounds on specialist low loader vehicles. They will be routed to either the Bremeore cable contractor compound via the M1 junction 7 and the R132, or to the Blakes Cross cable contractor compound via the M1 junction 4 and the R132. During the construction of the onshore cable route, cable drums of typical dimensions 3.7m wide, by 3.7m long and 4m high will then be transported along the onshore cable route on specialist low loader vehicles. The delivery routes are displayed on Figure 24.2 of Volume 7A of the EIAR.*

The Contractor will confirm this prior to the first abnormal load deliveries and provide all details in the Contractor Construction Traffic Management Plan (CTMP)...Within the Contractor CTMP the contractor will also detail any traffic management associated with abnormal load deliveries and how they will adhere to all applicable permitting and approvals requirements with the Local Authority and An Garda Síochána prior to starting construction."

Further mitigation measures relating to the transportation of abnormal loads are also included in Section 5.5.1.1 of the Onshore CEMP. Namely *"the transportation of abnormal loads will be restricted to outside peak traffic times where practicable. All access roads to the proposed compounds will be designed to ensure abnormal loads can exit the public road during delivery with minimal disruption to the public road. A designated route and parking area for abnormal loads will be provided within the confines of the proposed compound for unloading, which will be detailed in the Contractors CTMP. Additionally, the Contractor CTMP will detail the temporary traffic management to be implemented during abnormal load deliveries, such as temporary stop/go lane or road closures, escort vehicles, banksman, etc., to be agreed by the contractor with the local authority and An Garda Síochána prior to starting construction.*

The transportation of abnormal loads will be restricted to outside peak traffic times where practicable."

Regarding the points made by TII in its submission in relation to the origin of the 'EAL' loads, the Developer has undertaken a preliminary assessment of the delivery routes for the transformers to the grid facility, based on the information available at this time with respect to likely vehicle configurations and transformer weights, etc. The preliminary assessment considered the transportation of transformers from both Dublin Port and Belfast Port to the grid facility compound. The Developer has subsequently determined that the route from Belfast port to the grid facility was not a viable option due to weight limits associated with the Mary McAleese Boyne Valley Bridge and maximum clearance height limits on the M1 in Northern Ireland of 4.9m. Given the anticipated height of the loaded transformer of 5.1m, Belfast is not considered as a potential origin point for the delivery of the transformers.

The assessment has indicated that the route from Dublin Port to the grid facility compound is a viable option for the delivery of the transformers. The preliminary assessment concludes that subject to confirmation of the final details of the transformers, there appears to be a viable route from Dublin Port to the grid facility with adequate overhead clearance for the transformers over the whole route.

Once the final transformer details are confirmed, the Developer will submit all required documentation in accordance with TII guidance, and in consultation both with TII, local authorities and other relevant stakeholders. The Developer will also ensure that all necessary consents/permits are in place in advance of transportation of such EALs.

The Developer also undertook a preliminary assessment of cable drum deliveries from both Dublin and Belfast ports. This assessment concluded that both ports present viable routes for the delivery of cable drums to both the cable contractor compound at the landfall site and the cable contractor compound at Blakes Cross North, with no additional works to the road network required to accommodate the cable drums.

The Developer notes S.I. No. 147/2009 - Road Traffic (Specialised Vehicle Permits) Regulations 2009 and the requirement to comply with all relevant TII publications in this regard, including any Road Safety Audits required, as well as compliance with AM-STR-06048 (with respect to the structural assessment of structures along the route). All relevant approvals/consents/permits will be sought from the local authorities prior to any 'EAL' deliveries, in consultation with TII and other relevant stakeholders as required.

As noted in Section 5.1.3.4, the Developer welcomes the opportunity to further engage with TII and will agree the management of any abnormal load deliveries required for the proposed development.

5.1.4 Conditions

TII has included three recommended conditions which should be considered prior to any decision on the proposed development. These are included in Table 5.1.1 below.

Table 5.1.1 Schedule of Conditions

No.	Condition	Developer's Response
1	Prior to commencement of development, the developer shall engage with the planning authority, in collaboration with Transport Infrastructure Ireland, to agree plans and details of works, construction traffic, and the management of assets thereafter, on, or in the vicinity of the national road network and associated managed areas. All detailed designs and works which interact with TII assets shall be in accordance with the requirements of TII Publications. <u>Reason</u> In the interests of protecting the capacity, safety, and efficiency of national roads network.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As noted in Section 5.1.3.4 of this report, the Developer welcomes the opportunity to engage further with TII to discuss any interactions between the proposed development and the national road network.
2	Prior to the commencement of development, the developer shall submit to the satisfaction and agreement of the planning authority, in collaboration with TII Structures, an appropriate technical report which shall demonstrate action to be undertaken to ensure the structural integrity of the M1 Broadmeadows Estuary Bridge. All detailed designs and works which interact with TII assets shall be in accordance with requirements of TII Publications. <u>Reason</u> In the interests of protecting the capacity, safety and efficiency of national roads network.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that a technical note has been prepared to provide assurance that any cabling works in the vicinity of the M1 Broadmeadows Estuary Bridge will not impact on the bridge's zone of influence or the overall resiliency of the bridge. This is included in Appendix 5.1.1. The Developer is very happy to engage with TII further to agree any outstanding matters prior to construction.
3	Prior to commencement of development, a revised Construction Traffic Management Plan shall be submitted for the written agreement of Fingal County Council and Dublin City Council, in collaboration with TII and An Garda Síochána, which shall include the following information in relation to the national road network: Full details of the transportation of all Abnormal Loads and any 'Exceptional Abnormal Loads' associated with the subject development shall be agreed with all planning and road authorities including TII along all proposed haul routes.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	b. Details demonstrating compliance of any proposed works to the national road network, to facilitate construction traffic with TII Publications. c. Demonstration of consultation with TII Bridge Management Section to ensure that national road structures d. are not adversely affected and to ensure adherence to required standards and procedures. e. Demonstration of consultation with all relevant PPP Companies, MMarC Contractors and road authorities over which the haul route traverses to ascertain any operational requirements such as delivery timetabling, etc. to ensure that the strategic function of the national road network is maintained. f. Demonstration of consultation with thirdpartyworks@tii.ie where temporary works within national road network maintenance boundaries are required to facilitate construction traffic to site, as a works specific Deed of Indemnity may be required by TII before the works can take place. g. Mitigation measures of the Construction Traffic Management Plan shall include that any damage caused to the pavement of the existing national road due to construction traffic shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development. <u>Reason</u> In the interests of safeguarding levels of safety and the strategic function of the national road network in accordance with National Strategic Outcome Number 2 of the National Planning Framework.	

5.1.5 Conclusion

The key points raised in the TII submission in relation to the onshore cable route and potential interactions with TII assets have been fully considered. Preliminary assessments of potential routes have been undertaken for the delivery of abnormal loads and a specific assessment has been undertaken to assess the potential for structural interaction of the cables with the M1 Broadmeadow Estuary Flyover Bridge. Having considered the points raised by TII, the conclusions in the relevant impact assessments remain as set out in the EIAR. Should An Coimisiún Pleanála grant permission for the proposed development and attach conditions as recommended herein, the Developer would have no objection.

Appendix 5.1.1 Broadmeadows Estuary Bridge Technical Note

Technical Note

Project title North Irish Sea Array (NISA) Offshore Wind Farm
Job number 304620-00
File reference 4-04-02
cc
Prepared by CME, PM, MO
Date 27 February 2025
Subject TII Submission M1 Broadmeadow Bridge

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1. Purpose of Technical Note

The purpose of this Technical Note is to satisfy the Recommended Condition no. 2 proposed by TII and outlined in “TII Submission – Recommended Condition”.

2. TII Submission – Recommended Condition

Cable Route M1 Flyover to Estuary Roundabout

TII observes grid cable connection proposal under M1 Broadmeadows Estuary Bridge (flyover), reference Section 8 in Table 24.1 applies. TII refers to TII Publications: Design DN-STR-03012 Design for Durability DN—STR-03012 and in particular the requirements outlined in Section 5.5 which states:

“Electricity cables 10kV or greater shall not be located on or over road structures, including buried structures. Where electricity cable 10kV or greater are required to cross a road structure they shall pass below the structure, at a sufficient depth so as to remove the potential for any impacts on the structure during operation.”

Given the importance of ensuring the resilience of this Bridge Structure and based on the plans submitted, TII consider it is essential that the developer shall be required to demonstrate and ensure that the proposed cable connection methodology does not encroach on the zone of influence of the foundations supporting the M1 Broadmeadows Estuary Bridge during and after construction. If evidence cannot be provided, TII advises that an alternative HDD crossing proposal will need to be developed. TII therefore requests that the above matters, and condition below, are considered prior to any decision on the subject application:

Recommended Condition no.2:

Prior to the commencement of development, the developer shall submit to the satisfaction and agreement of the planning authority, in collaboration with TII Structures, an appropriate technical report which shall demonstrate action to be undertaken to ensure the structural integrity of the M1 Broadmeadows Estuary Bridge. All detailed designs and works which interact with TII assets shall be in accordance with requirements of TII Publications.

Reason: In the interests of protecting the capacity, safety and efficiency of national roads network

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3. Location

The proposed high voltage onshore cable, interfaces with the existing M1 Broadmeadow Bridge along the Estuary Road. For a general view of this interface refer to Figure 1.

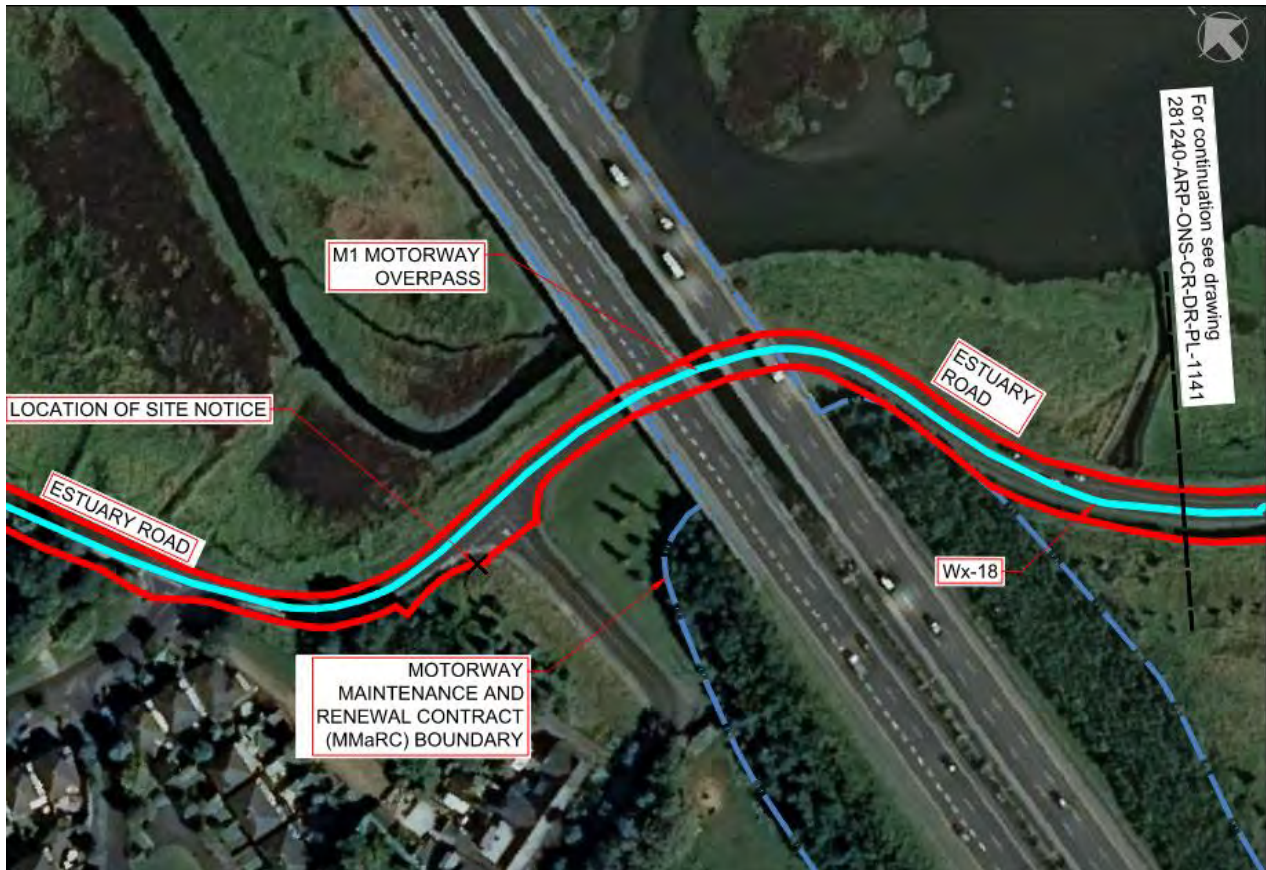


Figure 1 Overview of interface

4. Bridge Construction

4.1 Piers and Foundations

Both the east and west decks are supported from four piers, as shown by Figure 2 below. Of interest for the proposed works are piers 1E and 1W which represent the southernmost piers for each respective deck. Both piers are of identical construction.

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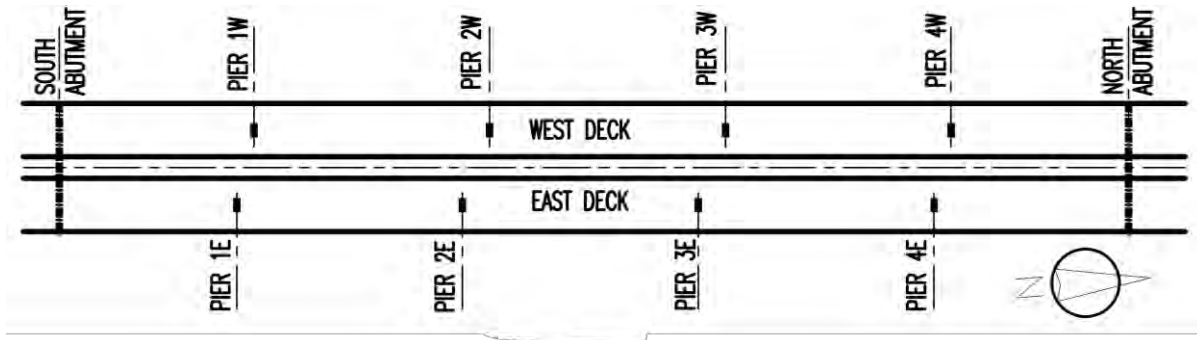


Figure 2 Key Plan of Bridge Deck Support System

4.1.1 Pier 1E & 1W

Both Pier 1E & 1W utilise a piled foundation arrangement. This arrangement consists of reinforced concrete piles which extend to competent rock. The piles are made integral with a reinforced concrete pile cap, of dimension 2200 H mm x 8000 mm L x 9000 W. The pile cap is founded at -1.500 m A.O.D. Above the pile cap is backfilled with 6N material, to the finished ground level. For an elevation view of piers 1E and 1W refer to Figure 3.

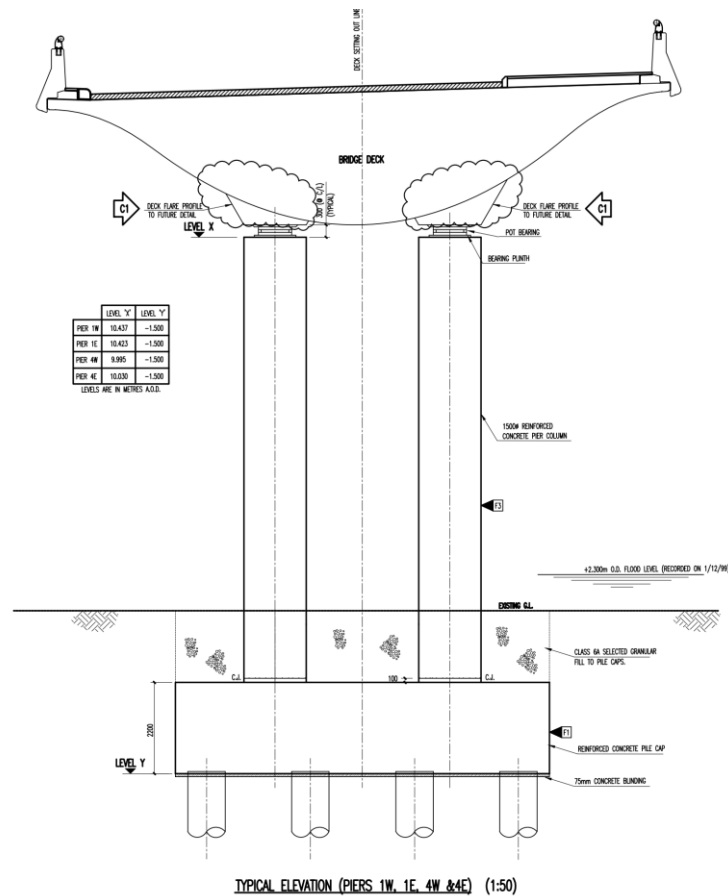


Figure 3 Elevation of Pier 1E & 1W

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4.2 Abutments and Foundations

The southern abutments for the M1 Broadmeadows Estuary Bridge are articulated. The abutments consist of rigid abutment wall, constructed from reinforced concrete. The abutment wall is rigidly connected to a pile cap, which is supported from piles. The east and west decks have independent abutments. The pile arrangement for both abutments differs, for a plan view of the abutments refer to Figure 4. For a section view through the southeastern abutment refer to Figure 5.

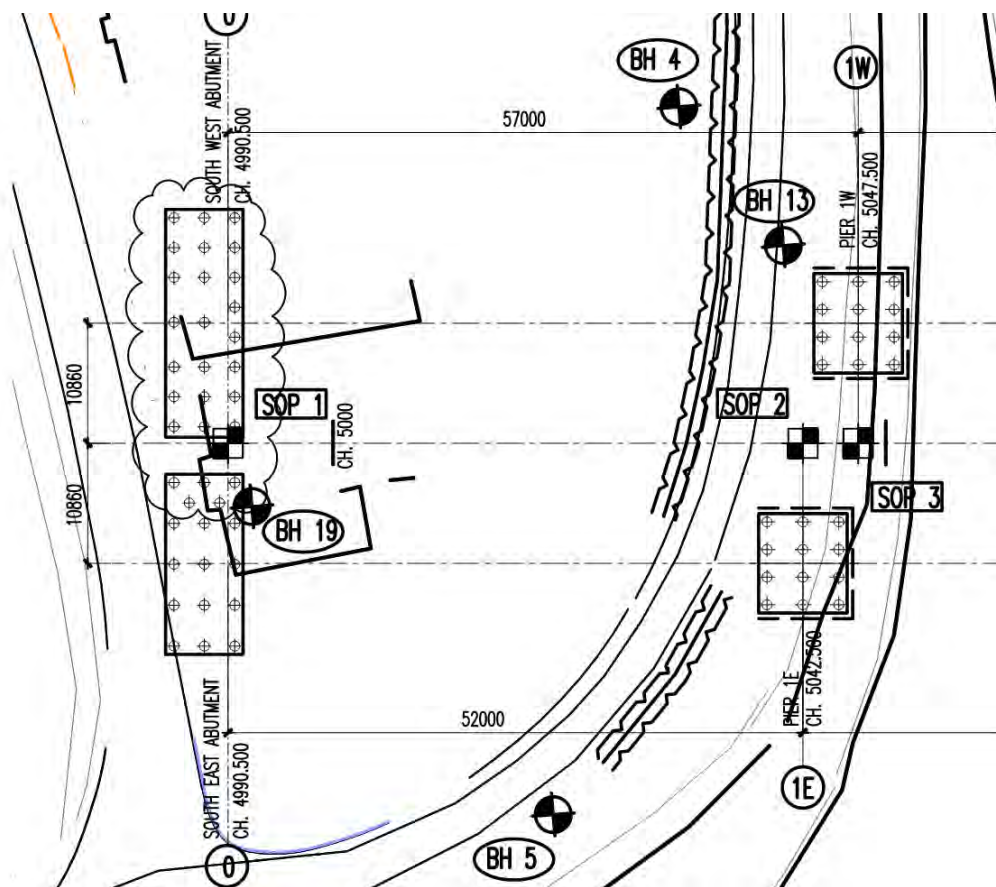


Figure 4 Pile Arrangement for Southern Abutments

Articulation is provided via 2 no. bearings on each abutment. Access to the bearings for inspection by maintenance personnel is provided through an increased height abutment gallery, accessible through a steel door. For a section through the southeastern abutment refer to Figure 5.

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Figure 6 View of Possible Scenario

A site visit was conducted on 10/03/2025, to confirm the offset between the northern kerb of Estuary Road and the front face of the pier columns. The measured offsets are given in Figure 7 and Figure 8 below.



Figure 7 Carraigeway Offsets at Pier 1E



Figure 8 Carraigeway Offsets at Pier 1W

The critical offset of 6000 mm is identified at the western column of Pier 1E. Considering the dimensions of the existing pier pile cap, this scenario sees a 2450 mm offset between the cable trench and the piers pile cap. A sketch of this scenario is shown in Figure 9.

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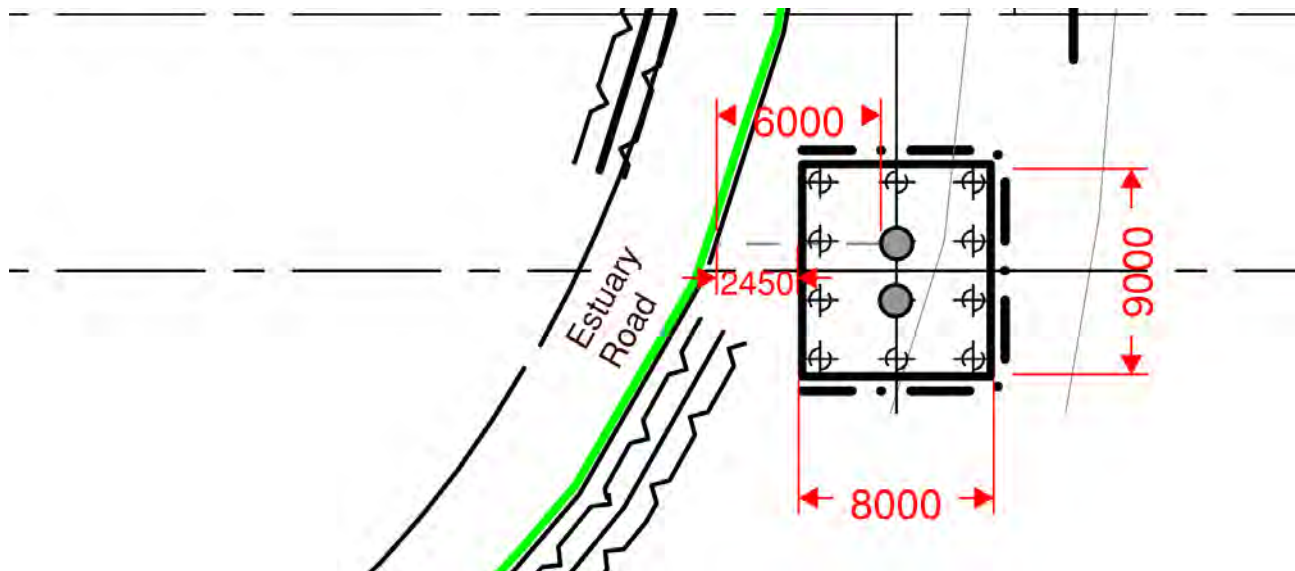


Figure 9 Measured Offset between pier onerous cable trench location

The existing pier utilised a coffer-dam construction method, and as such the backfill for the pier is likely to be contained to above the pile cap, with a significantly reduced plan area than what which would otherwise be present in a directly founded pier foundation. Given the depth of the proposed trench and available offset from the pile cap the cable trench will not interfere with the existing pier's pile cap, or the fill to structure. As such the proposed cable will not impact on the structural or geotechnical performance of the pier foundations. For an indicative section through the western column of pier 1E refer to Figure 10. For a view of the proposed cable trench arrangement refer to Figure 11.

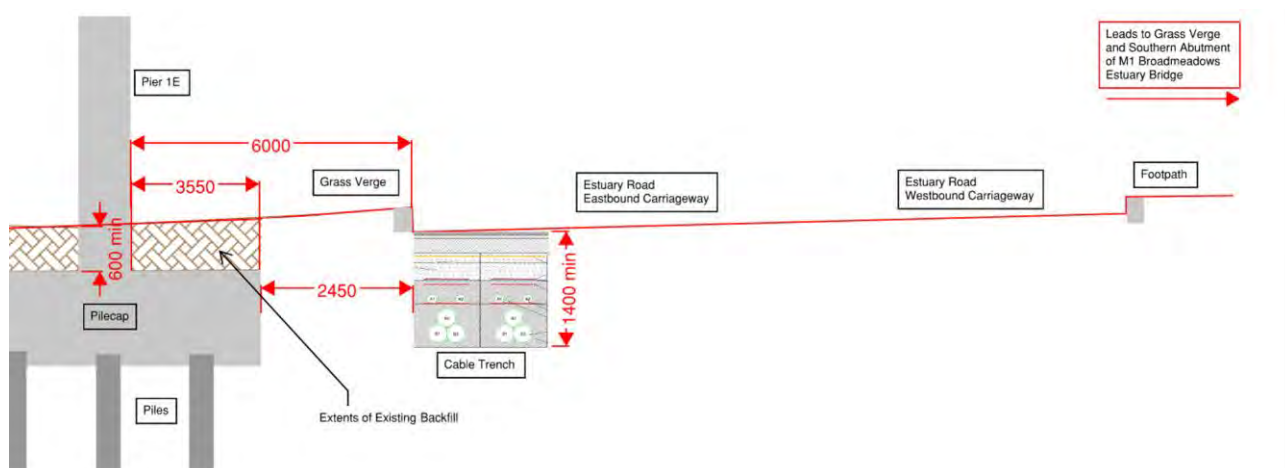


Figure 10 Section Through Western Column of Pier 1E

Table 1 Potential Impacts of the Cable Installation on the Maintainability of the M1 Broadmeadow Bridge

Potential Impact	Commentary	Impact Rating	Mitigation
Access to bridge piers, soffit and abutments for maintenance & inspection personnel	<i>Once complete the proposed cable will not cause any additional direct risk to maintenance and inspection personnel.</i>	Very Low	None Required
Access to bridge piers, soffit and abutments for heavy maintenance equipment	<i>Once completed the proposed cable will not reduce the capacity of the existing estuary road.</i>	Very Low	None Required
Impact on the surface quality of estuary road increasing the likelihood of pier strikes.	<i>Once complete the proposed cable is not envisaged to cause any adverse deterioration to the estuary road surfacing. This should not increase the risk of pier strikes.</i>	Very Low	None Required
Maintenance works to the proposed cable near the bridge piers	<i>TII should be notified when maintenance works to the proposed cable are to take place near this interface. All maintenance works should be agreed with TII to ensure the</i>	Very Low	Discussed Below

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	<i>integrity of the M1 Broadmeadow bridge is maintained.</i>		
Ability to maintain the piers (including bearings in the future)	<i>The temporary works requirements when replacing the bearings on piers 1E and 1W will have to be designed with respect to the proposed cable. Any temporary supports required for a jacking solution of the deck must be validated to ensure it does not impact the proposed cable.</i>	Very Low	Discussed Below

These potential impacts are all assigned an impact rating of very low, with three of the identified impacts requiring no mitigation. The other identified impacts relate to the maintainability of both the proposed cable and bridge pier respectively. Regarding the maintenance of the proposed cable, it is not envisaged that maintenance poses any additional risk when compared to the cable's construction. Despite this it is recommended that the cables asset operator be required to inform TII of any proposed maintenance works to the cable in the vicinity of the M1 Broadmeadow Bridge. The asset owner should inform TII of,

1. The reason for maintenance,
2. Any excavations required to complete the maintenance,
3. If applicable, the proposed excavation method,
4. Any modifications to the original cable arrangement.

This recommendation is sought to ensure that any changes to the original cable arrangement are documented and to ensure that any excavations required during maintenance consider the existing pier foundations.

Regarding the maintenance of the existing bridge pier, any temporary works which may be required to support the deck during bearing replacement or repair should be designed with consideration to the existing cable. Due to the available offset at Estuary Road it is not envisaged that any required temporary works for pier maintenance would be negatively impacted. When planning pier maintenance in the vicinity of the cable TII should inform the cable asset operator of the following,

1. The location of proposed maintenance works,
2. If applicable, any excavations required for bridge maintenance.

This recommendation is sought to ensure that the cables asset operator is made aware of changes to the proposed arrangement.

With the mitigations discussed above these potential impacts are envisaged to have a very low impact on the capacity, safety and efficiency of the M1 Broadmeadow Bridge.

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5.2 Water Crossing 18 (Wx-18)

There is an existing spillway located approximately 90m SE of the M1 Broadmeadow bridge. Two cable construction options are proposed for this crossing (noting spillway asset owner is Fingal County Council), one is running the cables in a flat formation, below the road surface with a second option using Horizontal Directional Drilling (HDD). For a plan view of the proposed crossing location Wx-18 in relation to M1 infrastructure refer to Figure 12. For a view of the crossing location facing north refer to Figure 13.



Figure 12 Plan view of Wx-18 in relation to the M1 Broadmeadow Bridge

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Figure 13 View of Wx-18 Crossing Location, facing North

5.2.1 Flat formation crossing over Water Crossing (Wx-18)

The construction, installation of maintenance of a flat cable arrangement will not impact the existing M1 Broadmeadow Bridge or M1 motorway embankment.

5.2.2 HDD required to pass under Water Crossing 18 (Wx-18)

If horizontal directional drilling is selected, excavations for both the entrance and exit pits would be required. Due to the distance between the existing spillway and the M1 infrastructure, excavations required for the entrance and exit pits will not impact on existing M1 infrastructure.

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Conclusion

This technical note addresses Recommended Condition No. 2 proposed by TII, as outlined in “2 TII Submission – Recommended Condition”. The proposed high voltage onshore cable interfaces with the existing M1 Broadmeadow Estuary Bridge at its southernmost span, specifically at Piers 1E and 1W along Estuary Road. The potential impacts of these interfaces, particularly for the most challenging cable installation scenario (trefoil formation in a trench along the northern kerb of Estuary Road), have been evaluated.

The critical offset is identified as between Pier 1E and Estuary Road. This offset has been determined as sufficient to ensure there is no direct impact on the M1 Broadmeadow Bridge during its construction or operation. The potential impacts from a maintenance perspective of the proposed arrangement are identified and are assigned an impact rating of very low. Of the five identified risks, three require no future mitigation measures. The two potential impacts which require future mitigation are,

1. Maintenance works to the proposed cable near the bridge piers,
2. The ability to maintain piers 1E and 1W (including potential bearing replacement in the future).

The mitigation measures for these potential future maintenance impacts are outlined below,

1. The HV cable asset operator should inform TII of any proposed cable maintenance works in the vicinity of the M1 Broadmeadow Bridge, including the relevant information as recommended by this technical note.
2. TII should inform the HV cable asset operator of any proposed maintenance works to the M1 Broadmeadow Bridge in the vicinity of the cable, including the relevant information as recommended by this technical note.

Additionally, potential impacts beyond the interfaces at Piers 1E and 1W were considered, including those related to the abutments and the spillway water crossing (Wx-18). The proposed installation of the onshore cable is determined to have minimal impact on the existing M1 motorway infrastructure due to these elements.

5.2 Blue Ireland Coalition

5.2.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the Blue Ireland Coalition CLG (T/A Ireland) (hereafter referred to as ‘BIC’) in relation to the proposed development.

The submission from BIC is lengthy and discursive. Where points are raised that are relevant to the application for the proposed development, these responses are outlined within this document. The Developer notes, however, that the submission includes notes and considerations outside of the planning application and therefore does not respond to the points.

5.2.2 Summary of the Key Points Raised by Stakeholders

The submission raised a number of distinct points in relation to the proposed development, which are dealt with as sub-themes below, these reflect the headings within the submission:

- History of the proposed development;
- Policy Context;
- Main Observations/Objections to the Proposal; and
- Brief Current Knowledge of the Area.

5.2.3 Response to Key Issues Raised

5.2.3.1 History of the proposed development

Key points raised in relation to the history of the proposed development include:

- Protected sites and the Foreshore Act 1993;
- EU Environmental Legislation;
- The Department of Housing, Planning and Local Government (DHPLG);
- Department of Environment, Climate and Communications (DECC);
- Site Selection; and
- Changing Information.

5.2.3.1.1 Protected sites and the Foreshore Act 1933

Point 1 - Protected sites and Foreshore Licence

On page 6, the BIC submission draws attention to the foreshore area of the proposed development in the second paragraph of the sixth page, under the heading ‘History of the proposed development’. They state, *“An application made in 2009 for Foreshore Licence is stated to have been ‘paused’ and later, in 2012 reawakened, with application made for site investigations, including bore-hole drilling. It is unclear whether or not these investigations were completed. In 2012, the Rockabill to Dalkey Island SAC was proposed for designation, with reefs and harbour porpoise as Qualifying Interests. Activities Requiring Consent included ‘Blasting, drilling, dredging or otherwise removing or disturbing fossils, rock, minerals, mud, sand, gravel or other sediment’ so the consenting of drilling activities would have required the specific consent of the Minister/NWPS. No further detail can be found to clarify this matter further, but it draws attention to the apparently casual approach to nature conservation that pertained in relation to the management of Foreshore Consenting more than a decade ago.”*

Response to Point 1 – Protected sites and foreshore license

No site investigation activities were undertaken by the Developer prior to the award of the Foreshore Licence in 2021. It is also worth noting that the requirement for Ministerial consent that arises from the published list of ARCs does not apply to proposed activity which has already received consent under the Foreshore Act, 1933 (as amended) (the “Foreshore Act”)

Point 2 – Foreshore Act 1933

At the end of page 6, the submission then raises a concern regarding a Briefing Note that was prepared by the Foreshore Unit in June 2019. BIC states that this details how proposed developments under consideration by the department would be managed if a new development consent process was introduced by the government. The Briefing Note did not mention any proposal to construct a wind farm in the location in the vicinity of Rockabill Island and states at the top of page 7, *“However, in spite of that, from the information provided in this application, it is clear that whatever site investigations / surveys were conducted, they were carried out under the provisions of the Foreshore Act 1933.”* The BIC submission then states that the Foreshore Act 1933, which is *“outdated and unfit-for-purpose”*, allowed for consents to be granted on the sole authority of the Minister with no statutory involvement of local authorities, public right of appeal against the Minister’s decision, or Appropriate Assessment.

Response to Point 2 – Foreshore Act 1933

A Foreshore Licence is for marine survey operations only. It does not provide consent to construct an offshore windfarm, which has been applied for separately by the Developer under the Planning and Development Act, 2000 (as amended) (the “Planning Acts”). All of the Developer’s offshore site investigation / survey activities to date were undertaken either under its Foreshore Licences awarded in 2021 and 2022 respectively under provisions of the Foreshore Act or following the commencement of the relevant provisions of the Maritime Area Planning Act, 2021 (the “MAP Act”), under its Maritime Usage Licence awarded in August 2024.

Point 3 – EU environmental legislation

The submission states (on line 11 of page 7) that on this matter, Ireland was then in breach of the EU Environmental Legislation namely the Consolidated Environmental Impact Assessment Directive (85/337/ECC), The European Communications Directive (2001/42/EC), the Birds Directive (79/409/EEC) and the Habitats Directive (92/43/EEC).

Response to Point 3 – EU environmental legislation

The Developer notes the issue raised and notes that all foreshore licences granted in respect of the proposed development were subject to Appropriate Assessment and screening for EIA, as required.

5.2.3.1.2 The Department of Housing, Planning and Local Government (DHPLG) and Department of Environment, Climate and Communications (DECC)

The final paragraph on page 7 of the submission, BIC states its concerns regarding the Department of Housing, Planning and Local Government (DHPLG) and their designation of *‘Relevant Projects’* in the context of forthcoming Marine Planning and Development Management legislation (MPDM).

On page eight of their submission BIC discusses the granted MAC awarded by DECC, with particular reference to consultation undertaken and the environmental assessment undertaken.

Point 1 – MAC Process and Consultation

The concern raised by BIC within the second and third paragraphs of page 8 relates to the MAC process, including the public consultation undertaken by DECC, the absence of public consultation on the grant of Statkraft’s MAC, and the contention that no environmental assessment was carried out when the MAC was granted. BIC states that the DECC consultation on ‘Offshore Renewable Energy: Maritime Area Consent (MAC) Assessment for Phase One Projects’ *“provided minimal detail on the proposed process for the granting of Maritime Area Consents (MACs) to the ‘Relevant projects’ and did not include any environmental assessment.”* BIC also states that *“No environmental assessment was carried out on the granting of the MAC, providing defined sea-bed rights on this site to the proposal developer.”*

Response to Point 1 – MAC Process and Consultation

The Maritime Area Consent (MAC), while it grants the applicant the right to occupy a part of the maritime area, is conditional on securing other necessary approvals, including in particular the development consent, the subject of the current application before An Coimisiún Pleanála. The environmental assessment for the proposed development has been undertaken within the Natura Impact Statement and Environmental Impact Assessment Report, submitted as part of the application. The Developer was awarded a MAC on 23 December 2022. No challenge was raised in respect of this MAC upon its grant.

All development consent applications for proposed developments such as offshore wind arrays must be subject to an EIA, which assesses all potential impacts on environmental receptors (including physical, ecological, and visual). The potential locations for the proposed development within the MAC would then be assessed for any significant effects to determine what particular impacts and specific mitigation requirements are needed for each option. This is part of the application process to obtain development consent for the proposed windfarm, and not as part of the MAC application.

Under the Aarhus Convention, the public has a right to participate effectively in decision-making in environmental matters. In the European Union, this has been implemented by Directive 2003/35/EC on public participation, also known as the “Public Participation Directive”. Several pieces of legislation have been used to transpose the Public Participation Directive into Irish law, including the integration of its requirements into Irish planning law and into legislation governing other environmental licences and consents. This is apparent in respect of the proposed development’s planning application submitted to An Bord Pleanála, whereby members of the public were invited to submit observations on the proposed planning application. Public participation and consultation in respect of proposed developments is a key element of the planning (and maritime planning process) and it is the Developer’s view that the requirements of the Aarhus Directive are comprehensively fulfilled in respect of the proposed development pursuant to the public participation undertaken during the planning process.

MAP Act 2021 does not provide for statutory consultation process as part of the MAC application process, but there is a statutory consultation process as part of the development consent process (under which this submission was made). In addition to the statutory consultation undertaken, a significant non-statutory public consultation has been undertaken to date in respect of the proposed development. The Developer’s community liaison team has engaged extensively with local stakeholders as described in the response Theme 6 – Public consultation and in Appendix A1.2 of the EIAR.

Point 2 – Marine Planning Policy Statement

BIC highlights at the end of page 8, that *“As of the date of this submission no statutory Marine Planning Policy Statement has yet been put in place, which should be the overarching guide to planning in the marine environment.”*

Response to Point 2 – Marine Planning Policy Statement

Ireland has implemented a national marine spatial planning framework through the NMPF. Please see Section 5.2.3.2 in this report, for information regarding this process.

5.2.3.1.3 Site Selection

Point 1 – Environmental assessment

On page 8, the submission states that *“Given that it is internationally recognised that site selection is the most important factor in determining the level of environmental impact of a project, it is unacceptable that rights to a site should be granted with no environmental assessment (either by developer or government) and that no public consultation should have taken place on the granting of rights of the site that is the subject of the current application.”*

Response to Point 1 – Environmental assessment

The Developer has identified, described and evaluated reasonable alternatives within its EIAR, outlining the main reasons for the option chosen and taking into account the effects of the proposed development on the environment.

The location along with a robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives of the EIAR. Whilst the MAP Act 2021 does not provide for statutory consultation process as part of the MAC application, there is a statutory consultation process as part of the development consent process (under which this submission was made). In addition to the statutory consultation undertaken, a significant non-statutory public consultation has been undertaken to date in respect of the proposed development. The Developer's community liaison team has engaged extensively with local stakeholders as described in Theme 6 – Public Consultation Process and Appendix A1.2 of the EIAR.

Studies that were undertaken to assist the site selection process, as detailed in Chapter 5, include;

- The Irish Marine Study Assessment - Gaelectric and University College Cork (2008) - an integrated geological and marine desktop study of the Irish Sea in the Irish Economic Exclusion Zone (EEZ) between Dunmore East (Co. Waterford) and Carlingford Lough (Co Louth), from a minimum distance of 5km from the coast to a maximum water depth of 60m;
- The Irish Sea Marine Assessment (2009) - to provide integrated seabed and sub-seabed mapping data of the areas identified in the desktop study of the Irish Sea and to assist in a fundamental understanding and evolution of the seabed;
- The IMAR Study (2009) – a desktop study to identify key constraints;
- Constraints analysis undertaken by the Developer, considering;
 - Technical considerations of the metocean, wind, and seabed characteristics;
 - Overlapping Foreshore licences;
 - Distance to shore (visibility perception from the coast) - siting of infrastructure at the furthest distance practicable from the coast
 - Designated Sites;
 - Shipping and navigational features;
 - Commercial fisheries activity;
 - Proximity of the onshore electrical and grid infrastructure;
 - Potential interaction with civil and military aviation and Radar and military danger areas;
 - Proximity to the energy demand centres e.g. larger population centres where the electricity will be required;
 - Onshore grid constraints and upgrade requirements;
 - Economic efficiency for the Irish electricity consumer;
 - Bathymetry - water depths not exceeding 60m;
 - Avoidance of existing offshore cables and pipelines; and
 - Wind resource.

Following the process the preferred location and extent of the proposed development offshore development area were identified, which was deemed to be both environmentally acceptable as well as commercially viable, this formed the boundaries of the area identified in the MAC application.

5.2.3.1.4 Changing Information

Point 1 – Changing Information

BIC draws attention to the Developer's Foreshore Licence application in the second paragraph of page 9, *"What is now being proposed is a 700MW project, whereas the application for a Foreshore Licence made to the Minister in 2020 was for development of 530MW. This represents an increase of 32% in the size of the proposed development in a period of just four years, casting doubt on the validity of these earlier site investigations as justification for the current proposal."*

Response to Point 1 – Changing Information

The MAC that has been granted is not explicit about the maximum capacity of the proposed development and there is no legislative impediment to the proposed development submitting a planning application for a larger capacity development. It should also be noted that the offshore development area has reduced by approximately 64% from the MAC awarded to the Developer so the footprint of the proposed development is significantly reduced from that envisaged originally.

The Developer has considered the potential of maximising the proposed development's capacity within the planning application and all contained within the successful MAC. The reason behind this is that individual turbine capacities are evolving and if greater capacity can be achieved by the proposed development to help meet Ireland's climate targets it would be beneficial. Importantly the assessment within the EIAR and planning application does not consider the capacity of the wind farm or turbines as an assessed parameter, so the proposed development will not build out a greater number of turbines, size or scale of turbines than what has been assessed. Therefore, if the physical parameters of the proposed development are acceptable an increase in capacity could be achieved without creating any additional impacts on the environment.

5.2.3.2 Policy Context

Key points raised in relation to policy include requirements under EU legislation, national legislation, and the Offshore Renewable Energy Development Plan (OREDPP).

Point 1 – Marine Spatial Planning Directive (2014/89/EU)

Page 10 of the submission, BIC draws attention to Ireland's Phase One projects, detailing that they have *"been allowed to proceed from the 1933 Foreshore Act, to be managed under the Maritime Area Planning Act, 2021,"* The submission raises the concern that these projects *"had no environmentally-assessed right to the sites, [which is] contrary [to] good Maritime Spatial Planning and to the requirements of the Maritime Spatial Planning Directive (2014/89/EU), and its transposition in Part 5 of the Planning and Development Act, 2018, as amended, specifically Article 5 (1) of that Directive, which states: 'When establishing and implementing maritime spatial planning, Member States shall consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses.'"*

Response to Point 1 – Marine Spatial Planning Directive (2014/89/EU)

Ireland transposed the MSP Directive through Part 5 of the Planning and Development (Amendment) Act 2018, with its transposition restated once the MAP Act came into effect. This established the legal basis and broad framework for Ireland to implement the MSP Directive through the development of a maritime spatial plan. Ireland established its first NMPF. The NMPF is in full compliance with relevant legal environmental requirements, a Strategic Environmental Assessment (SEA), a Natura Impact Statement (NIS) and an Appropriate Assessment (AA) have also been carried out as part of the preparation of the NMPF. This is to ensure that the national objectives and outcomes respond to the sensitivities and requirements of the wider natural environment.

The Developer considers that it is in full compliance with the NMPF due to assessments in Appendix A3.2: Marine Strategy Framework Directive Assessment and Appendix A3.3: Ecosystem Functions and Services Assessment and updated Appendix A3.1: NMPF Compliance Report, updated NMPF following RFI Section 3.

Point 2 – Maritime Strategy Framework Directive (MSFD)

BIC states in the third paragraph of page 10 of their submission, “*The overarching Maritime Strategy Framework Directive (MSFD), also requires States to carry out MSP in Article 3(5) states that: ‘Good environmental status shall be determined at the level of the marine region or subregion as referred to in Article 4, on the basis of the qualitative descriptors in Annex I. Adaptive management on the basis of the ecosystem approach shall be applied with the aim of attaining good environmental status.’*”

Response to Point 2 – Maritime Strategy Framework Directive (MSFD)

The MSFD requires the application of an ecosystem based approach to managing human activities, enabling the sustainable use of marine resources, goods and services and the assessment of whether marine waters are achieving good environmental status. Assessments under the MSFD are updated every six years. The latest draft assessment was published for public consultation in July 2024 (DHLGH). The draft assessment provides information on Ireland’s assessment methodology for the required 11 environmental descriptors, their environmental targets and current status.

The Developer considers that it is in full compliance with the MSFD in providing a source of renewable energy in an effort to tackle rising global temperatures, the proposed development will contribute to the management of rising sea temperatures and will indirectly support the objectives of the MSFD.

In accordance with RFI Section 3, the Developer has undertaken an assessment in Appendix A3.2 Marine Strategy Framework Directive Assessment (refer to Response to RFI Document). The potential effects of the proposed development were assessed against the four thresholds established for habitat loss (D6C4), adverse effects on habitats (D6C5), impulsive noise (D11C1) and continuous noise (D11C2). It is concluded that the proposed development will not result in a deterioration of the current overall status of the Celtic Sea North Inner MRU or broad habitat types therein or jeopardise the attainment of GES, nor will the proposed development result in any significant effects, with no risk to GES, under impulsive noise (D11C1) and continuous noise (D11C2).

Point 3 – MAP Act, 2021

BIC raises a concern regarding the MAP Act, “*its implementation here is acting ultra vires in carrying out planning within a legislative context with respect to ‘Special MACs’ and the ‘transitional provisions’ specifically, sections 100, 101, 102, 105, 106, 129 and 130. Furthermore, applications for MACs were assessed and granted for ‘Phase 1’ projects without the requisite environmental assessments or public consultation. Specifically, this zoning was carried out without any Appropriate Assessment, as is required under the Planning and Development Act 2000.*”

Response to Point 3 – MAP Act, 2021

Refer to Section 5.2.3.1.2 Point 1 – MAC Process and Consultation.

Point 4 – Ecosystem-based planning approach

Starting on page 11, the submission details the major goals of applying an ecosystem-based approach to planning, “*firstly, to protect, maintain, and, where necessary, restore fully functioning ecosystems at all spatial and temporal scales, and secondly, to design activities that fit within those constraints.*”

Response to Point 4 – Ecosystem-based planning approach

The Developer acknowledges the importance of an ecosystem-based approach to planning. The Developer notes that it has undertaken all the necessary steps to remain in full compliance with the NMPF (as outlined above) and established governmental guidance on MSP.

In compliance with RFI Section 4, the Developer has undertaken an Ecosystem Functions and Services Assessment within respective chapters of the EIAR. A synopsis report of ecosystem functions and services has been provided in Appendix A3.3 Ecosystem Functions and Services Assessment. The outcome of individual receptor assessments concluded no material impact on ecosystem services, and no impediment to the ability of normal ecosystem functions and services to function, resulting from the proposed development (Response to RFI Document and Appendix A3.3: Ecosystem Functions and Services Assessment).

Point 5 – MSP Directive and MSP

The submission directs An Bord Pleanála to further guidance from the European MSP Platform. On the twelfth line of page 11 of the submission states *“The MAP Act, 2021, in rest of these ‘Special MACs’ and ‘transitional provisions’ fails to adequately transpose the MSP Directive and they act counter to the spirit of the said Directive, which is now being applied in this planning application. No parts of the MSP Directive allow for ‘fast-tracking’ of projects or their associated surveying activities, and no parts of the MSP Directive allow for avoidance of an ecosystem-based approach to maritime spatial planning. The provisions under which the MAC and this development application were progressed are contrary to the MSP Directive, and we urge the board to reject the application on that basis.”*

Response to Point 5 – MSP Directive and MSP

See the Developer’s response above in , ‘Response to Point 1 – Marine Spatial Planning Directive (2014/89/EU)’ in this report, which sets out Ireland’s transposition of the MSP Directive and establishment of the NMPF which is in full compliance with relevant legal environmental requirements, whereby a SEA, NIS and AA have also been carried out as part of the preparation of the NMPF.

The NMPF supports the development of offshore renewable energy (ORE) in Ireland, to, inter alia: significantly reduce greenhouse gas emissions and accelerate the move to cleaner energy in line with national and EU policy; increase the sustainable use of ORE of Ireland’s extensive marine resource; support Ireland’s decarbonisation journey through increased used of ORE while delivering significant and sustained benefits; and provide enhanced security of energy supply for Ireland in accordance with the Climate Action Plan. The proposed development’s compliance with the NMPF is outlined in the NMPF Compliance Report at Appendix A3.1 of its planning application.

The NMPF recognises several important planning policies for ORE development and recognises that “Relevant Projects designated pursuant to the Transition Protocol and those proposed developments that can objectively enable delivery on the Government’s 2030 targets will be prioritised for assessment under the new consenting regime”. This includes the proposed development, which was deemed a Relevant Project or Special MAC case pursuant to transitional provisions under the MAP Act.

In the context of the NMPF, it was recognised that the delivery of offshore renewable targets must be consistent with national policy. ORE Policy 1 recognised that the proposed development, along with other Relevant Projects would be prioritised for assessment and that, into the future, a plan-led approach to consenting would follow.

Point 6 – Strategic Environmental Assessment (SEA) Directive

BIC highlights the Strategic Environmental Assessment (SEA) Directive in the last paragraph of page 11 of their submission, stating that the *“other important aspect of an ecosystem-based approach is the adequate application of the Strategic Environmental Assessment (SEA) Directive, which complements the MSP Directive, as well as the overarching Marine Strategy Framework Directive (MSFD). This has been inadequately applied in the case of these proposed developments.”*

The submission considers *“The OREDP committed to a ‘full review’ of both the plan itself and its associated SEA to be carried out in 2020, but to date, no full review has been carried out. However, even though the North Irish Sea Array was completely excluded from the OREDP and SEA, it is of interest to consider whether this proposed development could have been accommodated within the development scenarios that were tested.”*

Response to Point 6 – Strategic Environmental Assessment (SEA) Directive

The proposed development has long been considered in the context of Ireland’s maritime spatial planning. The OREDP, 2014 identified Ireland’s coast as one of the most energy productive in Europe. The proposed development’s application is consistent with OREDP given the flexibility outlined in OREDP for areas identified for investigation and development.

The OREDP’s aim was to assess scenarios for the development of offshore renewables in Irish Waters up to 2030. That OREDP was subject to an SEA, including an assessment of “Assessment Area 1: East Coast (North) – Offshore Wind”, the site within which the proposed development is located.

Further detail on OREDP and its interim review in 2018 is set out in Section 3.6.1 of Chapter 3: Legal and Policy Framework of the EIAR. The Developer has undertaken comprehensive and robust environmental assessments and submitted an EIAR and NIS with its application to An Coimisiún Pleanála. The SEA Directive does not require a strategic environmental assessment for all schemes which are likely to have significant effects upon the environment before they are formally adopted. As the title and recital of the SEA Directive say, it only applies to “certain plans and programmes”.

In addition, see the Developer's response above to 'Response to Point 1 - Marine Spatial Planning Directive (2014/89/EU) and Point 5 - MSP Directive and MSP' which set out the establishment of Ireland's first NMPF, following implementation of the MSP Directive. The NMPF is in full compliance with relevant legal environmental requirements. A SEA, a NIS and an AA have also been carried out as part of the preparation of the NMPF. This is to ensure that the national objectives and outcomes respond to the sensitivities and requirements of the wider natural environment. The proposed development's compliance with the NMPF is outlined in Appendix A3.1: NMPF Compliance Report.

Point 7 – Sustainable development

On line 14 of page 16, BIC raises concerns with the sustainability of the proposed development in relation to the UN Sustainability Goals stating that *“this proposed development cannot be considered to be a sustainable development.”* BIC continues by saying that *“This is further highlighted by the use of the proposed power generated, which failing an ORESS contract is to be supplied to an unsustainable data centre as part of a private connection. Given the unsustainable nature of the proposed development, it is clear it is also not in the public interest, for either this, or particularly for future generations and constitutes a privatisation of public assets (not only in terms of seabed but in terms of ecological and sustainable food resources), to enrich those few who profit from data centre proliferation.”*

Response to Point 7 – Sustainable development

The proposed development was successful in the ORESS auction in 2023 and hence holds a state backed power purchase agreement.

5.2.3.3 Main Observations/Objections to the Proposal

On page 14, BIC introduces this section of its submission by stating that the following objections are *“based on concerns regarding the environmental and ecological protection of our seas”*.

The key points in relation to BIC's main observations/objections include:

- Site Selection; and
- Request for further information.

5.2.3.3.1 Site selection

Point 1 – Consideration of site

BIC begins this section of its submission stating: *“Given that it is internationally recognised that site selection is the most important factor in determining the level of environmental impact of a project, it is unacceptable that a site should be granted with no environmental assessment (either by developer or government) and no public consultation should take place on the granting of that site.”*

Response to Point 1 – Consideration of site

The location and site selection and refinement process for the proposed development is described in full in Chapter 5; Alternatives of the EIAR. See the Developer's response above in Section 5.2.3.1.3 Site Selection. in this report.

Point 2 – Coastal biodiversity

At the start of page 15, BIC acknowledges that *“offshore wind will play a critical role in this transition; however, this cannot come at the cost of our coastal biodiversity, which will never recover.”*

The protection of biodiversity must be at the core of offshore renewable energy and an ecosystem-based approach to Marine Spatial Planning needs to be undertaken for all Irish waters, as is required under the Directive 2014/89/EU ('Marine Spatial Planning Directive'). The location of development (site selection) is recognised internationally as the key to avoiding environmental harm with marine developments."

Response to Point 2 – Coastal biodiversity

The EIAR includes a number of technical chapters that consider the impacts on different species, their behaviour, ecology and habitats. This includes offshore ornithology, benthic subtidal and intertidal ecology, fish and shellfish ecology and marine mammals. Each of these chapters include an assessment of relevant identified receptors that may be impacted by the proposed development. The assessments presented in each chapter are informed by ecological information from a combination of existing literature and project-specific and regional data sets. The Developer therefore believes that the EIAR adequately considers the wide range of marine and terrestrial biodiversity present in the area.

The Developer would refer BIC to Sections 5.2.3.1 and 5.2.3.2 of this report, for more information relating to the site selection processes, the Marine Spatial Planning Directive and the establishment of the NMPF.

Point 3 - Macro-siting

In the second paragraph of page 15, BIC draws attention to the 2020 guidance for wind energy developments and EU nature legislation, *"the best way to minimise negative effects on EU-protected habitats and species is to locate projects away from vulnerable habitats and species, (a practice known as 'macro-siting'). This can best be achieved through strategic planning at administrative, regional, national or even international level, in particular through the maritime spatial plans drawn up under the Maritime Spatial Planning Directive...The appropriate siting of offshore wind energy developments is the most effective way for avoiding potential conflicts with Natura 2000 sites and EU protected species and habitats."*

Response to Point 3 – Macro-siting

The NIS assessed the likely effects of the proposed development to all the relevant European protected sites and found no AEoI on any site, either alone or in-combination with any other plan or project.

Point 4 – Prey Species

In the final paragraph of page 15, the submission raises a concern regarding phytoplankton as prey, specifically within the NWIS SPA. It states that the shallow waters *"produce some of the highest global densities of phytoplankton on earth. Not only does this phytoplankton capture enormous amounts of carbon but it feeds the young spawning fish, the bottom dwellers (sea pens, nephrops, biogenic reefs and sandeel), the basking sharks and whales. In turn these species, particularly fish and sandeels, feed the seals, dolphins, porpoises and very importantly the coastal highly endangered birds, such as kittiwake and razorbill. Is it any wonder that this site has been allocated for one of Ireland's largest Special Protected Areas."* BIC continues *"This is a sensitive habitat. It also offers a rich feeding and foraging ground for birds and marine mammals from adjacent and nearby SACs and SPAs being a rich spawning and nursery ground for critical keystone species, which feed on the rich availability of phytoplankton and zooplankton in the shallow, stratified light filled waters of sandbanks."*

Response to Point 4 – Prey species

Impacts of the development on prey species for birds and marine mammals has been thoroughly assessed within the NIS, which includes consideration on species which feed on the phytoplankton, this is specifically considered in Sections 5.3 and 5.4 of the NIS. All potential effects to prey species have been assessed within the EIAR, specifically the Developer would refer the submission to Section 13.5 of Chapter 13: Fish and Shellfish Ecology of the EIAR, for the assessment of the effects on important fish and shellfish prey species. As can be seen from Table A13.4 in Chapter 13 of the EIAR, the assessments covered a range of fish and shellfish species including key prey species for seabirds and marine mammals such as sandeel, sprat, herring, cod, whiting and mackerel. Chapter 13 of the EIAR provides a robust and appropriate evaluation of the impacts to fish stocks and important prey species for seabirds and marine mammals. For an assessment of indirect impacts on higher tropic levels, the Developer refers to the assessments presented in Chapter 14: Marine Mammal Ecology (Sections 14.5.2.12, 14.5.3.3 and 14.5.4.4) of the EIAR and Chapter 15: Offshore Ornithology (Sections 15.5.2.2, 15.5.3.5 and 15.5.4.2) of the EIAR.

Additionally, the EIAR includes a number of technical chapters that consider the impacts on different species, their behaviour, ecology and habitats. This includes offshore ornithology, benthic subtidal and intertidal ecology, fish and shellfish ecology and marine mammals. Each of these chapters include an assessment of relevant identified receptors that may be impacted by the proposed development. The assessments presented in each chapter are informed by ecological information from a combination of existing literature and project-specific and regional data sets. The Developer therefore considers that the EIAR adequately addresses the wide range of marine biodiversity present in the area.

Point 5 – Disturbance of ecosystems

Line 8 of page 16 of the BIC submission states that the proposed development will cause “*a disturbance of this critical habitat and high levels of noise pollution and sediment plumes, with a subsequent ongoing disturbance of many of the species that use the area (either due to visual disturbance, audible disturbance or other). This will devastate already struggling sites of community importance in the area and result in an irreparable impact on, not only the local ecosystem but the ecosystem of the Irish sea.*”

Response to Point 5 – Disturbance of ecosystems

The likely effects of underwater noise on fish and shellfish ecology have been identified and fully assessed in Section 13.5 (Impacts 4 and 14) and Section 13.9 (Cumulative Impact 3) of Chapter 13 of the EIAR. Following design refinements, the proposed development now proposes the use of suction bucket jacket (SBJ) foundations for Wind Turbine Generators (WTGs), and jacket foundations for Offshore Substation Platform (OSPs) installed using either drilled pin piles or suction buckets (see Appendix A5.1: Design Refinements). As piling is no longer part of the proposed development design, the range and magnitude of potential underwater noise effects have been significantly reduced. The fish and shellfish ecology assessment has been updated to reflect these design changes and the revised underwater noise modelling; these updates are presented in Chapter 13. The conclusions remain unchanged: no significant effects are predicted for fish or shellfish receptors, which form a key component of the prey base for higher trophic levels.

The potential for disturbance to supporting habitats for prey species was assessed in Chapter 13. Given the short-term and localised nature of the potential effects and considering the extensive availability of similar habitats across the Irish Sea, no significant effects are concluded. As such, no long-term or large-scale ecological consequences are predicted for fish or shellfish receptors. To ensure the assessment is informed by the most current and up-to-date data, Appendix A13.1 and Chapter 13 of the EIAR have been revised to incorporate benthic survey data collected in 2025, which has been used to refine the distribution of suitable spawning substrates for key prey species such as herring and sandeel. No changes to the significance of effects have been identified.

Elevated suspended sediment concentrations (SSC) and associated deposition during construction are expected to remain localised to the near-field and adjacent far-field, and to be temporary, intermittent and fully reversible. Given the short-term and localised nature of these effects, and the fact that only a very small proportion of the available supporting habitat for prey species will be temporarily affected in the context of suitable habitats in the wider area, the significance of effect is concluded to be not significant for fish and shellfish receptors in EIA terms.

It is also important to note that the impacts of underwater noise on marine mammals have been thoroughly assessed in Chapter 14, Marine Mammal Ecology (Sections 14.5.2.12, 14.5.3.3 and 14.5.4.4) of the EIAR, with any related queries addressed in Section 3.10 Marine Mammal Ecology of this report. Additionally, the impacts on offshore ornithology have been fully assessed in Chapter 15, Offshore Ornithology (Sections 15.5.2.2, 15.5.3.5 and 15.5.4.2) of the EIAR, and any related queries are addressed in Section 3.11 Offshore Ornithology of this report.

Overall, the evidence presented in the EIAR does not support the assertion that the proposed development would cause “devastation” or “irreparable” impacts to key prey species or their supporting habitats. Instead, the predicted effects are temporary, localised and fully reversible, with no significant residual impacts following the application of embedded mitigation.

In regard to sediment disturbance, Section 12.5.2.1 of Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR sets out a full assessment of the potential for a temporary increase in suspended sediment concentrations (SSC).

It is noted that whilst seabed disturbance during the construction phase is expected to produce discrete sediment plumes, the spread of which will be determined by the prevailing tidal conditions, the material will be predominantly fine in character, and as such, plumes will be dispersed over several tides before completely settling, with the flood-dominant tidal flow resulting in a net drift of the plume to the north. However, SSC are expected to reduce quickly over time to background levels (i.e., within a couple of tidal cycles). The levels of short-term deposition are considered to be light levels of smothering for any benthic receptors as most species common in soft-bottom communities are able to avoid burial with 5–10cm of sediment (Nichols et al., 1978).

Point 6 – Carbon capture

In the first paragraph of page 17, the submission raises concerns regarding phytoplankton capturing carbon, *“Underwater in this area the existing sandy bottom habitat would be decimated, and foreign invasive species will predominate. Phytoplankton is the largest global source of carbon capture; capturing an estimated 40% of all CO₂ produce – four times the amount captured by the Amazon rainforest. There is international condemnation of the destruction of rainforest; however, in relation to proposals for wind energy (and data centres) in Ireland, government appear less concerned about the inappropriate siting of proposals that will result in destruction of some of the richest areas of Ireland’s valuable marine ecosystem.”*

Response to Point 6 – Carbon capture

During the installation process the disturbed materials will not be removed from the locations and therefore, the release of carbon into the atmosphere is not deemed likely to lead to a significant effect on the environment.

Section 28.5.3.1 of Chapter 28: Climate of the EIAR demonstrates that the proposed development would have a net significant beneficial impact on the climate. Over its life cycle, the proposed development has the potential to displace 13,821,528 tonnes of CO₂ eq from the (largely carbon-based) traditional energy mix in the grid. Over the course of the anticipated life span of the proposed development (35 years) it is estimated that it will have a net significant beneficial impact on the climate.

5.2.3.3.2 Request for further information

From page 17 of the submission, the key points raised in BIC’s submission relating to further information are:

- Public access to environmental information on the proposed site;
- Lacking strategic environmental assessment;
- Inadequate alternatives;
- Sites of community importance have been inadequately considered;
- Remaining risks/lack of robust scientific data;
- Insufficient evidence of mitigation measures;
- Unregulated development environment;
- In-combination effects;
- Cumulative impact;
- Requisite measures;
- Marine conservation;
- Other salient observations; and
- Non-statutory observations.

BIC's submission states concerns in each of these topics, and how they believe it contravenes the Habitats Directive (92/43/EEC), the Strategic Environmental Assessment Directive (2001/42/EC), the Marine Spatial Planning Directive (2014/98/EU), the EIA Directive (2011/92/EU), the OSPAR Convention or the Convention on Biological Diversity.

Public access to environmental information on the proposed site

Point 1 - Public access to environmental information on the proposed site:

On page 18, under the heading 'Public access to environmental information on the proposed site', BIC refers to the Habitats Directive 92/43/EEC, specifically Article 11 *"requires Member States to undertake surveillance of the conservation status of natural habitats and species referred to in Article 2, with particular regard to priority natural habitat types and priority species"* and Article 18 *"requires Member States to exchange information for the purpose of proper coordination of research carried out at member state and at community level"*. BIC goes on to state *"It is clear from data available in the public domain (e.g., OSPAR Reef data) that a number of habitat types exist within an in close proximity to the application area. The extent of these habitats is currently unknown by the public or not in the public domain."*

Response to Point 1 - Public access to environmental information on the proposed site

With response to Article 11, the Developer notes that within the published EIAR, there is comprehensive detail regarding the extent of habitats present from both desk-based surveys of pre-existing information available within the public domain, and site specific surveys undertaken to inform the baseline. The Developer considers that the Article 2 habitats and species have been effectively characterised and monitored ahead of the undertaken environmental assessment.

With respect to Article 18 regarding consultation, Section 2 in Appendix A1.2: Consultation Report of the EIAR, *"Public participation has been an integral part of the iterative design of the proposed development from the outset. Public consultation was carried out to inform the public and stakeholders of the progress of the project from a very early stage and to seek feedback and participation. The project and EIAR team has undertaken a comprehensive consultation and engagement process with stakeholders, landowners, and members of the public throughout the evolution of the proposed development. The primary objective of the public consultation process has been to provide opportunities for members of the public and interested stakeholders (including fisheries stakeholders) to contribute to the planning and design of the proposed development and to inform the development process. Public participation in the planning and design of the proposed development began in 2019 through on-the-ground engagement and information and media campaigns."*

"The early involvement of the public and stakeholders ensured the views of various groups, individuals and stakeholders were taken into consideration in the proposed development and in the preparation of this EIAR to ensure that the development is appropriate, in the context of the local area."

The Developer considers that within this consultation process on the various stages of the proposed development (and associated environmental assessments) that sufficient information regarding the extent and status of habitats is within the public domain.

Lacking strategic environmental assessment

Point 2 - Lacking strategic environmental assessment

Within the final bullet point of page 18, the BIC submission states *"The Irish State has failed to adequately implement Directive 2001/42/EC ('Strategic Environmental Assessment Directive') and Directive 2014/98/EU ('Marine Spatial Planning Directive') and as a result marine and coastal habitats have been put at risk. Granting the proposed development would further risk the ecology of the area in the vicinity of the proposed development, which is being carried out in an insufficiently regulated environment"*.

Response to Point 2 - Lacking strategic environmental assessment

Please see the Developers response above to Section 5.2.3.2 Response to Point 6 – Strategic Environmental Assessment (SEA) Directive

Point 3 – OSPAR convention

Also, within this section, on page 19 of the submission, BIC refers to the OSPAR convention, “*The state and applicant have a legal requirement (92/43/EEC, Aarhus Convention, OSPAR Convention) to make the location and extent of these habitats known to the public and until such time as that knowledge is available meaningful public consultation cannot proceed. These habitats are also highlighted as a conservation priority under the EU Marine Strategy framework Directive (2008/56/EC) and Any damage to these habitats would contravene the OSPAR Convention (Sweetman Vs ABP, c-258/11, 11th April 2013).*”

Response to Point 3 – OSPAR convention

Pursuant to OSPAR, contracting parties were required to submit a list of Marine Protected Areas (MPAs) for the designation and conservation of marine areas. Ireland has established protection for these MPAs through designation of the areas as Special Areas of Conservation (SACs). There is a duality in these sites in that they have been protected under the Habitats Directive and are also recognised as worthy of protection under OSPAR as MPAs. All of the relevant SACs have been carefully assessed within the NIS in the proposed development’s planning application.

The Developer has considered and assessed the potential impacts of the proposed development on all sites and areas designated for nature protection, (as well as the wider environment) in the EIAR and NIS submitted as part of the planning application and the 2026 update. It has been concluded that the proposed development will have no adverse effect on site integrity of any site designated for nature protection.

The Developer has responded to concerns regarding this topic in Section 5.2.3.3.1 under Response to Point 1 – Consideration of site. Inadequate alternatives

Point 4 – Inadequate alternatives

BIC draws attention to the consideration of alternatives in their first bullet point under the heading ‘Inadequate alternatives’, “*Article 6(4) should be applied. In such a case, we believe that the alternatives presented are inadequate to satisfy the requirements of Article 6(4) of the Habitats Directive (92/43/EEC). All alternatives in the EIAR and NIS Reports are within the area therefore the ecological question of the suitability of this area for a windfarm, particularly of this scale, has not been adequately considered.*”

Response to Point 4 – Inadequate alternatives

See Section 5.2.3.3.1 above in this report, which refers to Chapter 5; Alternatives of the EIAR which explains the evolution of the proposed development and how the site selection process was carried out, which establishes the alternatives for consideration. If a proposed development is being progressed that could adversely affect the integrity of a European site, it will be necessary, amongst other things, to pass the ‘absence of alternative solutions’ test. Article 6(4), however, only needs to be applied where there is an adverse effect on the integrity of a European protected site. The NIS, as submitted by the Developer in respect of the proposed development, does not reach such conclusion and therefore there is no requirement for alternatives to be considered within the context of the Appropriate Assessment, and no requirement for an assessment under Article 6(4).

Point 5 – Rockabill SPA

BIC refers to the Rockabill SPA in the final bullet point in this section (p.20), stating the site’s qualifying features before stating “*Rockabill has a long history of nesting by terns and it is now the most important Roseate tern colony in Europe.*”

Response to Point 5 – Rockabill SPA

The Developer would refer BIC to the NIS to see the assessment of roseate terns at the Rockabill SPA. The Developer notes that this is a key colony for tern species; and considered this during the array area refinement process and design options. For example, the NIS states, “*The project has mitigated considerably for collision by increasing the air draft to 40m LAT... Due to the low flight height of terns, the increase in the minimum draft height has decreased predicted collisions of this species to zero.*” The NIS thoroughly assessed the conservation objectives of Rockabill SPA, specifically in relation to the roseate tern, and concluded no Adverse Effects on Integrity on this site from the proposed development.

Sites of community importance have been inadequately considered

Point 6 - Undesignated SPA areas

On page 20, BIC considers that the Developer is “*failing to consider certain sites of community important and species of those sites.*” The submission refers to a number of sites, the first being “*Undesignated SPA areas*”.

Response to Point 6 - Undesignated SPA areas

The SISAA thoroughly considers all potential pathways for impacts on any designated sites including ones proposed and concludes whether there is potential for Likely Significant Effects. The NIS then carries out an Appropriate Assessment considering if there is any potential Adverse Effects on Integrity of all designated sites where LSE was considered. The statement that ‘undesignated’ SPA areas should be considered for LSE is not within the scope of guidance or established best practice when carrying out screening or appropriate assessment.

Point 7 - Foraging areas for SCIs of SPAs

The second bullet point is: “*Foraging areas for SCIs of SPAs are inadequately considered both with respect to this development and in-combination with the plan to which this development belongs, as well as other plans and projects.*”

Response to Point 7 - Foraging areas for SCIs of SPAs

With regards to the consideration of foraging areas for SCIs of SPAs, foraging species within the proposed development and their associated designated sites have been fully considered within the NIS and its update. Apportionment of impacts to SPAs with connectivity based on mean-maximum foraging ranges (+1SD) have been included within the assessment, fully taking into account the foraging areas of breeding birds. In addition, multiple forms of baseline data have been interrogated, including digital aerial survey data, tracking studies, and distribution maps, to fully define and gain an understanding for the usage of the area by marine birds. Seasonal patterns to the usage of the proposed development array area and surrounding buffer can be found in Appendix A15.1 Offshore and Intertidal Ornithology Technical Baseline of the EIAR.

Any reduction in available foraging area as a result of the proposed development is expected to cause minimal alteration to foraging habitat usage, given that seabird have extensive foraging ranges and individuals often travel large distances from their colonies to forage. Impacts to prey species of seabirds has been considered within the NIS. The majority of seabirds are generalist feeders, predating on mobile prey, such as sandeels, sprat and juvenile herring, which will not be impacted by the proposed development (Chapter 13 Fish and Shellfish Ecology of the EIAR).

In addition, temporary displacement does not equate to habitat loss, as the overall extent of available habitat remains largely unchanged. Only small areas of habitat alteration where the turbines are placed, and scour protection is placed on sub-sea cables will occur, which is 0.02% of the NWIS cSPA. In addition, the best available scientific evidence from displacement studies does not support the assertion that auks will be completely excluded from suitable habitat within the SPA (APEM, 2022; Trinder et al., 2024). Instead, it can be viewed a temporary or partial redistribution within the SPA (particularly during post-breeding dispersal).

An updated assessment based on the updated COs that have been released by NPWS since the submission of the application has been prepared. This provides further details and addresses COs associated with impacts on foraging species at some SPAs where additional COs have been included for impacts to supporting habitats. This establishes that there remain no AEoI at all designated sites from the proposed development and therefore the conclusions of the 2024 NIS, as submitted, remain the same.

Point 8 - Geographic boundaries

BIC highlights as its last point on page 20, “*proposed sites of community importance are under appeal with respect to their geographic boundaries, they cannot be adequately considered in AA until these matters are resolved.*”

Response to Point 8 - Geographic boundaries

The 2024 SISAA and 2024 NIS used the most up-to-date site boundaries at the time of the assessment. The SISAA and NIS carry out a robust assessment of all European Sites based on the site boundaries designated for each site pursuant to the requirements of the Habitats Directive and its transposing regulations. An updated assessment has been provided in the SISAA and NIS.

Point 9 - SCIs and QIs inadequately considered

The submission points to the AA and NIS as the first bullet of page 21 suggesting that the documents “*fail to take all QIs and SCIs, as outlined in the Standard Data Forms into consideration which are due protection with respect to the respective SACs and SPAs.*”

BIC considers that a “*number of SCIs of SPAs and/or QIs of SACs have failed to be adequately considered.*”, which is detailed in their second point of page 21.

Response to Point 9 – SCIs and QIs inadequately considered

The Developer can confirm that all publicly available QIs and SCIs have been assessed for all protected sites within the study area of the proposed development within the updated SISAA and the NIS.

Point 10 - Suspended Sediment Concentration

BIC suggests in its third point on page 21, that the NIS has failed to consider the effects of Suspended Sediment Concentration (SSC), saying that “*not only did the AA fail to appropriately assess for this there is absolutely no scientific way to mitigate for it (as sediment deposition will be in the 15km zone and therefore this proposed development is in breach of the Habitats Directive. Moreover, vital information has been omitted in the NIS.*”

Response to Point 10 - Suspended Sediment Concentration

A buffer range of 20 km was used in screening. The SISAA considers the maximum potential distance SSC effects could spread within this assessment is 10.2km on the maximum flood tide and 6.2 km on the maximum ebb with multiple Figures within the NIS providing a clear visual guide on the extent of the potential impacts. Section 5.1.5.2.2 of the NIS states “*trace levels (<1mg/l) of suspended sediment may travel into the northern portion of the Rockabill to Dalkey SAC however, the sediment will likely disperse in the next tidal cycle*’. Furthermore ‘*Maps of the extent of the known geogenic reefs within the Rockabill to Dalkey Island SAC indicate no reef QIs of conservation importance (reef habitat within the site occur at Dalkey Island, Maiden Rock and Muglins in the southern portion, off Howth Head, Ireland’s Eye and Lambay Island in the central portion, and Rockabill in North Dublin).*’ The NIS concludes that increases in SSC will not result in an adverse effect on the designated sites. Please refer to the Section 3.10 Benthic, Subtidal and Intertidal Ecology response section 3.10.4.3 of the NIS, which clarifies these points in further detail and goes on to clarify that the plume with the potential to be carried into Rockabill to Dalkey Island SAC “*is considered to be lower than the natural monthly variation.*” With consideration of this, and that sediment is considered to disperse within one tidal cycle, no AEoI was concluded within the NIS. The Developer considers the NIS to be thorough, with the conclusions robust.

Furthermore, Chapter 10 Marine Geology, Oceanography and Physical Processes, Section 10.3.6.2 (and Figure 10.7 of the 2024 EIAR) recognise that the proposed development array area is located in the Western Irish Sea Mud Belt which is a natural deposition environment for fine sediments. Section 10.3.8.3 of Chapter 10 of the EIAR discusses the natural variation in suspended particulate matter.

Following design refinements, the proposed development now proposes the use of suction bucket jacket (SBJ) foundations for WTGs, and jacket foundations for OSPs installed using either drilled pin piles or suction buckets (see Appendix A5.1: Design Refinements). The assessment of sediment plumes of fine sediments for raised levels of suspension and subsequent deposition is considered for the following types of impacts (Table A10.2 of Chapter 10 of the EIAR):

- Impact 3 – drilling for foundations (Figure A10.5 and A10.6 of the EIAR);
- Impact 4 – array cable installation (Figure A10.7 and A10.8 of the EIAR);

- Impact 5 – ECC cable installation (Figure A10.9 and A10.10 of the EIAR);
- Impact 6 - nearshore excavation of HDD exit pits (Figure A10.11 and A10.12 of the EIAR); and
- Impact 7 - bentonite release at the HDD exit pits (Figure 10.21 and 10.22 of the 2024 EIAR).

In general, all sediment plumes are short-lived with concentrations rapidly reducing over distance due to dispersion and settlement. Highest concentrations remain within the tidal excursion buffer of around 6.4 km around the development over the initial tidal period of flood or ebb, with the potential to affect further on a subsequent period of tides but at a much-reduced concentration. Deposited material will assimilate with the ambient sediments and respond to the same sediment transport processes.

Point 11 - Community importance

The submission highlights in the fourth point of page 21, *“Typical species, associated species and associated habitats are inadequately considered with respect to effects on sites of community importance.”*

Response to Point 11 – Community importance

Refer to 5.2.3.3.2 Point 10 SCIs and QIs inadequately considered.

Point 12 – Ex-situ species

The next point on page 21 is: *“Ex-situ species and habitats are inadequately considered with respect to the effects on sites of community importance.”*

Response to Point 12 - Ex-situ species

The Developer notes the comment on ex-situ species and habitats, however clarification on how the assessment is inadequate is not provided. The Developer is confident that ex-situ mobile species such as marine mammals and birds are fully considered within the SISAA and NIS. Ex-situ habitats are not protected by a designated site as they fall outside of the area of protection and therefore do not need to be considered unless any potential impacts on the ex-situ habitat have the potential to directly or indirectly have an impact on the feature of a designated site. There is no potential for this to occur based on the COs of the considered designated sites. Please refer to Chapter 12 Benthic Subtidal and Intertidal Ecology of the EIAR for the assessment of impacts on habitats outside of the protection of a designated site.

Point 13 - Conservation Objectives

On page 21, BIC details its last point of this section of the submission, stating that the *“Conservation objectives of sites considered do not have up-to-date or site-specific conservation objectives and, as consideration is only taken for these inappropriate conservation objectives, the AA carried out is inappropriate.”*

Response to Point 13 - Conservation Objectives

Where SSCOs were not in place at the time of preparation of the planning application the Developer considered SSCOs from other European Sites. The Developer notes that the NPWS has made significant progress in adoption of SSCOs and notes that SSCOs have now been adopted for all European Sites considered in the NIS. The NIS has been updated based on such updates since submission of the application.

Remaining risks/lack of robust scientific data

Point 14 - Baseline assessments

BIC states that the Developer is *“applying the wrong test; and in failing to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works.”* BIC provides examples of what they consider are the Developer’s contraventions. The first contravention is detailed in the first bullet point of page 22, which is that the use of an inadequate baseline data for noise sensitive species, stating that *“geophysical and geotechnical activities have been run in parallel with baseline assessments, such as passive acoustic monitoring, thereby corrupting and biasing baseline data. This has depressed baseline counts and affected assessments.”*

Response to Point 14 – Baseline assessments

Presented in Chapter 5: Consideration of Alternatives, Section 5.5.8 of the EIAR clarifies the survey work carried out and clearly demonstrates that surveys carried out did not coincide with geophysical and geotechnical surveys.

A number of third-party Passive Acoustic Monitoring (PAM) surveys were conducted (Berrow and O'Brien, 2013, O'Brien and Berrow, 2016, and Berrow et al., 2021) and the results used by the Developer in the baseline characterisation of the proposed development (Appendix 14.2 Marine Mammal Baseline Characterisation of the 2024 EIAR). Appendix 14.2 Marine Mammal Baseline Characterisation of the 2024 EIAR clarifies the timings of these PAM surveys used in the conclusion of the baseline characterisation, and the Developer can confirm that geophysical surveys for the proposed development were undertaken in 2023 thereby indicating no timeline overlap. Therefore, this statement is considered not accurate, and the survey data used is fully adequate to establish a robust baseline for Appropriate Assessment.

Following design refinements, the proposed development now proposes the use of suction bucket jacket (SBJ) foundations for WTGs, and jacket foundations for OSPs installed using either drilled pin piles or suction buckets (see Appendix A5.1). As piling is no longer part of the proposed development design, the range and magnitude of potential underwater noise effects have been significantly reduced. The fish and shellfish and marine mammal ecology assessments have been updated to reflect these design changes and the revised underwater noise modelling; these updates are presented in Chapters 13 and 14. The conclusions remain unchanged from the 2024 EIAR: no significant effects are predicted for fish, shellfish or marine mammal receptors.

Point 15 – Pre-construction survey works

The second and fourth points on page 22 goes on to suggest a lack of detail on pre-construction survey works for the proposed development, specifically *“the type of scour protection to be used, volume, etc), including but not limited to detail of the pre-construction survey works.”*

“This application does not provide sufficient specifics but rather indicates an intention to evaluate specifics pre-construction. Numerous pre-construction surveys have been carried out and details of the findings have not been sufficiently elucidated to the public. This has the effect of providing insufficiently definitive and precise findings to remove all LSE on sites of European importance and short circuiting the public participation process, providing the public with insufficient information with which to sufficiently evaluate this proposed development. The proposal leaves a wide variety of options open that should have been determined at this point.”

Response to Point 15– Pre-construction survey works

The assessment has been carried out assessing activities throughout the lifecycle of the proposed development and the designs parameters with the greatest magnitude of impact. Scour volumes and pre construction survey works are detailed within Chapter 6: Description of the Proposed Development – Offshore and Chapter 8: Construction Strategy Offshore of the 2024 EIAR respectively. And have been assess throughout offshore topics, Chapters 10 to 20 and 35 of the EIAR and NIS

The Developer can confirm that an extensive series of surveys have been undertaken to inform the baseline characterisation of the proposed development area, allowing a robust assessment of the effects of the proposed development on the Values Ecological Receptors (VERs) identified. These surveys are reported in the following documents of the NIS and inform the topic chapters of the NIS;

- Appendix 4 Cable Route Benthic Survey Report of the 2024 NIS,
- Appendix 5 Array Area Benthic Survey Report of the 2024 NIS,
- Appendix A14 Offshore and Intertidal Ornithology Technical Baseline Report of the NIS,
- Appendix A16 Fish and Shellfish Ecology Baseline Characterisation Report of the NIS.

The NIS concludes that the proposed development will not result in any AEoI of the QI of the designated sites.

Point 16 - Bat species

The third bullet point on this page details how BIC considers the analysis of the impacts on bat species insufficient.

Response to Point 16 - Bat species

The Developer carried out its own survey work for bats as shown in Section 35.2.4.1, Chapter 35: Offshore bats of the 2024 EIAR; Appendix 35.1 Rockabill Island and Headland Offshore Bat Monitoring 2022 of the 2024 EIAR; and Appendix 35.2 Rockabill Island and Headland Offshore Bat Monitoring 2023 of the 2024 EIAR. These surveys comprised of boat-based surveys throughout the proposed developments array area, in addition to static detectors being placed on Rockabill Island and nearby headlands to assess for any potential migratory or foraging activities within the area.

Furthermore, the Developer has submitted an updated Appendix A35.1 Offshore Bat Monitoring Report 2024 which details further survey works that have been carried out on the basis of the findings of the first two years of surveys including preliminary roost assessments and roost surveys located on Rockabill Island.

It is noted that the report demonstrates spring flight activity of Leisler's Bats over Rockabill. Chapter 35 of the EIAR has been updated with the results of the 2024 survey and reporting from Bat Conservation Ireland which presents initial results of bat monitoring on Rockabill Island from May to June 2024 which was not available prior to the submission of the EIAR. The analysis based on this data robustly concludes no significant impact on bats present at Rockabill, which is not significant in EIA terms.

Point 17 - Human activity

BIC draws attention to the effects of human activity in the final bullet point of page 22, including geophysical surveys, in the sensitive area of the proposed development stating, *"This is going to cause ongoing regular disturbance of species which currently frequent the marine space. This appears to have been inadequately assessed in respect of species, habitats and effects on sites of community importance."*

Response to Point 17 – Human activity

Geophysical surveys and other human activities associated with the construction and operation of the proposed development which may result in disturbance to species and habitats associated with sites of community importance are fully considered within both the SISAA and NIS. Additionally, the Developer notes that the licenced preliminary site investigation activities, including geophysical surveys, have been assessed (including provision of a SISAA and NIS) under the Marine Usage Licence application and Foreshore Licensing processes. Table 5.8 of the 2024 NIS lists the potential effect of *"Underwater noise from other noises sources"* going on to clarify that *"A series of pre-construction surveys will be undertaken in the array area and along the ECC. Geophysical surveys will utilize towed equipment such as side scan sonar, sub bottom profiler, multibeam echosounder and magnetometer."* Section 5.3.2.4 of the NIS specifically assesses the effects associated with these activities on designated sites, including reference to underwater noise modelling in association with the activities. These impacts and activities have been fully considered within the NIS and concluded to have no potential for AEoI on the designated sites.

Point 18 - Harbour porpoises

The submission raises a concern regarding harbour porpoises on page 23, stating *"Inadequate consideration has been provided for habitat loss and disturbance with respect to Harbour Porpoise from its SACs, both for the proposed project itself and in-combination with other projects. This is particularly important with respect to the Harbour Porpoise which is particularly susceptible to mortality due to habitat loss."*

Response to Point 18 - Harbour porpoises

Impacts on harbour porpoise and those associated with Rockabill to Dalkey Island SAC have been fully assessed within the NIS. Screening for Appropriate assessment identified no possible likely significant effects from habitat loss. As noted in Section 3.5.3 of the Supporting Information for Screening for Appropriate Assessment; *"no pathway for effects on habitats within the SAC and to the QI has been identified due to lack of spatial overlap between the proposed development boundary and this SAC"*. Therefore, the effect of habitat loss on harbour porpoise or seal QIs have not been considered further alone or in-combination with other proposed developments.

Point 19 - Noise impacts

Under this same point, BIC goes on to state: *“The disturbance due to noise impacts during pre-construction surveys, construction and decommissioning but also ongoing noise disturbance during operation of all planned ORE developments in the Irish Sea will be considerable and should be fully assessed at the most detailed level using the most up-to-date methods and adequately considered in respect of the Objectives of the Habitats Directive, what is considered a likely significant effect on the site of community importance.”*

“The arguments progressed in the application are completely insufficient to conclude any aspect of impacts of UXO clearance on designated sites.”

Response to Point 19 – Noise impacts

Disturbance to seal and harbour porpoise QIs from underwater noise and vessels has been considered and fully assessed in Section 5.3 and Section 6.3 of the NIS, both alone and in-combination. Disturbance due to noise impacts during pre-construction surveys, construction and decommissioning has been considered and assessed in Section 5.3 and 6.3 of the NIS, both alone and in-combination with other proposed developments where information is available.

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place and has been removed from the NIS.

The primary UXO clearance method will be low-order. In the unlikely event that high-order clearance is required, the Developer has committed to the use of a Noise Abatement System (NAS) (e.g. bubble curtains or similar). Prior to any high-order clearance, ADDs will be used to displace harbour porpoise out with the potential PTS-onset range. The PTS-onset range for each detonation will be determined by the charge size of each specific UXO, as confirmed by an explosive ordnance (EOD) expert following target investigations. The ADD duration will be set to displace harbour porpoise from within the PTS-onset area for each UXO, rather than applying a fixed value for all UXO irrespective of charge size. MMOs and PAM will be used together as required, in line with NPWS (2014), to ensure that marine mammals are not present within the defined mitigation zone, which also aids in the validation of the efficacy of the ADD. Technical discussion of these specific measures is presented within the MMMP (Appendix A10 of the NIS). Together, these mitigation measures are considered sufficient to reduce the risk of PTS to any individual harbour porpoise to negligible. Therefore, it is concluded that PTS arising from UXO clearance will not result in an AEoI of the Rockabill to Dalkey Island SAC with respect to the harbour porpoise QI for Project Option 1 or Project Option 2.

Disturbance from other noise sources has been considered and fully assessed in section 5.3.2.4.2 of the NIS for Rockabill to Dalkey Island SAC. The NIS states that *“It is expected that any disturbance impact will be primarily dominated by the underwater noise/presence of vessels.”*. Given the minimal underwater noise produced by SBJ installation, it is expected that any potential disturbance impacts to harbour porpoise marine mammals will be minimal, and most likely restricted to disturbance within the array area boundary and would will not overlap the SAC boundary.

In relation to disturbance from geophysical surveys in-combination with other proposed developments, the NIS notes in Section 6.3.1.1.2 that *“based on the modelling undertaken to inform the assessment therein, CSA (2020) identifies that Level B harassment ranges could extent up to 141m from the source. As noted above, this is expected to be fully contained within the potential disturbance/displacement effect of the vessels associated with the proposed development (e.g. Benhemma-Le Gall et al., 2023).”*

The Developer maintains the conclusion that disturbance due to underwater noise will result in no AEoI for the QIs of the SACs considered in the NIS.

Point 20 – PTS calculations

The next point on page 23 suggests that the Developer’s *“calculations outlined for PTS impacts of piling are flawed and do not accurately calculate the impacts on Harbour Porpoises.”*

Response to Point 20 - PTS calculations

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place and has been removed from the underwater noise modelling and the NIS and EIAR.

The Developer would refer to Appendix A14.1: Underwater Noise Modelling Report of the EIAR. The underwater noise modelling has been updated to reflect updated PTS thresholds for marine mammals in NMFS (2024). The conclusion of the assessment remains unchanged and are not significant in EIA terms.

Point 21 - Pre-construction surveys

BIC refers to the pre-construction surveys, stating that *“In adequate detail is provided with regard to the details of the planned pre-construction survey activities and inadequate assessment is carried out in regard to these pre-construction survey activities.”*

Response to Point 21 - Pre-construction surveys

Refer to Point 17 – Pre-construction survey works

Point 22 - Reference population

The submission states that *“The reference population and density of harbour porpoises with respect to the Rockabill and Dalkey Island SAC is incorrect and the resultant calculation and conclusion is invalid.”*

Response to Point 22 - Reference population

The Developer has used the latest available reference population and densities with respect to Rockabill to Dalkey Island SAC at the time of writing (Berrow *et al.*, 2021). This was confirmed and agreed with IWDG. The reference population is based on sources provided by NPWS and IWDG and therefore the Developer is confident that the resultant calculations and conclusions are valid.

Point 23 - Methods of assessment

BIC considers that the *“assessments failed to consider the most-up-to-date methods and publications, particularly so with respect to noise impacts on marine mammals”*

Response to Point 23 - Methods of assessment

Refer to Section 5.2.3.3.2 Point 22 – Noise impacts in this report.

Point 24 - UXO clearance

The submission again highlights UXO clearance in the third point of this page, stating that *“Consideration of UXO clearance with respect to harbour porpoise and noise impact more generally are inadequately assessed and fail to contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works.”*

Response to Point 24 - UXO clearance

Refer to Section 5.2.3.3.2 Point 22 – Noise impacts in this report.

Point 25 - Accidental pollution

The next point under this heading, raises a concern regarding accidental pollution, *“Given that this is an industrial style development at sea the risk of accidental pollution to nearby Natura 2000 sites has been inadequately assessed and underestimated.”*

Response to Point 25 - Accidental pollution

In response to the concern that the NIS inadequately assessed the risk of accidental pollution, the Developer has considered all potential pollution sources within the NIS (see Sections 4.3, 5.1, 5.2, 5.3 and 5.4 of the NIS). The assessment was conducted against the COs for each of the relevant designated sites and found no AEoI at any of the sites from the impacts of accidental pollution arising from onshore and offshore activities. The NIS utilises the assessment conducted in the Chapter 11: MW&SQ of the EIAR.

Chapter 11: MW&SQ of the EIAR covers in-depth the following potential impacts relating to potential pollution sources in the offshore environment. Specifically, Sections 11.4.2 - 11.4.4 of, Chapter 11: MW&SQ of the EIAR outline the proposed activities that could potentially lead to accidental release or spills of materials or chemicals during construction, operation and decommissioning phases of the proposed development. This section feeds into Table A11.5 (Chapter 11 of the EIAR), which provides detailed information on the substances that could be involved in such accidental releases. For instance, the chemical and material components of each Wind Turbine Generator (WTG) including, lubricating oils, hydraulic oils, coolants (such as grease, synthetic oil, and nitrogen), transformer oil, sulfur hexafluoride (SF6), and glycerol. Notably, these substances will be contained within closed systems, which are, by definition, isolated from direct pathways to the marine environment unless there is an unintended spill or release. Additionally, this section estimates the number of vessel trips required providing insight into the potential risk of any accidental spills or releases of chemicals from these closed systems.

As stated in Section 11.5.2.2 (Impact 2) of Chapter 11: MW&SQ of the EIAR, the Developer is committed to the use of best practice, due diligence and pollution prevention guidelines. Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to the International Convention for the Prevention of Pollution from Ships (MARPOL) in order to ensure any potential risk is minimised. Should an accidental spill occur, the appropriate reporting procedure would be followed, and all relevant parties would be informed to manage any such event.

A large portion of mitigation is employed to minimise potential for marine environmental pollution. Table 11.21 of, Chapter 11: MW&SQ of the 2024 EIAR details the embedded mitigation of relevance to MW&SQ including pollution prevention measures, pollution prevention management and best practice measures, and disposal of waste management. In addition, Appendix A6.1: Offshore Environmental Management Plan (EMP) of the EIAR details the mitigation measures which will be incorporated as part of the proposed offshore development in relation to each EIA chapter topic, including those measures pertaining to pollution prevention and contingency measures. The main pollution prevention and contingency measures to be implemented during construction and operation of the proposed development are outlined in Table 5.2.1.

Table 5.2.1 Pollution prevention and contingency measures detailed in the Offshore Environmental Management Plan (EMP) to be implemented during the construction and operation and maintenance (O&M) phases of the proposed offshore development

Measure	Detail
Marine Pollution Contingency Procedures (MPCP)	• Informed by the Guidance for Pollution Prevention 5 (GPP5): Works and Maintenance in or near Water • Compliance with MARPOL • Spill kits on board all vessels and on each WTG to contain any fluids in the unlikely event of pollutant release • Each WTG will be equipped with sensors to enable early detection of fluids and leaks • Emergency response procedures to cover accidental spills and potential contaminant release – including key emergency contact details • A chemical risk review including how and when chemicals (including vessel fuels) are to be used, stored and transported in accordance with recognised best practice guidance and national and international regulations and commitments; • Navigational safety measures (e.g., guard vessels, safety buoys, lighting of active working zones) to reduce the likelihood of collision events; • Implementation of these measures would reduce the likelihood of potentially harmful pollutants to be released into the marine environment, thereby reducing the likelihood of pollution impacts on sensitive fish and shellfish receptors. • Appendix A6.1 (Appendix 1: Marine Pollution Contingency Procedure)
Offshore Waste Management Procedure (OWMP)	• Disposal of sewage and other waste in a manner which complies with all regulatory requirements, including but not limited to the International Maritime Organization (IMO) International Convention for the Prevention of Pollution from Ships (MARPOL) requirements • Application of the waste hierarchy (prevention, re-use, recycle, recovery, and disposal) to minimise the amount of waste produced, and reduce, as far as possible, the amount of waste that is disposed of in landfill; • Waste disposal procedures, ensuring all waste that cannot be reused, recycled or recovered will be kept onboard vessels and safely disposed of onshore in a suitable licensed waste facility;

Measure	Detail
	• Code of conduct for vessel operators with respect to the discharge of wastewater and handling and storing of hazardous materials • Appendix A6.1 (Appendix 5: Offshore Waste Management Procedure)
Environmental Vessel Management Plan (EVMP)	• Measures to ensure safe passage of vessels and avoid collision • Measures to address the risks, methods and procedures to deal with any collision incidents • Appendix A17.2: Vessel Management Plan

Furthermore, Chapter 34 Major Accidents and Disasters of the EIAR presents an assessment of the likely significant effects on the environment of the proposed development due to its vulnerability to the risk of major accidents and/or disasters during the construction, operation, and decommissioning phases. The potential for the proposed development to cause major accidents and/or disasters, and the consequent likely significant effects on the environment, are also addressed. It should be noted that both proposed development partners, Statkraft and CIP, operate a zero-harm philosophy across all their proposed developments, and have through their existing portfolios developed a series of dedicated standards, policies, procedures, and processes to ensure all foreseeable consequences and impacts of their actions are mitigated so far as reasonably practicable.

Point 26 - Bentonite-based drilling fluids

The second to last bullet point under this heading details that BIC is concerned about bentonite-based drilling fluids, “*Inadequate consideration has been provided for the risk of bentonite-based drilling fluids being released and smothering reefs and damaging habitats.*”

Response to Point 26 - Bentonite-based drilling fluids

The impacts associated with the release of bentonite during horizontal directional drilling (HDD) operations are assessed in Section 12.5.2.1 of Chapter 12 of the EIAR. Bentonite use is anticipated to be restricted to HDD operations only. Bentonite is a natural clay mineral comprised of particles <63 µm diameter. It is estimated that when the HDD emerges in subtidal exit pits in the Export Cable Corridor (ECC) as ‘drilling muds’ (a mixture of water, drilled sediments and bentonite), an inert (i.e. is neither chemically nor biologically reactive) and therefore non-toxic, naturally occurring clay mineral, will be released under pressure for a short period (10 tonnes of drilling muds over a period of around 200 seconds). This will be followed by a longer period (20 tonnes of drilling muds over around 24 hours) when there will be a further volume of bentonite emerging under lower pressure. There will be no further releases of bentonite. Although the punch out for the HDD exit pit will be located subtidally, there is a likelihood that the plume may extend into the intertidal depending on the state of the tide on release. As bentonite is an inert, fine, clay-based substance, it may persist in suspension for hours to days or longer becoming diluted to very low concentrations and is likely to be quickly dispersed, forming part of the background concentration of SSC along the nearshore as shown in Figures – Figure 10.19 of the 2024 EIAR.

Modelling carried out to inform the EIAR indicates that on a spring tide bentonite release, the greatest excursion distance for bentonite (at concentrations >1mg/l) will be around 1.1km to the north-west (on the flood) and 0.8km to the south-east (on the ebb); on a neap tide the plume will extend a shorter distance (Volume 7A: Figures – Figure 10.21 of the 2024 EIAR). The highest elevated concentrations of bentonite will remain close to the HDD exit pits with levels up to 29mg/l estimated with greatest depths of deposition of between 0.3 to 0.7mm, depths which represent light smothering with minimal areas of the intertidal affected (Volume 7A: Figures – Figure 10.22 of the 2024 EIAR). Marine Evidence-based Sensitivity Assessment (MarESA) (Tyler-Walter *et al.*, 2018) assessments indicate that subtidal biotopes present in the offshore development area show either ‘low’ or ‘no sensitivity’ to light smothering (i.e. depth <5mm), consequently no significant impacts will occur to subtidal biotopes in relation to the release of bentonite. Of the identified intertidal biotopes, three show medium sensitivity to light smothering (*Fucus vesiculosus* on full salinity moderately exposed to sheltered mid eulittoral rock; *Ascophyllum nodosum* on full salinity mid eulittoral mixed substrata; *Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock).

However, these biotopes' level of sensitivity to this pressure is medium, and the level of anticipated deposition in relation to the release of bentonite is limited, and of short-term, the impact does not represent a significant threat to these biotopes. In addition, these biotopes are common and widespread throughout Irish waters.

In relation to the Rockabill and Dalkey Island SAC, the nearest identified reef features are located around Rockabill which is located more than 10 km from the location of the HDD breakout, which is remote from the modelled extent of bentonite deposition as indicated in Volume 7A: Figures – Figure 10.22 of the 2024 EIAR. Consequently, the release of bentonite will not impact on the reef features of the SAC.

Point 27 - Kittiwakes

The last point BIC raises under the heading 'Remaining risks/lack of robust scientific data' is regarding kittiwakes, stating that *"There is no scientific evidence given to support the assumption that the entire colony of kittiwakes from any one SPA do not feed over NISA application area. This assumption is made unscientifically and it could result in decimating a single SPA population. The precautionary principle should have been applied."*

Response to Point 27 - Kittiwakes

With consideration of the concern that the proposed development could decimate a single population, it is established in NIS Appendix A19: Offshore and Intertidal Ornithology Collision Risk Modelling Assessment of the NIS that the impact with the greatest magnitude of effect (Project Option 1) would result in 17.9 annual kittiwake collisions. This level of impact has been contextualised within the EIAR Chapter against populations defined and agreed between Phase One Projects: *'Bio-geographical population derived from Furness (2015) are used within UK assessments, however there is no data for the Republic of Ireland presented. Where possible, regional populations have been defined. These are based on the Furness BDMPS, with the Furness Irish population removed, and a more appropriate Irish population added. This process has been agreed with and is being used across all Phase 1 Projects'*. Rates used are considered precautionary, with the assessment therefore presenting a scenario with the greatest potential magnitude of impact. All assessments against these populations concluded no significant effect at a regional and biogeographic population scales. In addition, within the NIS, impacts have been apportioned to relevant SPAs using a methodology set out by NatureScot (Appendix A18 Offshore and Intertidal Ornithology Apportioning Appendix of the NIS). Given the size and proximity of Lambay Island SPA, the apportioning process estimated that 61.6% of impacted kittiwake originated from Lambay Island SPA during the breeding season. The assessment found no Adverse Effect on Site Integrity (AEoI) for kittiwake qualifying interest of any SPAs with connectivity to the impacts site.

In addition, there is no evidence to show that entire colony of kittiwake forages within the windfarm footprint. Digital aerial survey data from the proposed development and ObSERVE clearly shows that the numbers within the windfarm footprint are not comparable to the size of local SPA colonies and that a considerable proportion of kittiwakes are also found outside the array footprint. In addition, tracking data from colonies at Lambay Island clearly show relatively low usage of the proposed development array footprint compared to the surrounding area. In particular, the area to the east and southeast of Lambay Island looks to be a hotspot during the breeding season (Newton et al., 2014; Jessop & Murphy, 2024).

Further clarification is provided within Section 3.11 – Offshore Ornithology in this report.

Insufficient evidence or mitigation measures

Point 28 - Insufficient evidence or mitigation measures

On page 24 and within the section titled *'Insufficient evidence or mitigation measures'* BIC states that there is insufficient evidence or mitigation measures for the proposed development to be considered *"unlikely to have a significant effect on any European Site/s subject to specific mitigation measures."* It goes on to provide two examples, the first is the mitigation measures for noise impacts on the QI of the Rockabill to Dalkey Island SAC, stating they are *"insufficient to remove all reasonable scientific doubt and a LSE remains, therefore such measures should be considered compensation measure and Article 6(4) should apply."*

Response to Point 28 – Insufficient evidence or mitigation measures

Refer to Section 5.2.3.3.2 Point 22- Noise impacts in this report.

Any measure or feature of the proposed development that is wholly or partially included in order to avoid or reduce impacts to European sites cannot be considered for the purposes of screening out the need for appropriate assessment. The SISAA has determined, in the absence of mitigation measures, that the proposed development alone or in-combination with other plans and proposed developments could undermine the conservation objectives of the site(s) and give rise to likely significant effects. However, mitigation measures are capable of preventing adverse effects on the integrity of a site and therefore are applicable in consideration of appropriate assessment. The NIS concluded that there are no AEoI of the QI of the designated sites and therefore no requirement to progress Art. 6(4) and provide compensatory measures.

Point 29- Natura 2000 sites

The second concern in this section (page 25 of the submission) is regarding the assessment of the effects of prey species within Natura 2000 sites, *“Examination of the effects on prey species in the vicinity of Natura 2000 sites is inadequately evaluated and, as a consequence, the impact on the QI/SCI of Natura 2000 sites is also inadequately evaluated.”*

Response to Point 29 – Natura 2000 sites

Please refer Section 5.2.3.3, Response to Point 4 – Prey species in this report. The NIS has completed a full and robust assessment for impacts on prey species for the relevant receptor groups within Section 5.3, 5.4 and 6.3 of the NIS.

Unregulated development environment

Point 30 - Mitigation measures

On page 25, the heading *“Unregulated Development Environment”* indicates the beginning of a new section. Within this section of the submission, BIC states *“the board should disregard any mitigation measures which require any type of regulatory oversight and disregard any mitigation measures which are self-regulated due to lack of accountability. As such, likely significant effects on a site should be considered with regard to the activities in the absence of mitigation measures proposed.”*

Response to Point 30 – Mitigation measures

The parameters considered and assessed within the EIAR, SISAA and NIS are based on the highest potential level of impact occurring. This conservative approach ensures that any subsequent changes in the parameters that may be required post consent, will comprise of only an equal or reduced impact on protected features and therefore pose no additional risk. Mitigation measures are essential in order to reduce the significance of effects on receptors to an acceptable level. The mitigation strategy will remain a live document and will require updating by the relevant contractors during the course of the proposed development at pre-construction and construction phases. The Developer can confirm that all mitigation measures laid out in the mitigation strategy will be implemented in full.

Point 31 – Marine licensing

The second example is raised on page 26, and is regards to licensing, BIC’s submission states *“Evidence has come to our attention that certain ORE developers have been using equipment outside of the remit of their foreshore license, specifically Air Guns, which have not been assessed with respect to the Habitats Directive Appropriate Assessment. In addition, mitigation measure required under the statutory 2014 marine mammal guidelines, including soft-start have not been adequately implemented by these developers. This provides evidence that the regulatory environment is such that the competent authority, in assessing this proposal should not take into consideration any mitigation measures proposed that are to be undertaken solely by the developer”*.

Response to Point 31 – Marine licensing

This query relates to marine licensing under the remit of MARA and as such does not fall within the scope of this application.

The Developer can confirm it has complied with the terms of its foreshore and marine usage licences and, for the avoidance of doubt, can confirm it has never used an air gun in carrying out marine surveys which would be in breach of the relevant licences.

In-combination effects

Point 32 - Insufficient evidence

On page 26, BIC states there is “*insufficient evidence that the proposed works, individually, or in-combination with other plans or projects, is unlikely to have a significant effect on any European Site/s subject to specific mitigation measures.*” The submission suggests several reasons, the first is a lack of up-to-date information, “*No up-to-date Appropriate Assessment (AA) of the Plan associated with this proposed development have been carried out at the Plan stage. As such, there is a requirement for this detailed AA to be carried out of all projects, in their current GW capacity prior to granting of any development contents (as outlined in the OREDP SEA/AA). This should consider the wider effects, including up-stream and down-stream effects, of all planned projects in-combination*”.

Response to Point 32 - Insufficient evidence

The NIS completes a full and robust assessment of all qualifying features at the relevant European sites, with the most up-to-date information available at the time of the assessment. Please refer to our responses to other Points 35 and 38 below, in this report.

Point 33 - Methodology

On line 12 of page 27, BIC raises a concern regarding the inclusion all other plans and proposed developments “*There is a requirement under the Habitats and Birds Directives to consider in-combination with other Plans, including the OREDP (2014), which includes all other phase 1 projects, as well as projects proposed in the South Coast.*”

Response to Point 33 – Methodology

Section 1.13 of the NIS sets out the methodology used to complete the in-combination assessment and confirms that the European Commission’s 2021 guidance was followed. Other plans and projects were screened in following the process outlined in Section 1.13.2 of the NIS. The long list of projects was compiled as described: “*The long list of projects has then been established by taking both the receptor led approach and associated distances into account, and utilising established ecosystem boundaries that cover the ZoI of potential impacts. This allows for a meaningful and comprehensive list of projects to be generated using desk-based resources.*” The full long list is provided in Appendix A3: In-combination long list of the NIS. Following the completion of the long list, a short list of proposed developments was compiled by screening out projects based on relevance. As stated in Section 1.13.3 of the NIS: “*The establishment of the short lists involved consideration of multiple lines of evidence that establish whether projects create a pathway for an effect to arise through a temporal and/or spatial overlap with the effects identified for the proposed development. This includes projects that result in effects that have an immediate temporal overlap or those that run sequentially over a period of time that may extend beyond the construction, operation and maintenance and decommissioning phases...*”. The NIS fully considered all other proposed developments that could result in in-combination effects with the proposed development between the inclusion of projects within the long list and the screening to compile the short list. Section 1.13.5 of the NIS explains the collaboration with other Phase 1 projects and how they have been included within the in-combination assessment.

Point 34 - Timeline

In the next bullet point on page 27, BIC reiterates that there is a lack of details to adequately consider in-combination. “*There is insufficient detail of the timeline and proposed start date to adequately consider in-combination/cumulative impact assessment issues (Habitats and EIA Directive). If the timeline is pushed out then additional projects or plans with in-combination effects may arise, therefore there needs to be a reasonable starting timeframe outlined to provide sufficiently precise and definitive findings to determine if a LSE exists for the proposed development.*”

Granting of the permission in the absence of this timeframe would constitute a breach of the Habitats and Birds Directives and would provide inadequate cumulative assessment with respect to the EIA Directive. In addition, not providing a project starting timeframe will result in an additional risk to climate deliverables, effectively leaving developments in limbo and de-incentivising sustainable ORE developments that have had sufficient ecological and ecosystem considerations at site selection. This will also have the effect of preventing designation of MPAs on the site, which are required to protect the sensitive species and habitats occurring there.”

Response to Point 34 – Timeline

A timeline is clearly presented within Table 2-6 (for construction of the proposed development) of the 2024 NIS and has been updated since the application was submitted with Table A2-6 of the NIS. The assessment has considered in-combination impacts associated with multiple developments being carried out simultaneously during this time period (despite for a variety of technical reasons this being extremely unlikely), and it is considered precautionary and unreasonable to expect assessments to be carried out for periods where there are currently no planned impacts. Furthermore, with the consideration of in-combination impacts changing on the basis of other proposed developments and plans starting post submission and conclusion, following the first past the post approach, it is accepted practice that the burden of evidence and in-combination assessment falls to them where due to a lack of information or knowledge it has not been possible to fully consider them within this NIS.

Point 35 – In-combination effects

The first point on page 28, states that “SCIs from SPAs and QIs from SACs can travel significant distances to forage and, therefore, in-combination AA should be carried out for all phase 1 projects, having not been carried out at plan stage. Without this, it cannot be validly determined that no LSE exists. For example, Kittiwakes from Wicklow Head SPA forage on Arklow Sandbank, Codling Sandbank, Kish and Bray Sandbanks and in the areas of North Dublin and Louth occupied by the proposed NISA windfarm (as well as the buffer areas from these developments in which they will be effectively disturbed). Therefore, there is a requirement to consider all these projects in-combination in detail, not merely to consider at a passing glance and afterthought. It is insufficient to list the projects considered, without presenting evidence of that consideration or analysis. Sufficient details of these projects for full assessment are not in the public domain. This level of assessment is not available in the application and so from the provided information LSE cannot be concluded.”

Response to Point 35 – In-combination effects

All Phase One Projects are considered in detail within the NIS and the updated NIS with up-to-date information at the time of writing, with the proposed developments listed in Table A6.4 of the NIS, and individual details on impacts associated with Phase One Projects as a whole presented within each section of the assessment, such as Table A6.5 of the NIS. Therefore, it is established that a thorough and full assessment of potential in-combination impacts has been carried out within the NIS.

Specifically, Section 6.4 of the NIS evidences and assesses potential for in-combination impacts for ornithological features and concludes no AEoI.

Point 36 – Coastal and marine habitats

The next point on page 28 states, “*With respect to in-combination effects on coastal and marine habitats, there is an inadequate consideration of several projects.*”

Response to Point 36 – Coastal and marine habitats

An in-combination screening range of 24km for the designated sites was applied to identify any plans and proposed developments which may have the potential to interact with the proposed development to result in an AEoI. This screening range was determined through advance modelling of tidal ellipse and sediment plumes. This is a precautionary distance to take into account the spatial extent of similar impacts arising from other proposed developments. Section 6.1 of the NIS provides more information on the in-combination assessment for coastal and marine habitats, which concludes no AEoI from in-combination effects. The conclusions are the same for the update to the NIS.

Point 37 - Inadequate Assessment

The third point of page 28, states that the assessment “*is inadequate to provide complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works on sites of community importance. This is particularly the case given the lack of AA at sectorial plan level (OREDP).*”

The final point on page 28, states that the assessment has inadequately considered the “*in-combination effects of combined individual hazards within works of the proposed development both alone and in-combination with other plans and projects.*”

The final point of this section goes on to say “*Sequential, in addition to spatially and temporally overlapping in-combination projects have been inadequately assessed through in-combination and cumulative impact assessment. In particular this can lead to a situation of salami-slicing of project environmental assessments and potential impacts. This is particularly pertinent where assessment of the current status of sites of community importance is inadequately assessed.*”

Response to Point 37 – Inadequate assessment

The NIS fully considers each impact individually, where it concludes no AEoI on the site and feature. Within the in-combination assessment, a full consideration of all of the impacts of the proposed development combined with that of other plans and proposed developments identified as having the potential for impact has been considered and concludes no AEoI on any sites. Refer to Section 6 of the NIS for the In-combination Assessment.

See also Section 5.2.3.2 Point 5 – MSP Directive and MSP in this report.

Point 38 – In-combination assessment

The first bullet point on page 29 of the submission highlights that the “*In-combination assessments in some instances rule out significant effects as they will not be significantly above the current baseline (e.g., vessel activity and shipping noise), however, this is a false baseline and such impacts should be considered in-combination with existing activities.*”

Response to Point 38 – In-combination assessment

In-combination assessments have been carried out using up-to-date and site specific and third party data to create a robust baseline from which to assess impacts. For example, the Developer has collected 41 months of ornithology data across the proposed development with data from as recently as 2025 included.

Cumulative impact

Point 39 - Cumulative impact

On the second half of page 29, BIC begins this section by stating “*Granting of this development would contravene Directive 2011/92/EU as amended (‘the EIA Directive’) as the proposal assessment fails to take into account properly or at all the cumulation of the impact of the project with the impact of other existing and/or approved projects contrary to Article 4(3) and Annex III. Granting of this development would be a breach of Article 4(4) by failing to ensure that the project was properly described in terms of cumulation of impacts.*” BIC then goes on to provide examples, including, the in-combination/cumulative assessment of sequential, and spatially and temporally overlapping. Other examples include port upgrades, dredging works and grid upgrades.

Response to Point 39 – Cumulative impact

The Developer refers BIC to Chapter 38: Cumulative and Inter-related Effects of the EIAR, which consists of an assessment of the likely significant cumulative effects of the proposed development on the receiving environment in-combination with other proposed developments.

The relevant guidance and policy that has been used in the cumulative effects assessment (CEA) is listed in Section 38.1.2 of Chapter 38 of the EIAR whilst the methodology is presented in Section 38.2.1 of Chapter 38 of the EIAR.

The assessment tiers have been updated to align with NSIP Guidance. As noted in Section 38.2.1 of Chapter 38 of the EIAR, A long list of “other existing and/or approved projects” which were deemed to be potentially relevant to be included in the CEA was compiled. This includes consideration of other offshore and onshore projects, such as offshore wind projects in Ireland designated as the “Phase One Projects” and the onshore OMF for the proposed development (which does not form part of this planning application). This list also includes those projects which are considered “reasonably foreseeable” as per the NSIP Guidance. The methodology for compilation of the long list is provided in Section 38.2.1.2 of Chapter 38 whilst the long list itself is provided in Appendix A38.1 (onshore projects) and Appendix A38.2 (offshore projects). Stage 2 of the CEA involved a screening exercise of the long list of Tier 3 projects. Each EIA topic specialists (e.g., biodiversity, landscape and visual assessment, cultural heritage) considered which of the Tier 1, 2, Tier 3 onshore and Tier 3 offshore projects would have the potential to give rise to likely significant cumulative effects with the proposed development during the construction, operation or decommissioning phases. Many of the projects were screened out by the EIA topic specialists for reasons including the location, scale and nature of the project, level of confidence in the publicly available data provided, predicted construction timelines, etc. The outcome of this screening exercise for the onshore, wider scheme and offshore EIAR topics, and the reasons why certain onshore and offshore projects were screened out, are provided in Section 38.2.2 of Chapter 38 and Appendix A38.2 of the EIAR respectively.

As noted in Section 38.2.1.4 of Chapter 38 of the EIAR, those proposed developments which were screened in by the EIA topic specialists were carried forward for assessment. The results of the CEA are presented in the following EIAR chapters:

- In Offshore chapters, the cumulative effects of the proposed development and other screened in projects are described in each topic chapter, Chapters 10 to 20 of the EIAR.
- In Onshore chapters, Chapters 21 to 26 of the EIAR and in Volume 5 (Wider Scheme chapters), Chapters 27-28, 30-34 of the EIAR, the cumulative effects of the proposed development and other screened in projects are described in Section 38.2 of Chapter 38 of the EIAR. Chapter 38 of the EIAR presents the results of the CEA, under the relevant onshore and wider scheme topics, for the screened in projects and the proposed development.
- In Chapter 29: SLVIA of the EIAR, the cumulative seascape and visual effects of the offshore infrastructure of the proposed development and other screened in projects (including other Phase One Projects) are described in Section 29.9 of that chapter. Further details are also provided in Appendix A29.2 Cumulative Visual Impact Assessment at Representative Viewpoint Locations of the EIAR and Volume 7B1 Photomontages (offshore wind farm) of the EIAR. The cumulative landscape and visual effects of the onshore infrastructure of the proposed development and other screened in projects are described in Section 38.2 of Chapter 38 of the EIAR. Chapter 38 of the EIAR presents the results of the landscape and visual CEA for the ‘screened-in’ projects and the proposed development.
- In Chapter 35 Offshore Bats of the EIAR, the cumulative effects of the proposed development and other screened in projects are described in Section 35.9 of that chapter.

Mitigation measures to minimise likely significant cumulative effects for onshore and wider scheme topics are detailed in Section 38.2.4 of Chapter 38 of the EIAR. Mitigation measures, should they be required to minimise likely significant cumulative effects for offshore receptors, are detailed in each topic chapter (Chapters 10 to 20 and 35 of the EIAR).

Section 38.2.5 of Chapter 38 of the EIAR presents a summary of the overall CEA of the screened in projects (i.e. Tier 1, Tier 2, Tier 3 Onshore and Tier 3 Offshore) and the proposed development for all onshore, offshore, and wider scheme environmental factors. Negative significant temporary cumulative residual effects during construction are reported for the following environmental factors: traffic and transportation, resource and waste management and population and human health.

Positive significant long-term residual effects are reported for the following environmental factors: material assets, climate, socio-economic, tourism and recreation. No likely significant cumulative effects are identified for the other environmental factors.

Requisite measures

Point 40 - Annex IV species

This section begins on page 30. BIC's submission states, "*Granting of this development would contravene Articles 12 & 13 of the Habitats Directive, as Ireland as a member state, would not have taken the requisite measures to protect the species listed in Annex IV throughout its natural range within Europe... particularly during breeding, rearing, hibernation and migration, as well as not taking the requisite measure to inhibit deterioration or destruction of breeding sites or resting places.*" BIC suggest that the developer has failed to adequately consider two points, the first:

- The assessment of Annex IV species;

Response to Point 40 – Annex IV species

The assessment of Annex IV species has been assessed within the NIS for the relevant qualifying features at the screened in designated sites. The NIS concluded that impacts associated with construction and decommissioning activities from the proposed development will not result in any AEoI for any QIs at the designated sites.

Point 41 - Favourable conservation status

The second point that BIC suggest the developer has failed to adequately consider is:

- The favourable conservation status of NWIS SPA

Response to Point 41 - Favourable conservation status

The Developer would refer to Section 5.4.2 of the NIS for the assessment of the NWIS cSPA, which is based on the site's Conservation Objectives, outlined in Section 5.4.2.1 of the NIS. The Conservation Objectives of a designated site act as a framework to assess the alignment with favourable conservation status, and so, the NIS assessment considered the favourable conservation status by assessing the Conservation Objectives.

Point 42 - Historical baseline

In the first paragraph on page 31, BIC states "*Inadequate consideration has been given to historical baseline ecological data and the implications for restoration as may be required under the Nature Restoration Law.*"

Response to Point 42 - Historical baseline

Each of the Chapters 10-35 of the EIAR provide baseline environment sections referring to the current state of environmental characteristics. It involved the collection and analysis of information on the condition, sensitivity and significance of relevant environmental topics which are likely to be significantly impacted by the proposed development. The Developer has considered historical data from the past 25+ years in relevant cases.

The Developer has used all available and suitable data to ensure that the assessment within the NIS is based on up to date information at the time of writing. Based on the conclusions within the NIS the Developer concludes no potential for AEoI and therefore the proposed development will not hinder Ireland's ability to maintain its designated sites with consideration of their conservation objectives.

Point 43 - Inadequate consideration for protected species

The second paragraph on page 31, details that BIC considers the Developer has failed to adequately consider the future allocations of MPAs of the array area; "*Inadequate consideration has been given to habitats and species for which protection is required (e.g., OSPAR List of Threatened and/or Declining Species & Habitats) and future allocation of MPAs to protect those species and habitats, in particular, but not limited to, Sea Pen habitats.*"

Response to Point 43 - Inadequate consideration for protected species

The Developer has undertaken a robust assessment of all relevant sites that is required under European and Irish legislation within the EIAR and within the NIS.

This included an assessment of impacts on species and habitats that are associated with designated sites. All relevant Natura 2000 designated sites have been considered within the NIS, including SPAs, SACs, Ramsar sites, cSPAs and pSACs and it was determined that there would not be an adverse effect on site integrity.

Point 44 - Western Irish Sea

The submission points to the “Ecological Assessment of the Western Irish Sea”, describing it as “*flawed and inadequate in a number of regards, including but not limited to, public consultation, Aarhus Convention compliance, data used and missed in the analysis, data availability and bias, and methods used in the analysis.*”

Response to Point 44 - Western Irish Sea

The Developer notes this comment on the quality of the “Ecological Sensitivity Analysis of the Irish Sea” report (DHLGH, 2023). The Developer can confirm that a substantial number of data sources were accessed and considered within the impact assessments undertaken in the EIAR and the NIA, not just this document alone.

Marine conservation

Point 45 - The OSPAR Convention

In the second half of page 31, BIC discusses its concerns regarding marine conservation, beginning this section by stating that the granting of this proposed development would contravene the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) for a variety of reasons.

Response to Point 45 – The OSPAR Convention

Ireland has recognised and given effect to its obligations under international and European law, including the OSPAR Convention to Protect the Marine Environment of the North East Atlantic through a variety of measures, including the requirement to carry out EIA of any development likely to have significant effects on the environment and through the establishment of designated marine protected areas for the protection of species and habitats.

Pursuant to OSPAR, contracting parties were required to submit a list of Marine Protected Areas (MPAs) for the designation and conservation of marine areas. Ireland has established protection for these MPAs through designation of the areas as Special Areas of Conservation (SACs). There is a duality in these sites in that they have been protected under the Habitats Directive and are also recognised as worthy of protection under OSPAR as MPAs. All of the relevant SACs have been carefully assessed in the proposed development’s planning application.

The Developer has considered and assessed the impacts of the proposed development on all sites and areas designated for nature protection, (as well as the wider environment) in the EIAR and NIS submitted as part of the planning application. In doing so, the Developer has provided comprehensive mitigation measures and given careful consideration of all reasonable alternatives and of their impacts on all sites designated for nature protection. The proposed development’s NIS includes extensive comprehensive surveys and data collected over a number of years, assessing the impact of the proposed development on all designated areas for nature protection in the marine area. Therefore, the application for the proposed development is in accordance with the OSPAR convention requirements.

Point 46 – Convention of Biological Diversity

BIC refers to the Convention of Biological Diversity in the second half of page 33 of the submission, and states that the proposed development contravenes this convention “*by failing to introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimising such effects*”. BIC suggest that the proposed development will have a “*large, localised effect*” on phytoplankton primary production leading to bottom-up effects, specifically in Sea Pen habitats. Furthermore, BIC states that the pre-construction activities will decrease the zooplankton population. Stating “*This will affect the entire ecosystem, including reefs, which add considerably to the marine biodiversity of the area but also QIs and SCIs of nearby SACs and SPAs. This effect has been inadequately considered in this proposal.*”

BIC details that “*This decreased biodiversity will not be counterbalanced by any reef effects produced by the wind turbine bases but the bases will rather form a non- representative habitat on this naturally sandy and muddy habitat.*” Then go on to refer to Degraer et al. (2019), “*studies from the Belgian North Sea confirm that ‘artificial hard substrata differ greatly from the species-rich natural hard substrata and consequently cannot be considered as an alternative for the quantitatively and qualitatively declining natural hard substrata such as gravel beds’.*”

Response to Point 46 – Convention of Biological Diversity

The Convention on Biological Diversity (CBD) requires signatories to introduce appropriate procedures for environmental impact assessment of proposed developments likely to have significant adverse effects on biological diversity. Ireland is a signatory to the CBD. The EU Biodiversity Strategy for 2030, in turn, sets targets informed by the CBD for EU member states. Ireland has translated this into domestic policy through the National Biodiversity Action Plan, with the current plan running until end of 2030.

The requirements of the CBD are reflected and expanded in the EIA Directive and Birds and Habitats Directives. The proposed development’s application is accompanied by a robust Environmental Impact Assessment Report (EIAR) in which it has proposed targeted and bespoke mitigation measures to address any environmental impact, along with ongoing monitoring during construction and operation of the proposed development. The EIAR was prepared in compliance with the EIA Directive. The proposed development’s application is also accompanied by a Natura Impact Statement which includes extensive comprehensive surveys and data collection over a number of years, assessing the impact of the proposed development on all European sites and which is in full compliance with the Birds and Habitats Directives.

As stated previously, in the preparation of the planning application the Developer has undertaken a robust and comprehensive assessment to ensure concerns raised in the report are addressed in respect of this proposed development including:

- The Developer’s application for planning permission was accompanied by a thorough EIAR. This includes a number of technical chapters that consider the impacts on different species, their behaviour, ecology and habitats. This includes offshore ornithology, benthic subtidal and intertidal ecology, fish and shellfish ecology and marine mammals. Each of these chapters include an assessment of relevant identified receptors that may be impacted by the proposed development. The assessments presented in each chapter are informed by ecological information from a combination of existing literature and project-specific and regional data sets. The Developer therefore believes that the EIAR adequately considers the wide range of marine biodiversity present in the area;
- This was complemented by a robust Natura Impact Statement. This included extensive and comprehensive surveys and data collection over a number of years, assessing the impact of the proposed development on all European sites;
- Where site-specific conservation objectives were not formally designated, the Developer has considered site-specific conservation objectives in similar European sites, to ensure a thorough assessment was undertaken;
- The Developer has undertaken significant stakeholder engagement, including the NPWS and local community groups; and
- The Developer has proposed targeted and bespoke mitigation measures to address any environmental impact, along with ongoing monitoring during construction and operation of the proposed development.

With regards to the impact on prey species, this is specifically considered for marine mammals and Ornithology and is assessed thoroughly within the NIS in Sections 5.3 and 5.4. All potential effects to prey species have been assessed within the EIAR, specifically the Developer would refer the submission to Section 13.5 effects on important fish and shellfish prey species.

Point 47 – Fishing activities

Line 10 of page 34, BIC states that the granting of the proposed development will contravene the Convention of Biological Diversity by restricting fishing activities within the proposed development area, there will be “*concentration of fishing effort in other areas, including SACs, within the Irish Sea.*”

This will have a detrimental effect on QIs of other, more distant SACs. These potential effects have been inadequately addressed in the EIA or NIS reports.”

Response to Point 47 – Fishing activities

Since submission of the 2024 EIAR, the Developer has reviewed the RFI, third-party submissions and the outputs of continued consultation with commercial fisheries stakeholders. The commercial fisheries assessment has therefore been updated through Chapter 16: Commercial Fisheries, Appendix A16.1: Commercial Fisheries Technical Report, and the updated Appendix A16.2: Fisheries Management and Mitigation Strategy (FMMS). These documents provide updated baseline evidence, updated proposed development design parameters, updated mitigation, an updated cumulative effects assessment, and further detail on fisheries coexistence, monitoring, governance and adaptive management.

The Developer acknowledges BIC’s concern that restriction of fishing activity within the proposed development could result in displacement and concentration of fishing effort in other areas. This issue has been assessed in Chapter 16: Commercial Fisheries and updated through Chapter 16 and Appendix A16.1: Commercial Fisheries Technical Report. The assessment considers the potential for reduction in access to, or exclusion from, established fishing grounds; displacement leading to gear conflict and increased fishing pressure on adjacent grounds; interference with fishing activity; and potential effects on commercially important fish and shellfish resources. These effects have been assessed during construction, operation and decommissioning, both for the proposed development alone and cumulatively with other relevant proposed developments.

Information on the commercial fisheries operating within the offshore development area (which includes both the cable corridor and the wind farm area) is presented in Appendix 16.1: Commercial Fisheries Technical Report of the 2024 EIAR. For effects on Irish demersal otter trawlers refer to Section 3.12: Commercial Fisheries in this report. The impact assessment presented in Section 16.5 of Chapter 16 of the EIAR assesses the effect of loss of access to fishing grounds for shellfish fisheries. The impact assessment considers the value of the fishery in judging the level of magnitude of impact. The assessments concluded that the residual significance of the effect would be no greater than Moderate (not significant in EIA terms), for all receptors and impacts other than the Irish demersal otter trawlers and UK demersal otter trawlers.

Fishing will not be prohibited within the array area during operation. The assessment has nevertheless taken a precautionary approach by assuming advisory safety zones during construction, an assumed 50m operating distance from infrastructure during operation, areas of cable protection that may not be fishable, and temporary advisory safety zones around infrastructure or vessels undertaking major maintenance or repair. The updated residual effects assessment concludes that, following implementation of mitigation set out in the FMMS and delivered through the Sustainable Fisheries Community (SFC) and associated fisheries liaison, monitoring and governance processes, residual effects on commercial fisheries are reduced to moderate to slight, slight, or lower, and are therefore not significant in EIA terms.

The advisory safety zones and advisory safe passing distances will be communicated to the fishing industry as set out in the Fisheries Liaison Plan within the Fisheries Management and Mitigation Strategy (FMMS). The Developer is committed to promote coexistence and resumption of fishing within the Array Area, out with the physical presence of infrastructure. This is delivered through a Coexistence Strategy within the FMMS.

Since the 2024 EIAR, the FMMS has been updated and now includes a Fisheries Liaison Strategy, Co-existence Strategy, outline construction disturbance compensation protocol, SFC governance framework, Digital Effort Traceability Project (DETP), Technical Co-existence Assessment and Cumulative Mitigation Strategy. These measures are designed to minimise impacts on fishing activity as far as reasonably practicable, support coexistence where safe and practicable, and provide a mechanism for monitoring and adaptive management.

The updated FMMS also includes a Cumulative Mitigation Strategy. This recognises that fisheries displacement and increased pressure on adjacent grounds may arise cumulatively where multiple offshore renewable energy projects or other marine users interact with established fishing activity. The Developer will use the SFC, DETP, Fisheries Liaison Officer (FLO)/Offshore Fisheries Liaison Officer (OFLO) reporting, fisher engagement, gear interaction reporting and engagement with relevant public bodies and other Phase One developers to monitor evidence of displacement and practical access.

If monitoring or fisheries engagement indicates that cumulative displacement or loss of practical access is occurring, the Developer will work through the SFC and with relevant stakeholders to identify proportionate responses. These may include refinement of operational protocols, additional fisheries liaison and navigational coordination, review of cable burial and protection performance where relevant to fishing interaction, targeted coexistence measures, or resilience and adaptation initiatives.

Point 48 – Methods

Line 16 of page 24 begins the next point where BIC states that the proposed development contravenes the convention of biological diversity by “*failing to introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account.*”; and by “*failing to take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected and cooperate in adopting programmes and measures for those purposes for the control of the human activities.*”

Response to Point 48 – Methods

See Section 5.2.3.3.2 Response to Point 46 – Convention of Biological , above in this report for the Developer’s response regarding the convention of biological diversity. The proposed development’s application is accompanied by a robust Environmental Impact Assessment Report (EIAR) in which it has proposed targeted and bespoke mitigation measures to address any environmental impact, along with ongoing monitoring during construction and operation of the proposed development.

Point 49 – Basking sharks

The last point on page 34, and within this section, states that “*the applicant fails to take adequate consideration of the protection of the Basking Shark protected (as of October 2022) under Section 2023 of the Wildlife Act 1976.*”

Response to Point 49 – Basking sharks

The potential impacts to basking sharks have been addressed in Chapter 13: Fish and Shellfish Ecology of the EIAR and is included in the Elasmobranch Valued Ecological Receptors. This assessment includes:

- The temporary increase in SSC and sediment deposition during the construction phase (Section 13.5.2.1 of the EIAR) which concluded that basking sharks’ sensitivity to this impact is negligible and as consequence the significance of this impact is imperceptible;
- The temporary habitat damage and disturbance to the seabed during construction activities (Section 13.5.2.2 of the EIAR), which concluded that the sensitivity to this species is negligible and as consequence the significance of impact is imperceptible;
- The reduction in water and sediment quality through the release of contaminated sediments and/or accidental contamination (Section 13.5.2.3 of the EIAR), which concluded that this impact would result in a not significant effect on all fish and shellfish receptors;
- The introduction of underwater noise and vibration leading to mortality, injury, TTS and/or behavioural effects during construction was assessed in Section 13.5.2.4 of Chapter 13, and a slight (adverse) effect from all noise sources on all fish and shellfish receptors was concluded, which is not significant in EIA terms. Notably, following design refinements, the proposed development now proposes the use of SBJ foundations for WTGs, and jacket foundations for OSPs installed using either drilled pin piles or suction buckets. As piling is no longer part of the proposed development design, the range and magnitude of potential underwater noise effects have been significantly reduced. The fish and shellfish ecology assessment has been updated to reflect these design changes and the revised underwater noise modelling; these updates are presented in Chapter 13. The conclusions remain unchanged: no significant effects are predicted for all fish and shellfish receptors;
- The temporary increase in SSC and sediment deposition during the maintenance activities (Section 13.5.3.1 of the EIAR), which concluded that this impact would result in a slight (adverse) effect for all fish and shellfish receptors;

- The temporary damage and disturbance of the seabed during maintenance activities (Section 13.5.3.2 of the EIAR), which concluded that this impact would result in a slight (adverse) effect for all fish and shellfish receptors;
- The long-term/permanent loss of benthic habitat due to the placement of subsea infrastructure (Section 13.5.3.3 of the EIAR); which concluded that basking sharks' sensitivity to this impact is negligible and as consequence the significance of this impact is imperceptible;
- The reduction in water and sediment quality through the release of contaminated sediments and/or accidental contamination (Section 13.5.3.4 of the EIAR), which concluded that this impact would result in a not significant effect on all fish and shellfish receptors;
- The increase in hard substrate and structural complexity due to the placement of subsea infrastructure (Section 13.5.3.5 of the EIAR), which concluded that basking sharks' sensitivity to this impact is negligible and as consequence the significance of this impact is imperceptible;
- The potential barriers to movement through the presence of turbines and EMF from inter-array and export cables (Section 13.5.3.6 of the EIAR), which concluded that this impact would result in a slight (adverse) effect on all fish and shellfish receptors;
- The temporary increase in SSC and sediment deposition arising during the decommissioning phase (Section 13.5.4.1 of the EIAR), which concluded that this impact would result in a slight (adverse) effect on all fish and shellfish receptors;
- The temporary habitat damage or disturbance of the seabed during decommissioning activities (Section 13.5.4.2 of the EIAR), which concluded that this impact would result in a slight (adverse) effect on all fish and shellfish receptors;
- The reduction in water and sediment quality through the release of contaminated sediments and/or accidental contamination (Section 13.5.4.3 of the EIAR), which concluded that this impact would result in a not significant effect on all fish and shellfish receptors; and
- The introduction of underwater noise and vibration leading to mortality, recoverable injury, TTS and/or behavioural effects during decommissioning (Section 13.5.4.4 of the EIAR), which concluded that this impact would result in a slight (adverse) effect on all fish and shellfish receptors.

Other Salient observations

Point 50 – Defining sustainable developments

On page 35 the next section begins, BIC refers to the definition of sustainable development, stating that “*We believe that the proposed development is not a sustainable development, both with respect to the Brundtland Report definition, the UN Sustainable Development Goals or the National Marine Planning Framework. As such, we believe that the proposed development is not in the public interest*”.

Response to Point 50 – Defining sustainable development

As concluded in Chapter 4 Need for the Proposed Development, climate change and climate emergency are indisputable at a global, national, and local scale. International treaties, and EU and Irish Government policy are responding to the climate change challenge with binding targets to reduce greenhouse gas (GHG) emissions and develop renewable sources of electricity. The proposed development will deliver a significant portion of the 5GW target for offshore renewable generation which is imperative for meeting the 2030 targets whilst improving energy security and reducing reliance on the costly import of energy. Without the proposed development, Ireland's committed target of 5GW installed offshore wind capacity by 2030 will not be met. Furthermore, the proposed development will generate significant opportunities by contributing to local employment, regional delivery of renewable electricity generation, and a secure indigenous source of electricity. The community benefit fund will also provide local communities with approximately €4 million per annum for 20 years. The fund is expected to give residents a significant opportunity to bring about transformative, positive and long-lasting change to local communities. Additionally, the proposed development will deliver clean renewable energy to between 500,000 and 700,000 homes.

By aligning new generation with existing infrastructure located within an area of high demand, the proposed development directly conforms with existing policies, plans and strategies of the Irish and European governments whilst directly addressing the climate emergency and enhancing Ireland's energy security of supply.

This demonstrates that the proposed development is not only answering the needs of the current generation but is empowering future generations to meet their own needs from a climate change, energy security and economic and social development perspective.

Point 51 - Decommissioning

In the second point of this section on page 35, BIC draws attention to the decommissioning of the proposed development, *“there seems to be no intention to entirely remove the metal structures and cables from the seabed, nor is there an intention to remove the scour protection, which is non-native to the area. We have concerns that this constitutes dumping at sea, with respect to the OSPAR Convention. In respect of that intention, the developer cannot be said to have rehabilitated the area adequately.”*

Response to Point 51 – Decommissioning

The approach to decommissioning will be documented in the Rehabilitation Schedule (Appendix A6.2) which will be subject to consultation with the Maritime Area Regulatory Authority and relevant stakeholders as required. The Rehabilitation Schedule will also form part of the MAC for the proposed development following the grant of development permission. The Rehabilitation Schedule will be prepared taking into consideration the latest technological advances as well as legislative and environmental requirements at the time of decommissioning. The approach to waste management during decommissioning is set out in Chapter 31: Resource and Waste Management of the EIAR.

Point 52 - MACs

In the third point of this section on ‘Other salient Observations’, BIC highlights MACs in this section, saying that *“no AA carried out at the point of granting of MACs for these projects, no AA was carried out at the time of the granting of the initial lease, or on subsequent licenses or grid connection agreements that enabled the granting of the MACs, therefore this breaches the Habitats and Birds Directives. The Planning and Development Act 2000, as amended requires not just a proposed development but also a draft Land use Plan requires AA.”*

Response to Point 52 - MACs

Refer to Section 5.2.3.1.2 Point 1 – MAC process and consultation in this report.

Point 53 - Competent authority

In the final point on page 35, BIC reiterates that the competent authority must complete their own AA, *“we are not provided with a Screening for AA or AA, carried out by the competent authority, as required by legislation. Without such a screening, the public cannot provide meaningful participation in the process. Further, NIS should be carried out subsequent to screening for AA, such that the developer is not leading the process in terms of which sites should or should not be included. The order in which the steps are followed is therefore essential for the correct application of Article 6(3).”*

Response to Point 53 – Competent authority

The Developer would like to highlight that the SISAA and NIS are provided for the purpose of informing the competent authority of the information needed to be able to carry out a thorough AA, which will fully address this concern.

Non-statutory observations

Point 54 - IUCN Red List

On page 36, BIC refers to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Saying *“the proposed impact area for this proposed project contains a number of IUCN Red-List Threatened Species which have not been adequately assessed.”*

Continuing, “*The Board and Applicant for this development have a moral obligation to accurately assess the individual and cumulative impact of this development application on red and amber listed bird species, outlined in Birds of Conservation Concern in Ireland 2020-2026*”.

Response to Point 54 - IUCN Red List

The EIAR considers all IUCN red and amber species. Furthermore, the NIS has conducted a full and robust assessment of all qualifying interest features within the required screened in sites and found there to be no AEoI.

5.2.3.4 Brief Knowledge of the Area

From page 37 of the submission, the key issues raised in the response in relation to the area of the proposed development include:

- North West Irish Sea SPA;
- Rockabill and Skerries SPAs;
- Impact on Landscape;
- Insufficient Analysis of Alternatives;
- Landscape/ Seascape;
- Regional Seascape Character Assessment for Ireland 2020 (RSCA);
- Adherence to the National Marine Planning Framework (NMPF); and
- Distance to Shore and Visual Impact.

5.2.3.4.1 North West Irish Sea SPA

Point 1 – Proximity to the North West Irish Sea SPA

On page 37, the submission discusses the close proximity of the proposed development to the North West Irish Sea SPA.

Response to Point 1- Proximity to the North West Irish Sea SPA

In accordance with RFI Section 6 Site Selection, the Developer has updated Chapter 5: Alternatives and NIS. The Developer provided a robust assessment against all published conservation objectives on species designated under the NWIS SPA, within the NIS (Section 5.4.2 of the North Irish Sea Array Offshore Wind Farm- Natura Impact Statement, Volume 1: Main Report). It was concluded there is no potential for an adverse effect on site integrity (AEoI) when considering the proposed development alone or in combination during the construction, operation and maintenance and decommissioning phases of the proposed development as per Project Option 1 and Project Option 2.

Point 2 – Kittiwake population at the North West Irish Sea SPA

On page 37, the submission states “*the Special Conservation Interest (SCI) Kittiwake population primarily utilise the nearby shallow waters of the proposed development area as well as Arklow, Kish, and Codling sandbanks as their primary foraging grounds, though it should be noted that they can forage up to 70km away, well within the range of other proposed wind farms. The Kittiwake distribution is for autumn, summer and winter, and the relative locations of the nearby proposed phase 1 developments are outlined in Figure 2. Furthermore, Figure 3 outlines the 50% Utilisation Distribution of Kittiwakes in the area, indicating that while Codling sandbank is vital for the Kittiwake population year-round the NISA area is vital for this population in winter and autumn.*”

Response to Point 2 – Kittiwake population at the North West Irish Sea SPA

The main utilisation of the array area is during the post-breeding dispersal, when kittiwake are not constrained by incubating an egg or provisioning for a chick.

During this time barrier effects are not considered to impact seabirds because they will not be making frequent commutes through or around the array area. Furthermore, as stated in the response below to Point 5 – Habitat loss in this report, it should be noted that the habitat on which the birds rely will be relatively unchanged and kittiwake will not be excluded from using the habitat within the array area. In addition, evidence from post-construction monitoring that OWF can increase epibenthic species diversity and provide new habitat for key juvenile fish species.

Additionally, kittiwake is considered to have ‘low’ vulnerability to disturbance and displacement (Furness et al. 2013; Bradbury et al. 2014; Dierschke et al. 2016) and there is considerable and mounting evidence to back-up these studies that kittiwakes are not displaced by offshore windfarms (Johnston *et al.*, 2024; O’Hanlon *et al.*, 2024; Trinder *et al.*, 2024).

Point 3 – Breeding season and food supply

On page 38, BIC discusses the breeding season food supply to kittiwakes, “*Kittiwakes and breeding seabirds tend to be strongly influenced by food supply around their colonies, with a density-dependent limit to breeding numbers set by breeding season food supply*[5]. *A recent report examining the effect of offshore windfarms on seabird abundance indicated a 45% reduction in kittiwake relative density during the breeding season, with an estimated response radius to offshore wind farms of ~20km*[6]. *These authors noted that there was a strong, almost linear increase in kittiwake abundance with distance from the wind farm during breeding season. Assuming a 20km radius of effect around all of the proposed wind farms on the east coast, this would affect every kittiwake observed in the ObSERVE 1 data, as presented in Figure 2, to 20km below the most southerly coordinate of the proposed development.*”

Response to Point 3 - Breeding season and food supply

The Developer notes the concerns regarding the impacts of the proposed development on prey species and foraging grounds, particularly during construction. A full assessment on the impact of the proposed development on fish, including prey species is included in Chapter 13- Fish and Shellfish Ecology of the EIAR, further a more detailed response on this point has been provided in Section 5.6 Nephrops Fishermen & Producer Organisation in this report.

A comprehensive assessment of cumulative effects was carried out following considerable data sharing between Irish Phase 1 East Coast Developments to determine the cumulative impacts on key Important Ornithological Features (IoFs) and SPA populations.

Although there may be some temporary impacts to the prey of key IoFs during the construction window, there is emerging evidence that OWFs can benefit seabird prey distributions, as the foundations of offshore WTG can act like an artificial reef and in turn increase prey species abundance and density (Wilson and Elliott, 2009; Gill et al., 2020; ter Hofstede et al., 2022; Watson et al., 2024).

It is also acknowledged that a study by Peschko et al. (2020), which considered 14 years of pre-construction data and three years of operational data in the German North Sea, found a decrease in kittiwake densities of 45% within the OWF array area and a surrounding 3 km buffer. However, confidence in the applicability of this conclusion is not high. For example, displacement effects were only observed in data in the breeding season (mid-May to mid-July). However, data from the spring (late February to early May) showed no statistically significant displacement effects. In addition, there were wide confidence intervals around the reported 45% displacement (-65% to -15%). Finally, the survey effort was disproportionately higher within the OWF, and buffer areas compared to the broader control area, yet the study did not account for this. It could therefore be that other factors, unrelated to the OWFs, may be driving these differences in density distribution between pre- and post-construction data.

Furthermore, a 2017 study by APEM (APEM, 2017) on the Westernmost Rough OWF found no evidence of kittiwake displacement, with no decline in densities of birds evident in post-construction monitoring. This is also evident from post construction monitoring at the Beatrice OWF (Trinder et al., 2024) which found no evidence of displacement or avoidance of turbines by kittiwakes. These findings can also be supported by tagging data, with data from the Buchan Ness to Collieston Coast SPA finding 75% of tagged kittiwake spending time in the breeding season within the footprint of an operational OWF, with some birds spending up to 18% of their time within the OWF (O’Hanlon et al., 2024).

Most recently, further data has been analysed from 20 kittiwake from Whinnyfold in Scotland during the breeding season, finding that kittiwake showed macro-scale attraction to within 1 km of an OWF, with birds also showing meso-scale avoidance to avoid individual turbines (Pollock et al., 2024). It is noted within the study that this finding could indicate birds aggregating around the OWF due to displacement from within the array area, though the study finds that one OWF in particular was visited by 95% of the tagged individuals, so it appears unlikely that significant displacement effects are occurring.

Based on the above evidence, it is not considered appropriate to assess kittiwake for displacement effects.

Point 4 – Other developments

The submission points to the cumulative impacts on the kittiwake population at North West Irish Sea SPA at the end of page 38, through to the first paragraph on page 39, *“Having such a level of exclusion of this Red-listed species (Birds of Conservation Concern in Ireland 2020- 2026) would not alone affect the overall populations but have a Likely Significant Effect on Sites of Community Importance, such as Rockabill. As the foraging range of Kittiwakes is large (up to 200km), there is no information provided that would indicate that this species from Wicklow Head SPA would not be affected by other developments along the coast (e.g., Arklow Bank phase 2, Codling Wind Park, Dublin Array, etc).[5], [7] In the absence of site-specific estimates of foraging ranges based on GPS tracking devices, a precautionary approach must be adopted.”*

Response to Point 4 – Other developments

As stated in the Response to Point 3 - Breeding season and food supply above, the Developer does not consider it appropriate to assess kittiwake for displacement effects due to this species low levels of displacement sensitivity. There is, therefore, no potential for an AEoI to the COs of the kittiwake QI of any designated site in relation to disturbance and displacement effects from the proposed development alone and therefore, subject to natural change, the kittiwake QI will be maintained in the long term with respect to potential for disturbance and displacement.

Furthermore, as detailed in Table 6.3 of the NIS, kittiwake at the North West Irish Sea SPA were not screened into the in-combination assessment as *“within the NWIS cSPA there are no other OWFs so there is no other collision risk or displacement risk to consider in-combination with the proposed development”*. Please see Section 6.4.2 of the NIS for the in-combination assessment of the North West Irish Sea SPA.

The impact from the proposed development on kittiwake from Wicklow Head was assessed. However, the site was screened out of the in-combination assessment as *“Given the proposed development alone impact on kittiwake from Wicklow Head SPA is 0.05 individuals representing a 0.022% increase in baseline mortality, it can be assumed that the impact is so small as to not to make any material contribution to the in-combination total. For example, it is estimated that the proposed development will contribute approximately one kittiwake mortality from this SPA every twenty years.”* In addition, as per the Developer’s response to Point 2- Kittiwake population at the North-West Irish Sea SPA the kittiwake observed within the proposed array area have very low connectivity to Wicklow Head SPA during the breeding season.

Point 5 – Habitat loss

From the eighth line of page 39 the submission discusses habitat loss for kittiwakes, *“The estimation in this development proposal of the impacts of habitat loss on the Kittiwake population of Rockabill and area, which is already in decline (19% since 2000), is based on Population Viability Analysis (PVA) and fails to consider the lack of alternative foraging sites in-combination with proposed other phase 1 projects[8]. In fact, the numbers provided in this application defy logic, indicating that disturbing almost all of the currently utilised habitat for this and other species will have a negligible effect on population dynamics of the site. Any quantitative analysis of population dynamics should include empirical data and use the most up-to-date methods, as well as including factors such as the species propensity to entirely abandon sites which do not provide optimal foraging opportunities in favour of alternative sites[9].”*

Response to Point 5 – Habitat loss

The population trend for kittiwake at Rockabill SPA is stable over the long term but does show inter-annual variability (e.g. 2000 count was 168 AONs; 2023 count was 163 AONs; 2024 count was 120 AONs).

Any conclusions made from the PVA analysis should be considered in the context of the population trends to determine any potential impacts at the population level. However, given that kittiwake is not a qualifying interest feature of Rockabill SPA an assessment on the Rockabill population was not undertaken. Any impacts on this SPA are therefore considered in the context of the wider regional population.

Displacement does not equate to habitat loss, as the overall extent of available habitat remains unchanged, and kittiwake are not excluded from the array area. Additionally, kittiwake are not considered to be sensitive to displacement effects. Therefore, the best available scientific evidence does not support the assertion that kittiwakes will be excluded from suitable habitat within the SPA (APEM, 2017; Trinder et al., 2024). As several studies have demonstrated, kittiwake are not displaced by OWFs (Percival, 2013; Vallejo et al., 2017; Trinder et al., 2024) (See the response to Point 3 - Breeding season and food supply above for further detail) and as such are capable of foraging in the area around the structures. Arguably, the only unsuitable habitat for kittiwake would be the area taken up by the underwater pylons, as these must be circumvented by prey species (and as such by kittiwake). It is therefore predicted that birds will be able to utilise the habitat within the proposed development array area to forage. As such, the conservation objective attribute of spatial distribution is not adversely affected, as the overall extent of available habitat remaining unchanged and there will remain ‘a sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population’.

Furthermore, the Developer would like to note there is evidence to show that during the operational phase, OWF can increase epibenthic species diversity and provide new habitat for key juvenile fish species, such as those preyed on by seabirds (Gill et al., 2020; ter Hofstede et al., 2022; Watson et al., 2024). By also restricting access to commercial fishing vessels, the array area becomes a no-take zone and is afforded similar protections to a marine protected area in this sense (Gill et al., 2020).

Point 6 – Imperative Reasons of Overriding Public Interest

The last paragraph on page 39 of the submission states that, considering the proximity of the proposed development to the North West Irish Sea SPA and its importance to kittiwake populations, the proposed development should be rejected, stating: “*Considering this, proceeding through Article 6(4), assuming imperative reasons of overriding public interest (IROPI) exist would be the most sensible route for this project. However, given the limited alternatives considered in this application, which I believe to be inadequate, and the lack of compensatory measures either presented or available to the developer, this route is not an option and the project should be rejected.*”

Response to Point 6 – Imperative Reasons of Overriding Public Interest

Article 6(4) of the Habitats Directive is only applied in the case of an AEoI is concluded for the feature of a protected site. The assessment within the NIS found no AEoI on any qualifying features of the relevant designated sites and therefore the derogation principle is not applied.

5.2.3.4.2 Rockabill and Skerries SPAs

Point 1 – Migratory species

Page 40 of the submission lists some of the designated SCIs for the Rockabill SPA and Skerries SPA, before discussing the impacts on migratory bird species, “*With regard to analysis of the impacts on migratory bird species, particularly those as SCIs of SPAs in close proximity to the proposed development, given the lack of specific GPS, or other, tracking data, a precautionary approach should be adopted, which examines the likely impacts in terms of percentage windfarm area, relative to the % migratory route area. As with other situations related to this application, a precautionary approach must be adopted and the developer must not rely on absence of evidence to indicate a lack of impact. Many of these migratory paths intersect with this proposed development and have been inadequately assessed in the NIS Report.*”

Response to Point 1 – Migratory species

The NIS fully considered the impacts of both proposed design options for the proposed development within the migratory bird assessment.

The NIS conducted full and robust assessments for all potential impacts to Rockabill SPA and the Skerries SPA within Section 5.4.4 and Section 5.4.10 respectively and concluded no AEoI to any designated species within either site.

Terns were assessed for collision risk throughout the year using robust site-specific data. A collision risk was not estimated for terns on migration because (1) terns migrate at low altitudes far below the minimum tip height of the proposed development array (40m LAT) (e.g., Johnston *et al.*, 2014; Hedenstrom and Akesson 2016) and (2) terns are expected to pass through the proposed development area a maximum of two times per year, resulting in a negligible impact on migratory terns.

It should be noted that light-bellied brent goose and turnstone were assessed for migratory collision risk using the NatureScot mCRM tool (Appendix 15.4 Offshore and Intertidal Ornithology Migratory Collision Risk Modelling of the 2024 EIAR). Any impacts were not significant in EIA terms.

Shag and cormorant were screened out of further assessment of potential impacts arising from the offshore elements of the proposed development. These species are not considered to be vulnerable to collision effects (based on robust flight height data) or displacement impacts, with evidence of birds even being attracted to OWFs and roosting on the structures (Bradbury *et al.*, 2014, Dierschke *et al.*, 2016). Therefore, no significant effects are concluded for either of these species and the populations will be maintained long-term.

5.2.3.4.3 Impact on the Landscape

Point 1 – Site selection

In the second paragraph of page 41 of the submission, BIC suggests that *“it is imperative that the government ensures that areas selected for ORE are sensitively located and comprehensively take account of the views of the public.”*

Response to Point 1 – Site selection

Refer to Section See Section 5.2.3.1.3 Site Selection in this report.

Point 2 – Environmental integrity

In the second paragraph of page 41, the submission raises a number of concerns for the siting of all offshore wind projects. BIC states *“We are calling for offshore wind projects to be sited in areas where environmental integrity and visual landscape quality can be preserved and protected.”*

Response to Point 2 – Environmental integrity

Chapters 10 to 26 of the EIAR assesses the impacts on the environment and the ecology in the area. A summary of mitigation to minimise the proposed developments impacts on the environment are also included in Chapter 36: Mitigation, Monitoring and Likely Significant Residual Effects of the EIAR. A detailed assessment on all Natura 2000 sites where connectivity between the proposed development and site has been deemed likely, has also been carried out. This is presented in the Natura Impact Statement (NIS).

The visual impact assessment of the two project options that is contained in Appendix A29.1 Visual impact assessment at representative viewpoint locations of the EIAR and summarised in Section 29.5.6 of Chapter 29 of the EIAR concludes that the proposed development will not result in any significant effects in EIA terms. The sensitive and scenic coastlines were taken into account in the baseline within Appendix A29.1 of the EIAR, with these taken into consideration, a conclusion of no significant effects was still concluded. By implication, this indicates that the WTGs are not deemed to be too large or the arrays too extensive for this seascape setting including from the Fingal coastline.

Fingal County Council responded in their submission to the proposed development’s application *“Based on the details submitted, Fingal County Council considers that the proposal would not impinge in any significant way on the landscape in Fingal county and thus would not be contrary to Objective GINHO59, which is to ensure that “that new development does not impinge in any significant way on the character, integrity and distinctiveness of highly sensitive areas and does not detract from the scenic value of the area.”*

Point 3 – Tourism economy

Line 10 of this second paragraph on page 41, raises a concern regarding the tourism industry, “*The decision on where to locate energy projects must ensure that our coastline is not industrialised, that biodiversity is protected, and that damage is not caused to our tourism economy.*”

Response to Point 3 – Tourism economy

In Chapter 29 of the EIAR, the impact of the proposed development on seascape, landscape and visual amenity was assessed. Viewpoints were selected which represented views along the east coast from County Down in Northern Ireland to County Wicklow, including popular amenity and recreational locations including (but not limited to) Gormanston Beach, Laytown Beach, Red Island Skerries, Balbriggan Beach, Ardgillan Castle Grounds, Donabate Beach, Portmarnock Beach and Howth Head. Photomontages were prepared to illustrate the impact of the proposed development from these locations. The assessment concluded that there will be no significant effects on the seascape, landscape or visual amenity arising from the proposed development.

Consequently, in the absence of significant effects on seascape, landscape and visual amenity, the assessment in Chapter 33: Socioeconomics, Tourism and Recreation of the EIAR, concluded that there will be no likely significant effects caused by the offshore development on tourism within the region.

This conclusion is reinforced by recent studies in the UK (Glasson *et al.*, 2022, Hatch 2022 and BiGGar Economics, 2020) which concluded that offshore wind farms have had no correlating significant negative impact on tourism in their respective regions. An additional study (BiGGar Economics 2021) on the potential impacts of wind energy on the tourism sector concluded that in certain areas of Scotland, those areas within the vicinity of windfarms experienced a boost in tourism employment statistics.

In establishing the baseline for the tourism assessment in Fingal, Section 33.3.9.1 of Chapter 33 of the EIAR specifically references the Fingal Tourism Strategy 2024-2029. As significant effects from the proposed development on tourism are not likely, the objectives of Fingal Tourism Strategy 2024-2029 will not be hindered by the proposed development.

In addition, since the submission of the planning application, further research has been undertaken in this area and is presented in Fáilte Ireland’s *Report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape* (Fáilte Ireland, 2026). This report confirms that “*for those who noticed Renewable Energy Infrastructure [REI] at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident*”. The Report further confirmed that “*For two in three visitors, [REI] did not factor into their decision making when choosing their destination*” and “*Among those aware of [REI], 61% report no impact on enjoyment of landscape.*” Therefore, it can reasonably be concluded that it is unlikely that the presence of the offshore infrastructure will negatively impact the Irish tourism industry.

Point 4 – Heritage and cultural identity

The final sentence on page 41 concludes, “*It must also be undertaken in a manner that protects our heritage and our cultural identity...*”

Response to Point 4 – Heritage and cultural identity

The Developer is confident that aspects relating to offshore archaeology and cultural heritage are robustly assessed within Chapter 18: Offshore Archaeology and Cultural Heritage of the EIAR.

A series of site-specific surveys were undertaken to aid a desk-based review to inform the baseline for offshore archaeology and cultural heritage. Table 18.16 in Chapter 18 of the 2024 EIAR, identifies additional mitigation measures that are not embedded into the proposed development design. These include:

- Archaeological assessment of the additional geophysical and geotechnical surveys that will be undertaken prior to construction;
- The micro-siting of offshore infrastructure to avoid identified archaeological receptors;
- The use of archaeological exclusion zones (AEZs) around known maritime and aviation archaeology receptors; and

- A Protocol for Archaeological Discoveries to act as a safety net to report and investigate unexpected archaeological discoveries.

These measures will be set out in the EIAR Schedule of Environmental Commitments (see Appendix A6.1: Offshore Environmental Management Plan (EMP) of the EIAR).

A Marine Archaeology Management Plan has been developed for the proposed offshore works within the array area, the Export Cable Corridor (ECC) and any temporary works related to the construction, operation and maintenance, and decommissioning of the proposed development, seaward side of the High Water Mark (HWM). For completeness archaeological mitigation related to pre-construction geotechnical works and geoarchaeological investigations under Maritime Usage Licence 230001. Refer to Appendix A18.3 Marine Archaeology Management Plan.

Point 5 – Inshore fishing

Lastly, page 41 of the submission states that the siting of offshore wind developments should protect “*our inshore fishing community*.”

Response to Point 5 – Inshore fishing

See Section 5.2.3.3.2 Point 61 – Fishing activities in this report which explains the Developer’s programme of coexistence with other marine users.

5.2.3.4.4 Insufficient analysis of alternatives

Point 1 – Analysis of Alternatives

Page 42 of the submission raised concerns that a sufficient analysis of alternative locations and technologies was not completed. The submission states: “*It is not acceptable that floating technology is not being considered because of a shore sighted approach to Offshore Renewable Energy (ORE) that lacks ambition.*” The submission goes on to say that under the NMPF, the DECC will develop statutory marine planning guidelines to support best practice which will include the development of a specific visualisation assessment in relation to the design of proposed developments. BIC request that the Board delays its decision until these guidelines are in place.

Response to Point 1 - Analysis of Alternatives

The location and site selection and refinement process for the proposed development is described in full in Chapter 5; Alternatives of the EIAR and Appendix A5.1 Design Refinements. The site selection process commenced in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in the EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

One of the proposed development’s key objectives, as seen in Chapter 3: Legal and Policy Framework of the EIAR, is to ensure Irish Government meet its renewable targets of 5GW of offshore wind by 2030. This would not be possible if relying on floating offshore wind, which still requires major changes to the supply chain, manufacturing and fabrication as well as upgrades to ports and harbour infrastructure to deliver floating offshore wind turbines at scale.

As outlined in Section 5.4 of Chapter 5: Consideration of Alternatives of the EIAR, “*Floating wind technology remains in its infancy with no large scale commercial turbines having been deployed to date. In addition, floating offshore wind foundations present a higher overall cost and therefore higher price to the consumer. As testing and demonstration continues if floating foundations were considered for Ireland’s Phase 1 projects it would lead to a longer timescale for commercial scale delivery and therefore lead to a longer period of fossil fuel dependency for Ireland. As such floating foundation technology was not deemed a viable and reasonable alternative.*”

“In order to viably construct an offshore wind farm that has its foundations fixed into the seabed the maximum water depth considered at the outset of site feasibility was approximately 60m (deeper water depths were considered to be technically unviable due to a lack of foundations available that could be installed in water depths beyond this limit). Fixed bottom foundations for offshore wind have been deployed over multiple decades within multiple geographical locations with differing seabed conditions. They are a tried and tested technology therefore demonstrating that the most viable option for the proposed development is WTGs upon fixed foundations within a site of water depths <60m.”

5.2.3.4.5 Landscape/seascape

Point 1 – National Marine Planning Framework

On the second half of page 43, the BIC raised concerns regarding the landscape and seascape, quoting the National Marine Planning Framework, *“Proposals should demonstrate how the likely significant impacts of a development on the seascape and landscape of an area have been considered. Proposals will only be supported if they demonstrate that they, in order of preference:*

- a) avoid,*
- b) minimise, or*
- c) mitigate significant adverse impacts on the seascape and landscape of the area.*
- d) if it is not possible to mitigate significant adverse impacts, proposals must set out the reasons for processing. This policy should be included as part of a statutory environment assessment.”*

Response to Point 1 – National Marine Planning Framework

The Developer has considered the National Marine Planning Framework (NMPF) within Section 5.2.3.1.2 of this report. This details the role of the NMPF and the compliance of the proposed development.

The seascape and landscape effects of the proposed development have been robustly assessed in Chapter 29: Seascape landscape and visual of the EIAR. The conclusion was that none of the residual impacts, after the embedded mitigation measures are taken, are deemed to be significant in EIA terms.

Point 2 – The Planning and Development (Amendment) Act 2010

On page 44, BIC refers to the European Landscape Convention (2000) (ELC) and National Landscape Strategy (2015-2025) (NLS), *“The Planning and Development (Amendment) Act 2010 specifies that development plans shall contain particular objectives relating to landscape, including objectives in accordance with ‘relevant policies or objectives relating to providing a framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention’. The National Landscape Strategy 2015 – 2025 aims to implement the European Landscape Convention (2000) in Ireland by providing for specific measures to promote the protection, management and planning of the landscape. Actions in the Strategy include development of a National Landscape Character Assessment, statutory guidelines on local Landscape Character Assessments and preparation of Landscape Character Assessments at local authority level. Landscape Character Assessment is the process of understanding and documenting the range of factors that contribute to the unique physical identity of a particular geographical area. It acknowledges that distinct areas have different capacities to accommodate change that can impact on that particular landscape character and this is understood as landscape sensitivity.”*

Response to Point 2 – The Planning and Development (Amendment) Act 2010

The sensitivity of County Council Landscape Character Areas along the coastline has been accounted for in Chapter 29 of the EIAR and it has contributed to the assessment of the sensitivity of the receiving landscape / seascape. However, sensitivity alone does not determine a ‘significant negative impact’ as this is only one part of the assessment. The assessment of significance is determined by combining judgements relating to both sensitivity and impact magnitude as per Section 29.2.4 of the EIAR and this concluded that significant effects on landscape /seascape will not occur.

Point 3 – Regional Seascape Character Assessment

The submission points to the Regional Seascape Character Assessment conducted by the Marine Institute (2020) at the start of page 45, stating that the study identified “*gaps in baseline descriptions of seascape characters while also contributing to achieving commitments under the European Landscape Convention and Ireland’s National Landscape Strategy. While this is a regional assessment there are several references to the defence of our landscape within the current Fingal Development Plan 2023-2029. The plan emphasises the importance of landscape and outlines how Fingal has ‘many areas of high-quality landscape especially along the coast, the river valleys and the upland area to the north along the border with County Meath. As a result, the County contains many vantage points from which views and prospects of great natural beauty may be obtained over both seascape and rural landscape. The scenery and landscape of the County are of enormous amenity value to residents and tourists and constitute a valuable economic asset. The protection of this asset is therefore of primary importance in developing the potential of the County.’*”

Response to Point 3 – Regional Seascape Character Assessment

Section 29.10 of Chapter 29 of the EIAR notes that ‘the operational phase seascape effects from the WTGs and OSP within the array area were assessed on the basis of those Seascape Character Areas from the Regional Seascape Character Assessment (2020) along with the underlying coastal Landscape Character Areas from the relevant County Development Plans.’ Section 29.10 of the EIAR concludes that there are no significant impacts in EIA terms from any of the representative viewpoints assessed.

Point 4 – Fingal Development Plan

The second paragraph of page 45 of the BIC submission comments on Fingal Development Plan 2023-2029, “*In recognising the need to protect and conserve views and prospects throughout the county for further generations the plan includes policy GINHP26 which aims to ‘preserve views and prospects and the amenities of places and features of natural beauty or interest including those located within and outside the county’. It further includes objective GINHO60 which aims to ‘protect views and prospects that contribute to the character of the landscape, particularly those identified in the Development Plan, from inappropriate development.’. Considering the above it is reasonable to conclude that the protection of the Fingal coastal landscape is an important factor to consider regarding the development of the north Dublin coastline.*”

Response to Point 4 – Fingal Development Plan

The visual impact assessment of the two project options that is contained in Appendix A29.1 and summarised in Section 29.5.6 of Chapter 29 of the EIAR concludes that the proposed development will not result in any significant effects in EIA terms. The sensitive and scenic coastlines were taken into account in the baseline within Appendix A29.1 of the EIAR, with these taken into consideration, a conclusion of no significant effects was still concluded. By implication, this indicates that the WTGs are not deemed to be too large or the arrays too extensive for this seascape setting including from the Fingal coastline.

Fingal County Council responded in their submission to the proposed development’s application “*Based on the details submitted, Fingal County Council considers that the proposal would not impinge in any significant way on the landscape in Fingal county and thus would not be contrary to Objective GINHO59, which is to ensure that “that new development does not impinge in any significant way on the character, integrity and distinctiveness of highly sensitive areas and does not detract from the scenic value of the area.”*”

Point 5 – SLVIA process

The submission details that there does not seem to be a standard approach with regard to landscape/seascape for the proposed development and requests An Bord Pleanála to confirm what guidelines are being used to identify key seascapes and features to inform the Seascape Landscape Visual Impact Assessment (SLVIA) process. The second line of page 46 of the submission states that: “*In the absence of meaningful Irish government guidelines, it is not acceptable to rely on out of date guidance or best practices from other jurisdictions to consider seascape and landscape in an Irish context. It also may be argued that visual impacts on the coastline will be addressed at project level through an EIA. This is way too late as the marine area consent (MAC) location will constrain any developer to within the boundaries of the MAC with little scope to mitigate against negative visual impacts on the local seascape and landscape.*”

Response to Point 5 – SLVIA process

The SLVIA, within Chapter 29 of the EIAR, has been completed following the guidance and best practice guidelines available including

- Environmental Protection Agency (EPA) publication ‘Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (2022)
- Landscape Institute and the Institute of Environmental Management and Assessment, Guidelines of Landscape and Visual Impact Assessment: Third Edition (2013) (referenced hereafter as GLVIA3).
- Scottish Natural Heritage (SNH) (now known as NatureScot), Offshore Renewables – Guidance on assessing the impact on coastal landscape and seascape, Guidance for Scoping an Environmental Statement (SNH, 2012).
- SNH (NatureScot), Visual Representation of Wind Farms Guidance (SNH, 2017a).
- SNH (NatureScot), Siting and Designing Wind Farms in the Landscape (SNH, 2017b).
- SNH (NatureScot), NatureScot (2021) Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments (also identified as applicable to the cumulative effects of offshore wind energy developments).
- Department of the Environment, Heritage, and Local Government (DEHLG), Wind Energy Development Guidelines (2006 / 2019 Draft Revised).

The location and site selection and refinement process for the proposed development is described in full in Chapter 5 in the EIAR. The Developer notes that there is no accepted set back distance from the coastline for offshore wind farms.

It should be noted that GLVIA3 is exclusively used by LVIA specialists in Ireland as the overarching best practice guidance for LVIA and SLVIA for all forms of development in lieu of any equivalent adopted guidelines in the Irish Context. Likewise, NatureScot specific wind energy related guidance has long been accepted as the best practice benchmark for LVIA and SLVIA for such development throughout the UK and Ireland where it is used in conjunction with GLVIA3.

Point 6 – Data gaps

In the second paragraph on page 46 BIC highlights that *“There is an inconsistency in identifying landscape and seascape on a national level. This is a significant data gap which must be addressed before any visual impact assessments are undertaken by the Board.”*

Response to Point 6 – Data gaps

The Developer has provided a complete assessment within Chapter 29: Seascape, Landscape and Visual of the EIAR; photomontages within Volume 7B; and the viewpoint locations assessed in Appendix A29.1 and 29.2 of the EIAR. The approach taken is considered to be consistent for all areas of the proposed development and all viewpoints.

Point 7 – Mitigation

The third line of the second paragraph on page 46 of this submission states *“We also note that there is reference to the intensification of coastal and nearshore development and the pressures it places on landscape/seascape. We would kindly ask the Board as to what the mitigation has taken place at strategic environmental assessment level (OREDP I & II) to alleviate these identified pressures.”*

Response to Point 7 – Mitigation

The Developer understands the concerns raised regarding the pressure on landscape and seascape. As previously stated, Chapter 29: Seascape, Landscape and Visual of the EIAR provides a visual impact assessment for the seascape which found no significant effects in EIA terms, and therefore no mitigation was required for the proposed development. The visual impact assessment for the landscape found imperceptible-moderate significance of visual impact.

Point 8 – Distance to the shore

Line eight of the second paragraph, BIC asks *“that any ORE project proposed in the coastal zone using bottom fixed foundations, which has water depths of 70 meters or below, should be placed as far offshore as reasonably practicable in order to preserve and protect environmental integrity and visual landscape quality. This can be reviewed with a view to moving further offshore as technology advances. We would stress that, despite the efforts of the Department of the Environment, Climate and Communications (DECC), economic factors should not be the only consideration in determining the location of ORE projects in Irish waters.”*

Response to Point 8 – Distance to the shore

The Developer has responded to this in Section 5.2.3.1.3 in this report.

Point 9 – Human health

The first paragraph of page 47 discusses the findings of the BlueHealth Project by Irish Data Analysis, *“there is an ever body of research evidence continually reinforcing the fact that engagement and contact with our surrounding natural environment is associated with measurable improvements in the health and wellbeing of the population. Exposure to green (parks, trees) and blue (river, lakes, canals, sea) spaces has been shown to have a positive influence on a range of health outcomes. It further reveals reveal that better general health appeared more prevalent in coastal areas, while psychological wellbeing (measured by the World Health Organization’s WHO-5 wellbeing index) also appeared to be better in more coastal areas but not in greener areas. ‘People who visited various types of blue space at least once a week were also more likely to have better health and psychological wellbeing. People who perceived ‘a little’ or ‘a lot’ of blue space within 10-15 minutes’ walk from their home experienced better psychological wellbeing’.”*

Response to Point 9 – Human Health

Effects on health and wellbeing arising directly from visual impacts are assessed in EIAR Chapter 29 - Seascape, Landscape and Visual Impact Assessment (SLVIA). As noted in Section 32.2.4.2 of Chapter 32 – Population and Human Health, the SLVIA considers effects on *‘groups for whom visual impacts may contribute to wellbeing, such as: residents at home; people engaged in outdoor recreation, including use of public rights of way; and communities where views contribute to the landscape setting enjoyed by residents in the area. The assessment criteria are based on the value associated with views, including factors such as tranquillity, perceived naturalness, and sense of place.’*

The health assessment also considered visual effects as a contributing factor in environmental amenity (in combination with other environmental factors such as noise, traffic and air emissions). This assessment considered potential effects on health and quality of life associated with changes in:

- People’s attachment to and enjoyment of their local environment, its perceived quality and distinctive characteristics; and
- The quality and tranquillity of green and blue space including parks, rural public rights of way, beaches and coastal walks.

Health effects were assessed at the population (as opposed to individual) level. The assessment of significance was based on a professional judgment on the sensitivity of the receptor population and the magnitude of impact, using IEMA assessment criteria.

While the turbines would be visible on the horizon from coastal and inland viewpoints, the SLVIA concluded that the turbines would not result in significant adverse visual impacts in EIA terms. The Population assessment (Chapter 32: Population and Human Health) concluded that the overall impacts on amenity during operation of the proposed development would be negligible. A negligible magnitude of amenity impact is not considered likely to significantly reduce perceptions of the quality of the local environment or detract from the health benefits derived from green and blue spaces, including beaches and coastal walks. On this basis, no health effects arising from amenity impacts during operation were reported in the EIAR.

5.2.3.4.6 Regional Seascape Character Assessment for Ireland 2020 (RSCA)

Point 1 -Best practice

At the end of page 47 and the first paragraph of page 48 of the BIC mentions the Regional Seascape Character Assessment (RSCA) for Ireland which was undertaken by the Marine Institute in 2020 and how it was referenced many times in the proposed development application. The submission raised concerns that the RSCA should not be used as a baseline since the RSCA focuses on empirical data collection and analysis and does not assess sensitivity of the coastline to human activities such as ORE infrastructure. The submission states that: *“The contrasts with best practice which suggests a more theoretical and principle-based approach outlining the essential steps and principles for conducting a seascape character assessment by emphasising flexibility and adaptability to different contexts and advocating for a more holistic view that integrates both natural and cultural elements of the seascape.”* The second paragraph on this page goes on to say *“While prioritising natural components of the seascape, such as geological and biological features, there is no assessment regarding the sensitivity of the coastline to absorb human activities such as aquaculture, offshore renewable energy infrastructure, port development, etc. While it does consider some human activities, these are often secondary to natural factors. Best practice would suggest emphasising the integration of both natural and cultural components while recognising the importance of historical, social, and economic factors in shaping seascapes, thus promoting a more balanced approach. The RSCA report’s natural dominance can lead to an underrepresentation of cultural and socio-economic factors, which are crucial for a holistic seascape understanding.”*

Response to Point 1 – Best practice

The Regional Seascape Character Assessment (RSCA) provides an excellent resource to inform the baseline of the SLVIA and the proposed development specific seascape character assessment. The relevant guidance for SLVIA is GLVIA 3 (2013), which recommends (p77-80) that pre-existing landscape / seascape character assessments be reviewed to inform the baseline of SLVIA and that professional judgement is required to determine how relevant such assessments are to the SLVIA in question. This includes the scale they are prepared at, when it was carried out, by whom and for what purpose. For all of these criteria, the RSCA is considered fit for the purpose of informing the proposed development SLVIA.

The submissions states that the RSCA should not be used as a baseline since it focusses on empirical data collection and analysis rather than cultural and socio-economic factors. It is important to first note that the RSCA only informs the baseline and although it is objective and does not apply a sensitivity rating to each seascape unit, it helps to support the seascape sensitivity assessment that was undertaken as part of the SLVIA process for the proposed development. Furthermore, the RSCA does account for a range of cultural and socioeconomic factors for each seascape character area. The seascape character factors considered for each Seascape Character Area include; Key Characteristics; Natural Influences; Cultural and Social Influences; Archaeological and historical overview; Contemporary; Art and Folklore; Perceptual Influences; Sounds and smells; and Sense of Place. This represents a recent, objective and comprehensive assessment of Seascape Character for Ireland where the seascape units are of an appropriate scale to inform the SLVIA baseline for the proposed development.

Point 2 – Stakeholder engagement

The end of the second paragraph of page 48 points to stakeholder engagement *“Best practice would also suggest stakeholder engagement throughout the entire assessment process. This includes initial scoping, data collection, and the final analysis, ensuring a more inclusive approach that values local and community inputs. The RSCA report involves stakeholders, primarily during data collection phases, focusing on obtaining expert input and field observations limiting the extent of community engagement and the incorporation of local knowledge.”*

Response to Point 2 – Stakeholder engagement

For the response regarding public consultations of the MAC please see Section 5.2.3.1.2 in this report. In response to concerns regarding the Developer’s engagement with stakeholders see response in Section 3.6 – Public Consultation of the Response to Submissions Report.

The community liaison strategy for the proposed development, which includes the public consultation events, was based on the ‘Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement’. The code’s core fundamentals are to engage with the local community in an open, honest, and transparent manner with the aim of providing clear information on a proposed development, and for getting feedback from the local community to use this to inform the design and development process.

The Developer confirms that its community liaison team has had over 1,500 engagements with local stakeholders throughout the development process; hosted 17 public consultation events in seven coastal communities; developed and promoted three virtual consultation rooms; established a dedicated proposed development website for the proposed development; engaged on a personal basis with people in order to give them the opportunity to consider and discuss the proposed development; engaged with local community groups; contacted and met with local and national elected representatives; and carried out ongoing engagement with local authorities. The Maritime Area Planning Act, 2021, (MAP Act) is clear that extensive public consultation will be undertaken in respect of all offshore proposed developments during the maritime planning application process and this public consultation (in which the BIC submission is made) is currently ongoing in respect of the proposed development’s planning application.

Further information on the advertisement of the public consultation events is provided in Section 2.5 of Appendix A1.2 of the EIAR.

Point 3 – Methodology

The final paragraph on page 48 and the start of page 49 states, “*A key factor to consider in the RSCA is that there is no mention in the methodology which provides for the assessment of the sensitivity of the seascape and coast to different development types. Similarly, there is no mention of the capacity of our coastline to accommodate development regarding scale and pattern, etc. Regarding the rollout of offshore renewable energy infrastructure, particularly so close to shore, the RSCA is fundamentally flawed in respect to how the Irish coastline is going to absorb the associated infrastructure which will be required to reach the governments renewable energy targets. The absence of local SCAs, visual resource mapping and lack of a robust review of local SCAs represents a significant data gap which needs to be addressed before any offshore strategic infrastructural developments are approved. The report therefore cannot be used as a baseline to assess offshore renewable energy projects unless this fundamental flaw is corrected. The following graphic taken from OREDP 1 strategic environmental assessment (2010, p.68) illustrates the need for seascape sensitivity assessment at SEA level before any seascape impacts are evaluated. This clearly has not happened in relation to any phase one projects.*”

Response to Point 3 – Methodology

See Section 5.2.3.4.5 Landscape / seascape Point 5 – SLVIA process in this report.

5.2.3.4.7 Adherence to the National Marine Planning Framework (NMPF)

Point 1 – SLVIA

The BIC mentions the National Marine Planning Framework (NMPF) in the final paragraph of page 51, providing some legislative context. The second paragraph on page 51 details how the seascape, landscape and visual impacts of ORE developments will be the “*greatest challenge faced by the Irish planning and development processes*”. The submission states that “*there is a lot of work to be done especially when it comes to applying a consistent approach to planning issues*” giving an example of County Development Plans for the south eastern counties of Wexford, Wicklow and Dublin, who accord a high degree of sensitivity to their coastal zones but there is a lack of consistency between County Development Plans. The submission then states “*The EPA Landscape Character Assessment Reframe Study currently in progress has yet to report and will take some time to remedy matters. The planning process addressing landscape/ visual impacts has been further weakened by the failure of the Irish State to actively implement the National Landscape Strategy 2015-2025 across all the aims and objectives. It should be noted that the NLS is an action intended to implement the European Landscape Convention 2000 (signed/ratified by Ireland in March 2002).*”

Response to Point 1 – SLVIA

For information regarding the onshore assessments of visual impact to Landscape Character Areas., please see Chapter 29: Seascape, Landscape and Visual, within the EIAR, which concludes that the two project options of the proposed development will not result in any significant effects in EIA terms.

Point 2 – EIA

The last paragraph on page 52 of the submission highlights that *“The state is legally required to ensure that landscape impacts are addressed under its obligations relating to EU Environmental Impact Assessment (EIA) Directive dating back to 1985. Directive 2014/52/EU14 amends the 2011 codified Directive but does not replace it. It does however provide more clarity regarding landscape and specifically references European Landscape Convention. The fact that the state has failed to provide for adequately addressing landscape/visual impacts arising from development projects places both developers and concerned citizens in an almost impossible position that currently can only be eased by developers or, in this case, the Irish State, going ‘the extra mile’ to take all necessary steps to minimise and mitigate the landscape/visual impacts of their proposed developments. Ireland’s failure to implement the European Landscape Convention into its national legislation leaves its landscapes and seascapes vulnerable to inappropriate development, particularly from offshore renewable energy projects. By not integrating ELC principles into law, Ireland risks undermining the very qualities that make its landscapes valuable. Legal challenges in the European Court of Justice offer a viable pathway to compel Ireland to fulfil its obligations and protect its landscapes for future generations. Ensuring compliance would not only safeguard Ireland’s natural and cultural heritage but also promote sustainable development that respects the intricate balance between progress and preservation.”*

Response to Point 2 – EIA

The Developer has followed appropriate guidance and best practice in undertaking the visual impact assessment and undertaken a robust assessment of LVIA. The Developer would also note that in the assessments undertaken of landscape and visual impacts within Chapter 29 of the EIAR, it was concluded that there will be no effects that are significant in EIA terms.

Point 3 – OREDP II

The second paragraph of page 53 and the first paragraph of page 54 of the submission goes on to reference to OREDP II, stating that there is a problem with the OREDP II, *“The SEA rightly lists landscape as an impact to be considered and assesses that the potential impact will be significantly negative in the absence of mitigation and suggests with mitigation the impact might reduce to ‘minor negative’.”* The submission goes on to refer to the SEA Objective, quoting *“Landscape and visual effects to be given due consideration during lower tier (DMAP and/or individual project) assessments and due account should be given to any regulations or guidance on visual assessments by the Minister Housing, Local Government and Heritage [...] Areas included within the environment model should be subject to further, more detailed analysis to understand and appropriately mitigate potential effects in lower tier assessments.”* The submission details at the end of page 54, *“Considering the above there would appear to be a major problem with the SEA and the OREDP II Plan which is dependent on the SEA for its credibility.”*

Response to Point 3 – OREDP II

See the responses in Section 5.2.3.2 Policy context in this report relating to OREDP II and SEA.

Point 4 - National Landscape Strategy 2015-2025

The first paragraph of page 55 draws attention to the National Landscape Strategy 2015-2025 and states that it will be required to inform any EIA under the EIA Directive (2014/52/EU) and therefore must be resourced and implemented for the successful of OREDP I and II as guidance for planning ORE developments.

Response to Point 4 – National Landscape Strategy 2015-2025

Refer to Section 5.2.3.2 Policy context of this report.

Distance to shore and Visual impact

Point 1 – Additional information

The BIC submission highlighted some research studies on wind turbine height in the final paragraph of page 55. These studies determined that “*wind turbines of between 225m and 300m in height (the typical height being used in current ORE developments worldwide and the NISA project) should be located at least 40km from shore to have a low visual impact; a location of 28km from shore would result in a moderate visual impact.*” Another report found that “*in Germany, planners and developers have favoured a 30km minimum distance offshore to deter any refusals based on the visual and noise impacts. Not only does this assist in planning consent, but it also prevents any conflicts with other nautical activities around the coastline. The trend in the Netherlands and Belgium appears to be to allocate areas at least 22km from the coast, with larger zones significantly further offshore (35-60km).*” And finally, the submission references the Netherlands Offshore Wind Energy Roadmap, “*[which] has eight offshore wind development zones. These range from a minimum distance of 18.5km in the two early developments to a minimum distance of 24km, 53km, 56km, 62km, 77km and 100 km offshore planned for the coming years.*”

Response to Point 1 – Additional information

The Developer acknowledges these additional sources of information. The location and site selection and refinement process for the proposed development is described in full in Chapter 5 in the EIAR. As noted in Section 3.7.3.1 of this report, the Developer notes that there is no accepted set back distance from the coastline for offshore wind farms. Some examples in other EU countries where the wind farms are closer than 22km include:

- Middelgrunden Wind Farm in Denmark (3.5km);
- Vesterhav Nord and Vesterhavet Syd in Denmark (5.5km);
- Nysed Wind Farm in Denmark (10km);
- Korsnaes Wind Farm in Finland (13km); and
- Hollandse Kust Zuid and Nord in the Netherlands (18km)

Further information on the siting of the turbines is included in Section 5.2.3.1.3 of this report.

Point 2 – Location

On page 58, the submission goes on to say that fixed-base turbines can be constructed in waters up to a depth of 50 to 60 metres and that modern techniques are allowing for depths of up to 75 metres. At the end of page 58 of the submission, BIC suggests that the proposed development should be built in deeper waters further from shore; BIC details information from INFOMAR, “*We note that there is a considerable area of seabed available at or less than 65 meters up to 25km offshore especially to the north east of Skerries.*” Page 59 of the submission states “*We acknowledge that placing fixed foundations in this depth will ‘really push the boundaries’ but, if 75-meter depths can be achieved in Scotland and delivering power by 2030, well why not here? We again request that the Board considers implementing a minimum distance requirement of 22km offshore (territorial waters) for any ORE infrastructure off the Irish coast where depth constraints are not an acknowledged issue from within the wider industry. In the case of the NISA, water depths range from 45m to 65m deep at a range from 27 to 34kms offshore. We argue, based on this data and using current technology and innovations, it is possible to move turbines associated with this project at least 25km offshore using bottom fixed foundations.*”

Response to Point 2 - Location

As previously stated, the location of the proposed development with the MAC boundary was chosen based on a number of constraints outlined in Section 5.2.3.3.1 in this report, specifically ‘Response to Point 1 – Environmental assessment’.

Point 3 – Visual impact

The second paragraph of page 59 discusses the number and height of turbines in regard to visual impact, *“Regarding the location of either 35 to 49 turbines somewhere between 290 and 316 meters tall on an unspoilt coastline, we would argue that this is as bad as it gets regarding visual impact and there is no hiding it on such a sensitive seascape. We would argue that the decision to award MACs by the Minister of the Environment to so called ‘relevant’ phase one project in such proximity to shore is a disaster and, if allowed to proceed, will result in the industrialisation of a significant portion of the east coast seascape. There is no need to place huge infrastructure so close to shore and there is ample opportunity to move these massive objects 20km+ offshore where they will still be visible but not the dominating feature on the landscape.”*

Response to Point 3 – Visual impact

The Developer has responded to this in Section 5.2.3.4.5 of this report.

Point 4– Legal compliance

The second paragraph on page 60 of the submission states: *“These alternatives not only mitigate environmental impacts but also enhance legal compliance and public acceptance. Implementing these strategies will help ensure that the development of offshore wind farms is both ecologically responsible and socially equitable.”*

Response to Point 4 – Legal compliance

The Developer notes this concern, however, considers the current design the best option for the proposed development. The location along with a robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives (EIAR). Further information can be found in Section 5.2.3.1.3 and Section 3.7: Proposed Development of this report. The Developer considers that the proposed location and design are not only environmentally acceptable and commercially viable as considered when outlining the MAC for application. The Developer points to previous responses regarding alternatives throughout this document.

5.2.4 Conclusion

The points raised in the submissions in relation to the EIAR and NIS have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

5.2.5 References

Berrow, S., F. Cummins, G. Kane, H. Keogh, and D. Wall. (2021). Harbour porpoise surveys in Rockabill to Dalkey Island SAC, 2021. Report to the National Parks and Wildlife Service, Department Housing, Local Government & Heritage, Ireland.

Berrow, S., and J. O'Brien. (2013). Harbour porpoise SAC survey 2013. Report to the National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Irish Whale and Dolphin Group.

Berrow, S., J. M. O'Brien, C. Ryan, E. McKeogh, and I. O'Connor. (2011). Inshore Boat-based Surveys for Cetaceans – Irish Sea. Report to the National Parks and Wildlife Service. Irish Whale and Dolphin Group.

O'Brien, J., and S. Berrow. (2016). Harbour porpoise surveys in Rockabill to Dalkey Island SAC, 2016. Report to the National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Irish Whale and Dolphin Group. pp. 23.

National Marine Fisheries Service (NMFS) (2024). 2024 update to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (version 3.0): Underwater and in-air criteria for onset of auditory injury and temporary threshold shifts. U.S. Dept. of Commer., NOAA. NOAA Technical Memorandum NMFS-OPR-71.

5.3 Golden Venture Fishing Limited and Fanning Shellfish Limited

5.3.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the Golden Venture Fishing Limited and Fanning Shellfish Limited (hereafter referred to as ‘GVFL & FSL’).

Since the 2024 EIAR was submitted, the Developer has reviewed the RFI, third-party submissions and the outputs of continued consultation with commercial fisheries stakeholders. The commercial fisheries assessment has therefore been updated through the updated Chapter 16: Commercial Fisheries, Appendix A16.1: Commercial Fisheries Technical Report, and Appendix A16.2: Fisheries Management and Mitigation Strategy (FMMS).

The updated documents provide additional and more recent fisheries baseline data, updated proposed development design parameters, updated mitigation, an updated cumulative effects assessment, and further detail on fisheries coexistence, monitoring, governance and disturbance payments.

In addition, it is highlighted that in the 2024 EIAR, monopile and pin pile foundations with jacket foundations were considered for Wind Turbine Generators (WTGs) and the Offshore Substation Platform (OSP). Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jacket (SBJ) foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets.

This design refinement is reflected in the updates to Chapter 13 and Chapter 16. The design refinement of using SBJs and removing piling reduces the underwater noise risk profile associated with WTG foundation installation and has informed the updated assessment of effects on commercially important fish and shellfish resources.

5.3.2 Summary of the Key Points Raised by GVFL & FSL

GVFL & FSL raised a number of key points, which are dealt with as the sub-themes below:

- Insufficient data in the application related to baseline data and fishing activity, including vessels under 12 m;
- Potential impacts on shellfish species, including whelk, lobster and crab;
- Socio-economic effects and potential financial impacts on shellfish fisheries;
- Site selection and National Marine Planning Framework
- In-combination and cumulative effects;
- Adequacy of the Fisheries Management and Mitigation Strategy (FMMS), Sustainable Fisheries Community (SFC) and disturbance payment arrangements;
- Consultation with the fishing industry; and
- North-West Irish Sea Special Protected Area (SPA).

5.3.3 Response to Key Points Raised

5.3.3.1 *Insufficient data in the application*

The GVL & RSL submission raises a number of points relating to insufficient data;

- Fishing activity;
- Impacts to shellfish; and
- Socio-economic effect.

5.3.3.1.1 Fishing activity

The GVFL & FSL submission raises concerns over the acknowledged statement by the Developer that the quantitative data sets put forward in the application do not capture all fishing activity in the commercial fisheries study area. GVFL & FSL feel that *“it is unacceptable for the developer to say that “consultation will be undertaken to seek to corroborate the findings of desk-based baseline data analysis and to provide insight into specific fishing grounds and activity of any vessel active in the area”. This makes no sense in circumstances where it is acknowledged that the desk-based baseline studies will not cover our industry and vessels under 12 metres. GVFL & FSL state that “The developer has failed in its obligations to put forward a baseline scenario in the EIAR and therefore the harm that this development will cause has not been considered or assessed in the application.”*

Response to fishing activity

The Developer does not agree that the EIAR failed to establish a commercial fisheries baseline for vessels under 12 m. It is acknowledged that VMS data are not routinely available for vessels under 12 m in the same way as for larger vessels. However, the commercial fisheries baseline was not based solely on VMS data. The 2024 EIAR and Appendix 16.1 drew on a range of available datasets and consultation sources to characterise fishing activity, including landings data, Marine Institute and BIM shellfish landings information, Marine Institute inshore fishing grounds, Marine Management Organisation data, fisheries liaison information and consultation with the fishing industry.

In particular, the Marine Institute and BIM data included estimates of annual landings (tonnes) and value (€) of crustacean and bivalve shellfish (excl. prawns and mussels) and included sources relevant to smaller vessels, such as logbook declarations and sales notes for vessels under 10 m, gatherer docket and co-operative data. The assessment therefore used the best available evidence to characterise smaller-vessel and inshore shellfish activity, while acknowledging the limitations and uncertainty in the available datasets.

The developer received via a freedom of information request from the SFPA, a data set of shellfish landings from the entire area ranging from 2011 to 2020 which demonstrates live tonnage weight landed, and number of vessels involved in related fisheries per port. This is the same data that informs the national stock book, and informs ICES research and decision making on stock management

The limitations and uncertainty of specific data sources were taken into account and explained in Table 6.1 of the commercial fisheries technical report (Appendix 16.1 of the 2024 EIAR). The SFPA data was assessed with medium-high uncertainty and medium-low confidence. This uncertainty was taken account through a precautionary impact assessment which concluded significant effects to the Irish potting vessels and Irish razor dredgers, with application of mitigation measures to reduce this to a not significant impact. Consultation was undertaken by the Fisheries Liaison Officer, including regular port visits from February 2020 to present. Information received was relayed to the fisheries consultant as and when appropriate (i.e. when information/data was not commercially sensitive) to include in the assessment.

In response to RFI Section 1 (b), the commercial fisheries baseline has now been reviewed and updated in Appendix A16.1:

Commercial Fisheries Technical Report. This includes additional and more recent fisheries data, including SFPA landings statistics for 2020–2024 and the latest available information on key commercial species. The update concludes that the additional baseline information does not materially change the receiving environment described in the 2024 EIAR but provides an updated evidential basis for the assessment.

The Developer has also supported the Digital Effort Traceability Project (DETP) through the proposed development’s Sustainable Fisheries Community (SFC). DETP is specifically relevant to the under-12 m inshore fleet and is designed to provide high-resolution, fisheries-led evidence on fishing activity, spatial footprint, gear activity, catch, landings, discards and traceability.

This will strengthen the evidence base for monitoring fishing activity in and around the proposed development, including displacement and socio-economic dependency, and will support future adaptive management through the SFC.

The cumulative assessment presented in Chapter 16, Section 16.9.3 of the 2024 EIAR, assesses the cumulative effect of a range of plans and projects, including Phase One projects, notably Oriel, together with

the proposed development, including related to loss of access to fishing grounds, displacement and disruption to commercial exploited resources. It is noted that at the time of writing in 2023/2024, the Oriel EIAR and other Phase One EIAR reports were not available, however collaboration between the developers assisted in information sharing where possible. Specific to nephrops, through the Phase One Offshore Wind Farm Collaboration (refer to Appendix A1.2) it was confirmed by Oriel Wind Park that the project's infrastructure is outside the nephrops area (which is defined as muddy sediment), with the infrastructure located on hard ground. Furthermore, it was confirmed by Oriel Wind Park that the closest nephrops spawning or nursey areas are 6km south and east from the Oriel offshore wind farm area boundary. Therefore, for the *Nephrops* fisheries, and all other receptor fisheries assessed, all potential cumulative impacts were assessed as moderate to slight effects and therefore not significant in EIA terms.

5.3.3.1.2 Impacts to shellfish

The GVFL & FSL submission makes several points around impacts to various shellfish species, including whelk, lobster and crab. GVFL & FSL *“have significant concerns that the failure to gather data relating to the existence of our target species in the area has resulted in an inability of the developer to assess the harm [harm] that is going to take place.”* GVFL & FSL also *“take considerable exception to the developer stating that there will be short-term and localised impact to the shellfish, including the whelk, lobster and crab. It is estimated that the construction of this project may take five years, the operation is for a licence period of 30 years and there will be a further number of years in relation to decommissioning. None of these various stages are for a short-term impact.”* As well as contesting that the area covered by the proposed development *“is not localised and will indeed cover a significant area of fishing grounds”*.

GVFL note that *“while certain elements of the lobster’s movements are mobile, we have significant concerns that the migratory patterns of the lobsters will ultimately be disrupted long-term, as a result of the significant activity associated with this proposed development.”*, concluding this paragraph by stating *“In the event that the migrating lobsters move away from their usual habitats, this is likely to cause long-term effects to the established fishing grounds in the area”*.

GVFL & FSL also state *“Whelks are known to possess an auditory capacity and the significant noise associated with the site investigations, pre-construction investigations, pile driving and construction of the project area is likely to cause significant damage to the whelk.”*, going on to state that *“We do not accept there is a short-term chance of recoverability”*. GVFL & FSL then discuss the impacts other developments have had on whelk fishing and crab fishing.

Response to impacts to shellfish

The Developer acknowledges the concerns raised by GVFL & FSL regarding whelk, lobster and crab, including concerns regarding noise, disturbance, recoverability and the duration of the proposed development phases. These matters have been considered in Chapter 13: Fish and Shellfish Ecology and Chapter 16: Commercial Fisheries and have been reviewed in the updated material submitted in response to the RFI.

Information on the commercial fisheries operating within the offshore development area is presented in Appendix 16.1 – Commercial Fisheries Technical Report of the 2024 EIAR and Appendix A16.1. Through this several receptors (fishing fleets) were identified and assessed within Section 16.5 of Chapter 16 of the 2024 EIAR and the updated Chapter 16.

Receptors assessed, within Section 16.5 of Chapter 16 of the 2024 EIAR, were:

- Irish demersal otter trawlers;
- UK demersal otter trawlers;
- Irish potting vessels;
- Irish razor dredges;
- Irish scallop dredgers;
- UK scallop dredgers;

- Irish mussel dredgers;
- Irish beam trawlers and demersal seine
- Belgian beam trawlers; and
- Irish pelagic trawlers.

Impacts assessed, within Section 16.5 of Chapter 16 of the 2024 EIAR, were:

- Array area construction activities and physical presence of offshore infrastructure during the construction period leading to reduction in access to, or exclusion from established fishing grounds;
- ECC construction activities and physical presence of constructed infrastructure leading to reduction in access to, or exclusion from established fishing grounds;
- Displacement from within the offshore development area leading to gear conflict and increased fishing pressure on adjacent grounds;
- Construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity;
- Increased vessel traffic associated with the construction of the proposed development within fishing grounds leading to interference with fishing activity;
- Physical presence of array area infrastructure leading to reduction in access to, or exclusion from established fishing grounds;
- Physical presence of the export cable leading to reduction in access to, or exclusion from established fishing grounds;
- Operational activities leading to displacement or disruption of commercially important fish and shellfish resources;
- Increased vessel traffic within fishing grounds as a result of changes to shipping routes and maintenance vessel traffic from the proposed development leading to interference with fishing activity;
- Physical presence of infrastructure leading to gear snagging;
- Array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds;
- ECC decommissioning activities leading to reduction in access to, or exclusion from established fishing grounds;
- Displacement from the offshore development area due to decommissioning activities leading to gear – conflict and increased fishing pressure on adjacent grounds;
- Decommissioning activities leading to displacement or disruption of commercially important fish and shellfish resources;
- Increased vessel traffic within fishing grounds as a result of changes to shipping routes and transiting decommissioning vessel traffic from the proposed development leading to interference with fishing activity; and
- Physical presence of any infrastructure left in situ leading to gear snagging.

The assessments concluded that the significance of the effect would be no greater than Moderate (not significant in EIA terms), for all receptors and impacts other than the Irish demersal otter trawlers and UK demersal otter trawlers.

In regard to effects on Irish demersal otter trawlers, Appendix A16.1 – Commercial Fisheries Technical Report provides an overview of the commercial fishing receptors (fleets) that operate within the offshore development area and includes a description of the Irish demersal otter trawlers, which target Nephrops. The offshore development area overlaps with nationally significant Nephrops fishing grounds that form part of the Irish Sea West Nephrops Functional Unit (FU15).

The assessments presented in Chapter 16 concluded Significant or Very Significant effects (which are Significant in EIA terms) to the Irish demersal otter trawlers in relation to:

- Array area construction activities and physical presence of offshore infrastructure during the construction period leading to reduction in access to, or exclusion from established fishing ground, which were determined as Very significant (which is Significant in EIA terms).
- Displacement from within the offshore development area leading to gear conflict and increased fishing pressure on adjacent grounds, which were determined as Significant (which is Significant in EIA terms).
- Construction activities leading to disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity, which were determined as Significant (which is Significant in EIA terms).
- Physical presence of array area infrastructure during operational phase leading to reduction in access to, or exclusion from established fishing grounds, which were determined as Significant (which is Significant in EIA terms).
- Array area decommissioning activities leading to reduction in access to, or exclusion from, potential and/or established fishing grounds which were determined as Very significant (which is Significant in EIA terms).

Additional mitigation measures proposed, which were not embedded into the proposed development design, are presented in Section 16.6 of Chapter 16 of the 2024 EIAR and have been further developed through the updated Fisheries Management and Mitigation Strategy (FMMS). Key measures include the Sustainable Fisheries Community (SFC), Fisheries Liaison Strategy, Co-existence Strategy, disturbance payment approach, Technical Co-existence Assessment, and monitoring framework.

The FMMS provides for ongoing liaison through the FLO and, where required, OFLO; advance notification of offshore works; Notices to Mariners and fisheries notifications; minimisation of the size and duration of advisory safety zones where safe and practicable; cable burial and cable protection principles; guard vessels where appropriate; procedures for dropped objects and gear fastening or loss; and a code of good practice for proposed development vessels.

The SFC has now been established as a fisheries-led framework to support long-term coexistence between the proposed development and commercial fishing activity. It provides a structured forum for fisheries stakeholders to input into mitigation design, monitoring commitments and review of coexistence outcomes. A Fisheries Coexistence Fund has also been established and is administered independently by SECAD. Projects approved through the SFC include the Digital Effort Traceability Project (DETP), coastal education vehicles, a low-impact fishery pilot, a marine biodiversity mapping app, the Balbriggan Sustainable Fisheries Harbour feasibility study, and further investment in DETP. These initiatives are intended to strengthen fisheries evidence, support monitoring of fishing activity and displacement, and contribute to the resilience and sustainability of local fisheries.

In light of these measures, the residual effects assessment (Section 16.7 of Chapter 16), concluded residual effects of no greater than Moderate (which is not significant in EIA terms).

This includes the impact of displacement from within the offshore development area leading to gear conflict and increased fishing pressure on adjacent grounds to UK demersal otter trawlers, which was assessed as Significant before mitigation and reduced to no greater than Moderate following mitigation.

With respect to the impact on whelk directly in relation to underwater noise effects from the construction of the proposed development, the Developer notes that this has been fully considered within Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR and the update to Chapter 13. Following design refinements, the

proposed development now excludes monopiles as a foundation option and includes for jacket foundations with suction buckets for the WTGs and jacket foundations with either suction buckets or drilled pin piles for the OSP. Consequently, impact piling is no longer included in the construction strategy, which results in a significant reduction in predicted underwater noise exposure to shellfish including whelk. Chapter 13 has been updated to remove piling operations from the impact assessment. Under the revised construction strategy, the greatest impact to fish and shellfish from underwater noise is now predicted to arise during high order clearance of Unexploded Ordnance (UXO). As set out in Table 13.11 of Chapter 13 of the 2024 EIAR, the clearance of UXO will follow a mitigation hierarchy with high order detonation of UXO only taken place where avoidance, relocation, removal or low order deflagration is not possible. Where there may be clusters of UXO requiring detonation, these UXO would not be detonated at the same time to minimise the area affected by underwater noise and the sound levels received by marine species at any one time. In addition, the Developer has committed to the use of a Noise Abatement System (NAS) in the form of bubble curtains or similar if high order UXO clearance is required to minimise the sound emitted during detonation. As described in Chapter 13 of the 2024 EIAR, high order clearance of UXO constitute discrete events that would result in a brief (i.e., seconds) increase in underwater noise to levels that could potentially cause mortality and potential mortal injury, recoverable injury, TTS or behavioural changes in fish and shellfish species, with the severity of effects depending on the proximity of the individuals to the UXO location and the size of the UXO. It has been determined that potential physical impacts to shellfish, including whelk, would be highly localised, occurring at individual level at close range to the sound source. It has further been determined that any potential changes in behaviour (e.g. changes in foraging activity) or mild physiological stress responses would be temporary and would not impact the survival or condition of the receptors to the extent that could alter population trajectories. Therefore, the maximum sensitivity of all shellfish receptors to impulsive sounds arising during UXO clearance has been assessed as medium, and the magnitude of potential effects in shellfish has been concluded to be low (adverse). This results in slight (adverse) significance, which is not considered significant in EIA terms.

Potential disturbance effects on other shellfish populations were also assessed in Chapter 13. with particular consideration given to lobster and brown crab due to their commercial importance in the area. The assessment concludes that potential disturbance from the proposed development is expected to be localised and temporary; as such, impacts on shellfish populations are assessed as not significant in EIA terms. This conclusion is supported by evidence from other offshore wind developments. For example, Roach et al. (2018) reported that the temporary construction-related closure of lobster fisheries across the Westernmost Rough offshore wind farm area reduced fishing pressure on adult lobster, potentially contributing to an observed increase in both lobster abundance and lobster size within the wind farm area compared to pre-construction baseline data. This indicates that construction-related noise and disturbance events were not sufficient to reduce the abundance or distribution of lobster within the wind farm area during the construction period. With respect to the concern that the proposed development would disrupt lobster migratory patterns in the long term, the Developer is of the understanding, based on the available evidence, that lobster generally exhibit strong site fidelity, with movements typically confined to relatively small home ranges rather than long-distance migrations. This is supported by the lobster Cefas stock status report (Cefas, 2023) and tagging studies such as Smith et al. (2001), which show that European lobsters tend to remain within familiar habitat areas and display limited alongshore or on-/offshore migrations. Recent research from operational offshore wind farms (Thatcher et al., 2023) also indicate that lobsters continue to use and occupy habitat within wind farm footprints, supporting the conclusion that long-term displacement, or disruption to migration is unlikely. While some temporary disturbance to lobster may occur, this would be short-term and restricted to the immediate vicinity of the activity. The EIAR therefore concludes that there is no potential for significant population level effects on lobster.

5.3.3.1.3 Socio-economic effect

The GVFL & FSL submission states that they feel that *“the developer has not gathered the necessary data relating to our industry, or indeed made sufficient efforts to consult and engage with the local fishing vessels for the purposes of gathering the data”* and also states that *“it is clear that no socio-economic assessment has been carried out in relation to the financial effect that this development will have on the shellfish industry.”*

Response to socio-economic effect

The Developer acknowledges the concern raised by GVFL & FSL regarding potential financial effects on shellfish fisheries. The commercial fisheries assessment considers the economic value of affected fisheries

when determining the magnitude of impact, including for shellfish fleets. The assessment does not calculate the financial effect on individual businesses within the EIAR because individual vessel earnings, fishing positions, landings and business accounts are commercially sensitive and not available in a form that would allow individual business-level assessment in the EIAR.

However, the updated FMMS now provides a clearer framework for addressing potential proposed development -related disturbance to individual fishing businesses. Appendix C of the FMMS sets out an outline construction disturbance compensation protocol. This would be delivered in conjunction with the SFC and would provide a process for evidence-based disturbance payment claims where construction-related disruption can be demonstrated. The required evidence may include vessel registration, licences, insurance, DETP data or GPS/plotter records, sales notes, annual accounts or equivalent earnings evidence, landings data and gear configuration information.

The SFC also provides a wider fisheries governance and funding mechanism. The Sustainable Fisheries Community initiative and fund have been established and is administered independently by SECAD to support fisheries-related initiatives, including displacement support measures, fisheries research, education, low-impact fisheries initiatives and coastal engagement. DETP will also improve the socio-economic evidence base by linking spatial fishing activity with catch, landings and traceability information, including for smaller inshore vessels.

5.3.3.2 Site selection and National Marine Planning Framework

The GVL & FSL submission raises a number of points relating to site selection and the National Marine Planning Framework;

- Site selection;
- In-combination effects;
- Fisheries Management and Mitigation System;
- Consultation; and
- North West Irish Sea SPA.

5.3.3.2.1 Site selection

The GVFL & FSL submission states that the parties “*have not been consulted in relation to the site selection of this development*” and that “*the developer has chosen this site based on financial and economic viability concerns*” as well as “*this project should be brought in line with current State policy in relation to State-led projects, proper designated maritime area plans and developed policies and guidelines pursuant to the National Marine Planning Framework.*”

The GVFL & FSL submission also states that “*we would say that there are alternative sites that should have been considered by the developer in more barren areas of the sea. This is not just in relation to constructing projects in deeper waters, but a lateral movement of the proposed development would also assist in relation to the effect that this is having on the environment and the fishing industry. Again, had a proper site selection process been carried out, in consultation with the fishing industry, this site would not have been selected.*”

Response to site selection

In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

The location and site selection and refinement process for the proposed development is described in full in Chapter 5; Alternatives of the EIAR. The site selection process commenced in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in this EIAR for the purposes of the planning application.

The site selection process commenced in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and

layout options as they are presented in this EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

Studies that were undertaken to assist the site selection process, as detailed in Chapter 5, include;

- ; The Irish Marine Study Assessment - Gaelectric and University College Cork (2008) - an integrated geological and marine desktop study of the Irish Sea in the Irish Economic Exclusion Zone (EEZ) between Dunmore East (Co. Waterford) and Carlingford Lough (Co Louth), from a minimum distance of 5km from the coast to a maximum water depth of 60m,
- The Irish Sea Marine Assessment (2009) - to provide integrated seabed and sub-seabed mapping data of the areas identified in the desktop study of the Irish Sea and to assist in a fundamental understanding and evolution of the seabed.
- The IMAR Study (2009) – a desktop study to identify key constraints.
- Constraints analysis undertaken by the Developer, considering
 - Technical considerations of the metocean, wind, and seabed characteristics;
 - Overlapping Foreshore licences;
 - Distance to shore (visibility perception from the coast) - siting of infrastructure at the furthest distance practicable from the coast – due to the ground conditions and water depths required for deployment of fixed foundations a 10km buffer from the coast was applied;
 - Designated Sites;
 - Shipping and navigational features;
 - Commercial fisheries activity;
 - Proximity of the onshore electrical and grid infrastructure;
 - Potential interaction with civil and military aviation and Radar and military danger areas
 - Proximity to the energy demand centres e.g. larger population centres where the electricity will be required;
 - Onshore grid constraints and upgrade requirements;
 - Economic efficiency for the Irish electricity consumer;
 - Bathymetry - water depths not exceeding 60m; and
 - Avoidance of existing offshore cables and pipelines; and
 - Wind resource.

Following the process the preferred location and extent of the proposed development offshore development area were identified, which was deemed to be both environmentally acceptable as well as commercially viable, this formed the boundaries of the area identified in the Maritime Area Consent (MAC) application.

Further refinements have been made to reduce the MAC boundary are listed in Section 5.6.1.1 Environmental Considerations and 5.6.1.2 Offshore Development Area – Environmental Comparison (Ornithology) in Chapter 5 of the EIAR.

Figure 5.3.1 below shows the robust process that has been undertaken to identify and refine the proposed development site.



Figure 5.3.1 Site refinement process of the proposed development site

In regard to the location of the proposed development and potential alternative sites, proximity of the turbines and location of the array to the coast, the Developer notes that is not aware of any internationally accepted distances. In order to deliver fixed bottom wind farms, turbines currently need to be installed in water depths of no greater than approx. 60m. Therefore, the water depth dictates the potential locations of wind farms like the proposed development (e.g. foundations that are directly fixed to the seabed). In response to the potential lateral movement of the array area, the constraints defined above dictate that this site is the most appropriate.

In the EU there is no known set back distance from the coastline, and this is dealt with at a country-by-country level. Some examples in other EU countries where wind farms are closer than 22km are:

- Middelgrunden Wind Farm in Denmark (3.5km);
- Vesterhav Nord of Vesterhavet Syd in Denmark (5.5km);
- Nysed Wind Farm in Denmark (10km);
- Korsnaes Wind Farm in Finland (13km); and
- Hollandse Kust Zuid and Nord in the Netherlands (18km)

All offshore wind applications would be subject to an EIA, and within that an assessment the impacts of landscape, seascape and visual impacts carried out. The specific locations would then be assessed for any significant effects to determine what it's particular impacts may well be and any mitigation requirements.

As can be seen from outlined in Chapter 29: Seascape, Landscape and Visual of the EIAR, the assessment of visual impacts of the proposed development are presented. This assessment has been carried out by an independent consultant and considers the impacts, with the proposed development alone as well as the other known offshore projects. The assessment carried out and its impacts have been reviewed by the closest local planning authorities, all of which are in general agreement with the assessment.

Chapters 10 to 26 of the EIAR assesses the impacts on the environment and the ecology in the area. A summary of mitigation to minimise the proposed development impacts on the environment are also included in Chapter 36 Mitigation, Monitoring and Likely Significant Residual Effects. A detailed assessment on all Natura 2000 sites where connectivity between the proposed development and site has been deemed likely, has also been carried out. This is presented in the Natura Impact Statement (NIS).

In relation to consultation taken throughout the process, this is detailed in Section 3.6: Public Consultation of this document. With particular consideration to consultation with commercial fisheries this commenced in February 2020. The Developer recognises the fishing community as important stakeholders in this proposed development. A summary of these consultations is provided within Section 2.1 of Appendix A1.2: Consultation Report of the EIAR. The fisheries engagement team has had excess of 2,000 individual engagements with locally interested fishers. Engagement commenced (and is ongoing) with fisheries organisations covering national fishing industry bodies and key local individuals and groups in the fishing industry. These groups are:

- Irish South & East Fish Producers Organisation Limited (ISEFPO);
- Irish South and West Fish Producers Organisation (ISWFPO);

- National Inshore Fishermen’s Association & National Inshore Fishermen’s Organisation (NIFA/NIFO);
- North East Regional Inshore Fisheries Forum (NERIFF);
- Clogherhead Fishermen’s Co-Op;
- Naval Service – Fisheries Monitoring Centre (FMC);
- Inland Fisheries Ireland (IFI);
- Irish Fish Producers Organisation (IFPO);
- Killybegs Fishermen’s Organisation (KFO);
- National Inshore Fisheries Forum (NIFF);
- South East Regional Inshore Fisheries Forum (SERIFF)
- Bord Iascaigh Mhara (BIM);
- Sea Fisheries Protection Authority (SFPA); and
- Marine Institute (MI).
- Dunany Lobstermen’s Association
- Irish Islands Marine Resource Organisation
- Irish Fish Processors and Exporters Association

5.3.3.2.2 In-combination effects

The GVFL & FSL submission states that *“we say that the developer has not considered all proposed, pending and determined plans and projects for the purposes of the in combination assessment. We say that the developer has not even considered the in combination effect of its own activities on the area.”*

Response to in-combination effects

Section 1.13 of the NIS sets out the methodology used to complete the in-combination assessment and states that the European Commission’s 2021 Guidance was followed. Other plans and projects were screened in following the process outlined in Section 1.13.2 of the NIS. The long list of projects was compiled as described: *“The long list of projects has then been established by taking both the receptor led approach and associated distances into account, and utilising established ecosystem boundaries that cover the ZoI of potential impacts. This allows for a meaningful and comprehensive list of projects to be generated using desk-based resources.”* The full long list was provided in Appendix 3 of the NIS. Following the completion of the long list, a short list of projects was compiled by screening out projects based on relevance. As stated in Section 1.13.3 of the NIS: *“The establishment of the short lists involved consideration of multiple lines of evidence that establish whether projects create a pathway for an effect to arise through a temporal and/or spatial overlap with the effects identified for the proposed development. This includes projects that result in effects that have an immediate temporal overlap or those that run sequentially over a period of time that may extend beyond the construction, operation and maintenance and decommissioning phases...”*. The NIS fully considered all other projects that could result in in-combination effects with the proposed development between the inclusion of projects within the long list and the screening to compile the short list. Section 1.13.5 of the NIS explains the collaboration with other Phase 1 projects and how they have been included within the in-combination assessment.

5.3.3.2.3 Fisheries Management & Mitigation System

The GVFL & FSL submission states that *“We submit that the mitigation measures put forward by the applicant are under- developed and entirely inadequate to deal with our concerns.”*

The GVFL & FSL submission further states that *“in any event, the developer has not put forward an economic assessment or costings in relation to the figures required for disruption payments. In addition, no detail has been put forward into how this is assessed that we can engage with and understand.”*

There is no guarantee whatsoever that the FMMS document, including the Sustainable Fisheries Community (SFC) will do anything to assist our concerns and the long-term effect on the species we target.”

Response to FMMS

The Developer does not agree that the FMMS or associated mitigation measures are under-developed. Further, the FMMS has been updated as part of the further information submission and should be read alongside Chapter 16. It now provides detailed measures for fisheries liaison, coexistence, mitigation, disturbance payments, monitoring, and management.

Key principles and measures contained within the FMMS include:

- A Fisheries Liaison Strategy, including roles and responsibilities for the Developer, CFLO, FLO, OFLO, Fisheries Industry Representatives and Marine Coordinator;
- A schedule for information dissemination, including Notices to Mariners, liaison through the FLO/OFLO and weekly construction status updates where relevant;
- A Co-existence Strategy, including cable burial, cable protection principles, safe passing distances, guard vessels where appropriate, safety of navigation, dropped object procedures, a code of good practice for proposed development vessels and procedures in relation to gear fastening or loss;
- An outline disturbance compensation protocol for construction-related disturbance;
- The SFC as the principal governance mechanism between the Developer and the commercial fisheries sector;
- DETP as a fisheries-led evidence-gathering and monitoring initiative; and
- A preliminary Technical Co-existence Assessment, which considers whether continued fishing access can be supported in practical terms.

The SFC has progressed beyond a proposed concept and has been established as a formal fisheries-led governance mechanism. It is intended to support consultation, mitigation, monitoring, governance and compensation, and to provide a forum through which fisheries stakeholders can input into mitigation design and review monitoring outcomes over time. The Developer has also committed €1 million to the SFC during the development phase to establish a Fisheries Coexistence Fund, administered independently by SECAD.

The updated FMMS is supported by a Technical Co-existence Assessment. This assessment examines whether the proposed WTG layouts can support continued practical access for mobile demersal fishing activity, including trawling, within and around the array area. It considers navigable trawl space, turbine spacing, cable protection, tidal conditions and operational requirements.

The assessment concludes that coexistence between the proposed development and commercial fishing activity is technically achievable, provided that appropriate corridor design, cable burial standards, fisheries-informed operational protocols and monitoring measures are incorporated into proposed development design and operation. For Project Option 1, the assessment identifies an effective trawlable width of approximately 850 m once operational buffers are applied. Project Option 2, with fewer WTGs, provides wider corridors and greater spatial flexibility.

While the Technical Co-existence Assessment focuses principally on mobile demersal fishing activity, the wider FMMS also includes measures relevant to static gear and inshore shellfish fisheries, including cable burial, liaison, notice procedures, dropped object procedures, snagging/gear loss protocols and disturbance payment arrangements.

5.3.3.2.4 Consultation

The GVFL & FSL submission also states that *“under the NMPF, the developer must put forward a Fisheries Management and Mitigation system. We confirm that we have not been consulted in relation to the contents of this document, and we understand that our other colleagues operating in the area, including our producer organisation NIFA have not been consulted in relation to the contents.”*

Response to consultation

Consultation and engagement with the fishing industry undertaken to date is described in Appendix A1.2 and has been ongoing since 2019, with the FLO and fisheries engagement team having had in excess of 2,000 individual engagements with locally interested fishers.

The Developer has appointed and retained an FLO, and the FLO continues to have active engagement with the fishing industry. Consultation in support of the FMMS has expanded significantly through the development of the SFC. Since April 2025, engagement has included bi-weekly pier visits, direct engagement with fisheries representative organisations, seafood producers, government departments, prescribed bodies and wider offshore renewable and fisheries stakeholders, alongside targeted meetings on FMMS development, coexistence and cumulative effects.

Key milestones include finalisation of SFC governance arrangements during the development phase, SFC committee formation in June 2025 with majority seafood-sector representation, opening of the SFC Fund, presentations to the Seafood/ORE Working Group, ministerial and agency engagement, circulation of the FMMS to fisheries stakeholders for comment in February 2026 and a dedicated discussion meeting in March 2026.

The Developer remains committed to continued engagement with GVFL & FSL and other local fishing interests through the FLO, the FMMS and the SFC process. The FMMS is a live document and will be updated to reflect current fishing activity and the construction schedule ahead of construction commencing.

5.3.3.2.5 North West Irish Sea SPA

The GVFL & FSL submission states that *“We note that the largest SPA in Ireland has now been designated in this area, and we find it extremely difficult to understand how the developer is continuing with this site selection, noting the size of this SPA, which was designated in 2023, and the particular sensitivities associated with it, which we say have not been mitigated for or dealt with in the application. We would say that this project should have gone “back to the drawing board” on a number of occasions, due to developing policy in relation to site selection and the recent designation of this area as a Special Protection Area.”*

Response to North West Irish Sea SPA

The 2024 NIS and update to the NIS fully consider the impacts of both proposed Project Options and thoroughly considers the North West Irish Sea cSPA within its assessment, concluding no adverse effect on integrity to this site. In particular, the following embedded mitigation of increasing turbine air draft to 40m LAT significantly reduced interaction with key ornithological receptors: *... due to the low flight height distribution of terns, the increase in the minimum draft height has decreased predicted collisions of this species (Roseate tern) to zero.”* Species specific responses are presented in Section 3.11 – Offshore Ornithology. The GVFL & FSL submission also highlighted concern over the ability to consider this proposed development and its impacts on these sites from a legal perspective. A SPA designation does not prohibit development provided it is evidenced that it will not result in an adverse impact on the designated sites. This is what the NIS demonstrates.

For clarity, please refer to the NIS for the site specific assessment for the North-West Irish Sea cSPA which demonstrates these conclusions including consideration of mitigation.

5.3.4 Conclusion

The Developer acknowledges the issues raised herein and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

5.4 Irish Whale and Dolphin Group

5.4.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (An Coimisiún Pleanála from June 2025) by the Irish Whale and Dolphin Group (hereafter referred to as IWDG) in relation to the proposed development. IWDG raised a number of key points, which are dealt with under the following titles:

- Underwater noise;
- NISA application;
- Marine Mammal Mitigation Protocol (MMMP); and
- General discussion.

5.4.2 Response to Key Points Raised

5.4.2.1 Underwater noise

The IWDG have raised a number of issues regarding underwater noise which include:

- Underwater noise during piling;
- Construction noise levels; and
- Geophysical surveying and UXO detonation.

Point 1 - Underwater noise during piling

The IWDG submission raised concerns regarding underwater noise during piling stating “*Whales, dolphins and porpoises are acoustic animals, relying on their hearing for hunting, navigation, communication and predator avoidance. Excessive noise in the marine environment is a profound disrupter for cetaceans which at the lower end of the intensity scale can cause stress and changes in behaviour, and may prevent feeding, cause avoidance, and disrupt communication. At the upper end it can cause temporary or permanent deafness (thereby disabling the animal), physical trauma, or death (e.g. Gordon et al., 2004; Jepson et al., 2003; Nowacek et al., 2007; Richardson et al., 1995).*”

Response to Point 1 - Underwater noise during piling

Following further careful consideration of concerns raised by stakeholders, as detailed in the RFI in relation to underwater noise generated by piling, the Developer has proposed design refinements to the proposed development. Specifically, monopile foundations (which require percussive piling to install) have been removed from consideration. Instead, with the aid of further seabed survey results in 2024 to assess the viability of a different approach to foundation installation, the Developer has now proposed jackets with suction bucket technology for wind turbines (WTGs) and the Offshore Substation Platform (OSP) installation with jacket foundation with either drilled pin piles or suction buckets (Refer Appendix A5.1 Design Refinements). Suction buckets are considered a low underwater noise foundation installation solution and have been successfully used on wind farms since 2015. Therefore, pile driving will not take place.

Point 2 – Construction noise levels

The submission goes on to state: “*The construction of NISA windfarm will involve hammering steel piles deep into the substrate using thousands of strikes to provide foundations for the wind turbines and substation. Without mitigation this will create high levels of low frequency impulsive noise propagating*

through the seabed and water column with the potential to negatively affect marine mammals (Bailey et al., 2010; Dohne et al., 2013; Nowacek et al., 2007; NMFS, 2018).

Response to Point 2 – Construction noise levels

Following further design refinement in response to the RFI as detailed in Point 1, WTGs are now proposed with jacket foundations installed with suction buckets, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets (Refer Appendix A5.1 Design Refinements). Therefore, pile driving will not take place.

Point 3 – Geophysical surveying and UXO detonation

The submission notes the generation of underwater noise from Geophysical survey and UXO activities: *“Geophysical surveying and UXO detonation also create underwater noise at levels and frequencies at which injury to marine mammals can occur (DAHG, 2014; JNCC, 2017) and these are discussed in this submission.”*

Response to Point 3 – Geophysical surveying and UXO detonation

The Developer has conducted a detailed quantitative assessment of the potential for auditory injury from both geophysical surveys and UXO clearance, as provided in Chapter 14 of the EIAR and the Chapter 14 Addendum. Additionally, the updated Addendum to Appendix 14.4 outlines the Marine Mammal Mitigation Protocol (MMMP) which puts forward likely mitigation options that can be implemented in the final MMMP to minimise the risk of any auditory injury to marine mammals from geophysical surveys (methods include the use of MMO, PAM and soft-starts) and UXO clearance (methods include MMO, ADD and noise abatement).

5.4.2.2 NISA Application

Point 1 - Population Estimates

On page 3 of the submission, IWDG expressed concern regarding the population estimates that were used in the assessment for marine mammals, specifically *“The IWDG notes the disparity of density estimate results between site-specific surveys and independent surveys (e.g. SCANS IV, SCANS III), broad confidence intervals, and the exclusion of other marine mammal species previously recorded in the area (i.e. fin whale, humpback whale, killer whale). It is understood that the EIAR must focus on the animals most often encountered in the area of the proposed windfarm, and must quantitatively analyse the available data, nevertheless the IWDG assumes that cetaceans are ubiquitous, that any species may be present at any time, and that mitigation must be planned on that basis.”*

Response to Point 1 - population estimates

The Developer would refer IWDG to Section 14.3.2 in Chapter 14 of the EIAR which states *“The data available have confirmed the likely presence of harbour porpoise, bottlenose dolphin, common dolphin, minke whale, harbour seal and grey seal in the offshore development area and the wider study area and, therefore, these species should be considered within the quantitative impact assessment. The most robust and relevant density estimates within each MU were determined for each receptor (Table 14.9). Appendix 14.2 Marine Mammal Baseline Characterisation and Chapter 14 of the 2024 EIAR both clearly detail that there are a wide range of density estimates available for each species from different sources. Additionally, following the receipt of the RFI, the Developer provides Appendix A14.2: Marine Mammal Baseline Characterisation to include detail on the 2024-2025 digital aerial surveys (DAS), as well as haul-out surveys for seals at the landfall site. Additionally, other published datasets that have become available since the 2024 EIAR have been included (Giralt Paradell et al., 2024, Gilles et al., 2025, Morris et al., 2025).*

Marine mammal density estimates change on a daily, monthly, seasonal and annual basis given the fact that they are highly mobile species with large home ranges.

Density estimates obtained from different survey methods each have their own set of assumptions and limitations. Thus, it is expected that for a range of surveys conducted within the Irish Sea, there will be a large variety of resulting density estimates. Given the range of density estimates available and the different

areas covered by the density estimates, a range of density estimates were taken forward to the quantitative impact assessment to account for this.

The 2024 EIAR and subsequent EIAR addendum focus on the most common and widespread species within the area of the proposed offshore windfarm area. Marine mammal species such as killer whale, fin whale and humpback whale are considered occasional visitors, have wide-ranging distribution and the Irish Sea doesn't represent known important habitats, e.g. for feeding or breeding. The likelihood that intermittent disturbance would have a significant effect on a population level for these species is very unlikely and thus the potential for significant effect was ruled out at the Scoping stage. In terms of injury, all mitigation measures in place will be effective for any marine mammal species as it is based on the most sensitive receptors. For example, the PTS injury ranges are predicted using marine mammal hearing groups, killer whales are part of the High-Frequency cetacean group and both fin and humpback whales are part of the low-frequency cetacean group, both of which are assessed in the EIAR.

Point 2 - Underwater noise predictive modelling

In this section on page 4 of the submission, IWDG provides a review of Appendix 14.1 Underwater Noise Modelling Report. IWDG states “*A standard dual criteria approach is employed, peak sound pressure levels (SPL_{pk}) and cumulative sound exposure levels (SEL_{cum}) are considered in relation to the sensitivities of the four functional groups of animals, and to key metrics describing injury to the animals. Permanent threshold shift (PTS) is the most serious and is defined by permanent deafness. Temporary threshold shift (TTS) may be non-fatal but implies an induced disability from which the animal recovers over time. Both PTS and TTS are classed as injury to an animal, and are therefore precluded under Irish guidance (DAHG, 2014).*”

Response to Point 2 - Underwater noise predictive modelling

Response to this query is also included in the Response to the RFI document (RFI Section 10(o)) completed alongside this Response to Submission document.

The Developer would like to reiterate that PTS is not “*defined by permanent deafness*” as IWDG suggest. PTS at the PTS-onset threshold means that the animal experiences a slight reduction in hearing sensitivity within a specific frequency range.

Regarding TTS, please see the TTS Position Statement (Appendix A14.4) submitted in response to the RFI. A summary is provided here:

- Whilst there is a lack of legal and regulatory consensus regarding the definition of 'auditory injury', most countries do not consider TTS to be auditory injury.
- TTS represents a short-term reduction in hearing sensitivity, typically recovering within an hour for small shifts (4–5 dB). Not all TTS-inducing exposures lead to tissue damage (and thus lead to physical injury).
- TTS effects from pile driving have been shown to be frequency-specific (e.g. 4-8 kHz in harbour porpoises). As such, their impact on marine mammal biological functions (communication, predator/prey detection) is currently considered to be limited.
- Current TTS-onset thresholds (NMFS, 2024) are based on the smallest measurable changes in hearing, not on levels likely to cause functional impairment. These thresholds were originally developed to support estimations of PTS-onset, not to serve as regulatory thresholds for ecologically significant impact.
- What level of threshold shift might be considered biologically meaningful is currently unknown, and no biologically meaningful TTS thresholds have been established.
- TTS predictions based on SEL_{cum} are highly conservative as they omit: (i) the potential for TTS recovery between pile strikes or during breaks in pile driving, and (ii) distance-related effects on the impulsive characteristics of the sound. These factors likely lead to overestimations of impact ranges.
- Until there is sufficient scientific evidence to indicate a level and duration of TTS that may have a biologically meaningful effect on individuals, it is more appropriate to focus environmental impact

assessments on PTS (as true auditory injury) and behavioural disturbance (e.g. disruption to foraging or migration)

The current guidance (DAHG, 2014) states that “TTS may constitute an injury”, and that “anthropogenic sound sources with the potential to induce TTS in a receiving marine mammal contain the potential for both (a) disturbance, and (b) injury to the animal”. Thus, the current guidance is ambiguous.

It is also important to highlight that the latest guidance on PTS and TTS thresholds from NMFS (2024) clearly differentiates between TTS and auditory injury:

- “Temporary threshold shift (TTS): A temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual’s hearing range above a previously established reference level (ANSI 1995; Yost 2007). Based on data from cetacean TTS measurements (see Southall et al. 2019 for a review), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to session variation in a subject’s normal hearing ability (Schlundt et al. 2000; Finneran et al. 2000; Finneran et al. 2002).
- “Auditory injury (AUD INJ): Damage to the inner ear that can result in destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Houser 2021; Finneran 2024). Auditory injury may or may not result in a permanent threshold shift (PTS).”
 - “Permanent threshold shift (PTS): A permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual’s hearing range above a previously established reference level (ANSI 1995; Yost 2007).”

5.4.2.3 Marine Mammal Mitigation Protocol

The IWDG have raised a number of issues regarding the Marine Mammal Mitigation Protocol (MMMP) which include:

- Approach in MMMP;
- Updating the live MMMP;
- Proposed mitigation;
- Predicted impact ranges for minke whale and harbour porpoise;
- Mitigation zone;
- Geophysical surveying and UXO detonation;
- Mitigation plan; and
- Summary of concerns.

5.4.2.3.1 Point 1 – Approach in MMMP

The IWDG submission raised a concern regarding the underwater noise predictive modelling stating: “Appendix 14.4 Marine Mammal Mitigation Protocol takes a radically different approach to the Underwater Noise Modelling Report (Appendix 14.1) which underpins it, by discounting TTS or Level B harassment, failing to mention them and implying that PTS is the only injury to marine mammals for which the project is required to mitigate. This is contrary to the Irish Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (DAHG, 2014); the relevant section of which is reproduced here: “Under current legislation in Ireland, it is an offence to disturb or injure a marine mammal (see section 12) whether this occurs via introduced sound or another anthropogenic source. The induction of temporary or permanent tissue damage and a Temporary Threshold Shift in hearing sensitivity, which can have negative effects on the ability to use natural sounds (e.g., to communicate, navigate, locate prey) for a period of minutes, hours or days may constitute such an injury. It is therefore considered that anthropogenic sound sources with the potential to induce TTS in a receiving marine mammal contain the potential for both (a) disturbance, and (b) injury to the animal.”

Response to Point 1 – Approach in MMMP:

Regarding pile driving:

Following further design refinement in response to the RFI, monopiles have been removed as a foundation option and WTGs are now proposed as Jackets with suction bucket foundations, and OSPs as jacket foundations with SBJ foundations or drilled pin piles. Therefore, percussive pile driving (as would have been required for monopile foundations) will not take place and has been removed from the MMMP.

Regarding TTS:

Please see: **Response to Point 2 - Underwater noise predictive modelling.**

Regarding Level B harassment:

Level B harassment (120dB SPL_{rms} threshold) refers to acts that have the potential to disturb a marine mammal or marine mammal stock in the wild by disrupting behavioural patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering. Thus, Level B harassment is a disturbance impact, not injury. Section 1.2 of Appendix 14.4: MMMP of the 2024 EIAR clearly states that the purpose of the MMMP is to mitigate the impact of auditory injury (PTS). While mitigations may serve to reduce disturbance impacts, this is not the purpose of the MMMP.

Regarding MMMP:

The MMMP has been updated following the 2024 EIAR submission and is presented as Appendix A14.5. It outlines mitigation measures to minimise the risk of auditory injury (PTS) arising in marine mammals from underwater noise resulting from pre-construction geophysical surveys and UXO clearance. The mitigation measures include pre-watch monitoring by MMOs as well as PAM, soft-start and use of ADDs. Mitigation proposed for the pre-construction surveys aligns with the DAHG (2014) guidance. Given that this guidance does not cover the UXO clearance, the Developer has referred to other jurisdictions and their relevant guidance and best practices. As such, the mitigation measures for UXO clearance are based on the most updated JNCC guidance (JNCC, 2025). The MMMP is a live document and as such, will be further revised and updated pre-construction so it is based on the most up-to-date guidance available at the time (e.g. updated DAHG (2014) guidance).

5.4.2.3.2 Updating the live MMMP

The last paragraph on page 8 presents the IWDG's concern around the flexibility within the approach to the MMMP and post-application modelling: *"In Section 4 Piling Mitigation Methodology, it is explained that the underwater noise modelling already undertaken will be supplemented or replaced by additional noise modelling. The section states "as the Proposed Development continues to obtain further data on ground conditions within the array area and this feeds into more detailed ground models, the pile drivability understanding will continue to develop. As such, prior to construction, additional noise modelling will be undertaken based on the further developed understanding of ground conditions at that point and a piling scenario developed on that understanding. This MMMP, being intended as a live document will therefore be updated following the new noise modelling, with the final mitigation measures required for the Proposed Development identified within the final MMMP."*

The submission states *"this postponed decision-making on mitigation for underwater noise is not mentioned in the Design flexibility opinion granted by ABP on 26 January 2024 (see Appendix 24 Design flexibility opinion). The applicant therefore appears to discount their own underwater noise modelling conducted to date and intends to conduct the whole exercise again with different parameters at a later date without the oversight of the Competent Authority"*.

Response to Updating the live MMMP

Following further design refinement in response to the RFI, WTGs are now proposed as Jackets with suction bucket foundations, and OSPs as jacket foundations with SBJ foundations or pin piles. Therefore, pile driving that was associated with monopile foundations will not take place and has been removed from the MMMP.

The updated MMMP (Appendix A14.5), outlines mitigation measures to minimise the risk of PTS arising in marine mammals from underwater noise from pre-construction geophysical surveys and UXO clearance and is intended to reduce the risk of auditory injury (PTS) to a negligible level. At no point will there be any unmitigated pre-construction geophysical surveys or UXO clearance. It is acknowledged that updated underwater noise modelling may be required pre-construction because of the need to refine and adapt mitigation measures within the final MMMP based on results of the pre-construction surveys (confirming the number and size of the UXOs encountered). However, the maximum equivalent charge weight for the potential UXO that could be present within the offshore development area has been estimated as 525kg (TNT equivalent) and used in the noise modelling in the EIAR. As such, any refinements in underwater noise modelling will result impacts equal to or less than presented in the EIAR. Additionally, the Developer has committed to the use of a Noise Abatement System (NAS) (e.g. bubble curtain or similar) in the event that high-order UXO clearance is required.

5.4.2.3.3 Predicted impact ranges for minke whale and harbour porpoise

On page 9 of their submission, IWDG states that the MMMP notes *“that the unmitigated piling would result in “predicted impact ranges for minke whale and harbour porpoise (which) are greater than the distance which can be mitigated for with embedded measures; therefore, use of ADDs or noise abatement would be required to encourage individuals to leave the impact range or to limit the extent of the impact.”*

Response to Predicted impact ranges for minke whale and harbour porpoise

Following further design refinements in response to the RFI as detailed in above sections, pile driving is no longer required and has been removed from the MMMP.

5.4.2.3.4 Mitigation zone

On page 9 of the submission, IWDG continues *“There follows a discussion on the mitigation zone (ADDs or noise abatement found to be necessary to maintain the required 1000m zone); a run through the standard pre-piling search procedure; an assumption that the use of PAM will allow 24 operations (which is specifically precluded under DAHG (2014) guidance); a detailed protocol around the use of ADDs based on UK practice (JNCC, 2010), again ignoring that these practices are not permitted in Ireland under current guidance; and a description of industry standard soft-starting techniques.”*

Response to Mitigation zone

Following further design refinement in response to the RFI as detailed in above sections, pile driving is no longer required and has been removed from the MMMP.

5.4.2.3.5 Geophysical surveying and UXO detonation

The submission notes the generation of underwater noise from geophysical survey and UXO activities: *“Geophysical surveys are also discussed, the 1000m mitigation zone defined in the DAHG (2014) guidance for sub-bottom profilers (SBP) is reduced to a less precautionary 500m, and starting geophysical works at night will be enabled by the use of PAM, which again is specifically precluded by the DAHG (2014) guidance.”*

“The UXO (unexploded ordinance) mitigation methodology section correctly identifies that this topic is not specifically considered in the Irish guidance and proposes a number of sensible measures such as removal or deflagration before higher order detonations would be considered. The use of MMOs, ADDs and noise abatement in combination is supported by the IWDG in this case.”

Response to Geophysical surveying and UXO detonation

The Developer has conducted a detailed quantitative assessment of the potential for auditory injury from both geophysical surveys and UXO clearance, as provided in Chapter 14 and Chapter 14 of the 2024 EIAR. The MMMP was amended following the 2024 EIAR submission and is now included in the EIAR as Appendix A14.5. It outlines the mitigation options that will be implemented to minimise the risk of any auditory injury (PTS) to marine mammals from geophysical surveys (methods include the use of MMO and PAM) and UXO clearance (methods include MMO, PAM, ADD and noise abatement).

With respect to the geophysical surveys, mitigation measures presented in the MMMP (Appendix A14.5) include the commitment to commence surveys during daylight hours only.

The mitigation zone for geophysical surveys is 500 m, which aligns with the DAHG (2014) guidance (see DAHG 2014: Section 4.3.4(ii)) Multibeam, single beam, side-scan sonar & sub-bottom profiler surveys). The 1,000m mitigation zone described in DAHG (2014) is for seismic airgun surveys which are not the same as geophysical surveys using multibeam, single beam, side-scan sonar and sub-bottom profiler (e.g., pinger or chirp system).

The Developer welcomes the comment of support from IWDG on the use of MMOs, ADDs and noise abatement in combination for UXO mitigation.

5.4.2.3.6 Mitigation plan

The IWDG then go on to discuss the approach taken to the mitigation of underwater noise: *“While the IWDG welcomes the consideration of noise abatement as a mitigation measure during piling operations, and considers that this approach should be developed further, we are alarmed at the lack of a defined and cohesive overall plan for mitigation. The Irish underwater noise guidance (DAHG, 2014) is currently under review leaving the developers in a difficult position in relation to their mitigation plans for underwater noise. Nevertheless, the EIAR and supporting documents treat this most important topic in a haphazard and piecemeal fashion.”*

Response to Mitigation plan

The MMMP has been revised to align with DAHG (2014) guidance as far as possible (noting there is a lack of specific guidance on mitigation for UXO clearance in the DAHG (2014)).

Clear commitments have been made to mitigation measures:

- Geophysical surveys:
 - 500 m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone
 - Ramp-up of equipment where possible
- UXO clearance – low order:
 - 1,000 m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone
- UXO clearance – high order:
 - 1,000 m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes
 - Use of ADD to deter marine mammals out of the monitored zone where predicted PTS ranges exceed 1km
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone
 - Use of Noise Abatement System (NAS) (e.g. bubble curtain or similar technology).
- Pile driving:
 - Following further design refinement in response to the RFI detailed in above sections, pile driving is no longer required and has been removed from the MMMP.

5.4.2.3.7 Summary of concerns

In their submission, IWDG present a summary of their concerns. These are addressed below.

Point 1 – Potential injury to marine mammals

In the first bullet point on page 10, IWDG states their concern that: *“Modelling results predict zones of potential injury to marine mammals way in excess of mitigation methods suggested in the EIAR;”*

Response to Point 1 – Potential injury to marine mammals

The Developer would refer IWDG to 5.1.3.3.4 of this report. Pile driving is no longer required during construction, and no mitigation measures are necessary.

Point 2 – TTS

In the second bullet point on page 10, IWDG states their concern that: *“TTS is ignored as an injury to marine mammals, contrary to the current Irish guidance and against best practise in other European jurisdictions;”*

Response to Point 2 – TTS

The Developer would refer IWDG to Section 5.4.2.2.3.1 of this report as well as the Temporary Threshold Shift (TTS) Position Statement (Appendix A14.4).

Point 3 – Irish guidance on piling operations

In the third bullet point on page 10, IWDG states their concern that: *“Irish guidance on underwater noise is ignored in relation to 24-hour piling operations and use of PAM and ADDs;”*

Response to Point 3 – Irish guidance on piling operations

The Developer would refer IWDG to 5.1.3.3.5 in this report. Pile driving is no longer required during construction, and no mitigation measures are necessary.

Point 4 – Mitigation during geophysical surveys

In the fourth bullet point on page 10, IWDG states that: *“The approach to mitigation during geophysical surveys is incorrect;”*

Response to Point 4 – Mitigation during geophysical surveys

The Developer would refer IWDG to 5.1.3.3.6 in this report. Mitigation proposed for the pre-construction surveys aligns with the DAHG (2014) guidance.

Point 5 – Irish guidance

In the first bullet point on page 11, IWDG states their concern: *“That the Irish guidance is under review is not acknowledged;”*

Response to Point 5 – Irish guidance

The proposed mitigation measures will be revised at the pre-construction stage to ensure full alignment with guidance available at the time (e.g. updated DAHG (2014) guidance).

Point 6 – MMMP as a live document

In the second bullet point on page 11, IWDG states their concern that: *“The MMMP is treated as a “live document” under review, thereby removing this crucial element of the EIAR from consideration by ABP and other consultees as part of the assessment process.”*

Response to Point 6 – MMMP as a live document

The Developer would refer IWDG to 5.1.3.3.2 in this report. The proposed mitigation measures will be revised at the pre-construction stage to ensure full alignment with guidance available at the time (e.g. updated DAHG (2014) guidance).

5.4.2.4 General discussion

The IWDG has raised a number of issues in General discussion which include:

- Alternative mitigation strategies;
- Acoustic deterrent devices;
- Legislative framework and the MSFD;
- MSFD noise thresholds;
- Underwater research in Ireland; and
- Irish underwater noise guidance review.

5.4.2.4.1 Alternative Mitigation Strategies

The IWDG submission suggests a range of alternative mitigation strategies, raising points on subjects including;

- Noise Abatement Strategies (NAS); and
- Alternative mitigation strategies, MMO, PAM, ADDs.

Point 1 - Alternative mitigation strategies - NAS

On page 11 of the IWDG submission, it suggests a range of alternative mitigation strategies, including the ‘source and threshold’ method. The submission states:

“The source and threshold approach requires the expected sound levels from a piling event to be characterised in relation to the expected biological receptors, and the regulator then sets safe noise thresholds which cannot be exceeded. It is then the responsibility of the windfarm developer to apply any noise abatement technology necessary to ensure compliance, and sound outputs of the piling events are measured in real time to verify. Technical measures to achieve sufficient noise abatement take the form of acoustic barriers placed around the noise source: bubble curtains, solid barriers, “blue piling” and the IHC Noise Mitigation System are examples (Bellman, 2014; Dähne et al., 2017; Koschinski & Ludemann, 2020). It has the added advantage of built-in protection for other marine organisms which are vulnerable to underwater noise, in particular fish, and their eggs and larvae (Popper et al, 2014).”

Response to Point 1 - Alternative mitigation strategies - NAS

Following further design refinement in response to the RFI, pile driving is no longer required and has been removed from the MMMP.

Point 2 - Alternative Mitigation Strategies – MMO, PAM, ADDs

The submission also states: *“The receiver and exposure method instead attempts to ensure that marine mammals are not subjected to injurious levels of sound energy by determining their absence prior to a piling event. A number of methods can be employed to achieve this. Marine Mammal Observers (MMOs) may visually scan the pre-determined mitigation zone to check for surfacing cetaceans. Passive Acoustic Monitoring (PAM) uses hydrophones to detect the presence of vocalising animals acoustically. Acoustic Deterrent Devices (ADDs) emit noise at pre-determined levels and frequencies which are designed to harass animals cause them to flee the area. Any combination of these methods may be applied and ADDs may in certain circumstances be used in conjunction with the source and threshold method. The UK (JNCC, 2017) and Ireland (DAHG, 2014) are examples.”*

Response to Point 2 - Alternative mitigation strategies – MMO, PAM, ADDs

Following further design refinement in response to the RFI, pile driving is no longer required and has been removed from the MMMP.

5.4.2.4.2 Acoustic Deterrent Devices

On page 13, the IWDG submission raises concerns regarding the use of Acoustic Deterrent Devices (ADDs) as a mitigation measure for impacts on marine mammals.

The submission raises points on the following;

- Lack of peer-reviewed evidence;
- Studies used for dolphin species;
- Evidence base for efficacy ADDS;
- Minke whales;
- Avoidance by harbour porpoise; and
- Knowledge of dolphin response.

Point 1 – Lack of peer-reviewed evidence

The IWDG submission comments on the use of peer-reviewed evidence within the MMMP and states: *“The available information to support the use of ADDs for mitigation during piling was collated in McGarry et al. (2022). The efficacy of ADDs for deterring harbour porpoises was supported to varying degrees across multiple studies and devices. There was a marked lack of peer-reviewed evidence for the ability of ADDs to deter baleen whales, other than McGarry et al (2017) cited above.”*

Response to Point 1 – Lack of peer-reviewed evidence

The MMMP considered the most recent scientific publications, using robust data sources publicly available at the time of submission and follows industry standard good practice. The aim of the MMMP was to detail measures to reduce the risk of auditory injury (PTS) to marine mammals rather than include an in-depth literature review of measures included the plan. Enough data are included to support the proposed measures, with supporting papers for the species listed of concern included in the points below.

Although following further design refinement in response to the RFI, pile driving is no longer required during construction, the ADDs are still proposed in the updated MMMP as mitigation during UXO clearance (Appendix A14.5: Marine Mammal Mitigation Protocol).

ADDs are a widely used mitigation measure in other jurisdictions. As stated in the MMMP, the Lofitech AS seal scarer has been used for the purposes of marine mammal mitigation at a range of European OWF projects during the construction phase, including the C-Power Thornton Bank OWF in Belgium (Haelters *et al.*, 2012), and the Horns Rev II, Nysted and Dan Tysk OWFs in Denmark (Carstensen *et al.*, 2006, Brandt *et al.*, 2009, Brandt *et al.*, 2011, Brandt *et al.*, 2013, Brandt *et al.*, 2016). Within the UK, Lofitech AS seal scarer has been used as mitigation for Dudgeon OWF (Vattenfall, 2017) Beatrice OWF and Race Bank OWF (Seagreen Wind Energy Ltd, 2020).

In the absence of Irish guidelines regarding use of ADDs, guidance published by the JNCC are applied here. The JNCC conducted a literature review and collated evidence for ADDs available commercially, their acoustic characteristics, and their proven effectiveness on different species (McGarry *et al.*, 2022 and Phillips *et al.*, 2025). This review provides a clear comparison of common ADDs and concludes that the risk of injury for marine mammals from all the ADDs included in the report is likely to be low. Given that the DAHG (2014) guidance does not cover the UXO clearance, the Developer has referred to other jurisdictions and their relevant guidance and best practices. As such, the mitigation measures for the UXO clearance are based on the most updated JNCC guidance (JNCC, 2025), which includes use of ADDs. On this basis, the Developer will continue to include ADDs as a mitigation measure for UXO clearance on marine mammals within the MMMP.

A short summary of the ADD evidence base for harbour porpoise is provided in Appendix E of the MMMP. This includes information from an updated review of various ADDs is provided in Phillips *et al* (2025): Evidence base for application of Acoustic Deterrent Devices (ADDs) as marine mammal mitigation (Version 5). JNCC Report 615.

Point 2 – Studies used for dolphin species

On page 14, the submission then goes on to comment on the response of dolphin species: *“Most studies on the response of dolphin species were based on deterrence from fishing gear rather than*

piling events, with a spectrum of responses recorded for different devices ranging from ineffective to effective.”

Response to Point 2 – Studies used for dolphin species

Following further design refinement in response to the RFI, pile driving is no longer required and has been removed from the MMMP.

Deterring dolphin species from potential UXO locations using ADDs is not a primary concern for the project due to the low PTS onset impact ranges: up to 170 m for low-order UXO clearance and 260 m for high-order clearance with a commitment to use Noise Abatement Systems (NAS) (e.g. bubble curtains or similar) for high-order clearance only (see Table A7.1 in the MMMP). The risk of auditory injury to dolphin species is negligible given the small impact ranges, the 1,000 m monitoring zone by MMO and PAM, and use NAS for high-order clearance.

Point 3 – Evidence base for efficacy of ADDs

The last paragraph in this section on page 14, considers the evidence used to consider the efficacy of ADDs, stating *“The lack of a strong evidence base for the efficacy of ADDs in the case of the expected marine mammal species is worrying”*.

Response to Point 3 – Evidence base for efficacy of ADDs

Please see: **Response to Point 1 – Lack of peer-reviewed evidence**

Point 4 – Minke whales

Also on page 14, the submission goes on to discuss the approach to baleen whales in Ireland:

“The results from McGarry et al. (2017) were impressive for minke whales but is a single study of one species in Iceland; and should not be extrapolated to all baleen whales in the Irish case.”

Response to Point 4 – Minke whales

The Developer acknowledges that empirical data on minke whale responses to ADDs are limited. However, the use of ADDs in the Addendum MMMP are to mitigate the risk of auditory injury (PTS) to harbour porpoise, given the maximum PTS range is 4.6km. The maximum PTS impact range for minke whales is 130 m for low-order clearance and 950m for high-order clearance of a 525 kg UXO with Noise Abatement Systems (NAS) (e.g. bubble curtains or similar). These impact ranges are within the 1,000m monitored zone and thus ADDs are not required mitigation for minke whales.

Point 5 – Avoidance by harbour porpoise

In the same paragraph, the submission discusses harbour porpoise avoidance:

“Many studies show strong avoidance by harbour porpoise, but not necessarily at sufficient range to guarantee exclusion from the TTS zone as modelled.”

Response to Point 5 – Avoidance by harbour porpoise

Section 1.2 of Appendix 14.4: MMMP states that the purpose of the MMMP is to mitigate the impact of auditory injury (PTS), not TTS.

Regarding TTS, please see: **Response to Point 2 - Underwater noise predictive modelling.**

A short summary of the ADD evidence base for harbour porpoise has been provided in Appendix E of Appendix A14.5 MMMP.

Point 6 – Knowledge of dolphin response

Finally, the section ends on page 14 with IWDG’s concern about the potential impacts to dolphin species, stating:

“The lack of windfarm-specific knowledge about the likely response of dolphin species to ADDs is also concerning. Balancing the levels and frequencies of noise from ADDs also presents a challenge, as ensonifying large areas of habitat may have negative effects on cetaceans in addition to the dangers of piling.”

Response to Point 6 – Knowledge of dolphin response

The Developer acknowledges that empirical data on dolphin species responses to ADDs are limited.

However, the use of ADDs in the Addendum MMMP are to mitigate the risk of auditory injury (PTS) to harbour porpoise, given the maximum PTS range is 4.6km. The maximum PTS impact range for dolphins is 60m for low-order clearance and 260m for high-order clearance of a 525 kg UXO with NAS (e.g. bubble curtain or similar). These impact ranges are within the 1,000m monitored zone and thus ADDs are not required mitigation for dolphins.

The Developer is mindful of the fact that ADDs can cause disturbance, which is why any ADD use will be specifically designed to ensure deterrence from the auditory injury zone for porpoise while limiting the ADD duration in order to ensure excessive disturbance is avoided.

5.4.2.4.3 Legislative framework and the MSFD, and MSFD noise thresholds

Point 1 - Legislative framework and the MSFD

IWDG provides general discussion points on how the conservation and protection of cetaceans is included within the legislative framework within Ireland. This includes references to the Habitats Directive; the Wildlife Acts 1976 to 2018; the Whale Fisheries Act 1937; the Bern Convention; the Bonn Convention; the OSPAR Convention; and the declaration of Irish wates as a whale and dolphin sanctuary in 1991.

Page 15 of the IWDG states: *“The update of Ireland's Marine Strategy: Assessment (Article 8), Determination of Good Environmental Status (GES) (Article 9) and Environmental Targets (Article 10) as part of the EU Marine Strategy Framework Directive (MSFD) is currently in draft. It acknowledges the potential for both continuous and impulsive noise to cause behavioural disturbance and injury to marine animals and states that under the MSFD, to achieve good environmental status (GES) impulsive noise and continuous noise must not exceed levels that adversely affect populations of marine animals.”*

Page 16 of the IWDG submission provides comment on MSFD noise thresholds stating: *“For impulsive noise bottlenose dolphin (Tursiops truncatus) were chosen as a representative species and a value for the Level of Onset of Biologically Significant Effects (LOBE) of 176dB defined. The OSPAR impulsive noise registry was interrogated to quantify the number of “bang days”, which in this case represented seismic surveys. For each of the years assessed (2015 - 2020) areas were found to exceed the defined LOBE, but the maximum % area above LOBE did not exceed the 20% area threshold and GES was achieved. In the case of continuous noise harbour porpoise (Phocoena phocoena) were chosen as the indicator species and vessel noise identified as the main source of anthropogenic continuous noise; levels as modelled according to Le Courtois et al. (2016) were also found to be within the bounds of GES. The IWDG notes that the assessment was at a coarse scale and very narrow in its scope. These as-modelled results were based on very restricted inputs and no empirical data from acoustic monitoring.”*

Response to Point 1 - Legislative framework and the MSFD

The EIAR and the NIS have considered all relevant legislative requirements of the conservation and protection of cetaceans and this forms the basis of the impact assessment of marine mammals. The outcome of this legislative review is documented within Chapter 3 Legal and Policy Framework of the EIAR, and Chapter 1 Introduction of the NIS.

The Developer notes the reference to Ireland’s Marine Strategy (2024) and the associated comments on thresholds for impulsive underwater sound. Annex III to Part 1 of Ireland’s Marine Strategy (2024) identifies bottlenose dolphin as the selected receptor organism for the assessment of impulsive noise and identifies a value for LOBE of 176dB re 1 $\mu\text{Pa}^2\text{s}$ SEL, as it was the lowest reported sound level at which bottlenose dolphins experience TTS-onset. Annex III to Part 1 of Ireland’s Marine Strategy (DCEE, 2025) identifies harbour porpoise as the selected receptor organism for the assessment of continuous noise. The exact threshold LOBE value is currently being established on a regional basis.

Average sound pressure levels between 100 and 120dB are being considered as threshold values for GES for continuous noise across Europe.

The Developer has drafted a Marine Strategy Framework Directive Assessment (Appendix A3.2). This includes an assessment against Descriptor 11 for both Impulsive noise and Continuous noise:

For impulsive noise, the only impact pathway assessed is UXO clearance, since pile driving is no longer required (following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations). The assessment concluded there is no significant effect in EIAR terms and no risk in relation to GES under D11C1 Impulsive Noise.

For continuous noise, the impact pathways assessed included operational noise and vessel traffic. The assessment concluded there is no significant effect in EIAR terms and no risk in relation to GES under D11C1 Continuous Noise.

5.4.2.4.4 Underwater noise research in Ireland

Point 1 - Underwater noise monitoring baseline assessment for the roll-out of offshore renewable energy

Page 16 of the IWDG submission provides comment on research that was conducted in Ireland regarding underwater noise stating: *“It is expected that this project [SEAI-funded project entitled Underwater noise monitoring baseline assessment for the roll-out of offshore renewable energy] will produce focused and relevant empirical data at appropriate scales which, when allied with up-to-date predictive modelling, will greatly improve our understanding of the anthropophony in Irish waters. While this is an entirely desirable outcome which will build on the assessment thus far undertaken under the MSFD, and add to our knowledge of underwater acoustics, it will put considerable onus on the consenting process, on regulators, and on windfarm developers to ensure that excess noise does not pollute the marine environment during windfarm construction.”*

Response to Point 1 - Underwater noise monitoring baseline assessment for the roll-out of offshore renewable energy

The Developer notes this comment. However, the SEAI project that the submission mentioned has not yet been completed and no study has been published to date. Nevertheless, the EIAR was completed to the highest standard with the information that was available at the time of submission.

Point 2 – Merchant et al, 2022

The submission goes on to discuss the relevance of the Merchant et al., 2022 paper and the definition of threshold values: *“Merchant et al. (2022) reviewed underwater noise research in support of MSFD noting the need to define threshold values for populations of marine animals, the lack of data to parameterise models exploring the population-level effects of noise exposure, and the need identified at European level to reduce underwater noise pollution (European Commission, 2021). The paper concluded that there is now a growing recognition that implementing quieting measures may be a prudent response to the mounting evidence of detrimental effects on individual animals.”*

Response to Point 2 - Merchant et al, 2022

Please see: **Response to Point 1 - Legislative framework and the MSFD**

5.4.2.4.5 Irish underwater noise guidance review

Point 1 – Receiver and exposure method

On page 17, the IWDG submission raised concerns regarding outdated guidance stating: *“The receiver and exposure method is the one recommended in the Irish Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (DAHG, 2014) which is taken as the mitigation approach in this EIAR. This guidance document, which in the opinion of the IWDG is badly out-of-date, is currently under review by the Department of Housing, Local Government and Heritage (DHLGH).”*

The 2014 guidance document, and its previous version (DAHG, 2007) is based on the approach taken in UK waters, as currently outlined in JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys (seismic survey guidelines) (JNCC, 2017), and Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise (JNCC, 2010). It is interesting to note that the Joint Nature Conservancy Council (JNCC) have recently contracted consultants (both Seiche and RPS) to determine the feasibility of noise abatement methods during piling operations in UK waters, and a study carried out for Nature Scot found that some noise abatement systems have the potential to reduce underwater noise at future Scottish offshore wind sites, thereby reducing impacts on marine mammals and fish (Verfuss et al., 2019). The same study noted that many of the systems reviewed had not been proven in waters deeper than 40m or for piles greater than 8m diameter.”

Response to Point 1 – Receiver and exposure method

The Developer agrees with IWDG that the DAHG (2014) guidance is considered to be outdated, does not reflect the latest industry standards or best practice and is not based upon the most up-to-date scientific knowledge. Upon publication of the revised guidance, proposed mitigation measures will be reassessed accordingly to ensure full alignment.

Regarding mitigation of pile driving; following further design refinement in response to the RFI pile driving is no longer required and has been removed from the MMMP.

Point 2 – Source and threshold approach

On page 18, the IWDG discuss the use of the source and threshold approach:

“The relative merits of the source and threshold approach in comparison to the receiver and exposure methods are currently the subject of research and investigation in Ireland. The GOMOREUS project at MaREI (UCC) sets out “to deliver a set of harmonised and unified evidence-based guidance, based on European best practice for the management of underwater noise to ensure ORE development in Ireland is compliant with EU legal obligations for the management of underwater noise” (MaREI, 2024). This is being done in parallel with work on the UNGORE project being carried out by Bluewise Marine, the goal of which “is to provide guidance to ORE developers on monitoring and reporting of UAN, as well as reviewing thresholds for noise generated in the different phases of ORE developments. This study will also identify possible strategies or techniques to mitigate effects of that UAN on marine life” (Bluewise, 2024).” Both of these projects are funded under the Marine Institute’s Research for Policy Awards 2023 and deliverables are expected to be submitted to DHLGH later this year.”

“It is expected that DHLGH will, following review of these outputs and consultation with relevant parties, produce new guidance documents which will inform ORE developers, the relevant agencies (ABP, MARA, NPWS) and Government departments of their obligations. The new guidance will outline the regulatory framework and necessary technical measures applicable to protect the marine environment from underwater noise during the development of ORE in Irish waters.”

Response to Point 2 – Source and threshold approach

The Developer is aware of both the GOMOREUS and UNGORE projects, and like IWDG, is awaiting DHLGH’s review of these and the provision of new guidance. The new guidance is not currently available and thus was not available to inform the assessment provided in Chapter 14 Marine Mammal Ecology of the EIAR.

5.4.3 Conclusion

On page 19 of the submission, IWDG concludes *“The IWDG calls on the applicants Statkraft Ireland Ltd and Copenhagen Infrastructure Partners P/S to reformulate their marine mammal mitigation strategy, to include TTS as an injury to cetaceans in their assessment, and to adopt noise abatement technology in line with European standards. This will greatly reduce noise levels during piling operations, with reductions of 20dB possible using combined methods (Bellman et al., 2020), thereby reducing by orders of magnitude the area within which marine mammals could be injured or disturbed (Muller et al., 2019).”*

This mitigation regime, used in conjunction with monitoring of the area prior to piling by visual (MMO) and acoustic (PAM) methods, and potentially incorporating ADDs to encourage marine mammals to flee at the appropriate time, represents the most appropriate suite of available mitigation systems. This combination of "source and threshold" and "receiver and exposure" methods is technically feasible and highly effective in preventing injury to legally protected marine mammals. By adopting it as the standard set of procedures during windfarm construction piling in Irish waters, both regulators and ORE developers can be confident of maintaining good environmental status and of greatly reducing the risk of breaches of environmental legislation.

Response to Conclusion

The MMMP has been updated following the 2024 EIAR submission and is presented as Appendix A14.5 in the EIAR. It outlines mitigation measures to minimise the risk of auditory injury (PTS) arising in marine mammals from underwater noise resulting from pre-construction geophysical surveys and UXO clearance. The mitigation measures include pre-watch monitoring by MMOs as well as PAM and use of ADDs. Mitigation proposed for the pre-construction surveys aligns with the DAHG (2014) guidance. Given that this guidance does not cover the UXO clearance, the Developer has referred to other jurisdictions and their relevant guidance and best practices. As such, the mitigation measures for UXO clearance are based on the most updated JNCC guidance (JNCC, 2025). The MMMP is a live document and as such, will be further revised and updated pre-construction so it is based on the most up-to-date guidance available at the time (e.g. updated DAHG (2014) guidance).

Regarding pile driving:

Following further design refinement in response to the RFI, monopiles have been removed as a foundation option and WTGs are now proposed as jackets with suction bucket foundations, and the OSP as jacket foundations with either suction bucket or drilled pin pile foundations. Therefore, pile driving will not take place and has been removed from the MMMP.

Regarding TTS:

Please see: **Response to Point 2 - Underwater noise predictive modelling**

Regarding Level B harassment:

Level B harassment is a disturbance impact, not injury. Section 1.2 of Appendix 14.4: MMMP of the 2024 EIAR states that the purpose of the MMMP is to mitigate the impact of auditory injury (PTS). While mitigations may serve to reduce disturbance impacts, this is not the purpose of the MMMP.

5.4.4 Conclusion

The Developer thanks the IWDG for their submission and the comments and insight provided therein. Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

5.4.5 References

ASCOBANS. 2014. Concept for the protection of harbour porpoises from sound exposures during the construction of offshore wind farms in the German North Sea (sound protection concept). Page 35 in Germany, editor. 21st ASCOBANS Advisory Committee meeting, Gothenburg, Sweden.

Booth, C., and F. Heinis. 2018. Updating the Interim PCoD Model: Workshop Report - New transfer functions for the effects of permanent threshold shifts on vital rates in marine mammal species. Report Code SMRUC-UOA-2018-006, submitted to the University of Aberdeen and Department for Business, Energy and Industrial Strategy (BEIS)

DAHG. 2014. Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters.

Houser, D. S. 2021. When is temporary threshold shift injurious to marine mammals? Journal of Marine Science and Engineering 9:757.

Sigray, P., M. Andersson, M. Andre, A. Azzellino, J. Borsani, M. Bou, M. Castellote, L. Ceyrac, D. Dellong, T. Folegot, D. Hedgeland, C. Juretzek, A. Klauson, R. Leaper, F. Le Courtois, A. Liebschner, A. Maglio, A. Müller, A. Norro, A. Novellino, O. Outinen, A. Popit, A. Prospathopoulos, F. Thomsen, J. Tougaard, P. Vukadin, and L. Weilgart. 2023. Setting EU Threshold Values for impulsive underwater sound. Publications Office of the European Union, Luxembourg.

Skjellerup, P., C. Maxon, E. Tarpgaard, F. Thomsen, H. Schack, J. Tougaard, J. Teilmann, K. Madsen, M. Mikaelson, and N. Heilskov. 2015. Marine mammals and underwater noise in relation to pile driving—report of working group. Energinet. dk 20.

Southall, B. L., A. E. Bowles, W. T. Ellison, J. J. Finneran, R. L. Gentry, C. R. J. Greene, D. Kastak, D. R. Ketten, J. H. Miller, P. E. Nachtigall, W. J. Richardson, J. A. Thomas, and P. L. Tyack. 2007. Marine mammal noise exposure criteria: initial scientific recommendations. *Aquatic Mammals* 33:411-414.

Southall, B., J. J. Finneran, C. Reichmuth, P. E. Nachtigall, D. R. Ketten, A. E. Bowles, W. T. Ellison, D. Nowacek, and P. Tyack. 2019. Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* 45:125-232.

Verfuss, U. K., A. K. Darias-O'Hara, C. G. Booth, C. Erbe, D. Houser, V. M. Janik, D. R. Ketten, K. Lucke, M. Morell, A. F. Pacini, and C. Reichmuth. 2024. Eliciting the magnitude of auditory threshold shift causing injury in Antarctic marine mammals. *Marine Policy* 170 (2024) 105919.

DAHG. (2014). Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters.

Gilles, A., M. Authier, R. Pigeault, N. Ramirez-Martinez, V. Benoit, J. Carlström, C. Eira, S. Geelhoed, S. Laran, M. Sequeira, S. Sveegaard, N. Taylor, C. Saavedra, J. Vázquez-Bonales, and P. Hammond. (2025). Spatial models of cetacean density in European Atlantic waters based on SCANS-IV summer 2022 survey data.

Giralt Paradell, O., A. Cañadas, A. Bennison, N. Todd, M. Jessopp, and E. Rogan. (2024). Aerial surveys of cetaceans and seabirds in Irish waters: Occurrence, distribution and abundance in 2021-2023. Department of the Environment, Climate & Communications and Department of Housing, Local Government & Heritage, Ireland

JNCC. (2025). JNCC guidelines for minimising the risk of injury to marine mammals from unexploded ordnance (UXO) clearance in the marine environment.

Morris, C. D., N. G. Riddoch, C. D. Duck, S. A. Waitland, and D. J. F. Russell. (2025). Aerial thermal-imaging survey of seals in Ireland in August 2024. 158, National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland

Southall, B. L., A. E. Bowles, W. T. Ellison, J. J. Finneran, R. L. Gentry, C. R. J. Greene, D. Kastak, D. R. Ketten, J. H. Miller, P. E. Nachtigall, W. J. Richardson, J. A. Thomas, and P. L. Tyack. (2007). Marine mammal noise exposure criteria: initial scientific recommendations. *Aquatic Mammals* 33:411-414.

5.5 Irish Wildlife Trust

5.5.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the Irish Wildlife Trust (hereafter referred to as 'IWT').

An Coimisiún Pleanála, as well as seeking responses to the submissions received as part of the statutory consent process, has also issued the Developer with a request for further information (RFI). The Developer has responded to this RFI in a separate report (refer to Response to RFI document) which is submitted alongside this response to submission document.

5.5.2 Summary of the Key Points Raised by IWT

The Developer notes the introduction to the IWT submission, which states the submission focuses on current EU legislation and how this interacts with the proposed development. The IWT raised the following key points, which are dealt with under the sub-themes below.

- Designated Sites
- Policy
- Offshore ornithology
- EU Nature Restoration Law

5.5.3 Response to Key Points Raised

5.5.3.1 Designated Sites

Key points raised in relation to designated sites refer to the Marine Protected Area (MPA) Bill and constructing the proposed development within a SPA:

Point 1 – Marine Protected Area Bill

The IWT raised concerns regarding the MPA Bill that is progressing through the Irish Government. The submission states *“We are still waiting on the Marine Protected Area (MPA) Bill to be progressed through Government and to truly commit to an ecosystems based approach to marine spatial planning, MPAs should be designated before any new Offshore Renewable Energy developments.”*

Response to Point 2 - MPA Bill

The MPA Bill has not been enacted and the Irish Government has progressed MPA legislation by amending the Maritime Area Planning Act 2021. Until such legislation is enacted and commenced, it does not have legal effect. Marine spatial planning remains a key consideration within the National Marine Planning Framework (NMPF), the designation and management of protected sites, and the planning of offshore renewable energy development. Applications for activities and developments within Ireland's maritime area are assessed against the objectives of the NMPF and other relevant statutory and environmental requirements, reflecting an ecosystem-based approach to marine management.

Marine spatial planning, however, is also a key consideration within the overarching, plan-led National Marine Planning Framework (NMPF), the designation and management of European Sites, and the implementation of the Offshore Renewable Energy Development Plan (OREDPA). The OREDPA sets out a framework for the development of offshore renewable energy should be developed and is informed by a Strategic Environmental Assessment (SEA).

All applications for activity or development in Ireland's maritime area, including those made under the development management system established under the Maritime Area Planning Act 2021, will be considered in terms of their consistency with the objectives of the NMPF, which takes an ecosystems based approach to marine planning and management.

This planning application has been prepared in compliance with all applicable statutory, planning and environmental requirements. The Climate Action Plan 2024 established ambitious targets for the reduction of Ireland's greenhouse gas emissions, including the delivery of 5 GW of offshore wind capacity by 2030. The Climate Action Plan 2025 further reinforces Ireland's pathway for the deployment of both onshore and offshore renewable energy and reaffirms the target of achieving at least 5 GW of offshore wind generation capacity by 2030. In this context, the continued assessment and determination of offshore renewable energy projects in accordance with the existing statutory and policy framework remains an important component of achieving national climate and energy objectives pending the enactment of any further marine protection legislation.

Point 2 – Proposed development within a SPA

The submission also mentions concerns that the proposed development will be constructed within an SPA stating, *“North Irish Sea Array development is still occurring within a Special Protection Area (SPA) which has been designated through the EU Birds Directive... The EU Bird's Directives objectives aim to protect all occurring bird species and halt their decline or disappearance. Member States are required to take all necessary measures to maintain or restore bird populations over the long term. Allowing a development such as an ORE wind farm within a designated protected area goes against the legal obligations of the Birds Directive.”* The submission goes on to state *“Allowing this development to occur within a designated SPA sets a precedent for future developments and shows the intentions of Government policy in regards to renewable energy and biodiversity”*.

Response to Point 2 - the proposed development's location in a SPA

In relation to the proposed development being situated within a SPA, the designation of a site does not automatically exclude development within this area and is subject to thorough assessment. For marine SPAs there are a number of overlapping developments in the UK that are in part within these designated sites, and this can also be seen for onshore wind farms in Ireland. Where there is connectivity with the designated sites and the potential for the development to have an adverse effect on the integrity of the site, a thorough assessment is required to help inform the competent authorities own appropriate assessment of the potential impacts.

The Developer has carried out a detailed assessment of all designated sites where there could be direct or indirect connectivity to the development, this can be seen in the 2024 Natura Impact Statement (NIS) which was submitted as part of the planning application and the Addendum to the NIS. In regard to the North West Irish Sea (NWIS) candidate Special Protection Area (cSPA), which the proposed development fully overlaps, the assessment considers all potential impact pathways of all the Qualifying Interests (QI) bird species. As can be seen from Section 8 of the NIS, the assessment concludes that no Adverse Effects on Integrity (AEoI) would be likely on the NWIS cSPA during all phases of the proposed development and this conclusion also considers in-combination effects from other relevant projects.

Any other future developments with connectivity to and a potential adverse effect on an SPA site, would need to carry out a similar assessment through a NIS to determine any adverse effects. Therefore, determining the compatibility of designated sites and a proposed development is on a project by project basis through a robust and site specific assessment. This approach allows for full consideration of designated sites and development within the marine environment as required by the Birds and Habitats Directives.

5.5.3.2 Policy

Key points raised in relation to policy and guidance are relating to granting the MACs, DMAPs and European Commission guidance.

Point 1 - Granting of the MACs

The IWT raised concerns regarding the granting of the MACs and the lack of adherence to European Commission Guidelines. The submission states, *“These MACs were consented prematurely, before Irish Sea sensitivity analysis and before the Irish MPA legislation had progressed. This has now put developers, Government, NGO's and environmentalists in a vulnerable and negative position.*

Response to Point 1 - Granting of the MACs

In regard to the subject of premature MAC's, the proposed development has been considered in the context of Ireland's maritime spatial planning since 2020. The MAP Act provided a pathway to permit a select number of offshore renewable projects which had advanced under the existing foreshore regime to transition to the new Maritime Area Consent (MAC) regime once established, to enable achievement of Ireland's 2030 offshore renewable energy targets.

As referred to in detail at Section 3.2.1 and Section 3.2.2 of Chapter 3: Legal and Policy Framework (EIAR), the proposed development was deemed a "Relevant Project" by the Department of Housing, Local Government and Heritage in the context of the forthcoming Marine Planning and Development Management legislation in 2020. This designation allowed the proposed development to subsequently be one of the first projects to progress in its application for a MAC under the newly enacted MAP Act.

An application for a MAC was submitted by the Developer in June 2022 seeking the right to occupy a part of the maritime area and the ability to subsequently apply for development consent pursuant to section 291 of the Planning and Development Act, 2000 (the Planning Acts). Following completion of comprehensive assessments in accordance with the MAP Act, six MACs were granted by the Minister for the Environment, Climate and Communications, with a commencement date of 23 December 2022. This included the proposed development (ref. 2022-MAC-005). The proposed development, as conditioned by this consent, was required to apply for planning permission within 18 months of its commencement date. As such, the Developer submitted its planning application to An Bord Pleanála in June 2024. Therefore, the proposed development's MAC was awarded in relation to the relevant planning and policy in place at the time it was awarded.

The response in relation to MPAs is provided in Section 5.5.3.1 of this report.

Point 2 – The DMAP process

In relation to DMAPs the IWT raised concerns regarding DMAPS, "The Designated Maritime Area Plan (DMAP) process, which has been progressing since MAC consents, while it has its limitations, has taken into account environmental constraints and follows a less developer led approach. Areas identified as ecologically important were disregarded even if they were an economically efficient choice for developments."

Response to Point 2 – The DMAP process

The proposed development, and all other Phase One projects, pre-date the announcement and publication of the first draft DMAP proposal. The approach to developing offshore renewable projects moved from a developer to plan led approach in March 2023. The changes made are only applicable to Phase Two projects and beyond, which will now be developed within a DMAP identified by the state. As a Special MAC case under the MAP Act, the announcement of the first draft DMAP proposal is not applicable to the proposed development nor other Phase One projects.

It is within the consenting framework outlined above that the proposed development was granted its MAC, and it is within this policy framework that the Developer prepared and submitted its application for planning for the proposed development.

Point 3 - European Commission guidance

The IWT goes on to mention that the European Commission issued guidelines in May 2024. The submission states *"The European Commission issued useful guidelines in May 2024 which can help to reduce the impact of ORE on marine ecosystems... While these guidelines are not legally binding yet, it is up to member States to ensure that they have nature inclusive designs and ensure environmental sustainability is at the forefront of those developments."*

Response to Point 3 - European Commission guidance

The European Commission's 2024 recommendations and guidance are acknowledged. These documents are intended to support Member States in relation to renewable energy permitting, permit-granting procedures, renewable acceleration areas and related regulatory measures. They are not intended to provide guidance on the conduct of Environmental Impact Assessment (EIA) or Appropriate Assessment (AA).

The planning application, including the Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS), provides a detailed and robust assessment of the potential effects of the proposed development on relevant environmental receptors, including species, habitats and designated sites following regulatory requirements and best practice guidelines.

5.5.3.2.1 EU Restoration Law

The IWT raised concerns regarding the new EU Nature Restoration law stating *“The new EU Nature Restoration Law has binding regulations for the restoration of habitats and species in the EU. Article 5 of the law focuses on restoration of marine habitats and the habitats of species within the EU Birds and Habitats Directives are included (as well as several additional lists of species not covered by the Birds and Habitats Directives including the angel shark). Natura 2000 sites are to be prioritised for restoration measures.”*

Response to EU restoration law

The Developer notes the new EU Nature Restoration law discussed by IWT.

The Developer submitted its application for planning on 7 June 2024. The European Council adopted Regulation 2024/1991 of the European Parliament and of the Council on nature restoration law and amending Regulation (EU) 2022/869 (the Nature Restoration Law) on 17 June 2024. This entered into force on 18 August 2024 and is now directly applicable in all Member States. The Nature Restoration Law sets out binding rules and targets to restore ecosystems, with the goals of ensuring recovery of biodiverse and resilient nature and contributing to climate change mitigation and adaptation. It covers terrestrial, coastal and freshwater ecosystems, as well as marine ecosystems. It builds on existing environmental law and specifically identifies renewable energy projects to be in the overriding public interest.

On 22 October 2024, an independent Advisory Committee on Nature Restoration was established to support Ireland’s Nature Restoration Plan which will engage in a relevant stakeholders’ participation process, and ensure that the views of the public, key groups and sectors are addressed in the Nature Restoration Plan. The NPWS is responsible for developing Ireland’s National Restoration Plan.

Member States must prepare National Restoration Plans covering the period up to 2050, subject to periodic review. As part of this process, they must carry out the preparatory monitoring and research needed to identify the restoration measures that are necessary to meet the restoration targets and fulfil their obligations under the Nature Restoration Law. Ireland must submit a draft National Restoration Plan to the European Commission by 1 September 2026. The Commission will then have six months to review the plan. The views of the Commission shall be taken into account by the relevant Member State in the preparation of its final National Restoration Plan. The final plan must be published within six months of receipt of the Commission’s views by the relevant Member State. Once established in Ireland, developers and planning authorities will need to factor the Nature Restoration Plan into proposed future developments.

5.5.3.2.2 The Habitats Directive

The IWT cites Article 6(4) of Directive 92/43/EEC (the Habitats Directive) and states that *“We do not believe that this ORE development falls under the scope of Article 6(4) of the Habitats Directive as it is possible for the development to be situated elsewhere in the Irish Sea and there are many alternative solutions to the situation. While ORE developments are vitally needed in order for Ireland and the EU to reach net zero, they should not be placed in protected areas where they are priority species and habitats. Allowing this shows a preference to economic values rather than ecological”*.

Response to Habitats Directive

The proposed development was subject to a comprehensive assessment and the NIS submitted with the application concludes that the proposed development will not, either alone or in combination with any other plan or project, have any adverse effects on the integrity of any European Site. The specific requirements of Article 6(4) of the Habitats Directive, therefore, are not relevant to the proposed development.

5.5.3.3 Offshore Ornithology

The key points raised in relation to offshore ornithology relate to the threats to offshore ornithology and data collected during visual surveys.

Point 1 – Threats to offshore ornithology

The IWT raised concerns regarding threats to offshore ornithology stating, “*The EIA Chapter 15 mentions a review of top global threats to seabirds identifying mammalian invasive non-native species, fisheries bycatch and climate change and the greatest threats*”. The submission states, “*The threats mentioned above are threats which have been established for a greater length of time compared to ORE developments... This does not then signify that ORE developments would not also become a highly significant threat to seabirds and the European Court of Auditors has found that the impact of offshore renewable energy developments has not been adequately assessed.*”

Response to Point 1 - Threats to offshore ornithology

The Developer notes the concern of ORE development as a threat to seabirds and can assure IWT that the EIAR and NIS provide a robust assessment of all potential impacts that may have a likely significant effect, including collision risk and displacement, on seabirds and other potential bird species within the ornithology study areas.

This assessment is undertaken using best scientific evidence and includes site specific surveys and data collection. The assessment methodology is precautionary and in line with guidance as outlined in Chapter 15 and supporting appendices.

Point 2 – Data collected during visual surveys

The submission also raised concerns that the data collected during visual surveys showed low numbers which was used to justify a conclusion of no significant detrimental effects. The submission states, “*Numbers of seabirds have greatly diminished over the years due to anthropogenic pressures and this reduced number could show that the risk posed by ORE developments is far greater as they are already vulnerable to disturbance.*”

Response to Point 2 - Data collected during visual surveys

The impact assessment uses baseline data derived from a number of sources including (but not limited to) the digital aerial surveys and published papers that cite bioregional populations, and from breeding colony counts.

The vulnerability of species and populations to impacts is considered in the assessments when determining sensitivity of a receptor, and the magnitude of potential impact may differ between ornithological receptors as it relates to the potentially differing ecological sensitivities of those receptors and the potentially differing demographics of impacted population. In order to assess the likely significance of effect. If records indicate low numbers of a species that is under threat within the study area, this is inherently considered as part of the assessment.

Since the receipt of the RFI the Developer has undertaken further site specific studies (refer to Appendix A15.1: Offshore and Intertidal Ornithology Technical Baseline) and has updated the ornithology assessment in Chapter 15 to reflect the new data and the design refinements (Appendix A5.1: Design Refinements). This assessment confirms that the likely effects of the potential impacts assessed will not be significant in EIA terms.

Point 3 – Concerns regarding the North West Irish Sea cSPA

The submission mentions the NWIS cSPA and that it hosts roseate tern, manx shearwater, puffin and shag and states that “*these species have specific plans which are designed to help Member States fulfil obligations to restore and maintain these populations to good conservation status*”.

Response to Point 3 - North West Irish Sea cSPA concerns

The Developer confirms that a robust assessment of all relevant qualifying interests of the NWIS cSPA, including roseate tern, puffin and Manx shearwater, is provided in Section 5.4.2 of the NIS in view of the

relevant conservation objectives. This assessment concluded that the proposed development, alone and in combination, will not result in adverse effects on the integrity of the NWIS cSPA.

European Shag (*Gulosus aristotelis*) and Great Cormorant (*Phalacrocorax carbo*) were screened out for the relevant SPAs on the basis of there being no plausible impact pathways with respect to both collision risk and displacement effects.

5.5.4 Conclusion

As can be seen above, the points raised by the Irish Wildlife Trust have been considered within the EIAR and NIS. The Developer acknowledges the issues raised herein and has addressed these concerns.

5.6 Nephrops Fishermen and Producer Organisations

5.6.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the *Nephrops* Fishermen and Producer Organisations (hereafter referred to as ‘NFPO’). The NFPO commissioned a report by Planning Consultant Anthony Marston to review the Proposed Development application which is appended to their submission. This section provides response to the submission from the NFPO.

An Coimisiún Pleanála, as well as seeking responses to the submissions received as part of the statutory consent process, has also issued the Developer with a request for further information (RFI). The Developer has responded to this RFI in a separate report (refer to Response to RFI document) which is submitted alongside this response to submission document.

Since submission of the 2024 EIAR, the Developer has reviewed the RFI, third-party submissions, including the NFPO submission, and the outputs of continued consultation with commercial fisheries stakeholders. The commercial fisheries assessment has therefore been updated Chapter 16: Commercial Fisheries, Appendix A16.1: Commercial Fisheries Technical Report, and Appendix A16.2: Fisheries Management and Mitigation Strategy (FMMS).

These documents provide updated baseline evidence, updated project design parameters, an updated assessment of effects, an updated cumulative effects assessment, and further detail on the sustainable fisheries community (SFC), fisheries coexistence, monitoring, disturbance payments and adaptive management. The updated documents are particularly relevant to the NFPO’s concerns regarding the *Nephrops* fleet, practical coexistence, displacement, mitigation, compensation and cumulative effects.

In the 2024 EIAR, wind turbine generator (WTG) monopile foundations and jacket foundations with pin piles, and offshore substation platform (OSP) monopile and jacket foundations with pin piles, were considered. Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jacket (SBJ) foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets.

This design refinement has been incorporated into Chapter 16 and to Chapter 13 Fish and Shellfish Ecology. The refinement removes WTG monopile foundations from the design envelope and therefore significantly reduces the underwater noise risk profile associated with WTG foundation installation. The updated design also informs the revised assessments of habitat loss, seabed disturbance, underwater noise, sandeel, *Nephrops* and associated commercial fisheries effects.

5.6.2 Summary of the Key Points Raised by NFPO

NFPO raised a number of key points, which are dealt with as sub-themes below:

- Criteria to be met prior to permission being granted
- Site selection & consideration of alternatives
- Designated Maritime Area Plans
- Policy context
- Impacts on commercial fisheries
- Mitigation and Fisheries Mitigation Management System
- Economic considerations
- Appropriate assessment and other ecological concerns
- Cumulative and in-combination impacts

- Conclusion

5.6.3 Response to Key Points Raised

5.6.3.1 *Criteria to be met prior to permission being granted*

In their submission, the NFPO requests that the following criteria are satisfied before An Bord Pleanála grant permission for the proposed development.

Criteria 1 – Development type, location, layout and design

The first criteria point “The type of development, its location, layout and design must have been selected on the basis of the application of objective, multi-criteria analysis and comparison, taking into account environmental factors.”

Response to Criteria 1 – Development type, location, layout and design.

The Developer can confirm that when selecting the location, layout, and type of development that objective, multi-criteria analysis which considered environmental factors was undertaken. More information on the detail for the layout, site selection and design are included in the Developer’s response in Section 5.6.3.2 of this report. The process can be reviewed in detail in Chapter 5 Considerations of Alternatives of the EIAR.

Criteria 2 – Site selection

The second criteria point in the submission states “In particular, the site selection process must have been carried out on the basis of the application of objective multi-criteria analysis and comparison.”

Response to Criteria 2 – Site selection

The Developer can confirm that the site selection process used an objective multicriteria analysis. More information on the detail for the layout, site selection and design are included in the Developer’s response in Section 5.6.3.2 (Considerations of Alternatives).— The process can be reviewed in detail in Chapter.

Criteria 3 – Consideration of alternatives

The third criteria point in the submission states “The consideration of alternatives in that context (including alternative locations, technology, layout and design), must have taken into account environmental factors and the need for ORE to co-exist with other marine users including commercial fisheries, in particular.”

Response to Criteria 3 – Consideration of alternatives

The Developer can confirm that site selection and design commenced evolution in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in the EIAR for the purposes of the planning application.

Reasonable alternatives have been identified, described and evaluated within the EIAR, outlining the main reasons for the option chosen and taking into account the effects of the project on the environment. A robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives. Within this chapter it can be seen that the site selection process is a balance of a number of technical, environmental and commercial factors to identify a viable project and location.

Throughout the process, engagement with fisheries occurred (Appendix A1.2: Consultation Report for more information on consultation). As can be seen from the evolution of the proposed development the reduction in the overall proposed development area has reduced to only 36% of the full Maritime Area Consent (MAC) boundary. Further refinements to reduce the spatial extent of infrastructure within the Array Area have been made since the 2024 EIAR. A key driver with this reduction were environmental considerations, including commercial fisheries.

Further responses regarding the consideration of alternatives can be seen in Sections 5.6.1.1.1 Consideration of alternatives and site selection process, in this report.

Criteria 4 – Development Management Framework

The fourth criteria point in the submission states “A development management framework must be in place which is plan-led and which provides for marine planning guidelines to guide decision-making, in the absence of which the proposed OWD must be considered to be premature.”

Response to Criteria 4 – Development Management Framework

The Developer is confident that the proposed development is compliant with all current regulatory guidance. The proposed development’s compliance is addressed in Appendix A3.1: NMPF Compliance Report of the EIAR. Further information detailing the current regulatory framework responding to the NFPO’s concerns can be found in Section 5.6.3.3 Designated Maritime Area Plans of this report.

Criteria 5 – Climate Action Act 2015

The fifth criterion states “The proposed development must be consistent with the requirements of section 15 of the Climate Action Act 2015, as amended.”

Response to Criteria 5 – Climate Action Act 2015

The proposed development if permitted to proceed, would contribute to Ireland’s progress in meeting EU, national and regional planning objectives and in meeting renewable energy and decarbonisation targets, in particular, the targets in the Climate Action Plan 2024 (CAP 2024). Section 15 (1) point (d) of the Climate Action and Low Carbon Act 2021 states that: “*A relevant body shall, in so far as is practicable, perform its functions in a manner consistent with the furtherance of the national climate objective.*” The Public Sector Climate Action Mandate 2024 was published in CAP24. The Mandate requires public sector bodies to show leadership in climate action and to demonstrate how they are taking the required actions. The Climate Action Plan 2025 (CAP25) strengthens Ireland’s pathway to deploying offshore wind, reaffirming targets of at least 5 GW offshore by 2030.

Criteria 6 – Cost benefit analysis

The sixth criteria point in the submission states “A cost benefit analysis of the project, which includes a comparison of alternatives, must be produced by the applicant to satisfy the Public Expenditure Code which forms part of government policy to which the Board is obliged to have regard, inter alia, under section 143 of the Planning and Development Act 2000, as amended.”

Response to Criteria 6 – Cost benefit analysis

The Developer has provided information that satisfies the Public Expenditure Code. This includes a comparison of alternatives. This can be read in Chapter 5 within the EIAR; further information on the matter can also be read in Response to Point 4 – Cost benefit of the project’ in Section 5.6.3.10.3 Proper Planning and Sustainable development of this report.

Criteria 7 - EIA

The seventh criteria point in the submission states “The EIA carried out by the Competent Authority must demonstrate that the project will not have unacceptable environmental impacts.”

Response to Criteria 7 – EIA

The Developer can confirm that in accordance with current regulatory guidance, the EIAR and the updates to the EIAR have been prepared to provide information to the competent authority so that they may make a determination on the project.

Section 5.6.3.8 Appropriate Assessment and other ecological concerns of this document responds to concerns raised by NFPO in their submission regarding ecological concerns with particular reference to the EIAR.

Criteria 8 – Adverse Effect on Site Integrity (AEoI)

The eighth criteria point in the submission states “The possibility that the proposed OWF, on its own or in combination with other plans or projects, will have an adverse effect on any European Site can be excluded beyond a reasonable scientific doubt.”

Response to Criteria 8 – Adverse Effect on Site Integrity (AEoI)

The Developer has used all available and suitable data to ensure that the assessment within the Natura Impact Statement (NIS) and the updated NIS, is based on up-to-date and robust information at the time of writing. Based on the conclusions within the NIS the expert consultants that undertook the assessment concluded, beyond reasonable scientific doubt, no potential for AEoI for the project on its own or in combination with other relevant plans and projects. This information was submitted as part of the application to An Bord Pleanála, with an updated NIS submitted as part of the RFI response to enable the competent authority to undertake its own assessment to determine whether the project will have any adverse effects on any European sites. The update to the NIS supports the 2024 NIS conclusions.

For reference, the Developer’s response in Section 5.6.3.8 Appropriate Assessment and other ecological concerns of this report respond to concerns raised by NFPO in their submission regarding ecological concerns with particular reference to the adverse effects on designated sites and the NIS assessment.

5.6.3.2 Consideration of alternatives and the site selection process

The key points raised by NFPO under the sub theme of consideration of alternatives and the site selection process include;

- Consideration of alternatives;
- Locating the site with cSPA;
- Stakeholder participation; and
- Consideration of floating offshore wind turbines.

5.6.1.1.1 Consideration of alternatives

On pages 3 & 4 of their submission, NFPO raise concerns over what it feels are the inadequacies of the site selection and consideration of alternatives of the proposed development.

Response to Consideration of alternatives

In response to the site selection process, the Developer can confirm that site selection and design commenced evolution in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events all of which comply with the EIA Directive. This has led to the final development extent and layout options as they are presented in the EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

Reasonable alternatives have been identified, described and evaluated within Chapter 5 Consideration of Alternatives of the EIAR and its update, outlining the main reasons for the option chosen and taking into account the effects of the proposed development on the environment. A robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives of the EIAR. Within this chapter it can be seen that the site selection process is a balance of a number of technical, environmental and commercial factors to identify a viable project and location.

Third-party studies that were undertaken to assist the site selection process included;

- The Irish Marine Study Assessment - Gaelectric and University College Cork (2008) - an integrated geological and marine desktop study of the Irish Sea in the Irish Economic Exclusion Zone (EEZ) between Dunmore East (Co. Waterford) and Carlingford Lough (Co Louth), from a minimum distance of 5km from the coast to a maximum water depth of 60m,

- The Irish Sea Marine Assessment (2009) - to provide integrated seabed and sub-seabed mapping data of the areas identified in the desktop study of the Irish Sea and to assist in a fundamental understanding and evolution of the seabed.
- The IMAR Study (2009) – a desktop study to identify key constraints.

In addition, constraints analysis undertaken by the Developer, considered;

- Technical considerations of the metocean, wind, and seabed characteristics
- Overlapping Foreshore licences
- Distance to shore (visibility perception from the coast) - siting of infrastructure at the furthest distance practicable from the coast – due to the ground conditions and water depths required for deployment of fixed foundations a 10km buffer from the coast was applied
- Designated Sites
- Shipping and navigational features
- Commercial fisheries activity
- Proximity of the onshore electrical and grid infrastructure
- Potential interaction with civil and military aviation and Radar and military danger areas
- Proximity to the energy demand centres e.g. larger population centres where the electricity will be required
- Onshore grid constraints and upgrade requirements
- Economic efficiency for the Irish electricity consumer
- Bathymetry - water depths not exceeding 60m and
- Avoidance of existing offshore cables and pipelines
- Wind resource

Following the above process, the preferred location and extent of the proposed offshore development area were identified, which was deemed to be both environmentally acceptable as well as commercially viable, this formed the boundaries of the area identified in the MAC application.

Further refinements have been made to reduce the MAC boundary and are listed in Section 5.6.1.1 Environmental Considerations and 5.6.1.2 Offshore Development Area – Environmental Comparison (Ornithology) in Chapter 5 of the EIAR.

In relation to commercial fisheries, the reduction of the area to be developed for the proposed development to only 36% of the MAC area, and co-existence measures, will allow fishing to occur.

Figure 5.6.1 below shows the robust process that has been undertaken to identify and refine the proposed development site.

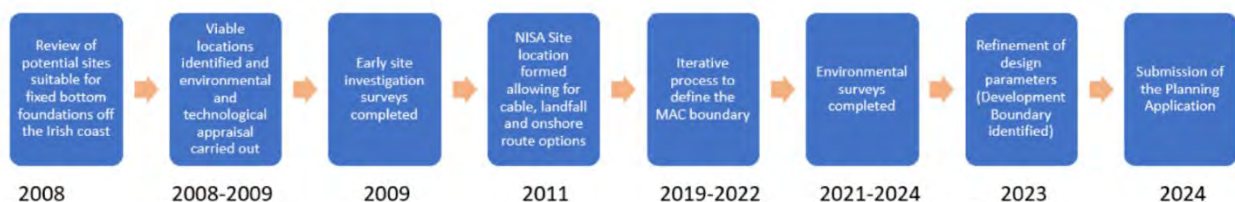


Figure 5.6.1: The refinement process undertaken for the proposed development site

Chapters 10 to 26 of the EIAR assess the impacts on the environment and the ecology in the area, with Chapter 16 assessing impacts on Commercial Fisheries. A summary of all mitigation to minimise the projects impacts on the environment are also included in Chapter 36: Mitigation, Monitoring and Likely Significant Residual Effects of the EIAR, with the mitigation used in the Commercial Fisheries assessment detailed in Section 16.6 of Chapter 16.

5.6.3.2.1 Locating the site within cSPA

On page 4 of its submission, NFPO notes that the location of the site within the cSPA (which they note was not designated prior to the selection of the application site), and that the “*site selection was largely based on a 2008 study conducted by UCC which aimed to identify target areas of the seabed for which a fixed bottom offshore wind farm could potentially be economically constructed, operated, and maintained.[...] The site selection did not, therefore, take into account or give any material weight to environmental factors or to the impact on commercial fisheries.*”

Response to Locating the site within cSPA

The announcement of the designation of the North-west Irish Sea (NWIS) candidate Special Protection Area (cSPA) in July 2023 by the National Parks and Wildlife Services (NPWS) post-dates the grant of the proposed development’s MAC which was awarded in December 2022. Notwithstanding this announcement, the Developer has, at all times, been compliant with its obligations under Directive 2009/147/EC (the Birds Directive) and Directive 92/43/EEC (the Habitats Directive). The Developer’s application for planning permission was accompanied by a robust Natura Impact Statement (NIS) and has subsequently been updated in response to the RFI. These statements included extensive and comprehensive surveys and data collection over a number of years, assessing the impact of the Proposed Development on all European sites, including the NWIS cSPA.

As outlined in section 5.6.3.2 selection of alternatives of this document, the Developer undertook a constraints analysis which considered commercial fisheries and did not rely solely on the 2008 study conducted by UCC.

5.6.3.2.2 Stakeholder participation

On page 5 of its submission, NFPO states that “an inclusive and comprehensive multi-criteria decision-making and constraint mapping process should have been undertaken with full stakeholder participation to ensure appropriate representation of the different maritime users and environmental considerations.” And that “While token references are made in the EIAR to the need to reduce the impact on commercial fisheries as a consideration influencing the site selection process, the chronology of the site selection process as described in the EIAR provides clear evidence that the potential impact on commercial fisheries did not influence the process whatsoever.”

NFPO feel that “the site selection process failed to adequately take into account or give any weight to the very significant impact on the Nephrops fishery at this location and its knock-on consequences for our clients and this sector of the fishing industry.”

Response to Stakeholder participation

The Developer acknowledges the concerns of NFPO and confirms that its community liaison team has had thousands of engagements with local stakeholders; hosted 17 public consultation events in seven coastal communities; developed and promoted three virtual consultation rooms; established a dedicated project website for the proposed development; engaged on a personal basis with people in order to give them the opportunity to consider and discuss the proposed development; engaged with local community groups; contacted and met with local and national elected representatives; and carried out ongoing engagement with local authorities. The Maritime Area Planning Act, 2021 (MAP Act) is clear that extensive public consultation will be undertaken in respect of all offshore projects during the maritime planning application process and this public consultation is currently underway in respect of the proposed development’s planning application.

Consultation and engagement with the fishing industry undertaken to date is described in Appendix A1.2 of this report and has been ongoing since February 2020, with the FLO and fisheries engagement team having had in excess of 2,000 individual engagements with locally interested fishers.

5.6.3.2.3 Consideration of floating offshore wind turbines

On page 5 of its submission, NFPO states that “the concept of floating offshore wind turbines was not adequately considered as part of this application at project inception stage or in the context of considering alternatives within Chapter 5 of the EIAR.”

Response to Consideration of floating offshore wind turbines

In order to deliver a commercial scale project to help meet Ireland’s Offshore Wind targets by 2030, floating offshore wind turbines were considered. It was concluded that they are not currently an option for the proposed development primarily due to water depth and technology constraints. There are currently no commercial scale floating wind farms in the world; only small-scale pilot projects. In a recent publication (September 2024) in regard to floating offshore wind farms in the UK, ‘The UK 2050 Offshore Wind Deployment Scenario’, published by Offshore Renewable Energy Catapult provides the most recent anticipated deployment scenarios for floating offshore wind in the UK. This gives the best indication of the potential timeframes for the commercialisation of offshore wind projects which could be considered applicable for Ireland too. The report notes that there still needs to be early-stage demonstrators and intermediate-scale projects to achieve cost reduction for commercial deployment.

One of the proposed development’s key objectives, as seen in Chapter 3: Legal and Policy Framework, is to help the Irish Government meet its renewable targets of 5GW of offshore wind by 2030. From the UK 2050 Offshore Wind Deployment Scenario, it is clear that this would not be possible if relying on floating offshore wind, which still requires major changes to the supply chain, manufacturing and fabrication as well as upgrades to ports and harbour infrastructure to deliver floating offshore wind turbines at scale.

As outlined in Section 5.4 of Chapter 5: Consideration of Alternatives of the EIAR, “Floating wind technology remains in its infancy with no large-scale commercial turbines having been deployed to date. In addition, floating offshore wind foundations present a higher overall cost and therefore higher price to the consumer. As testing and demonstration continues if floating foundations were considered for Ireland’s Phase 1 projects it would lead to a longer timescale for commercial scale delivery and therefore lead to a longer period of fossil fuel dependency for Ireland. As such floating foundation technology was not deemed a viable and reasonable alternative.”

“In order to viably construct an offshore wind farm that has its foundations fixed into the seabed the maximum water depth considered at the outset of site feasibility was approximately 60m (deeper water depths were considered to be technically unviable due to a lack of foundations available that could be installed in water depths beyond this limit). Fixed bottom foundations for offshore wind have been deployed over multiple decades within multiple geographical locations with differing seabed conditions. They are a tried and tested technology therefore demonstrating that the most viable option for the proposed development is WTGs upon fixed foundations within a site of water depths <60m.”

5.6.3.3 Designated Maritime Area Plans

On page 5 of its submission, NFPO feel that “The proposed development is premature pending the adoption of Designated Maritime Area Plans (DMAPs) and permission should be refused for that reason. Critically, these measures have yet to be put in place and do not apply to the application before the Board. In addition to the absence of Marine Planning Guidelines, this means that the Board does not have the necessary strategic guidance to consider the subject application in light of a plan-led approach.” And have stated that “It is important that all ORE development, including Phase One projects, are assessed within such a spatial decision-making framework which must include marine planning guidelines to direct decision making which the Government were proposing to publish in Q4 of 2023 as per the Climate Action Plan 2023.”

Response to Designated Maritime Area Plans

The Proposed Development has long been considered in the context of Ireland’s maritime spatial planning. An overview of maritime spatial planning in Ireland is outlined below, with specific references outlining the Proposed Development’s consideration in this context.

The Offshore Renewable Energy Development Plan (ORED) 2014 has identified Ireland's coast as one of the most energy productive in Europe. The proposed development's application is consistent with ORED given the flexibility outlined in ORED for areas identified for investigation and development. The ORED's aim was to assess scenarios for the development of offshore renewables in Irish Waters up to 2030. That ORED was subject to an SEA, including an assessment of "Assessment Area 1: East Coast (North) – Offshore Wind", the site within which the proposed development is located. Further detail on ORED and its interim review in 2018 is set out in Section 3.6.1 of Chapter 3: Legal and Policy Framework (EIAR).

Within the ORED, a cumulative assessment for Assessment Area 1: East Coast (North) has been carried out. In Assessment Area 1, there was found to be the potential to develop between 1200MW and 1500MW from offshore wind without any likely significant adverse effects on the environment. Based on the results of this cumulative assessment and the proposed size of the proposed development, the Proposed Development sits within this consideration. This draws the same conclusion that has been determined in its own cumulative assessment as part of the proposed development's EIAR.

Maritime Spatial Planning Directive

As referred to in Section 3.4.1 of Chapter 3: Legal and Policy Framework (EIAR), the Maritime Spatial Planning (MSP) Directive (2014/89/EU) was adopted in July 2014, establishing a framework for maritime spatial planning. This required member states to establish and implement maritime spatial planning, taking into account land-sea interactions and was to be produced in accordance with institutional and governance levels determined by the member state. When establishing and implementing maritime spatial planning, member states were required by the MSP Directive to consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector. The MSP Directive required member states to use their maritime spatial plans to aim to contribute to the sustainable development of energy sectors at sea, of maritime transport, of the fisheries and aquaculture sectors, and to the preservation, protection and improvement of the environment, including resilience to climate change impacts.

Whilst the MSP Directive set general ground rules in terms of criteria to be addressed, it was open for member states to determine how the different objectives were reflected and weighted in their maritime spatial plans.

National Marine Planning Framework

Ireland transposed the MSP Directive through Part 5 of the Planning and Development (Amendment) Act 2018, with its transposition restated once the MAP Act came into effect. This established the legal basis and broad framework for Ireland to implement the MSP Directive through the development of a maritime spatial plan. Ireland established its first National Marine Planning Framework (NMPF) in 2021.

The NMPF is in full compliance with relevant legal environmental requirements, a Strategic Environmental Assessment (SEA), a Natura Impact Statement (NIS) and an Appropriate Assessment (AA) have also been carried out as part of the preparation of the NMPF. This is to ensure that the national objectives and outcomes respond to the sensitivities and requirements of the wider natural environment.

The NMPF supports the development of offshore renewable energy (ORE) in Ireland, to, inter alia: significantly reduce greenhouse gas emissions and accelerate the move to cleaner energy in line with national and EU policy; increase the sustainable use of ORE use of Ireland's extensive marine resource; support Ireland's decarbonisation journey through increased use of ORE while delivering significant and sustained benefits; and provide enhanced security of energy supply for Ireland in accordance with the Climate Action Plan. The Proposed Development's compliance with the NMPF is outlined in the NMPF Compliance Report at Appendix A3.1 (EIAR).

The NMPF recognises several important planning policies for ORE development and recognises that "Relevant Projects designated pursuant to the Transition Protocol and those projects that can objectively enable delivery on the Government's 2030 targets will be prioritised for assessment under the new consenting regime." This includes the proposed development, which was deemed a Relevant Project or Special MAC case pursuant to transitional provisions under the MAP Act. In the context of the NMPF, it

was recognised that the delivery of offshore renewable targets must be consistent with national policy, including the OREDP discussed above. ORE Policy 1 recognised that the proposed development, NISA, along with other Relevant Projects would be prioritised for assessment and that, into the future, a plan-led approach to consenting would be following.

Maritime Area Planning Act 2021

The MAP Act provided a pathway to permit a select number of offshore renewable projects which had advanced under the existing foreshore regime to transition to the new Maritime Area Consent (MAC) regime once established, to enable achievement of Ireland's 2030 offshore renewable energy targets.

As referred to above, and in further detail at Section 3.2.1 and Section 3.2.2 of Chapter 3: Legal and Policy Framework (EIAR), the proposed development was deemed a "Relevant Project" by the Department of Housing, Local Government and Heritage in the context of the forthcoming Marine Planning and Development Management legislation in 2020. This designation allowed the proposed development to subsequently be one of the first projects to progress in its application for a MAC under the newly enacted MAP Act.

An application for a MAC was submitted by the Developer in June 2022 seeking the right to occupy a part of the maritime area and the ability to subsequently apply for development consent pursuant to section 291 of the Planning and Development Act 2000 (the Planning Acts). Following completion of comprehensive assessments in accordance with the MAP Act, six MACs were granted by the Minister for the Environment, Climate and Communications, with a commencement date of 23 December 2022. This included the proposed development, NISA, (ref. 2022-MAC-005). The proposed development, as conditioned by this consent, was required to apply for planning permission within 18 months of its commencement date. As such, the Developer submitted its planning application to An Bord Pleanála in June 2024.

Whilst the MAP Act does not provide for public consultation in respect of the awarding of MACs, the proposed development's community liaison team has had thousands of engagements with local stakeholders; hosted 17 public consultation events in seven coastal communities; developed and promoted three virtual consultation rooms; established a dedicated project website for the proposed development; engaged on a personal basis with people in order to give them the opportunity to consider and discuss the proposed development; engaged with local community groups; contacted and met with local and national elected representatives; and carried out ongoing engagement with local authorities. The MAP Act is clear that extensive public consultation will be undertaken in respect of all offshore projects during the maritime planning application process and this public consultation is currently underway in respect of the proposed development's planning application.

Designated Maritime Area Plans

The proposed development, and all other Phase One projects, pre-date the announcement and publication of the first draft DMAP proposal. The approach to developing offshore renewable projects moved from a developer to plan led approach in March 2023. The changes made are only applicable to Phase Two projects and beyond, which will now be developed within a DMAP identified by the state. As a Special MAC case under the MAP Act, the announcement of the first draft DMAP proposal is not applicable to the proposed development nor other Phase One projects.

It is within the consenting framework outlined above that the proposed development was granted its MAC, and it is within this policy framework that the Developer prepared and submitted its application for planning for the proposed development.

5.6.3.4 Policy context

On page 6 of its submission, NFPO expresses concern in relation to the proposed development and the Climate Action Act 2015; "The applicant has failed to ensure that this planning application is consistent with the furtherance of the national climate objective in so far as it failed to take into account the promotion of a biodiversity rich and environmentally sustainable economy in the context of the consideration of alternatives and the relevant site selection process."

Response to Policy context

The proposed development if permitted to proceed, would contribute to Ireland's progress in meeting EU, national and regional planning objectives and in meeting renewable energy and decarbonisation targets, in particular, the targets in the Climate Action Plan 2024 and 2025 (CAP 2024 and CAP 2025). The proposed development would contribute towards achievement of the total national 5GW offshore wind target set for 2030 which would not be feasible if the proposed development did not proceed.

As part of its maritime planning application the Developer has submitted EIAR to An Bord Pleanála. The EIAR submitted with the application robustly identifies, describes and evaluates all reasonable alternatives to the proposed development and outlines the main reasons for the option chosen, taking into account the effects of the project on the environment. Therefore, the application is consistent with the Climate Action Act 2015.

5.6.3.5 Impacts on commercial fisheries

NFPO states that the proposed development does not demonstrate it will avoid, minimise or mitigate impacts on commercial fisheries under the National Marine Planning Framework (NMPF), and this has been addressed below.

5.6.3.5.1 Impact on commercial fishing

Point (i) on page 7 of its submission, NFPO states that “This development is essentially severing the Nephrops grounds, which will result in considerably valuable and sensitive grounds lost to the development, along with procedural and operational costs incurred in trying to fish outside and around the area of the proposed OWF.

Our clients categorically reject the assertion that they can fish between the turbines once constructed. This is not possible due to navigational concerns, manoeuvrability of the vessels and equipment relating to wind shear and the strong tide that exist in the Irish Sea, along with weather conditions.”

Response to Impact on commercial fishing

The Developer acknowledges that the array area overlaps with important Nephrops grounds in the western Irish Sea and that Irish demersal otter trawlers targeting Nephrops are the principal commercial fisheries receptor affected by the proposed development. This is reflected in Chapter 16, which identifies significant pre-mitigation effects for Irish demersal otter trawlers in relation to reduction in access and displacement.

The Developer does not agree, however, that the proposed development will necessarily sever the Nephrops grounds or prevent all fishing activity within the array area during operation. The assessment in Chapter 16 assumes that fishing will resume around and between infrastructure within the windfarm where possible, with the exception of an assumed 50m operating distance from infrastructure, areas of cable protection that cannot be fished, and advisory safety zones around infrastructure undergoing major maintenance or replacement. Fishing will not be prohibited from the array area during operation. The commercial fisheries assessment has nevertheless adopted a precautionary approach by assessing reduction in access, exclusion, displacement, increased pressure on adjacent grounds, gear conflict and snagging risk.

Appendix A16.2: FMMS also includes a Co-existence Strategy supported by a preliminary Technical Co-existence Assessment. This assessment considers the practical implications of the WTG layouts and minimum trawling lanes for mobile demersal fishing activity, including navigable trawl space, WTG spacing, cable protection, tidal constraints and operational requirements. It concludes that coexistence between the proposed development and commercial fishing activity is technically achievable, provided that appropriate corridor design, cable burial standards, fisheries-informed operational protocols and monitoring measures are incorporated into project design and operation.

For Project Option 1, the assessment identifies an effective trawlable width of approximately 850 m once operational buffers are applied. Project Option 2, with fewer WTGs, provides wider corridors and greater spatial flexibility. The array layout has also been developed to support trawling corridors aligned broadly with the conventional NNW–SSE trawling direction where practicable.

The Developer acknowledges that individual fishers may make different operational decisions depending on vessel size, gear configuration, tidal state, weather, crew experience and risk appetite. For that reason, the

FMMS, SFC, Digital Effort Traceability Project (DETP) and the ongoing fisheries liaison process are important mechanisms to monitor fishing behaviour.

The key National Marine Planning Framework (NMPF) policy that is applicable to the assessment of commercial fisheries is summarised in Table 5.6.1. NMPF policies are addressed in their entirety in Appendix A3.1: NMPF Compliance Report of the EIAR.

Table 5.6.1: Key NMPF policies relevant to the assessment

Policy Description	Where addressed
Fisheries Policy 1 Proposals that may have significant adverse impacts on access for existing fishing activities, must demonstrate that they will, in order of preference: - avoid, - minimise, or - mitigate such impacts. If it is not possible to mitigate significant adverse impacts on fishing activity, the public benefits for proceeding with the proposal that outweigh the significant adverse impacts on existing fishing activity must be demonstrated	The embedded mitigation measures are defined in Section 16.4 of Chapter 16; these are considered as part of the designed in measures of the proposed development. The assessment of likely significant effects is described in Section 16.5 of Chapter 16. Where additional mitigation and monitoring measures are required, they are detailed in Section 16.6 of Chapter 16.
Fisheries Policy 2 Where significant impact upon fishing activity arising from any proposal is identified, a Fisheries Management and Mitigation Strategy (FMMS) should be prepared by the proposer of development or other maritime area use, in consultation with local fishing interests and other interests as appropriate. All efforts should be made to agree the FMMS with those interests. Those interests should also undertake to engage with the proposer and provide best available, transparent and accurate information and data in a timely manner to help complete the FMMS. The FMMS should be drawn up as part of readying a proposal prior to submission, with measures identified to be considered in finalising conditions of any authorisations granted. Development of the strategy should be coordinated with other relevant assessments such as EIA where possible. The content of the Fisheries Management and Mitigation Strategy (FMMS) should be relevant to the particular circumstances and could include: • An assessment of the potential impact of all stages of the development or other suggested use on the affected fishery or fisheries, both in socio-economic terms and in relation to environmental sustainability. This assessment should include consideration of any impact upon cultural identity within fishing communities, as well as identifying indirect / in-combination matters. • A recognition that the disruption to existing fishing opportunities / activity should be minimised as far as possible. • Demonstration of the public benefit(s) that outweigh the significant impacts identified. • Reasonable measures to mitigate any constraints which the proposed development or use may place on existing or proposed fishing activity. • Reasonable measures to mitigate any potential impacts on sustainability of fish stocks (e.g. impacts on spawning grounds or areas of fish or shellfish abundance) and any socio-economic impacts.	The developer has committed to the preparation and adherence to a FMMS which follows the key principle of ‘Collaboration and proactive fisheries impact mitigation including mechanisms at an individual vessel owner level and at a port level for a wider benefit to local fishers and fisheries.’ Upon implementation of a FMMS (developed in consultation with the fishing industry), all residual significant effects are slight adverse or lower which are not significant in EIA terms. This supports compliance of the proposed development with Fisheries Policy 2 and relevant NMPF coexistence policies. A FMMS has been developed and provided in Appendix A16.2 of the EIAR.

Policy Description	Where addressed
• Where it does not prove possible to agree the FMMS with all interests: • Divergent views and the reasons for any divergence of views between the parties should be fully explained in the FMMS, and dissenting views should be given a platform within the said FMMS to make their case. • Where divergent views are identified, relevant public authorities should be engaged to identify informal and formal steps designed to enable proposal(s) to progress.	

The Developer considers that the proposed development has followed the NMPF policy hierarchy by seeking to avoid and minimise impacts through site selection, reduction of the developed area within the MAC boundary, layout refinement, cable burial and embedded mitigation, and then mitigating remaining effects through the FMMS and SFC.

The proposed development has also been considered in the context of NMPF Co-existence Policy 1. The Developer's approach is to enable the proposed development and commercial fishing activity to continue at the same time, where safe and practicable. This is supported by the Co-existence Strategy, the preliminary Technical Co-existence Assessment, fisheries liaison arrangements, cable burial and protection commitments, navigational safety measures, dropped object procedures, gear fastening/loss procedures and the SFC governance structure.

5.6.3.5.2 Mitigation

NFPO go on to say in point (ii) on page 7 of their submission, "the applicant has done nothing to minimise the impact on Nephrops at design stage.

The proposed WFD is in the worst possible place in terms of its impact on Nephrops which are not a mobile species and remain in and around their burrows for their lifetime."

Response to Mitigation

The impacts of the proposed development on *Nephrops* are assessed in Chapter 13: Fish and Shellfish Ecology and Chapter 16: Commercial Fisheries of the EIAR.

The Developer does not agree that no design-stage mitigation has been undertaken. The project design has been refined through an iterative process informed by environmental, technical, navigational and commercial fisheries constraints. The developed area within the MAC boundary has been reduced substantially, with the WTG layout occupying approximately 36% of the MAC boundary. Commercial fisheries interests, including Nephrops fishing activity, were one of the constraints considered in this refinement process.

The Developer acknowledges that the array area remains located on important Nephrops grounds and that design refinement has not avoided all interaction with the Nephrops fleet. This is why Chapter 16 identifies significant pre-mitigation effects for Irish demersal otter trawlers and why further mitigation is required through the FMMS and SFC.

The design refinement has also changed the foundation design envelope. In the 2024 EIAR, WTG monopile foundations and OSP monopile and jacket foundations with pin piles were considered. Following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. This reduces the underwater noise risk profile associated with WTG foundation installation and has been reflected in the updated Fish and Shellfish Ecology and Commercial Fisheries assessments.

With respect to Nephrops ecology, the updated assessment confirms that effects on Nephrops from sediment disturbance, habitat loss, underwater noise and changes to physical processes are localised and not significant at population level. The commercial fisheries effect on Nephrops fishing activity is separately assessed in Chapter 16.

Additional mitigation measures proposed, which were not embedded into the project design, are presented in Section 16.6 of Chapter 16. Key measures include Fisheries Management and Mitigation Strategy (FMMS), implementation of a Sustainable Fisheries Community (SFC), coexistence measures, disturbance payment framework and ongoing monitoring.

The FMMS has been drafted by the independent consultant that undertook the commercial fisheries impact assessment (Chapter 16), in collaboration with the Developer and the Fisheries Liaison Officer (FLO). A vital element of the mitigation proposed in the FMMS is the implementation of the SFC. An overview of the SFC is contained within the FMMS. The SFC initiative has been developed by the FLO in collaboration with the Developer's Commercial Fisheries Manager. The FLO has presented the FMMS and SFC to the commercial fishing industry with the intention to gain feedback on these documents/initiative. The FMMS and SFC initiative will remain live documents and the Developer confirms commitment to continue engagement with the commercial fishing industry to support the continued development of these documents.

Key principles and measures contained within the FMMS include:

- The developer will undertake regular and routine communications via Notice to Mariners;
- Notice and information will aim to be provided not less than 14 days prior for individual construction vessels mobilisations (where feasible) and weekly construction status updates will be provided;
- Continued engagement with the fishing industry will continue to be delivered through the FLO;
- The Developer will minimise the size and duration of advisory safety zones during surveys and other works where safe and practicable to do so;
- The Developer will provide local fisheries stakeholders with procedures for registering disruption payment claims for loss of access and/or damage to fishing gear in association with surveys and construction activities of the proposed development. The Developer clarifies that no fishing methods are excluded from being eligible to apply for disruption payment. The Developer clarifies that disruption payment claims are applicable for the construction and decommissioning phases, and claims related to damage to fishing gear are applicable for all project phases;
- Development of a co-existence strategy related to promoting the continuation of both the proposed development and fishing industry activities at the same time within and around the array area and along the ECC; the co-existence strategy includes commitments related to:
 - Cable burial
 - Safe passing distances and guard vessels
 - Safety of navigation
 - Dropped objects
 - Code of good practice for all vessels
 - Procedures in relation to gear fastening or loss
- Development of a Fisheries Liaison Strategy including liaison scenarios and liaison roles and responsibilities for the following key roles:
 - The Developer's Commercial Fisheries Manager
 - Fisheries Liaison Officer (FLO)
 - Offshore FLO
 - Fishing Industry Representative
 - Marine Coordinator

- The Developer is committed to following the Seafood / Offshore Renewable Energy (ORE) working group summary guidance.

5.6.3.6 *Ineffective mitigation and Fisheries Mitigation Management System (FMMS)*

NFPO has a number of concerns relating to the mitigation of the proposed development on the *Nephrops* fisheries and the FMMS;

- Industry consultation;
- Co-existence with other activities; and
- FMMS development

5.6.3.6.1 **Industry consultation**

Point 1 - Consultation

On page 10 of their submission, NFPO state “there was no consultation and engagement with our clients and the fishing industry generally in relation to the preparation of the FMMS.”

Response to Point 1 – Consultation

The Developer acknowledges the frustration of NFPO but engagement with the fishing industry has been an important facet of the development evolution process. To that end a Fisheries Liaison Officer (FLO) has been engaged for the proposed development since 2019. Consultation and engagement with the fishing industry undertaken to date is described in Appendix A1.2 and has been ongoing since February 2020, with the FLO and fisheries engagement team having had in excess of 2,000 individual engagements with locally interested fishers.

The Developer acknowledges NFPO’s concerns regarding the FMMS. Since submission of the 2024 EIAR, the FMMS has been sent to stakeholders for consultation in 2026 and updated as part of the further information submission. It now provides substantially more detail on fisheries liaison, coexistence, mitigation, disturbance payments, cumulative effects, monitoring, and adaptive management.

The FMMS includes a Fisheries Liaison Strategy, a Co-existence Strategy, an outline construction disturbance compensation protocol, the SFC governance framework, the DETP, a cumulative mitigation strategy and preliminary Technical Co-existence Assessment to inform the Co-existence Strategy. It also sets out roles and responsibilities for the Developer, Commercial Fisheries Liaison Officer, FLO, Offshore FLO, Fisheries Industry Representatives and Marine Coordinator.

The SFC has progressed beyond a proposed concept and has been established as a formal fisheries-led framework. It is intended to support consultation, mitigation, monitoring, review of coexistence outcomes and adaptive management throughout the project lifecycle. The Developer has also committed funding to support the SFC and associated fisheries initiatives, including evidence-gathering and fisheries resilience projects.

The FMMS will remain a live document, but it is no longer an outline document. It is now supported by a framework, consultation record, disturbance payment principles, technical coexistence assessment and monitoring initiatives, including the Digital Effort Traceability Project (DETP).

A key mechanism for addressing fisheries evidence gaps is the DETP, which has been implemented through the SFC. DETP is designed to provide high-resolution, fisheries-led evidence on fishing activity, spatial footprint, gear activity, catch, landings and traceability. It will support before-and-after monitoring, assessment of displacement, review of fishing intensity and consideration of socio-economic dependency and vulnerability.

DETP is particularly relevant to smaller and locally dependent vessels and will help to address limitations in conventional VMS and landings datasets. The outputs will be used through the SFC to inform monitoring, review of coexistence outcomes and, where required, adaptive management.

Point 2 – Unworkable mitigation measures

On page 10 of its submission, NFPO stated that the application provides unworkable mitigation measures which are a result of lack of consultation and engagement with the fishing industry in relation to the preparation of the FMMS, stating that *“This document, prepared in breach of the guidelines issued in the NMPF, does not contain mitigation measures that are effective in any way to mitigate the very significant impact”*.

Response to Point 2 – Unworkable mitigation measures

As explained above in Section 5.6.3.4 of this report, mitigation measures are being developed with the fisheries industry for the Proposed Development. These include the implementation of a Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS). The Developer welcomes the continued engagement with fishers and their industry representatives. The mitigation measures provided within the FMMS have been developed in consultation with the industry and will continue to be delivered through the FMMS as it remains a live document.

The FMMS includes a Fisheries Liaison Strategy, a Co-existence Strategy and commitment to follow the Seafood / Offshore Renewable Energy (ORE) Working Group Summary guidance.

Point 3 – Development of FMMS

On page 10 of its submission, NFPO acknowledges that *“The NMPF requires that the applicant will progress the construction of the proposed development with the least disturbance practicable to the local fishing activities. The applicant acknowledges that there will be very significant impacts on Nephrops fishing at all stages of the proposed development and seeks to mitigate these impacts with the FMMS. As explained in the planning report of Mr. Marston, these measures are totally ineffective.”*

Response to Point 3 – Development of FMMS

As explained above in Section 5.6.3.5.2 of this report, mitigation measures that are being developed with the fisheries industry for the proposed development include the Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS). Consultation and engagement with the fishing industry undertaken to date is described in Appendix A1.2 and has been ongoing since February 2020, with the FLO and fisheries engagement team having had in excess of 2,000 individual engagements with locally interested fishers. Half of this body of work has been carried out since April 2025, refer to Appendix A1.2 Stakeholder Consultation for full details.

Refer to Section 5.6.3.5.2 in this report for further details.

Point 4 – Construction impact on Nephrops

On page 10 of its submission, NFPO go on to state; *“The application also accepts that there will be exclusion zones around major activity areas which again will inhibit our clients' access to the fishing grounds. The applicant also acknowledges the fact of the killing or destruction of species (but not the full extent thereof) that will occur to the Nephrops species during construction and our clients do not accept that the species is likely to recover from this.”*

Response to Point 4 – Construction impact on Nephrops

The impacts of the proposed development on Nephrops are assessed in Chapter 13: Fish and Shellfish Ecology and Chapter 16: Commercial Fisheries of the 2024 EIAR. Additional mitigation measures proposed, which were not embedded into the project design, are presented in Section 16.6 of Chapter 16. Key measures include implementation of a Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS).

During the construction phase, advisory safety zones of up to 500m in radius around individual structures will be established which is considered standard industry practice. This is a short-term restriction during active construction. The assessment in Chapter 16 of the EIAR assumes that fishing will resume around and between infrastructure within the windfarm where possible, with the exception of an assumed 50m operating

distance from infrastructure, areas of cable protection that cannot be fished, and advisory safety zones around infrastructure undergoing major maintenance or replacement.

To provide further context, based on Figure 3.4 of Appendix 16.1 Commercial Fisheries Technical Report of the 2024 EIAR, the key Nephrops grounds targeted by Irish vessels in the West Irish Sea cover an area of approximately 1,354.7 km². The array area is 88.5 km², which equates to approximately 6.5% of the Nephrops grounds.

Within the array area, during construction, as detailed in Table A16.4 of Chapter 16 of the EIAR, the maximum total area of seabed affected (including foundations, scour and inter-array cables) is 4,465,913 m² (based on Project Option 1, with Project Option 2 having a smaller area of seabed disturbance). This equates to 5.4% of the total Array Area.

In Section 5.6.3.5.2 of this report, mitigation measures that are being developed with the fisheries industry for the proposed development include the implementation of a Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS).

The Developer acknowledges that construction-phase restrictions may affect fishing patterns and could result in temporary displacement. These effects are one of the reasons significant pre-mitigation effects were identified for Irish demersal otter trawlers. The FMMS, SFC, Fisheries Liaison Strategy, advance notice procedures, construction updates, guard vessels where appropriate, and disturbance payment framework are intended to minimise, manage and mitigate these effects as far as reasonably practicable.

Consultation and engagement with the fishing industry undertaken to date is described in Appendix A1.2 and has been ongoing since February 2020, with the FLO and fisheries engagement team having had in excess of 2,000 individual engagements with locally interested fishers.

Refer to Section 5.6.3.6.3 FMMS Development in this report for further details.

Point 5 – Mitigation measures

“The applicant seeks to rely on an evidence-based disturbance payment strategy at section 4.4 of the FMMS. This strategy has not been discussed or developed with the fishing industry and is a vague and unsubstantiated mitigation measure which must be disregarded. The Sustainable Fisheries Community (SFC) initiative has not been prepared through collaboration and cooperation between the local fishing community and NISA. No socio-economic analysis or cost benefit analysis has been carried out for the fishing industry or is contained in this application”.

Response to Point 5 – Mitigation measures

The FMMS has been drafted by the independent consultant that undertook the commercial fisheries impact assessment (Chapter 16 of the EIAR), in collaboration with the Developer and the Fisheries Liaison Officer (FLO). A vital element of the mitigation proposed in the FMMS is the implementation of the SFC. An overview of the SFC is contained within the FMMS. The SFC initiative has now been developed by the FLO in collaboration with the fishing industry. The FLO has presented the updated FMMS in 2026 to the commercial fishing industry with the intention to gain feedback on these documents/initiative. The FMMS and SFC initiative will remain live documents and the Developer confirms commitment to continue engagement with the commercial fishing industry to support the development of these documents.

Point 6 – Economic review

On page 10 of its submission, NFPO states *“It is set out that the applicant carried out a body of work to establish the value of earnings, this data is not contained in the application for consideration and our clients do not accept that the applicant has prepared this analysis in a proper or meaningful way. No processes have been agreed or developed to show how fisheries will be identified to ensure that impact mitigation, by way of disruption payments, will occur. The application notes that this purported mitigation measure (which is not adequately set out) is for the construction phase, whereas the EIAR recognises that Nephrops will be impacted at all stages of the project. The limited engagement referenced*

by the applicant records the concerns put forward by Nephrops fishermen, including our clients, which the applicant has ignored, thus failing to avoid, minimise and mitigate.”

Response to Point 6 – Economic review

For the *Nephrops* fishery, the magnitude of impact related to loss of access within the array area during construction is assessed to be high for Irish demersal otter trawlers. Specifically, in Section 16.5.2.1, of Chapter 16 of the EIAR the report states that: “*Cross-referencing with landings data provides an average first sales value of approximately €1.55 million of Nephrops caught by Irish trawlers from inside the array area during an annual period.*”

The Developer acknowledges the NFPO’s concern that the *Nephrops* fleet may experience economic effects as a result of reduced access, displacement, altered fishing patterns and operational inefficiencies. Chapter 16 considers the value of the *Nephrops* fishery when determining magnitude of impact and identifies significant pre-mitigation effects for Irish demersal otter trawlers.

The EIAR does not set out individual vessel-level financial effects because such information is commercially sensitive and cannot be reliably presented at individual business level within the EIAR. However, the updated FMMS provides a clearer framework for addressing individual project-related disturbance where it can be evidenced.

Appendix C of the FMMS sets out an outline construction disturbance compensation protocol. This is intended to provide a fair, transparent and evidence-based process for disturbance payment claims where construction-related disruption can be demonstrated. Evidence may include vessel registration, fishing licences, insurance, DETP data or GPS/plotter records, sales notes, accounts or equivalent earnings evidence, landings data and gear configuration information.

Disturbance payments are not the first or only mitigation measure. The mitigation hierarchy remains to support coexistence where safe and practicable, minimise disruption through design and operational planning, provide timely information through the FLO and OFLO, and then provide evidence-based disturbance payment arrangements where qualifying construction-related disturbance occurs.

5.6.3.6.2 Co-existence with other activities

Point 1

On page 11 of its submission, NFPO states that under NMPF Co-Existence Policy 1, the Developer “should have included alternative locations for the purposes of co-existing with the other marine users including commercial fishermen. There is a clear breach of this obligation as our clients cannot co-exist with ORE when a significant part of their fishing grounds are being wiped out by the applicant.”

Response to Co-existence with other activities

- In Section 5.6 of Chapter 5 Consideration of Alternatives of the EIAR, the design evolution of the offshore infrastructure is explained. The offshore development area has been refined to reflect the most appropriate area within the MAC area to develop the wind farm. See Figure 5.6.2 Offshore Development Area and associated constraints.
- The factors used to undertake the site selection process to reduce the MAC boundary area to the offshore development area included:
- Seabed and ground conditions, utilising geophysical and geotechnical survey data to exclude areas unsuitable for foundation installation
- Wind resource, focusing areas of the site where wind speeds are uniform and > 10m/s allowing for the greatest yields and thus provision of renewable energy
- The interaction with the newly designated cSPA, completing extensive ornithological assessment upon layout options, as well as increasing the distance between the array and Rockabill Island SPA – therefore reducing ornithological connectivity where practicable

- Commercial fisheries interests – reducing the offshore development area to exclude the areas with the greatest static fishing grounds and reduce overlap with key nephrops fishing grounds
- Shipping and navigation – ensuring areas of the highest intensity vessel movements were excluded and also facilitating a reduction in the deviation for vessels which may choose not to route through the array, in comparison to routing around the entire MAC boundary; and
- Existing interconnectors – crossing of the existing electrical and gas interconnectors may be challenging, therefore this area and the area south of the interconnectors was removed from the offshore development area.

Figure 5.6.2: Offshore Development Area and associated constraints

5.6.3.6.3 FMMS development

“Our clients take great exception to the assertion being relied upon by the applicant. They can confirm that NISA representatives attending the ORE Seafood WG have been asked to engage with the fishing industry to prepare a Fishery Mitigation and Management Strategy, but this has not happened.”

Response to FMMS development

The Developer notes the disappointment felt by NFPO with the level of consultation and engagement achieved with the industry for the proposed development.

As NFPO acknowledges in its submission, the FMMS has been drafted by an independent consultant that undertook the commercial fisheries impact assessment (Chapter 16), in collaboration with the Developer and the Fisheries Liaison Officer (FLO). A vital element of the mitigation proposed in the FMMS is the implementation of the SFC. An overview of the SFC is contained within the FMMS. The SFC initiative has been developed by the FLO in collaboration with the Developer's Commercial Fisheries Manager. The FLO has presented the FMMS and SFC to the commercial fishing industry with the intention to gain feedback on these documents/initiative, and during the updates to the FMMS in 2026. The FMMS and SFC initiative will remain live documents and the Developer confirms commitment to continue engagement with the commercial fishing industry to support the development of these documents.

The SFC is a mechanism to deliver long-term proactive fisheries impact mitigation through collaboration and mutual cooperation between the local fishing community and the Developer. It is a live document and will be updated to reflect the current fishing and schedule ahead of the construction, operation and decommissioning commencing.

The key aim is to establish a SFC focused on the protection and enhancement of a locally sustainable fisheries and marine environment in the waters around the proposed development. This ambition includes the following delivered throughout the lifetime of the proposed development:

- Collaboration between the Developer and local fishing community;
- Provide a definition of what is considered the local fishing community;
- Deliver a proactive fisheries impact mitigation process;
- Create a mechanism to deliver benefits, both to and from, the local fishing ports;
- Work collaboratively to deliver enhancements to the local marine environment;
- To, in a broad context, enhance the sustainability of the local fishing community; and
- Establish ways of collaboratively adding value to local seafood produce.

Details on the FMMS and SFC are provided in Section 16.6 of Chapter 16 and Appendix A16.2.

5.6.3.7 *Economic considerations*

On page 12 of the submission, NFPO raises a series of concerns with economic considerations;

- Ireland's Electricity Industry
- The Public Spending Code
- Downstream Benefits

5.6.3.7.1 **Ireland's Electricity Industry**

NFPO's review of the electricity industry is covered in the following point;

On review of Ireland's current regulatory regime, NFPO states that ultimately, where the State has undertaken a form of price guarantee, *"there is a formal mechanism to pass this cost on to electricity consumers as a public service obligation so the future costs will be recovered as an indirect tax on customers."*

"Unless generators are charged fully for new connection link-up and for any other upgrading to the system arising from their activities, this cost is also passed through to end-users."

Response to Ireland's Electricity Industry

The Commission for Regulation of Utilities (CRU) reviews and determines the annual Public Service Obligation (PSO) levy, which functions as an indirect levy absorbed by all domestic and business customers. Therefore, this is not a matter that the Developer can directly respond to.

5.6.3.7.2 The Public Spending Code

Point 1 – Cost recovery

“Clarity in the arrangements for cost recovery by the grid operator from applicants is accordingly critical in assessing the distribution of potential benefits from any wind farm project, on- or off-shore.”

Response

See response in section 5.6.3.7 of this report.

Point 2 – Onshore transmission infrastructure

“An Bord Pleanála should seek to ascertain Eirgrid's view on the adequacy of existing onshore transmission infrastructure in the light of additional generation and of growing demand, and whether they acknowledge that these pressures will be most acute in Dublin and the East region. Do they accept the applicant's view that the onshore facility at Belcamp will be adequate without additional enhancements and other work on transmission infrastructure?”

Response

This is not a matter the Developer can directly respond to.

Point 3 – Evaluation of Alternative Projects

The NFPO submission provides a review of the Public Spending Code and concludes that the application for the proposed development has failed in the requirements to consider the full range of alternatives and therefore to satisfy Government policy.

Response to Evaluation of Alternative Projects

The Developer acknowledges the NFPO queries around the application of the Public Spending Code (PSC) to the proposed development. As An Bord Pleanála will be aware, the PSC applies to public capital investment in projects. The Developer of the proposed development can confirm there is no public capital investment proposed for this project. Therefore, the proposed development does not come within the scope of the PSC.

5.6.3.7.3 Downstream Benefits

Point 1 – Employment and additional business

On page 17 of the submission, NFPO refutes that the proposed development will bring off-site employment and additional business for Irish seaports.

“These include off-site employment and additional business for Irish seaports. Several ports in the Republic on the Irish Sea and off the southern and Atlantic coasts, most of which are in the ownership of the state, have already announced plans for onshore facilities aimed at the offshore wind industry but have been keen to stress that they will require Exchequer support.”

Response to Point 1 – Employment and additional business

Chapter 33 Socio economic Tourism and Recreation outlines that the Gross Value Added generated as a result of the proposed development will be positive. It is estimated that the GVS is €97,048,431 and €152,963,786 during the construction and operational phases respectively, which includes direct and indirect jobs.

In September 2024, the European Investment Bank (EIB) and the Irish Department of Transport announced an advisory cooperation to assess capacity, demand and financing strategies required for the development of

ORE port infrastructure, which will be crucial for the development, construction, and long-term operation and maintenance of offshore wind projects in Irish waters and economic activity.

Point 2 – Cost benefit analysis

On page 18 of the submission, NFPO comments “The community benefit fund promised, €4 million per annum, is not compared to the gross benefit of the project to the promoters, nor to any direct estimate of losses to the fishing industry.”

“A cost benefit analysis of the project, which includes a comparison of reasonable alternatives, has not been submitted by the applicant to satisfy the Public Expenditure/Infrastructure Code which forms part of government policy to which the Board is obliged to have regard, inter alia, under section 143 of the Planning and Development Act 2000, as amended”

Response to Point 2 – Cost benefit analysis

See response to Point 3 in section 5.6.3.7.2 of the Public Spending Section in this report.

Point 3 – Licensing and registration of Irish Sea-fishing boats

On page 18 of the submission, NFPO details the licensing registration under national and EU legislation, stating “The very significant impact, as acknowledged, on the Nephrops fishing industry will result in a reduction in fishing opportunities, which will have a knock-on effect on fleet capacity. The Irish fishing fleet has already suffered significant decommissioning of vessels post Brexit, which BIM estimated at a total cost of €63 million.”

Response to Point 3 - Licensing and registration of Irish Sea-fishing boats

The Developer recognises the very significant impact identified in the EIAR for the Nephrops fishing industry and is committed to the FMMS and SFC to mitigate this impact. Refer to Section 5.6.3.6.3 FMMS Development in this report for further details. Through successful implementation of the FMMS and SFC, the developer is committed to ensuring that residual effects to the commercial fishing industry are not significant.

Point 4 – Ireland’s Seafood economy

On page 20 of the submission, NFPO states “The profit margins cannot survive the losses that will occur as a result of this development, noting the expense required to get the vessels in the water such as fuel, insurance, experienced crew costs and vessel and equipment costs and this has not been considered or evaluated by the applicant.”

Response to Point 4 – Ireland’s Seafood economy

The operating range and extent of fishing grounds were considered in assessing the sensitivity of different commercial fishing fleets which contributed to the very significant impact to the Nephrops trawling fleet. The FMMS and SFC include commitment to an evidence-based disturbance payment scheme during the construction phase and have the overall aim of improving long term sustainability including “*improvements that enhance the profit margins of sustainable fishing activities*”.

5.6.3.8 Appropriate assessment and other ecological concerns

From page 19 of the submission, NFPO mention that they have sought the advice of ecologist Marie Louise Heffernan and raise various concerns during this section, which have been grouped into the following topics:

- Method of assessment;
- Site selection and proximity to Natura 2000 sites;
- Impacts on birds - Displacement;
- Impacts on birds – Collision risk;

- Impacts on marine mammals – Harbour porpoises;
- Impacts on marine mammals – Grey and harbour seals;
- Ecosystem impacts;
- Impacts on prey species – Sandeels;
- Impacts on prey species – Nephrops;
- Pollution;
- Bats;
- Consideration of alternatives in EIAR;
- Conclusion on appropriate assessment;
- Climate change obligations; and
- Specific effects due to EMF, noise pollution and hydrographic impacts.

5.6.3.8.1 Method of Assessment

NFPO states in its submission (page 19) that “the likelihood or possibility of the proposed offshore wind farm development (the proposed WFD), whether on its own or in combination with other projects, having an adverse effect on the integrity of a number of Natura 2000 sites and their protected species, in light of the conservation objectives for those sites, cannot be excluded on the basis of the information in this application, including the Natura Impact Statement (NIS) and appropriate assessment (AA) screening information.”

Response to Method of assessment

This comment is acknowledged by the Developer. The Supporting Information for Screening for Appropriate Assessment (SISAA) report (previously referred to as the AA Screening in the submission) along with the NIS (North Irish Sea Array Offshore Wind Farm Natura Impact Statement, NISA 2024) have been completed to the highest scientific standard using data collated from a variety of quality sources and in accordance to current guidance.

Having regard to the *Planning and Development Act 2000*, it is recognised by the Developer that the public authority for carrying out AA for the proposed development (the ‘competent authority’) is An Bord Pleanála.

In accordance with the *Planning and Development Act 2000* and all other relevant guidance, Supporting Information for Screening for Appropriate Assessment (SISAA Report) (North Irish Sea Array Windfarm Limited, 2024) and a NIS have been prepared by the Developer to provide information to An Bord Pleanála, as the competent authority. This document forms the NIS.

The SISAA Report has assessed the potential for the proposed development to have a Likely Significant Effect (LSE) on a European site, taking account of QIs and site-specific COs.

The NIS takes account of the QIs and COs of all relevant European sites identified within the SISAA Report, and considers whether a plan or project, alone or in combination with other plans or projects, will have an adverse effect on integrity (AEoI) of one or more European sites. As the competent authority, An Bord Pleanála will use this information to undertake an AA. The competent authority is not bound to reach the same conclusions of either the SISAA Report or the NIS.

The NIS includes an in-combination assessment which considers all plans and projects that could have an in-combination impact with the proposed development, provided in Section 6 of the NIS. Section 1.13 of the NIS sets out the methodology used to complete the in-combination assessment and states that the European Commission’s 2021 Guidance was followed. Other plans and projects were screened into the in-combination assessment following the process outlined in Section 1.13.2 of the NIS. The full long list of projects considered in the NIS was provided in Appendix 3 of the NIS. Following the completion of the long list, a short list of projects was compiled by screening out projects that would not result in an in-combination impact with the proposed development.

The NIS concluded that no AEoI would result from the proposed development either alone or in-combination with other plans or projects on any Natura 2000 sites.

5.6.3.8.2 Site Selection and proximity to Natura 2000 sites

Point 1 – Site Selection

On page 19 of the submission, NFPO refers to the site selection process when they say, “The unsatisfactory approach to how this site was selected and the extent to which alternatives were not considered adequately or at all is evident from the chronology in relation to site selection in the EIAR”

Response to Point 1 – Site Selection

The location and site selection and refinement process for the proposed development is described in full in Chapter 5; Alternatives of the EIAR. The site selection process commenced in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in this EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

The preferred location and extent of the proposed development offshore development area were identified, which was deemed to be both environmentally acceptable as well as commercially viable, this formed the boundaries of the area identified in the Maritime Area Consent (MAC) application.

Further refinements have been made to reduce the MAC boundary are listed in Section 5.6.1.1 Environmental Considerations and 5.6.1.2 Offshore Development Area – Environmental Comparison (Ornithology) in Chapter 5 of the EIAR.

The Developer notes that site selection has been a key consideration in the design of the Proposed Development from the project’s inception, and therefore considers that the approach taken is satisfactory, with all alternatives considered within Chapter 5: Alternatives.

Point 2 - SPAs

On page 19 of the submission, NFPO specifically refers to the North West Irish Sea cSPA, the Malahide Estuary SPA, the Rockabill SPA, “*The site is located within a SPA, namely the North West Irish Sea SPA, designated to protect 120,000 feeding birds. It is also located on a migratory route for Wildfowl and Waders for which the Malahide Estuary SPA is designated, at c. 0.5 m from the NISA onshore infrastructure and Rockabill SPA, a breeding area for vulnerable Roseate tern. Rockabill supports 94% of the UK and Ireland population and is located 0.2 km from the array area. The potential for displacement and collision impacts in such a key European and internationally important area for birds are considerable.*”

Response to Point 2 - SPAs

The Developer can confirm that within the SISAA and NIS all of these designated sites are fully considered, with clarification provided on the impacts and reasons why no adverse effects (within the scope of the COs) from the project either alone or in-combination are concluded. For clarity, please refer to the following sections for those site-specific assessments within the NIS in relation to their ornithological features;

- North-West Irish Sea cSPA – Section 5.4.2 of the NIS;
- Malahide Estuary SPA – Section 5.4.3 of the NIS; and
- Rockabill SPA – Section 5.4.4 of the NIS.

Within all of the sections, its concluded that there is no potential for AEoI, with the following quote from Malahide Estuary SPA as an example: “*the constructions and decommission of the onshore elements of the proposed development (alone) will not have AEoI on the wetland habitats utilised by designated QIs of the Malahide Estuary SPA in relation to dust deposition arising from onshore elements of the proposed development.*”

Species specific responses are present in Section 3.11 – Offshore Ornithology in this report.

Point 3 - SACs

The NFPO highlight concerns with regards the Rockabill to Dalkey Island SAC and the Lambay Island SAC: “It is not only birds that are at risk. The array is located just 2.5 km from the Rockabill to Dalkey Island SAC, designated for the largest number of harbour porpoises in a single area in Ireland. Only 15 km away lies Lambay Island SAC designated to protect Grey and Harbour Seal... There is significant potential for impact on these species through this and other wind farms in the Irish sea.”;

Response to Point 3 – SACs

Within the SISAA and NIS these designated sites are fully considered, with clarification provided on the impacts and reasons why no adverse effects (within the scope of the COs) from the project are concluded. For clarity, please refer to the following sections for those site-specific assessments within the NIS in relation to their marine mammal features alone;

- Rockabill to Dalkey Island SAC – Section 5.3.2 of the NIS; and
- Lambay Island SAC – Section 5.3.3 of the NIS.

And in-combination:

- Rockabill to Dalkey Island SAC – Section 6.3.1 of the NIS; and
- Lambay Island SAC – Section 6.3.2 of the NIS.

Species-specific responses are present in Section 3.10 Marine Mammal Ecology & Underwater Noise.

Point 4 – Appropriate Assessment

On page 20, the submission states “The project is likely to have an adverse effect on the integrity of a number of Natura 2000 sites and their protected species, having regard to the conservation objectives for those sites.”

Response to Point 4 – AA

The Developer has prepared a thorough NIS and considers all potential impacts for all relevant sites and assesses against the COs of that site.

This assessment has been completed to the highest scientific standard with the best available information at the time of completion. A full range of potential impacts has been estimated and presented within this report and no AEoI has been concluded for project alone and in-combination impacts to SPAs.

5.6.3.8.3 Impacts on Birds - Displacement

From page 20 of the submission, the NFPO discusses the impact of displacement on guillemots, and raised a number of concerns outlined below:

1. The NFPO begin by stating that displacement can “disrupt their environment, making the area less suitable for feeding, breeding, or resting. This forces the birds to travel further, increasing energy use and reducing efficiency, which can lower survival and reproductive success”;
2. NFPO refers to data from the Seabirds Count by Brunell et al. (2024) and Jessopp et al. (2018).
3. NFPO raises concerns regarding the prey impacts and breeding season, “this means that breeding season is a particularly vulnerable time of the Guillemot’s life cycle, any displacement is likely to be costly in term so survival and reproduction.”
4. The NFPO submission repeats findings from the NIS, stating they are “significant displacement impacts.” Later stating, “The Operational phase represents long term permanent displacement from a rich feeding area [Lambay Island SPA and North West Irish Sea SPA] which is part of the ecosystem supporting these amber listed protected species.”
5. After referencing the COs of the North West Irish Sea SPA and Lambay Island SPA, the NFPO submission concludes that “the displacement impacts on guillemots from the array has the potential to have a significant impact on population targets and thus the Conservation Objectives... increasing

competition in nearby areas and jeopardising the overall stability of the species. Such impacts could severely hinder the achievement of the intended conservation outcomes.”

6. NFPO then discusses cumulative impacts, stating that the PVA results “5.461% reduction in the final population size of the Lambay Island SPA guillemot population due to cumulative impacts.”
7. NFPO refers to mitigation measures, and when referring to the “avoidance behaviours” as a result of displacement, the submission states that “no mitigation is possible.”
8. The discussion on displacement impacts on guillemots within the submission concludes with “the displacement of guillemots from the array area, a critical foraging and breeding ground, directly conflicts with the “Conservation Objectives” set forth for both Lambay Island SPA and North West Irish Sea SPA... The displacement and habitat loss associated with this project pose a serious risk to the sustainability of these populations, contravening the fundamental aims of the Habitats Directive to maintain and restore species to favourable conservation status.”

Response to impacts on birds – Displacement

Response to point 1, 3, 4 and 8- displacement impacts on guillemot

The Developer provided a robust assessment against all published conservation objectives for Lambay Island SPA and North West Irish Sea cSPA within the NIS. Based on the assessments, carried out in line with the guidance and best practice, it was concluded beyond reasonable scientific doubt that disturbance and displacement during the operation phases will not result in an AEoI for these, or any other, SPAs.

Additionally, the Developer notes that since the submission of the Planning Application, further refinements to the MAC boundary have been made in response to the RFI (8(e)vi)) to provide additional mitigation, with the PFI spatial extent of infrastructure or PFI now occupying 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the SPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas during the non-breeding season.

Response to point 2- seabird count data

For the assessment for Lambay Island SPA, the latest colony count per the JNCC Seabird Monitoring Programme (SMP) database was used within the NIS and as such the Developer has the most up to date and appropriate colony count for guillemot at Lambay Island within the assessment.

There is no single SPA citation population within the COs that adequately reflects species abundance in the NWIS cSPA across the year, as available estimates are based on limited survey snapshots and are likely to under-represent cumulative seasonal use (e.g. ObSERVE; Jessop et al., 2018). To address this, population-level effects have been assessed across multiple, ecologically relevant population contexts, including breeding populations of adjacent SPAs, the NWIS cSPA citation population, the relevant regional population, and maximum abundance estimated from the recent site-specific NWIS DAS. This approach reflects the strong seasonal variability and wide dispersal of species outside the breeding season, avoids over-reliance on highly precautionary snapshot values, and it is considered that it provides a more robust, evidence-based assessment than assessing against the stated NWIS citation populations.

Response to point 5- NWIS and Lambay Island conservation objectives

As per the response to point 1, 3, 4 and 8 above, a robust assessment against all published conservation objectives on species designated under the NWIS SPA was provided within the NIS. This assessment clearly demonstrates that even with conservatism in the assessment that any mortality arising from displacement impacts will not contravene the achievement of the population targets within the Conservation Objectives.

The Developer also provided a full assessment of the Lambay Island SPA is provided in the NIS. For all qualifying interests (QIs) screened in for the assessment for Lambay Island SPA it was concluded there is no potential for an adverse effect on site integrity (AEoI) when considering the proposed development alone or in combination with other plans and projects during the construction, operation and maintenance and decommissioning phases of the proposed development as per Project Option 1 and Project Option 2.

Regarding the *spatial distribution* and *forage spatial distribution* conservation objectives, it should be noted that the best available scientific evidence does not support the assertion that auks will be completely excluded from suitable habitat within the SPA (APEM, 2022; Trinder *et al.*, 2024). Rather, displacement studies indicate that while some disturbance may occur (APEM, 2022; GoBe, 2024), it is more appropriate to describe the effect as a dynamic redistribution over a relatively uniformly suitable habitat rather than a loss of functional habitat. Displacement does not equate to habitat loss, as the overall extent of available habitat remains unchanged, and auks are not excluded from the array area. In addition, there has recently been further evidence of habituation to offshore windfarms by auks (Degraer *et al.*, 2023).

Furthermore, during the breeding bio-season guillemot exhibit a reasonably varied diet typically feeding fish such as sand eel, clupeids, and gadoids, as well as large copepods and squid (Ainley *et al.*, 2021), with an even greater diversity observed during the non-breeding bio-season. Moreover, based on tracking data, guillemot have a large foraging range (mean max +1SD of 153.7km) (Woodward *et al.*, 2019) and therefore the reduction in available foraging area as a result of the proposed development is likely to cause minimal alteration to foraging habitat usage. Considering the available evidence above guillemot are considered to be adaptable to potential localised changes to prey species abundance (relative to the large foraging range) and availability as a result of the proposed development. Potential effects on prey species namely, sandeels, herring and sprat, that are key prey species for various seabirds, and the habitats that support these species are addressed within the NIS. Impacts were found to be non-significant therefore, it is reasonable to assume, regardless of the sensitivity of the receptor, any potential indirect effects on ornithological receptors in this case guillemot can also be ruled out. Therefore, the CO's target regarding 'Forage spatial distribution, extent, abundance and availability' will be preserved.

Additionally, the Developer notes that since the submission of the Planning Application, further refinements have been made in response to the RFI (8(e)vi)) to provide additional mitigation, with the spatial extent of infrastructure or Projected Footprint of Infrastructure (PFI) now occupying 57.7 km², representing only 2.5% of the NWIS cSPA.

Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the SPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas during the non-breeding season.

Response to point 6- PVA results

PVA models use demographic parameters to estimate the effect that a development, alone or in-combination, may have on a designated feature. PVA was carried out if the impacts from the project alone or cumulatively with other projects were predicted to increase baseline mortality of a population by more than 1%

Two main metrics are used to report the results of PVA models, the counterfactual of population size (CPS) and the counterfactual of population growth rate (CGR). They present the relative difference in population size (in the case of CPS) and growth rate (in the case of CGR) of a population between two or more scenarios, including a baseline scenario (unimpacted) and an impacted scenario. Although both the CPS and CGR are presented within the NIS, it is generally considered that only CGR should be used for interpreting the predicted impacts. This is because the CGR can be compared against known population trends for a feature / receptor (in this case guillemot) and is relatively insensitive to the baseline rate of growth and direction (positive or negative). Whereas the CPS will predict very large differences in comparison to the baseline population size, especially when density dependent factors allowing for population recovery or preventing exponential growth are not considered within the PVA, as is the case with these assessments.

Across all updated assessment scenarios, the Lambay Island SPA population show no relative reduction in population growth rate greater than 0.489% when compared with unimpacted populations. This level of change would not have any meaningful effect on the population growth rate over the long term.

These decreases in growth rate are far more precautionary than what would be considered realistic within natural systems because density dependence was not incorporated into models. This population was modelled as a closed population, however in reality density dependence would act on a population of this size (Horswill and Robinson, 2015). If density dependence were to be included in models, then the predicted CGR would be close to zero because non-breeders from the wider region will be recruited into the Lambay Island population to replace the few mortalities predicted from displacement impacts. Please see the

Assessment Criteria Section 5.4 of the Natura Impact Statement Volume 1: Main Report and the PVA Appendix A20 for further justification.

With regards to the estimated 5.461% reduction in the final population size of the Lambay Island SPA guillemot population due to cumulative impacts, it should be noted that this 5.461% is calculated relative to a baseline (unimpacted) population.

This does not mean the population will directly decline by 5.461%, but rather that—without density dependence, which is ecologically unrealistic for this population—the population could be 5.461% smaller than if no impacts occurred. In practice, however, the Lambay Island guillemot population has remained relatively stable over the long term, meaning density dependence is expected to regulate the population, maintaining the colony at a similar size despite any cumulative impacts. However, as noted above, even when not considering density dependence, the CGR shows that the level of reduction of population growth rate is so low (0.489% in the updated assessments) as not to have any meaningful effect on the population growth rate in the long term.

Response point 7- no mitigation possible for displacement risk

The Developer also notes that the western Irish Sea is an important area for auks at certain times of year, showing noticeably high numbers of auks in the post breeding dispersal period. The site-specific surveys supported this. It should be noted that the array area has undergone significant refinement with auk densities as one of the key driving factors. Since the submission of the Planning Application, further refinements have been made in response to the RFI (8(e)vi)) to provide additional mitigation, with the spatial extent of infrastructure or PFI now occupying 57.7 km², representing only 2.5% of the NWIS cSPA. Compared to the original MAC boundary, this equates to a 70.2% reduction in the proportion of the SPA overlapped by the proposed development. Removal of the northern sections of the array area eliminated overlap with high guillemot density areas during the non-breeding season.

5.6.3.8.4 Impacts on birds – Collision risk

The NFPO submission discusses the impact of collision on kittiwakes raising the following concerns:

Point 1- suitability of collision risk assessment

After providing a brief introduction into the ecology of kittiwakes and repeating figures from the NIS, the submission states that *“the collision risk assessment predicts a maximum mortality due to collision of Kittiwakes with turbine blades of 45 kittiwake per annum following mitigation. This figure would appear to be a significant underestimate. The consultants for the NISA wind farm, GoBe, have admitted that the modelling utilised was not fit for purpose. In the section of Offshore Ornithology Migratory Collision Risk Modelling, they note that the collision risk modelling is not suitable for this type of assessment which is not a point-to-point migration but daily foraging within the SPA. However, even if we were to accept their (higher) figure of 45 per year, the total over the lifetime of the project would be 35 year is 1,575 Kittiwakes. In reality, the figure is likely to be much higher.”*

Response to point 1- suitability of collision risk assessment

The Developer would like to clarify that the comment in point 1 (*“the modelling utilised was not fit for purpose”*) is incorrect. The NFPO have misinterpreted text related to the Offshore Ornithology Migratory Collision Risk Modelling assessment and used it in reference to the collision risk modelling for seabirds, which uses a different modelling methodology.

Kittiwakes, which do not undertake point-to-point migrations, were assessed for potential collision effects during the breeding and non-breeding season in line with Natural England (Parker *et al.*, 2022) and NatureScot Guidance (NatureScot. (2023), ‘Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds’, Version 1: January 2023.), using the Marine Science Scotland Stochastic Collision Risk Model Shiny Application (“sCRM App”; Donovan 2017). (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment). The Developer confirms that the collision estimates presented in the assessments are derived from well-established tools that are fit for purpose, applied in accordance with the latest guidance, and designed to account for uncertainty while adopting a precautionary approach.

For example, Band Option 2 was used within the Collision Risk Modelling (CRM), which assumes birds are evenly distributed throughout the entire rotor swept area. In reality, most birds fly at lower heights within the rotor swept area, where the available swept area is significantly smaller than at hub height.

This conservative approach ensures that potential collision risks are not underestimated. Therefore, in reality, impacts are likely to be considerably lower due to the multiple levels of precaution incorporated into the assessment.

Overall, the methodology used to assess collision risk to kittiwake in the EIAR and NIS follows the best practice, is fit for purpose and is precautionary as such impacts are likely to be considerably lower than reported in the EIAR and NIS.

Point 2- mitigation

NFPO then refers to mitigation used by the Developer, specifically the increase in the minimum air draft to 40m LAT, stating that *“kittiwakes found in high numbers in the NISA area face collision risks with turbine blades, which cannot be avoided.”*

Response to point 2- mitigation

The Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the draft height of the turbines to 40m LAT. The number of birds at collision risk height at 40m is considerably reduced compared to 22m (i.e., the lowest blade tip height in terms of navigational safety), kittiwake have a reduction of birds at collision risk height of 82.2% between 22m and 40m (Johnston *et al.*, 2014).

Point 3- cumulative impact with Arklow Bank OWF

The submission raises concerns regarding the cumulative impact with Arklow Bank OWF.

Response to point 3- cumulative impact with Arklow Bank OWF

The cumulative assessment considers the effects of the Irish Sea Phase 1 ORE projects (including the proposed Arklow Bank Phase 2) and other relevant existing or proposed plans and projects. The cumulative assessment has been fully updated using the most current publicly available impact information. This has included a complete update of the cumulative ornithology assessment, which now incorporates the revised project-alone assessment following design refinements, the updated NWIS DAS dataset, and methodological updates arising from the RFIs.

The cumulative assessment, carried out in line with the latest guidance and best practice, concludes that the sensitivity of kittiwake to collision is high and the magnitude of the cumulative impact of the proposed development with Tier 1 projects is low. The high sensitivity and low magnitude of the impact on kittiwake results in a moderate cumulative effect, which is not significant in EIA terms.

Point 4- kittiwake NWIS SPA

Finally the submission states, “This project, both alone and in combination, is not compatible with the Conservation Objectives for: North-west Irish Sea SPA (004236] for A188 Kittiwake *Rissa tridactyla*: To restore the favourable conservation condition of kittiwake in North-west Irish Sea SPA.s It is not possible to exclude the likelihood that the project will have an adverse effect on the integrity of the North-west Irish Sea SPA for this reason. The assessment of the impact on kittiwakes has been significantly understated.”

Response to point 4- kittiwake NWIS SPA

The Developer provided a robust assessment against all published conservation objectives on qualifying species designated under the NWIS cSPA including kittiwake, within the NIS (see Section 5.4.2 of the North Irish Sea Array Offshore Wind Farm- Natura Impact Statement, Volume 1: Main Report). It was concluded there is no potential for an AEoI when considering the proposed development alone or in combination during the construction, operation and maintenance and decommissioning phases of the proposed development.

Several different species-specific behavioural aspects of the seabirds being assessed, including flight heights, their ability to avoid moving or static structures and how active they are diurnally and nocturnally are considered in CRM. Owing to the lack of Irish-specific guidance the parameters used are advocated for by Natural England (Natural England, 2022) and NatureScot, notably accounting for updates to avoidance rates and nocturnal activity factors provided in this recent guidance. These values are provided in CRM Appendix 18 and 19 of the 2024 of the NIS.

As per the most recent interim guidance from Natural England (Natural England, 2022) and NatureScot (NatureScot, 2023c) the flight speeds applied to the CRM for kittiwake (13.1m/s^{-1}) was derived from Pennycuik (1987). The flight speeds are presented in CRM Appendix 18 and 19 of the NIS.

It should be noted there is evidence to suggest the flight speed of 13.1m/s applied for kittiwake is an overestimate. There is evidence to suggest kittiwake flight speed is even lower, and more appropriate, ranging from 10.8m/s ($\pm 0.9\text{m/s}$) (RoyalHaskoningDHV, 2020); 9.8m/s ($\pm 3.6\text{m/s}$) and 8.7m/s ($\pm 3.2\text{m/s}$) (Skov *et al.*, 2018). The application of the flight speed of 13.1m/s for kittiwake is therefore considered to be precautionary.

Whilst the collision risk assessment for the proposed development is in line with the current guidance, it should be noted that the application of the lower flight speeds (presented above) and lower nocturnal activity factors would result in considerably lower collision rates (~40% lower). Therefore, it is considered that the CRM input parameters used in the assessment of collision risk to seabirds for the proposed development and those from other projects at the in-combination level, incorporate a high degree of precaution meaning impacts have not been underestimated.

5.6.3.8.5 Impacts on marine mammals – Harbour porpoises

From page 28, the NFPO submission discusses European sites, Rockabill to Dalkey Island SAC and Lambay Island SAC, and their qualifying features. The submission initially assesses the harbour porpoise at Rockabill to Dalkey Island SAC.

Point 1 – Rockabill to Dalkey Island SAC

On page 29, under the heading ‘Ecology’, the NFPO raises concerns regarding the proximity of the proposed development to nearby European Sites, stating: “*The Rockabill to Dalkey Island SAC lies just 2.5km south of the Array area.*” The submission goes on to state the site’s COs.

Response to Point 1 – Rockabill to Dalkey Island SAC

Within the SISAA and NIS this designated site is fully considered, with clarification provided on the impacts and reasons why no adverse effects (within the scope of the COs) from the project are concluded.

For clarity, please refer to Section 5.3.2 and Section 6.3.1 within the NIS for the alone and in-combination assessments respectively. Section 5.3.2.1 of the NIS details the QIs and COs of the Rockabill to Dalkey Island SAC. The Developer wishes to reassure An Bord Pleanála that the NIS submitted with the application has thoroughly assessed all relevant European sites, including Rockabill SPA (Section 5.4.4 of the NIS) against their specific conservation objectives and found no AEoI.

Point 2 – Ranges

On page 29 of the submission, the NFPO references the COs of the Rockabill to Dalkey SAC, identifying the first as “*Species range within the site should not be restricted by artificial barriers to site use.*”

Response to Point 2 – Ranges

The potential for barrier effects was scoped out of the assessment for marine mammals. The justification for this is outlined in Section 14.4.6.1 of the EIAR Chapter 14: “*A number of recent studies have reported the presence of marine mammals within wind farm footprints*” (Diederichs *et al.* 2008).

For example, “*a monitoring programme at the Egmond aan Zee OWF in the Netherlands reported that significantly more porpoise activity was recorded within the OWF compared to the reference area during the operational phase (Scheidat *et al.* 2011) indicating the presence of the windfarm was not adversely affecting harbour porpoise presence.*” These studies (among others) suggest that the presence of an operational wind

farm would not act as an artificial barrier to harbour porpoise in or using the SAC and indeed may lead to an increase in porpoise activity compared to the wider area.

It is known that the presence of anthropogenic structures in the marine environment can act as fish aggregating devices and artificial reef systems (Guerin et al., 2007; Zawawi et al., 2012). Further, ongoing studies have shown increases in fish abundance near WTG sites. Initial findings as part of the ongoing multi-year PrePARED (Predators + Prey Around Renewable Energy Developments) Project have shown there to be an increase in flatfish and gadoid abundance at the Beatrice and Moray East OWFs, when compared with outside OWF reference sites (i.e. sites where data on flatfish and gadoid abundance were recorded, but located outside of any OWF area) (PrePARED, 2024).

These findings support a number of studies which have reported the increased presence of foraging marine mammals within operational OWFs and other marine structure sites. For example, Russell et al. (2014) found that some tagged harbour and grey seals demonstrated grid-like movement patterns as these animals moved between individual WTGs, strongly suggestive of these structures being used for foraging. Further, studies at Dutch and Danish OWFs (Scheidat et al., 2011) and in the Moray Firth in Scotland (Fernandez-Betelu et al., 2022) suggest that harbour porpoise may be attracted to anthropogenic structures due to the potential for increased foraging opportunities within operating offshore windfarms. The study conducted by Fernandez-Betelu et al. (2022) found the increased foraging activity and the occurrence of harbour porpoise happened at night, with the change in diel pattern being specifically linked to the presence of an offshore structure.

There was also a significant increase in porpoise presence and foraging activity near isolated offshore structures (Fernandez-Betelu et al., 2022) which again, could be linked to increased foraging opportunities.

Early results from the PrePARED project suggest that the abundance of gadoids and flatfish is higher within constructed windfarms compared to outside OWF reference areas (PrePARED, 2024), and therefore, such changes in prey populations may modify the positive relationship between porpoise occurrence and sandeel density observed in the pre-construction data. The authors did highlight however that definitive conclusions are constrained, as there was only a single year of post-construction data.

In addition, Section 14.4.6.1 of the EIAR Chapter 14 states: “evidence collated to date shows that while individuals may be displaced in the short-term during construction activities, they return to the area of impact after the cessation of activities (e.g. Russell et al. 2016a, Brandt et al. 2018, Benhemma-Le Gall et al. 2020). Therefore, while disturbance leading to temporary displacement may occur, this is expected to be spatially and temporally small scale and thus it is not expected that any stage of the proposed development will result in a permanent barrier to the movement of marine mammals in the area.” As such, temporary disturbance or displacement during the construction phase is not expected to lead to a permanent artificial barrier to harbour porpoise in and/or using the SAC.

Point 3 - Underwater noise

Under the heading ‘Construction Impacts (Noise)’ (page 30) and ‘Impact on Porpoises’ (page 31), the NFPO draws attention to the impacts of underwater noise. “An impact range of 15km as cited in the Natura Impact Statement is equivalent to a footprint of 706.9 square kilometre” and “a radius of 84km is equivalent to a footprint of 24,880 square kilometres”. The values of 706.9 square kilometre and 24,880 square kilometres represent cumulative PTS and TTS impact ranges which overlap with the Rockabill to Dalkey Island SAC (which is 2.5 km away from the array), and is designated for harbour porpoise.

Response to Point 3 – Underwater noise

Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jackets (SBJ), and OSPs with jacket foundations installed with SBJ or drilled pin piles. Therefore, pile driving will not take place during construction (or any other phase).

The Developer acknowledges that construction noise can result in temporary disturbance to marine mammals, however, the scientific data collated to date shows that marine mammals are not completely displaced from the area during construction works, and that they return once the key noisy activities (e.g. piling) have ceased (e.g. Russell et al 2016 for seals and Benhemma-Le Gall et al 2021 and Brandt et al 2018 for porpoise).

The potential for auditory injury and disturbance has been extensively assessed in a quantitative assessment in the EIA and NIS.

Point 4 – Mitigation measures

On page 31, the submission begins to detail the mitigation measures proposed by the Developer, such as Acoustic Deterrent Devices (ADDs), and states that *“the mitigation does not reduce the sound impact in intensity or duration in any way for these animals. The construction activities, operating 7 days a week, 24 hours a day for 3 years, could disrupt marine mammal foraging and breeding behaviours, potentially forcing animals to seek alternative feeding grounds or less suitable habitats with significant negative impact on their conservation status.”* NFPO continues *“Acoustic deterrents do not match the extensive noise range footprint of the actual piling events, leaving young porpoises particularly vulnerable to impact. Therefore, these mitigation efforts are inadequate to fully protect the porpoise population within the Rockabill to Dalkey SAC from the severe auditory injuries and potential community disruption caused by PTS. The designated purpose of this area is to shield these porpoises from harm, a goal these measures fail to meet effectively.”*

Response to Point 4 – Mitigation measures

As a result of design refinements to the proposed development as outlined in Appendix A5.1: Design refinements piling will no longer be required to install wind turbines.

An updated assessment, including mitigation is shown in the update to Chapter 14: Marine Mammals.

Point 5 – Baseline

Furthermore, within this ‘Mitigation’ section on page 32 of the submission, the NFPO states “We have a shifting baseline. The offshore area from Rockabill to Arklow has been surveyed over the last 20 years for various wind farms (Oriell, Realt na Mara, ESB Sea stacks, Dublin Array, Codling and Arklow Bank). The in-combination and cumulative impact of various survey activities over the last 20 years may well have resulted in the significant decline in the population of the Rockabill to Dalkey Island SAC, as evidenced by the 'Harbour Porpoise Surveys in Rockabill to Dalkey Island SAC, 2021 ', by Berrow, S, et al., commissioned by the National Parks and Wildlife Service, which states "The density estimate in 2021 represent a 46% decline on that reported in 2016 and a 42% decline on that reported in 2013”.

Response to Point 5 – Baseline

The Developer is confident that the assessment is informed by the best available data. An extensive review of the most up-to-date literature and data sources has been undertaken to ensure the assessment reflects the most accurate information and latest knowledge. Berrow *et al* 2021 states that the decline in the density within the SAC *"does not necessarily imply a decline in overall population size but perhaps changes in distribution and habitat use at a local scale"* and that *"One possible reason for a decline in density within the Rockabill to Dalkey Island SAC was a change in the distribution of their preferred prey outside of the SAC boundaries, resulting in lower densities of porpoises within the site"*.

Point 6 – Oil Pollution

On page 33 of the submission, under the heading ‘2. Operational Impacts’ the submission relates to construction vessel activity, stating that *“permitting this [proposed development] will result in ongoing disturbance with associated increased oil pollution and thus impacts on see NPWS Conservation Objectives.”*

Response to Point 6 – Oil pollution

The concern raised that the NIS has inadequately assessed the risk of accidental pollution regarding Rockabill to Dalkey Island SAC. Please see Section 5.3.2.8 of the NIS for the assessment of accidental pollution, including oil and/or hydraulic fluids, against the COs of the designated site.

The impacts of accidental pollution arising from onshore and offshore activities on the QIs of the Rockabill to Dalkey Island SAC and their prey, are therefore considered to have no AEoI on the site.

Point 7 - AEoI

On page 33 of the submission, NFPO came to the conclusion that “the evidence of harmful activities during construction (PTS and TTS as described) coupled with the ongoing noise of the operational phase, both alone and in combination with other similar windfarm projects, are in conflict with Target 2, i.e. that human activities should occur at levels that do not adversely affect the harbour porpoise community at the site.”

Response to Point 7 – AEoI

As seen in Section 5.3.2 of the NIS, “Considering the specific technical clarification of Target 2 (NPWS, 2013a), the underwater noise associated with the onset of PTS or TTS is not predicted to result in any “significant negative impacts” on individuals or the community of the site, nor is it expected to result in death or injury to individuals to an extent that may ultimately affect the community at the site.”

Therefore, the Developer is confident there will be no AEoI in relation to the harbour porpoise QI of the Rockabill to Dalkey Island SAC from PTS and TTS as the result of any noise source. The potential in-combination effect as a result of PTS and TTS from underwater noise has been considered and fully assessed in Section 6.3.1.1 of the NIS. The Developer maintains the conclusion of no AEoI as outlined in Section 6.3.1.1.2 of the NIS.

5.6.3.8.6 Impacts on marine mammals – Grey and harbour seals

On page 33, the NFPO submission moves on to discuss grey and harbour seals at Lambay Island SAC.

Point 1 – Underwater noise effects on Lambay Island SAC

On page 35 of the submission, the NFPO discusses the ecology and population of grey and harbour seals at Lambay Island SAC before drawing attention to underwater noise under the heading ‘Conservation Objectives for: Lambay Island SAC [000204] 1365 Harbour seal *Phoca vitulina*: To maintain the favourable conservation condition of Harbour Seal in Lambay Island SAC’. The submission states, “*the issue for Lambay Island SAC conservation objectives is the PTS is up to 15km from the array (the same distance Lambay is located from the array) and TTS onset at 15km and 46km. The entire area of negative impact on hearing for seals (PTS/TTS) is estimated at 6648 square kilometres*”.

The submission also states: “Of the greatest concern is the fact that this is a pupping area for Harbour seals which are breeding on Lambay Island at 15km from the Array which is exactly at the limit of PTS injury and harm. “Although it is difficult to directly compare these studies with the exposure levels to underwater sound that are likely to occur as a result of OREG (Offshore Renewable Energy Generation) activity the results of these and other studies on noise-induced hearing loss in the foetus (Pierson 1996) suggest this is a potential direct effect risk. Certainly, studies on auditory brainstem responses (ABR) in seal pups of females potentially exposed to OREG construction and operation noise are warranted.

Noise attenuation differences between species may mean that the received levels between mice, sheep and marine mammals are different and that higher exposures are required before the same effect is seen but permanent threshold shifts (PTS) in pups and juveniles could have consequences for their longevity, survival and reproduction as they may be unable to forage well or reproduce successfully due to impairment in hearing abilities necessary to navigate and mate.”

Response to Point 1 – Underwater noise effects on Lambay Island SAC

The Developer would refer NFPO to Appendix A14.1: Underwater Noise Modelling Report of the EIAR. The underwater noise modelling is based on standard approaches and established methodologies that have been applied to all offshore wind developments in Ireland and the UK since the relevant guidance (i.e. Southall *et al.*, 2019 for marine mammals) was published. The Developer is confident that the approach provides an appropriate quantitative assessment of impacts on harbour porpoise.

Disturbance to seal QIs from underwater noise has been considered and fully assessed in the NIS, both alone and in-combination respectively. Furthermore, the value of 15 km does not represent the impact range for seal species. Further information has been provided to the interpretation of the cumulative impact ranges in Submission No. 35 to Section 13.10 of this document.

In relation to harbour seal, the maximum PTS impact range is < 100 m for seal species, which does not reach Lambay Island SAC. The maximum TTS impact range is 51 km. which represents cumulative TTS impact ranges, are extremely precautionary.

There is much more uncertainty associated with the prediction of the cumulative PTS impact ranges than with those for the instantaneous PTS. One reason is that the sound levels an animal receives, and which are cumulated over a whole piling sequence are difficult to predict over such long periods of time, as a result of uncertainties about the animal's (responsive) movement in terms of its changing distance to the sound source and the related speed, and its position in the water column. Another reason is that the prediction of the onset of cumulative PTS is determined with multiple worst-case assumptions, including that:

- the amount of sound energy an animal is exposed to within 24 hours will have the same effect on its auditory system, regardless of whether it is received all at once (i.e., with a single bout of sound) or in several smaller doses spread over a longer period (called the equal-energy hypothesis); and
- the sound keeps its impulsive character, regardless of the distance to the sound source.

However, in practice:

- there is a recovery of a threshold shift caused by the sound energy if the dose is applied in several smaller doses (e.g., between pulses during pile driving or in piling breaks) leading to an onset of PTS at a higher energy level than assumed with the given SELcum threshold; and
- pulsed sound loses its impulsive characteristics while propagating away from the sound source, resulting in a slower shift of an animal's hearing threshold than would be predicted for an impulsive sound.

These assumptions, and others (for example, marine mammals tend to spend more time near the surface, which is quieter, but not included in calculations), lead to a conservative determination of the impact ranges with many layers of precaution built in, which cannot all occur in practice. Estimations of PTS and TTS ranges are necessarily excessive. This is detailed extensively with supporting evidence in Appendix 14.3 Marine Mammal Uncertainties and Limitations of the 2024 EIAR.

It should be reiterated that the presented PTS impact ranges are also defining the onset of this effect, i.e. where it could start to occur. It does not mean that everything within this space is deafened.

The potential for impacts as a result of PTS and TTS from underwater noise has been considered and fully assessed in the NIS.

The Developer notes that in cases where impact ranges are greater than what can be mitigated for with embedded measures, additional mitigation will be considered (e.g., Noise Abatement System (NAS) and Acoustic Deterrent Device (ADD)). The Developer maintains the position that mitigation measures are considered sufficient to reduce the risk of noise impacts on QIs of the Lambay Island SAC.

Point 2 - Mitigation

On page 35, the submission moves on to 'Mitigation' and states "Acoustic Deterrent Devices (ADDs) will be deployed before piling starts to deter marine mammals and mitigate auditory injury risks. However, this mitigation does not reduce the intensity or duration of the noise impact in any way for these animals."

Response to Point 2 – Mitigation

As a result of design refinements to the proposed development as outlined in Appendix A5.1: Design refinements piling will no longer be required to install wind turbines.

However, the Developer has committed to the use of ADDs as a mitigation measure, if required. The use of ADDs will ensure the risk of PTS to marine mammals is imperceptible. See Appendix A14.4: Marine Mammal Mitigation Protocol of the EIAR contains further details.

5.6.3.8.7 Ecosystem impacts

Point 1 – Benthic impacts

On page 35 of the submission, the NFPO states “scour protection sediments may alter seabed habitats, seabed levelling disrupts local marine life.”

Response to Point 1 – Benthic impacts

The potential for long-term or permanent subtidal habitat loss/ change from the presence of foundations, scour protection and cable protection is assessed in Chapter 12 of the EIAR.

It is important to note however, that whilst the impact represents a potentially permanent change in seabed habitat within the footprint of the structures and scour and cable protection, the footprint of the area affected is highly localised and not significant. The change of subtidal sediment biotopes to rock or artificial hard substratum will cause a loss of the sedimentary community and a change in the character of the biotope leading to reclassification. However, as the baseline habitats and characterising biotopes within the project footprint are common and widespread throughout the wider the significance of the loss of these habitats is considered to be negligible.

Furthermore, the NIS fully considers all potential impacts the proposed development may have on seabed habitats.

Point 2 – Noise

On page 35, the submission reiterates that “noise pollution affects marine animals' communication and behaviour.”

Response to Point 2 - Noise

Appendix A14.1: Underwater Noise Modelling Report and Chapter 14: Marine Mammals addresses potential impacts relating to noise pollution. The underwater noise modelling is based on standard approaches and established methodologies that have been applied to all offshore wind developments in Ireland and the UK since the relevant guidance (i.e. Southall et al., 2019 for marine mammals) was published.

Point 3 – Oil spills

On page 35 of the submission, the NFPO notes “oil spills from vessels pose contamination risks.”

Response to Point 3 – Oil spills

The Developer has considered accidental pollution, including oil spills, within the EIAR and NIS. Section 5.3.2.8 of the NIS for the assessment of accidental pollution, including oil and/or hydraulic fluids, against the COs of the designated sites. The impacts of accidental pollution arising from onshore and offshore activities on the QIs of the designated sites and their prey, are therefore considered to have no AEoI.

Point 4 – Habitat

On page 36 of the submission, the NFPO states that it “Although the seabed habitat does not in itself form part of the Qualifying Interests for North West Irish Sea SPA, this habitat is part of the ecosystem that underpins the designation of this exact area as a Natura 2000 site supporting 120,000 seabirds”, with particular reference to the COs “Available forage biomass to support the population target.”

Response to Point 4 – Habitat

The Developer would like to reiterate that all relevant designated sites, including those with ornithological features, have been assessed against the relevant site’s COs and there will be no AEoI at any designated site. Species specific responses are present in Section 3.11– Offshore Ornithology of this report.

Point 5 – Description of Works

On page 36 of the submission, NFPO refers to the description of works and suggest “this quantity of scour protection will mean a complete change with a replacement of sandy sediments with hard rock armour and negative impacts for the ecosystem and the species which live in its sandy banks. Habitat will be changed permanently from sand which is suitable habitat to support sandeels and *Nephrops* to hard rock features that will not support these marine animals.”

“No mitigation is possible for this permanent impact.”

Response to Point 5 –Description of Works

The potential for long-term or permanent subtidal habitat loss/ change from the presence of foundations, scour protection and cable protection is assessed in Section 12.5.3.1 of Chapter 12 of the EIAR.

Following design refinements made in response to the RFI, including the adoption of SBJ foundations for WTGs and jacket foundations for OSPs installed using either drilled pin piles or suction buckets, the greatest magnitude of impact of predicted areas of long-term habitat loss have been updated. Within the array area, the installation of WTG and OSP foundations, associated scour protection, and cable protection measures is predicted to result in the long-term loss of approximately only 0.53 km² of sedimentary habitat under Project Option 1. The design refinements and updates made to the assessment ; sediment modelling was conducted and is presented within the NIS.

Of note, due to the adoption of trenchless techniques with regard to landfall i.e. Horizontal Directional Drilling (HDD), with the entrance starting on land and exiting in the subtidal, no intertidal habitat will be lost as a result of construction activities or throughout the operational phase of the development.

The potential for impacts from long-term habitat loss on sandeel and *Nephrops* have been assessed in Chapter 13, and in Chapter 13, where the design refinements have been reflected, and 2025 benthic characterisation survey outputs incorporated. Given that the majority of the substrates within the array area and ECC are unsuitable for spawning and considering the presence of suitable substrates across the across the Irish Sea, any long-term or permanent loss of soft substratum is considered to be small in the context of available suitable sandeel, therefore, no potential for significant effects on sandeel are concluded. With regard to *Nephrops*, the areas affected by long-term or permanent habitat loss are considered to be small in the context of the distribution of the western Irish Sea *Nephrops* population, and the total extent of the Western Irish Sea Mud Belt (approximately 0.01%). Suitable habitat for *Nephrops* is therefore anticipated to remain extensive and contiguous in the surrounding area, with a localised impact, with no reduction in habitat connectivity, larval dispersal, or population viability anticipated.

5.6.3.8.8 Point 6 – Loss of habitat

NFPO states “The array covers an area of 89 km², of which 115 hectares of subtidal habitats will be lost to scour protection. The area of sand levelling has not been calculated for this project but is likely to be similar to the Arklow Bank project, which involves 56 turbines and is estimated at 300 hectares. This change in habitat within a shallow area accessible to diving birds and designated as an internationally important Natura 2000 site to support these birds' feeding represents a significant adverse impact on that habitat.”

Response to Point 6 – Loss of habitat

The submission suggests that scour protection will lead to a loss of habitat to prey species for seabirds. The Developer would like to point out that the presence of the OWF does not exclude auks from the array area or provide unsuitable habitat for diving birds. For clarity, there are no sandbank features within the study area (Chapter 10 of the EIAR) and therefore the seabed for the proposed development is very different to that at Arklow Bank. Table A12.8 in Chapter 12 of the EIAR identifies Project Option 1 as having the greatest magnitude of impact for foundation, scour and cable protection footprint. For Project Option 1 the total habitat loss from these components equates to approximately 0.58km² of the array area and ECC representing approximately 0.46% of the combined areas. Scour protection over this area of the SPA will not impact diving bird species.

Auks have flexibility in their foraging strategies and energy budgets throughout the year (Dunn et al., 2020).

Based on tracking data, it is clear that guillemot have a large breeding season foraging range (mean max +1SD of 153.7km) (Woodward et al., 2019) and therefore an extremely small reduction in available foraging area as a result of the proposed development is expected to cause minimal alteration to foraging habitat usage, given that individuals often travel beyond the NWIS cSPA boundaries to forage. Where displacement may occur, birds will be temporarily displaced to another location within the cSPA.

Although there may be a small loss of spawning habitat for some prey species, studies have also shown positive effects from the addition of scour protection (increased hard substrates to inhabit), increasing prey and foraging opportunities for seabirds within the array area. These are generally due to the reduction of commercial fishing activity and the increase in substrate to support juvenile prey (Wilson and Elliott, 2009).

Consequently, current evidence does not indicate that any impacts to diving seabird prey species would occur at a level that compromises site integrity. As such, it can be concluded that there are a 'sufficient number of locations, area of suitable habitat, and available forage biomass to support the population target', reinforcing the conclusion of no AEoI established within the NIS.

5.6.3.8.9 Impacts on prey species - Sandeels

On page 37, the submission raises significant concern with regards to the potential for the proposed development to impact the population of sandeels nearby.

Point 1 - Prey

On page 37 of the submission, NFPO begins by referring to sandeels as key prey species for "*fish, seabirds, seals, whales and dolphins*." Later discussing the importance of sandeels to the foraging species features of the North West Irish Sea SPA and state that the proposed development "*threatens the viability of sandeel populations, leading to cascade of negative effects on the species that depend on them*", which NFPO considers "*undermines these [Conservation] objectives*."

Response to Point 1 – Prey

The NIS fully considers the potential for risks to sandeel populations, as a key prey species for fish, seabirds, seals, whales and dolphins. Baseline information on sandeel ecology and distribution is provided in EIAR Appendix 13.1 of the 2024 EIAR, with all relevant population level effects assessed in Chapter 13.

Additional benthic surveys (AQUAFAC 2025) were undertaken to ensure the baseline and assessment are informed by the most current and up-to-date data. These surveys classify the array area as largely unsuitable for sandeel. Although 2023 surveys identified sub-prime or suitable habitat within the ECC (Natural Power, 2023) the 2025 results indicated predominantly unsuitable sediment, reflecting the naturally high seabed mobility in the region. The outputs of the 2025 surveys are reflected in Appendix A13.1, and Chapter 13. Chapter 13 also reflects updates to the assessment of potential impacts to sandeel following design refinements made in response to the RFI. These notably include the installation of WTGs on SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets.

The Developer is confident that the EIAR, and updates adequately consider the potential impacts on sandeel and their supporting habitats. As evident in Chapter 13, and updates to Chapter 13, no significant effects are concluded for sandeel at the population level. Whilst there is likely to be localised changes in the distribution and abundance of sandeel during construction these will be short-lived and not lead to long-term significant changes. Likewise, any loss of sandeel habitat during the operation of the proposed development will be highly localised and not result in long-term significant changes to sandeel. The potential for indirect effects on seabirds, from changes to prey availability are assessed in Sections 5.4 and 6.4 of the NIS, which concludes that such pathways do not give rise to the potential for Adverse Effects on Site Integrity, including for the NWIS SPA.

Point 2 – Underwater noise

On page 37 of the submission, NFPO raises concerns regarding the impact of underwater noise stating that "The Natura Impact Statement notes that "Based on the underwater noise modelling mortality and potential mortal injury to sandeel (Group 1, stationary receptor model) may occur up to 1.1km from the installation of monopile foundations." This is an area of 3.8km² per monopile sterilised of sandeels. In respect of 49

turbines this is over 100km² area. This is a huge sterilisation of a key feeding area. Sandeels live until they are ten and do not reproduce until they are two years old.

Such a considerable loss of life underpinning this ecosystem is likely to be significant on all the birds, fish, seals and cetaceans that depend on this food resource.” NFPO goes on to refer to TTS and state that “According to the Natura Impact Statement, p. 244 the TTS in sandeel is predicted to occur up to 69km from the installation of (a single) monopile foundations. This wide impact zone covers 1.5 million hectares in area. The likely impact is that stunned sand eel make easy prey and proportionally more are eaten than the population of sandeels can sustain.”

Response to Point 2 – Underwater noise

The Developer confirms that Section 5.4.1.3.2 of the NIS fully considers the potential effects of underwater noise to sandeel during all phases of the proposed development, for a range of noise sources including impact piling. As detailed within the NIS, Appendix 13.1 and Appendix A13.1, sediments across the array area and ECC are predominantly unsuitable for sandeel, and therefore the number of sandeel within the predicted impact ranges for mortal and recoverable injuries is likely to be low. Based on this combined with the low susceptibility of sandeel to pressure-related injuries, the risk of lethal or sublethal injuries in sandeel during piling is assessed as being low, with any effects considered to be indiscernible from baseline conditions.

NFPO’s calculation that an area of over 100 km² would be “sterilised” of sandeel is not supported by the assessment. The impact ranges presented in Chapter 13 represent precautionary modelling outputs for a single piling event. In practice, the piling of 49 WTGs would not occur simultaneously at all locations in the array area; installation be sequential, with only one monopile foundation being installed in a 24-hour period. Therefore, the potential for mortality and potential mortal injury, or TTS occurring over an area of 100 km² or 1.5 million hectares respectively, would not be realised.

Notwithstanding this, following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets; these refinements significantly reduce the range of effects from the proposed development (notably from underwater noise). These refinements to the project design, and subsequent updates to the assessment are reflected in the updated NIS and Chapter 13. With consideration that predator species are not solely reliant on sandeel, and that any potential effects would be temporary and spatially limited (especially considering the revised project design), the NIS concludes that the proposed development does not have the potential to give rise to AEoI for the designated sites through changes to prey availability.

Point 3 – Mitigation

On page 38 of the submission, NFPO states in their submission that “there is no mitigation proposed or possible to protect sandeels from PTS at 1.1km or TTS at 69km from the monopile driving.”

Response to Point 3 – Mitigation

- As outlined within Section 4.15 of the NIS and the update to the NIS, a range of embedded mitigation measures relating to fish and shellfish relating to underwater noise are proposed. Given the design refinements, made since the submission of the EIAR, there is now no option for driven piles, therefore removing the need for mitigation measures relating to pile driving activities. Moreover, the Developer has committed to the use of a bubble curtain if high order UXO clearance is required. The following embedded mitigation measures relating to underwater noise are therefore committed to:
- Noise Abatement System (NAS) during high order UXO clearance; and
- UXO detonation strategy (The clearance of UXO will follow a mitigation hierarchy, with micro-siting of subsea infrastructure around UXO where practicable. Where avoidance is not possible, relocating the UXO to a safe place and leaving in situ will be considered. Where clearance of UXO is required (i.e. avoidance or relocation is not practicable), removal of the UXO from the site or low order clearance at the UXO location will be adopted where feasible. However, removal of the UXO or low order deflagration of the UXO are not always possible and are dependent upon the individual situations surrounding each UXO. Therefore, a high order detonation of the UXO may be required).

- For further information refer to Appendix A8: Offshore Environmental Management Plan (Offshore EMP) of the NIS, Appendix A10: Marine Mammal Mitigation Protocol (MMMP) of the NIS and Appendix A14.4: MMMP.

Point 4 – Cumulative impacts

On page 38 of the submission, under the section titled ‘*Residual Impact and cumulative impact*’, the NFPO discusses the cumulative impacts of sandeels within the North West Irish Sea SPA, with respect to its role as a prey species to kittiwakes and guillemots. “*There is no doubt that this project alone will significantly impact sand eels over a large area. Cumulative impacts from similar projects down the Irish coast (Oriel, Nisa, ESB Sea Stacks, Realt Na Mara, Dublin Array, Codling, Arklow) must also be considered. All of these projects will have similar impacts on this sensitive ecosystem, which supports EU-important species and their prey within the Natura 2000 network.*” NFPO state that “*the likely impact of the proposed North Irish Sea Array (NISA) Offshore Wind Farm on sandeel populations is significant, both individually and cumulatively, and has profound implications for the protected species that rely on sandeels as a primary food source.*”

Response to Point 4 – Cumulative impacts

Following design refinements, the proposed development now proposes the use of suction bucket jacket (SBJ) foundations for Wind Turbine Generators (WTGs), and jacket foundations for Offshore Substation Platform (OSPs) installed using either drilled pin piles or suction buckets (see Appendix A5.1: Design Refinements).

As piling is no longer part of the proposed development design, the range and magnitude of potential underwater noise effects have been significantly reduced. The fish and shellfish ecology assessment has been updated to reflect these design changes and the revised underwater noise modelling; these updates are presented in Chapter 13. The conclusions remain unchanged: no significant effects are predicted for fish or shellfish receptors, which form a key component of the prey base for higher trophic levels.

The potential for disturbance to supporting habitats for prey species was assessed in Chapter 13. Given the short-term and localised nature of the potential effects and considering the extensive availability of similar habitats across the Irish Sea, no significant effects are concluded. As such, no long-term or large-scale ecological consequences are predicted for fish or shellfish receptors. To ensure the assessment is informed by the most current and up-to-date data, Appendix A13.1 and Chapter 13 of the EIAR have been revised to incorporate benthic survey data collected in 2025, which has been used to refine the distribution of suitable spawning substrates for key prey species such as herring and sandeel. No changes to the significance of effects have been identified.

5.6.3.8.10 Impacts on prey species – *Nephrops*

On page 39 of the submission, a summary of *Nephrops* ecology was included with particular reference to the population in the western Irish Sea.

Point 1 – Population

Under the header ‘Population’, NFPO raises a concern regarding the information provided on *Nephrops* in the Developer’s application. “Under ‘Magnitude of Impact’ (EIAR, pp. 16-27) it is set out that the commercial fisheries local study area confirms 31% of Irish *Nephrops* landings are in this area, with an average 1,410 tonnes of *Nephrops* are landed annually from the array area.”

Response to Point 1 – Population

Information on the ecology of *Nephrops* and the distribution of *Nephrops* grounds in the fish and shellfish ecology study area is presented in Section 3.5 Shellfish ecology, *Nephrops* of the Fish and Shellfish Technical Baseline (Appendix 13.1 of the EIAR).

To ensure that the baseline is informed by the most current and up-to-date data, Appendix 13.1 has been updated to incorporate the outputs of the 2025 DDV surveys (AQUAFAC, 2025).

Section 3.5 has therefore been updated to include the most recent data on *Nephrops* burrows distribution across the array area and ECC. These updates are reflected in Appendix A13.1. For clarity, the addition of these site-specific data have not resulted in any changes to the conclusions made in Chapter 13.

Impacts of the proposed development on physical processes are identified and fully assessed in the Chapter 10: Physical Processes of the EIAR. The assessment was based on a site-specific marine physical processes model. The outcome of the model and the assessment was there would be no significant impact on tidal and wave conditions, sediment transport processes, seasonal thermal stratification, or the North Western Irish Sea Gyre. Therefore, there would be no significant impact to *Nephrops* due to changes in physical processes, including the North Western Sea Gyre.

Nephrops are not considered in the NIS as it is not a protected species under the Habitats Directive, and therefore, not a QI of any Natura 2000 site. The Developer is confident that a thorough assessment of *Nephrops* was presented in Chapter 13 of the EIAR and the conclusion of no significant impacts is robust.

Point 2 – Underwater noise

On page 39 of the submission, the NFPO draws attention to the impacts of underwater noise on *Nephrops*, stating “The Natura Impact Statement, for example, states that sandeels will suffer PTS within 1.1km of the pile driving for a single monopile and yet there are no equivalent data presented for *Nephrops*.” NFPO then refers to a study by Scott et al. (2020), which suggest shellfish can be adversely affected by underwater noise.

Response to Point 2 – Underwater noise

As aforementioned, *Nephrops* are not considered in the NIS as it is not a protected species under the Habitats Directive, and therefore, not a QI of any Natura 2000 site.

With regards to the concerns by the submission about the lack of underwater noise modelling for *Nephrops*, Section 13.5.3.4 of Chapter 13 of the EIAR, includes an assessment of underwater noise effects on shellfish, including from impact piling. As noted on page 13-56 of Section 13.5.3.4, “*information on the impact of underwater noise on marine invertebrates is also scarce, and no attempt has been made to set [noise] exposure criteria (Hawkins and Popper, 2014).*” As noted in Table 13.24 of Chapter 13 of the 2024 EIAR, as there are currently no criteria for assessing particle motion, it is not possible to undertake a threshold-based assessment of the potential for mortality and sublethal injury to shellfish in the same way as can be done for fish and elasmobranchs. Therefore, in alignment with industry best practice, no threshold-based impact assessment using underwater noise modelling was undertaken for shellfish and instead a qualitative assessment of the potential for mortality and recoverable injury has been made based on an assessment of available peer-reviewed literature. It is further noted in Table 13.23 and Table 13.24 of Chapter 13 of the 2024 EIAR that current evidence suggests that impulsive sounds such as those generated during impact piling are unlikely to cause mortality and potential mortal injury in shellfish, while sub-lethal effects including physiological changes, TTS and behavioural reaction might occur, but these are anticipated to be temporary (these findings are also supported by Scott *et al.* (2020)). The EIAR therefore concludes that any effects on shellfish (including *Nephrops*) as a result of piling noise would be of low (adverse) magnitude and slight (adverse) significance, which is not considered significant in EIA terms.

Notwithstanding this, following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets; these refinements significantly reduce the range of effects from the proposed development (notably from underwater noise). These refinements to the project design, and subsequent updates to the assessment are reflected in Chapter 13. For clarity, no changes to the EIAR conclusions for *Nephrops* have arisen from the project design refinements.

Point 3 – Relevance to ecological considerations

On page 40 of the submission, NFPO raises concerns in regards to the role *Nephrops* play as a prey species, “Ecologically these lobsters play a vital role as both predator and prey, contributing to the benthic community’s biodiversity... [*Nephrops*] are essential to the benthic ecosystem and serve as a critical food source for species like cod, which are in turn prey for seals and other higher trophic species”.

Response to Point 3 – Relevance to ecological considerations

The potential for impacts on *Nephrops*, both as an opportunistic predator and as an important prey species, has been fully considered within the EIAR. As described in Chapter 12, benthic communities within the array area and ECC are typical of the widespread sand and mud habitats of the western Irish Sea. Construction related disturbance will therefore affect only a very small proportion of these habitats, and the scale of temporary loss is not sufficient to alter regional ecosystem functioning or biodiversity. With respect to potential impacts on *Nephrops* arising from reductions in prey availability, the species' feeding ecology is highly adaptable. *Nephrops* is an opportunistic predator that consumes a wide range of benthic invertebrates, including crustaceans, molluscs, polychaetes and echinoderms, with diet composition largely reflecting prey abundance rather than strict preference. Given its opportunistic nature, the small, temporary and highly localised disturbance to benthic fauna during construction is not expected to meaningfully constrain prey availability or impair *Nephrops*' ability to feed.

The EIAR also considers whether temporary changes in fish and shellfish (inclusive of *Nephrops*) distribution or abundance could affect predators that rely on them as a food source. Chapter 14 concludes that any changes in fish and shellfish abundance or distribution during construction would give rise to imperceptible effects on marine mammals, which is not significant in EIA terms.

This conclusion reflects the limited spatial footprint of disturbance, and the subsequent absence of any predicted population-level effects on *Nephrops* (as concluded in Chapter 13). While some localised, short-term displacement of *Nephrops* may occur during construction, these changes are not expected to persist or to reduce *Nephrops* availability to predators at a scale that would influence predator populations or behaviour.

Overall, the EIAR demonstrates that *Nephrops* will not experience significant reductions in prey availability, nor will predators experience significant reductions in *Nephrops* availability. Any temporary, localised changes in *Nephrops* distribution during construction will not undermine their ecological role as either predator or prey, and no long-term significant effects are predicted for the western Irish Sea *Nephrops* population.

Point 4 – Cumulative impacts

On page 41 of the submission, NFPO states that “the Natura Impact Statement (NIS) fails to provide sufficient detail on the cumulative impacts of habitat disruption and noise on *Nephrops* populations and their role in the food web. This lack of comprehensive assessment raises concerns about significant adverse effects on the Qualifying Interests (QIs) of these species within the affected SACs.” NFPO goes on to state “it is not possible to exclude the possibility of significant adverse impacts on these species or Natura 2000 sites.”

Response to Point 4 – Cumulative impacts

The NIS does not consider *Nephrops* populations within the assessment as it only takes into account the QIs and COs of all the relevant European site protected under the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC). As *Nephrops* is not protected under this legislation and is not a qualifying interest at any European site, it has not been considered within the NIS. The Developer provided a robust assessment of all SPAs in proximity to the proposed development within the NIS (Section 5 and 6 of the NIS). The Appropriate Assessment takes into consideration all current or proposed European sites under the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC) including all SPAs, cSPAs, SACs and pSACs.

Section 4.9 of the NIS explains that the potential for changes to prey (of QIs) was screened in for further assessment, “*The loss of habitats and the loss/disturbance of invertebrate species and displacement of fish from fishing grounds (and associated effects on reproductive success and survival) could affect food availability for a range of species in particular birds and marine mammals. Whilst it is considered that alternative feeding areas may be available to species, the array area and ECC may create a net loss of feeding area. There may also be a knock-on effect on adjacent fish populations arising from increased competition for prey species in adjacent areas (AECOM, 2010).*”

Within the NIS, potential impacts to prey species were considered and it was concluded that the proposed development does not have the potential for AEoI, of the QIs and COs of any of the designated sites. The

assessment within the NIS concluded that there was no potential for AEoI alone or in-combination for any of the Conservation Objectives of all designated sites considered (see Table 8.1 in the NIS).

A thorough assessment of *Nephrops* in relation to the proposed development alone and cumulatively is found within Chapter 13: Fish and Shellfish Ecology of the EIAR. Additionally, the *Nephrops* fishery is assessed in relation to the proposed development in Chapter 16: Commercial Fisheries of the EIAR. The assessments concluded that the significance of the effect would be no greater than Moderate (not significant in EIA terms), for all receptors and impacts other than the Irish demersal otter trawlers and UK demersal otter trawlers.

Mitigation measures are being developed with the fisheries industry for the Proposed Development. These include the implementation of a Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS). The Developer welcomes the continued engagement with fishers and their industry representatives.

The mitigation measures provided within the FMMS have been developed in consultation with the industry and will continue to be delivered through the FMMS as it remains a live document. The FMMS includes a Fisheries Liaison Strategy, a Co-existence Strategy and commitment to follow the Seafood / Offshore Renewable Energy (ORE) Working Group Summary guidance. Refer to Section 5.6.3.6 in this report for further information on proposed mitigation measures. Mitigation measures as outlined in Section 16.6 of the EIAR, including the measures detailed in the FMMS (Appendix A16.2 of the EIAR), have reduced the significance of effect on Irish demersal otter trawlers to a not significant level.

Point 5 – Natura 2000 context

On page 41 of the submission, NFPO refers to Lambay Island SAC and the QIs, grey and harbour seals. The submission states “Seals feed on cod and cod feed on *Nephrops*. The *Nephrops* is a key species underpinning the food web supporting the seals and Lambay Island SAC.”

Response to Point 5 – Natura 2000 context

The submission highlights that *Nephrops* are a prey species for cod, which are in turn, a prey species for grey and harbour seals, QIs at Lambay Island SAC. The evidence provided earlier within the submission states that in Scotland, 80% of cod were found to have consumed *Nephrops* in their diet (Thomas, 1965). However, as noted in Section 3.4 of Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation, cod are opportunistic predators that have a varied diet. Studies on Irish Sea cod have identified a diet composed primarily of epibenthic and burrowing crustacea including *Nephrops* and various species of fish including whiting and Norway pout, with *Nephrops* accounting between 16-60% of stomach contents depending on geographic location (ICES, 2005¹). Analysis by Armstrong *et al.*, 1991² suggests that daily intake rates of *Nephrops* are lower than estimated by stomach analyses given the relative slow digestion rate of *Nephrops* compared to other prey items. Considering that the predator species are not solely reliant on *Nephrops*, and that the impacts of the proposed development are limited in area, the NIS concludes that the proposed development does not have the potential for AEoI of the designated sites including Lambay Island SAC.

The relevant CO for Lambay Island SAC for impacts to prey is Target 5 which is to maintain human activities below levels which would adversely affect the grey seal or harbour seal populations at the site. Specifically, any small-scale, localised changes to the fish communities that the QIs depend on which may occur from construction of the project are not expected to result in the deterioration of the prey resource on which grey seal and harbour seal QIs depend. It is considered that there will be no impact to the grey seal and harbour seal QI of Lambay Island SAC from either Project Option 1 or Project Option 2.

¹ ICES, 2005. Spawning and life history information for North Atlantic cod stocks. ICES Cooperative Research Report, No. 274., 152 pp.

² Armstrong, M.J., Smyth, D. and McCurdy, W., 1991. How much *Nephrops* is eaten by cod in the Western Irish Sea? ICES CM 1991/G:15: 36.

Point 6 – Impact on Nephrops

On page 41 of the submission, under the title ‘Impact on *Nephrops*’, the submission raises concerns regarding the impacts of pile driving on *Nephrops*, “*Information on the impacts of pile driving on Nephrops is lacking.*”

“Whereas it is hard to conclude that loss of this species would have significant effect on the conservation objectives of Lambay Island SAC, it is certain that the loss of this species from 115ha of habitat should be considered as part of the overall cumulative impact.”

Response to Point 6 – Impact on Nephrops

The Developer notes the concern regarding *Nephrops* and pile driving. Piling will no longer be used as an installation technique for offshore infrastructure and therefore this impact pathway is removed.

With regard to the concerns raised by the NFPO on the potential for long-term habitat loss from the placement of scour protection, the Developer wishes to clarify that whilst the total area of the array area is 89 km² or 115ha, the total area of permanent habitat loss in the array area from scour protection, rock berm over cable crossings and cable protection, as detailed in the EIAR is 0.57km² following design refinements.

This equates to approximately 0.6% of the total seabed area within the array area for Project Option 1 and Project Option 2. The total area of habitat loss along the ECC from cable protection is 0.036km² for both Project Option 1 and Project Option 2, which equates to approximately 0.1% of the total seabed area within the ECC. The potential for impacts from long term habitat loss on *Nephrops* were assessed as not significant from the proposed development alone in Chapter 13. The potential impacts from cumulative habitat loss on *Nephrops* populations were assessed in Section 13.9 of Chapter 13, with any long-term or permanent loss of seabed habitats associated with the screened in Tier 2 and 3 projects concluded to be highly localised and restricted to discrete areas, and no potential for cumulative effects were concluded.

The potential for impacts on *Nephrops* are not considered in the NIS as it is not a protected species under the Habitats Directive, and therefore, not a QI of any Natura 2000 site. The Developer acknowledges the NFPOs concerns about the potential for AEOI at the Lambay Island SAC from cumulative effects of habitat loss on *Nephrops*, however, the Developer notes that the qualifying features of this site are benthic features (which do not have conservation objectives relating to prey species), and harbour porpoise, grey seal and harbour seal. Whilst *Nephrops* feature in the diets of the harbour porpoise and the seal species, they do not form a key component of their diet, and as such *Nephrops* do not play an ecologically significant role in supporting the conservation objectives of the Lambay Island SAC.

5.6.3.8.11 Pollution Risk

On page 41 of the submission, the NFPO raises concerns regarding pollution as set out below.

Point 1 – Accidental pollution

On page 41, the submission raises a concern regarding accidental oil spills/pollution stating that “The risk of accidental pollution is understated in the NIS and EIAR having regard to the location of the proposed site in an internationally important cSPA. In respect of Wind Turbines, there have been ongoing issues with oil leaks internationally during construction and operation.”

The submission refers to a paper on the analysis of in-port vessel operational lubricant discharges and leakages which notes that the leakage rate for a vessel of 1,000 DWT has been widely reported as “6 litres per day” with higher rates for larger vessels and lower rates for smaller vessels. “Even if the leakage rate was a fraction of that it is still considerable and significant in relation to the Conservation Objectives of the SCI and QI species that use the area.” (https://thordonbearings.com/docs/default-source/marine/technical-papers/analysis-of-in-port-vessel-operational-lubricant-discharges-and-leakages.pdf?sfvrsn=ef818aad_12)

Response to Point 1 – Accidental pollution

The concern raised that the NIS has inadequately assessed the risk of accidental pollution and has not included assessment for the use of oils and lubricants, however the Developer has considered all potential pollution sources within the NIS (see Section 4.3, 5.1, 5.2, 5.3 and 5.4 of the NIS).

Furthermore, the EIAR considers pollution impacts in Chapter 11: Marine Water and Sediment Quality of the EIAR, Impact 2: Accidental releases or spills of materials or chemicals.

“There is a possibility that substances such as grease, oil, fuel, anti-fouling paints and grouting materials may be accidentally released or spilt into the marine environment. The Developer is committed to the use of good practice, due diligence and pollution prevention guidelines at all times. Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to MARPOL in order to ensure any potential risk is minimised. Any planned discharges be permitted small volumes, intermittent and would dilute and disperse quickly.

Should an accidental spill occur, all relevant parties will be informed to manage any such event.”

Therefore, the impacts on marine waters and sediment quality are expected to be not significant.

Point 2 – Vessel movement

The submission goes on to state “For Project Option 1, according to the Natura Impact Statement (page 301): “During the operational phase of the proposed development a maximum of 21 vessels could be in transit and/or operation within the offshore development area at one time, equating to a total of 1,018 round trips per year”. The construction phase will include “A maximum of 66 construction vessels may be on site simultaneously with a maximum total of 2386 return trips”. This is a significant number of trips. In fact, taking a lifespan of 35 years, that is a total of Cc. 83,000 trips.”

Response to Point 2 – Vessel Movement

To clarify the number of vessel movements for the proposed development which has been updated in the updated EIAR, is a maximum of 50 construction vessels may be on site simultaneously with a maximum total of 3032 return trips to port throughout the construction phase for the proposed development. During the operational phase, a maximum of 12 vessels could be in transit and/or operation within the offshore development area at one time, equating to a total of 1,261 round trips per year. The majority of construction associated vessels will be large vessels which are either stationary or slow-moving on-site throughout most periods of the construction phase, in addition to those transiting between the site and the port. Vessel traffic is expected to move along predictable routes around the proposed development, and to/from port to the proposed development site over the short periods of offshore activity, in line with existing Marine Wildlife Watching Codes.

It should be noted appropriate mitigation has already been committed to regarding vessel impacts as per the Environmental Vessel Management Plan (Appendix 11 of the 2024 NIS). During the operational phase the proposed development will reduce vessel activity in the ECC during the most sensitive months for coastal divers (November to March 1st inclusive), where practicable.

Point 3 - Mitigation

On page 43, the submission draws attention to mitigation techniques and marine pollution contingency measures, stating “All wind farms proposed on the east coast include similar mitigation measures and oil spills and lubricant leaks are part and parcel of this industrial style development of the marine area and are inevitable despite best practice techniques.”

Response to Point 3 – Mitigation

The mitigation presented in the NIS for accidental pollution is comprised of best practice mitigation for this potential impact and Guidance for Pollution Prevention 5 (GPP5): Works and maintenance in or near water. Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to MARPOL in order to ensure any potential risk is minimised. The Developer understands the concern regarding possible pollution despite this. However, the mitigation in place will reduce the possibility of accidental pollution along with having an Offshore Environmental Management Plan (Offshore EMP) in place to reduce the potential impact should any accidental pollution events take place.

Appendix 6.1: Offshore Environmental Management Plan (EMP) of the EIAR, details the mitigation measures that will be incorporated as part of the proposed offshore development in relation to each EIAR chapter topic, including measures pertaining to pollution prevention and contingency measures. As can be seen from Section 5 of Appendix A6.1 of the EIAR, the Developer is committed to the development of, and adherence to, a Marine Pollution Contingency Plan (MPCP) to minimise the potential for anthropogenic pollution inputs into the marine environment.

The Offshore EMP includes Marine Pollution Contingency elements and incorporates procedures to cover accidental spills, potential contaminant release and include key emergency contact details (e.g. Marine Survey Office (MSO), Commissioners for Irish Lights (CIL) and Irish Coast Guard (IRCG) and the proposed development site coordinator). Guidance for Pollution Prevention 5 (GPP5): Works and maintenance in or near water has been used to inform the development of the Offshore EMP. Measures to ensure safe passage of vessels and avoid collisions are also captured within Appendix A17.2: Vessel Management Plan (VMP). The Developer commits to the disposal of sewage and other waste in a manner which complies with all regulatory requirements, including but not limited to the International Maritime Organization (IMO) International Convention for the Prevention of Pollution from Ships (MARPOL) requirements. The Developer is confident that adherence to the Offshore EMP and MPCP will minimise the potential for anthropogenic pollutants to enter the marine environment.

Point 4 – SPAs

The submission refers to the three SPAs on page 43: the North West Irish Sea SPA, Rockabill SPA, and Lambay Island SPA stating that *“this is not a suitable location for an activity that will have oil spillages, accidental though they may be, associated with it. Pollution Risk from this wind farm alone is significant, as it is located within an area supporting 120,00 birds.”*

“Cumulative impacts from similar projects down the Irish coast (including Oriel, ESB Sea Stacks, Realt Na Mara, Dublin Array, Codling, Arklow) must also be considered. These together will involve tens of thousands of additional trips annually in this relatively small area of sea from Dundalk to Arklow”

Response to Point 4 – SPAs

Within the NIS, Section 4.3 identifies the potential impacts and mitigation measures in relation to accidental pollution. For site specific clarification the Developer would refer the reader to:

- North West Irish Sea cSPA – Section 5.4.2 of the NIS;
- Rockabill SPA – Section 5.4.4 of the NIS and
- Lambay Island SPA – Section 5.4.13 of the NIS.
- The NIS concludes that the proposed development does not have the potential for AEoI of the designated sites.
- The in-combination interactions with the proposed development are set out in Table 8.1 of the NIS. It is concluded for all sites considered within the Appropriate Assessment in-combination assessment that there is no AEoI of the sites or their COs resulting from in-combination interactions with the proposed development.

Point 5 – Estuarine SPAs

On page 43 of the submission, NFPO goes on to say that the Conservation Objectives of the intertidal SPAs Rogerstown Estuary SPA, Baldoyle SPA, and Skerries Island SPA may be impacted by the proposed development.

Response to Point 5– Estuarine SPAs

Within the NIS, Section 4.3 identifies the potential impacts and mitigation measures in relation to accidental pollution. For site specific clarification the Developer would refer NFPO to:

- Rogerstown Estuary SPA – Section 5.4.5 of the NIS;

- Baldoyle SPA – Section 5.4.6 of the NIS; and
- Skerries Island SPA – Section 5.4.10 of the NIS.
- The NIS concludes that the proposed development does not have the potential for AEoI of the designated sites.

5.6.3.8.12 Bats

On page 44 of the submission, NFPO refers to the bat surveys and the information in the EIAR “A robust monitoring program is therefore needed to determine and understand the baseline in more detail. The Developer has committed to further vessel and headland surveys as well as further surveys of the buildings at Rockabill island to determine if a bat roost is present.” NFPO concludes “A grant of planning is clearly premature whilst such key surveys are outstanding, having regard to obligations under Article 12 of the Habitats Directive.”

Response to bats

The Developer carried out its own survey work for bats as shown in Section 35.2.4.1, Chapter 35: Offshore bats of the 2024 EIAR, Appendix 35.1 Rockabill Island and Headland Offshore Bat Monitoring 2022 of the 2024 EIAR; and Appendix 35.2 Rockabill Island and Headland Offshore Bat Monitoring 2023 of the 2024 EIAR. These surveys comprised of vessel-based surveys throughout the proposed development area, in addition to static detectors being placed on Rockabill Island and nearby headlands to assess for any potential migratory or foraging activities within the area. Furthermore, the Developer has submitted an update to Chapter 35: Offshore Bats alongside Appendix A35.1 Offshore Bat Monitoring report 2024 which details further survey works that have been carried out on the basis of the findings of the first 2 years of surveys including preliminary roost assessments and roost surveys located on Rockabill Island.

Chapter 35 fully incorporates the 2024 vessel, headland and Rockabill survey data, providing the updated baseline. As set out in Sections 35.2.4 and 35.3.5 of Chapter 35, all 2024 survey results have been analysed, including offshore detections, coastal headland activity and the updated Rockabill roost inspections. These surveys confirmed a small, temporary Leisler’s day roost within Building One and found no evidence of pipistrelle roosting in 2024. Potential interaction pathways between Rockabill-associated bats and the array area were reassessed within Impacts 3, 6, 7 and 8, with Section 35.7 of Chapter 35 confirming that no significant effects arise. Offshore activity across all three years remains extremely low and episodic, and no behaviour indicative of interaction with the array was recorded.

The Bat Conservation Ireland and BWI report presents initial results of bat monitoring on Rockabill Island from May to June 2024 which was not available prior to the submission of the EIAR. It is noted that the report demonstrates spring flight activity of Leisler’s Bats over Rockabill. This has been incorporated into Chapter 35 and aligns with the findings of the 2022-2024 monitoring. The analysis based on this data robustly concludes no significant impact which is not significant in EIA terms on bats present at Rockabill.

5.6.3.8.13 Consideration of alternatives in EIAR

On page 44 of the submission, NFPO states that “the question of whether that area is suitable ecologically for development of a wind farm has not been addressed in the context of site selection or the consideration of reasonable alternatives.” The submission states that “*The EU Guidance document on wind energy developments and EU nature legislation specifically propose Wildlife Sensitivity Maps to be prepared before a decision on locations of wind farms. This has not happened in Ireland, where the majority of the areas leased for wind farm exploration/development were decided on in before 2000. This EU guidance document is attached and shows examples Europe wide of sensitivity mapping developed in respect of birds and enable planning for wind energy (see pages 48-51 and 74, 78,80). Nothing similar exists for this important biodiversity area off the East Coast of Ireland. Such sensitivity maps would identify key areas used by QI species for feeding, mating, resting rearing young and it would identify key foraging areas within the Irish sea used by hundreds of thousands of birds that feed here alongside as well as migratory routes and key congregation points.*”

Response to consideration of alternatives in EIAR

The Developer can confirm that site selection and design evolution has undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in the EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

Reasonable alternatives have been identified, described and evaluated within the EIAR, outlining the main reasons for the option chosen and taking into account the effects of the project on the environment. A robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives of the EIAR. Within this chapter it can be seen that the site selection process is a balance of a number of technical, environmental and commercial factors to identify a viable project and location.

The Developer acknowledges this concern and has responded regarding site selection in Section 5.6.3.2 Consideration of alternatives and the site selection process, Section 5.6.3.3 Designated Maritime Area Plans and 5.6.3.4 Policy context of this response.

5.6.3.8.14 Conclusion on appropriate assessment

Ending its discussion on the NIS on page 45 of the submission, NFPO states “the applicant has not demonstrated that the likelihood that the proposed development which is located centrally within the North West Irish Sea cSPA, on its own or in combination with other plans or projects, will have an adverse effect on the integrity of European sites, can be excluded beyond a reasonable scientific doubt.”

Conclusion on appropriate assessment

Please see earlier responses to Section 5.6.3.8 in this report. The Supporting Information for Screening for Appropriate Assessment (SISAA) (previously referred to at the AA Screening) along with the NIS which was submitted as part of the proposed development application have been completed to the highest scientific standard using data collated from a variety of quality sources. The NIS concluded that no AEoI would result from the proposed development on any Natura 2000 sites.

5.6.3.8.15 Climate change obligations

Within this section NFPO raise two concerns.

Point 1 - Biodiversity

On page 45 of the submission, NFPO states the proposed development is “ill-conceived and has the potential, whether on its own or in combination with plans or other similar projects to significantly diminish our biodiversity, which is already under threat, particularly in Irish marine environments such as the Celtic Sea and the Irish Sea.”

Response to Point 1 – Biodiversity

The EIAR includes a number of technical chapters that consider the impacts on different species, their behaviour, ecology and habitats. This includes offshore ornithology, benthic subtidal and intertidal ecology, fish and shellfish ecology and marine mammals. Each of these chapters includes a robust assessment of relevant identified receptors that may be impacted by the proposed development. The assessments presented in each chapter are informed by ecological information from a combination of existing literature and project-specific and regional data sets. The Developer is confident that the EIAR adequately considers the wide range of marine biodiversity present in the area and that no significant effects are expected. The NIS concludes that the proposed development does not have the potential for AEoI of the designated sites either alone, or in-combination with other activities.

Point 2 – Ecological and economic sense

Point 2 notes that the proposed development “does not make ecological sense nor does it make economic sense. We should be considering onshore options ideally in compromised environments (such as conifer plantations) not in biodiversity hotspots along migration routes for some of Europe’s rarest and most vulnerable species.”

Response to Point 2 – Ecological and economic sense

In 2014, the Offshore Renewables Development Plan (OREDPP) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind. Reasonable alternatives have been identified, described and evaluated within the EIAR, outlining the main reasons for the option chosen and taking into account the effects of the project on the environment

See above responses in Section 5.6.3.7 Economic considerations, in this report.

5.6.3.8.16 Specific effects due to EMF, noise pollution and hydrographic impacts

NFPO emphasises consideration of the effects of Electro Magnetic Fields (EMF), noise pollution and hydrographic impacts.

Point 1 - EMF

Page 45 of the NFPO submission begins this section with a concern regarding EMF. The submission states *“Stress due to noise and electromagnetic field emissions is believed to potentially have an impact on the growth, migration, survival, and/or reproductive capacity of commercially exploited fish species. Further scientific evidence is needed to assess the magnitude of these cumulative impacts”* (Floeter et al., 2017; Kikuchi, 2010; Gill et al., 2012; Wahlberg and Westerberg, 2005). ”

Response to Point 1 – EMF

The effects of electro-magnetic fields on fish and shellfish species are identified and fully assessed in Section 13.5.3.6 of Chapter 13 of the EIAR for the proposed development alone and in Section 13.9.8 of Chapter 13 of the EIAR for potential EMF effects in-combination with other plans and projects. Table 13.30 within Chapter 13 of the 2024 EIAR sets out the sensitivity of marine turtle, fish, elasmobranch and shellfish species to EMF generated by subsea electricity cables. The sensitivity assessments have been prepared using current evidence including peer-reviewed literature. It is noted that the available evidence suggests that EMF may affect electro- and magneto-sensitive species directly, potentially leading to behavioural and physiological changes, with the type and strength of effects depending on the species considered.

It is further noted in Table 13.30 of the 2024 EIAR that no significant changes to populations and/or distributions of fish and shellfish species have so far been recorded as a result of EMF generated from subsea cables and that any behavioural changes in diadromous species are unlikely to affect migratory patterns and behaviour in the long-term.

Section 13.5.3.6 within Chapter 13 of the EIAR also provides details on the transmission properties of EMF within the marine environment. It is noted that whilst EMF will be emitted throughout the 30-year operational phase of the proposed development when the cables are carrying a current, generated EMF are likely to be detectable above background levels only near the cables (i.e. within < 10 m each side of the cables). Therefore, it was determined that any potential effects on marine turtles, fish, elasmobranch and shellfish species will be localised and will at most be of slight (adverse) significance, which is considered to be not significant in EIA terms.

The Developer is confident that the EIAR provides a robust assessment of impacts from EMF on fish and shellfish. An extensive review of the most up-to-date literature and data sources has been undertaken to ensure the assessment reflects the most accurate information and latest knowledge. The assessment identified no significant effects to fish and shellfish from EMF and therefore no additional mitigation measures to the embedded mitigation measures identified above are deemed necessary.

Point 2 – Noise pollution

On page 46 of the submission, NFPO points to underwater noise, stating *“Regarding the issue of noise pollution (increased sound pressure on the marine environment) and energy, a key concern revolves around larval mortality of commercial marine species and components of the food web. Certain species are subject to impacts such as hearing impairment and marine mammals are sensitive to communication disruption. Local effects in the prey detection ability of elasmobranchs and disturbances in migration patterns of the European eel during the survey, construction, operational, and decommissioning phases are a concern.”*

Response to Point 2 – Underwater noise impacting fish

See the above responses to impacts on prey species regarding sandeels and *Nephrops*, in Sections 5.6.3.8.8 and 5.6.3.8.9 respectively in this report.

Following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets; these refinements significantly reduce the range of effects from the proposed development (notably from underwater noise). These refinements to the project design, and subsequent updates to the assessment are reflected in the Chapter 13. For clarity, no changes to the EIAR conclusions have arisen from the project design refinements, and no significant effects are concluded.

The Developer has identified a number of embedded mitigation measures to reduce impacts on fish and fisheries, as identified in Table A13.6 of Chapter 13 of the EIAR. Given the design refinements, there is now no option for driven piles, therefore removing the need for mitigation measures relating to pile driving activities. Moreover, the Developer has committed to the use of a bubble curtain if high order UXO clearance is required. These amendments are reflected in the Chapter 13. For further information refer to Appendix A8: Offshore Environmental Management Plan (Offshore EMP) of the NIS, Appendix A10: Marine Mammal Mitigation Protocol (MMMP) of the NIS and Appendix A14.5: MMMP of the EIAR.

Point 3 – Fisheries and Offshore Wind Interactions

On page 46 of the submission, NFPO refer to Hogan et al. (2023), and note “*Specific topics of concern for fishermen included ecosystem-level impacts, predator-prey interactions, and the specific effects of noise, EMF, and heat on shellfish, as well as the influence of upwelling on the larval dispersion and plankton production and potential cascading consequences through the food web*”.

Response to Point 3 – Fisheries and Offshore Wind Interactions

The potential for ecosystem-level impacts, predator-prey interactions, and the specific effects of noise, and EMF have been considered across multiple chapters of the EIAR. Notably, Chapter 12, identified that construction-related disturbance will affect only a very small proportion of the widespread sand and mud habitats present in the western Irish Sea. As a result, no meaningful disruption to benthic productivity or to the prey base supporting fish and shellfish populations is anticipated. These findings are supported by Chapter 13, which assessed the potential for effects on fish and shellfish communities, including changes in abundance and distribution, and concluded that no significant effects are predicted to arise from the proposed development. The EIAR also considered the potential for changes in prey availability to influence higher trophic levels. Chapter 14 evaluated the implications of changes in fish and shellfish distribution as prey availability for marine mammals and concluded no potential for significant effects. This conclusion reflects both the limited spatial footprint of disturbance to benthic habitats, and the absence of any predicted population-level effects on key prey species. Similarly, Chapter 15 considers potential changes in prey availability for seabirds and does not identify any significant effects from reduction in prey availability. Together, these chapters demonstrate that the EIAR has assessed predator-prey interactions and found no evidence of ecosystem level effects.

With respect to the specific stressors referenced by Hogan *et al.* (2023), potential impacts from underwater noise and EMF on shellfish have been assessed in detail in Chapter 13 and Chapter 13, with no potential for significant effects concluded.

At the scoping stage of the assessment, heat effects on shellfish from thermal radiation around cables was not considered to result in likely significant effects to shellfish and therefore has not been taken forward to the impact assessment stage.

As stated above, Appendix 13.1 of the EIAR provides a description of the importance of the North West Irish Sea Gyre to the larval dispersion of *Nephrops*. It states that “[the larval dispersion of *Nephrops*] is thought to be influenced by the Irish Sea gyre.” However, as detailed in Chapter 10 of the EIAR, and as informed by hydrodynamic modelling, the assessment did not predict any changes to thermal stratification either locally or at larger spatial scale, and therefore, the proposed development will not affect the stability of the North-Western Sea Gyre and subsequently the dispersal patterns of *Nephrops* larvae across the western Irish Sea.

The Developer is confident that the assessment carried out on physical processes robustly assessed effects on thermal stratification and associated flow conditions including the North-Western Irish Sea Gyre; and therefore larval dispersion.

Point 4 – Hard substrates and EMF

On page 46 of the submission, NFPO is concerned about the introduction of new hard substrates, “*ORE introduces new hard substrate, often in a previously soft or mixed sediment environment, which is important to some shellfish species including crustaceans such as Crab, Lobsters and Nephrops. To date, no studies have taken place specifically addressing changes in abundance or distribution of shellfish relating to ORE.*”

“Magnetic fields (MFs) have been shown to induce responses or changes in distribution in crustaceans.”

Response to Point 4 – Hard substrates and EMF

The Developer notes, the increase in hard substrate and structural complexity due to the placement of subsea infrastructure was assessed within the Fish and Shellfish Chapter, Impact 9 of the EIAR (Chapter 13 Fish and Shellfish Ecology of the EIAR, Section 13.5.3.5). The maximum magnitude of the impact was assessed as Low adverse for both Project Option 1 and Project Option 2, with the maximum sensitivity of the receptors being Medium. Therefore, the significance of effects on fish and shellfish associated with the introduction of hard substrate and structural complexity was Slight adverse, which is not significant in EIA terms. Based on these conclusions, there will not be any significant changes to fish species within the array (both positive or negative). Following further design refinement in response to the RFI, WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. These refinements to the project design, and subsequent updates to the assessment are reflected in Chapter 13.

Following these refinements, the seabed footprint of introduced hard substratum within the array area and ECC equates to approximately 0.7km² for Project Option 1 and 0.5km² for Project Option 2. An additional 0.5km² would be introduced as lateral surfaces through the placement of WTG and OSP foundations for Project Option 2 and 0.3km² for Project Option 1. For clarity, there are no changes to the conclusions made within Chapter 13 as a result of the design refinements. The Developer confirms that the conclusions were informed by peer reviewed literature and monitoring at various offshore developments, including the Egmond aan Zee Offshore Windfarm in Dutch territorial waters (Lindeboom et al., 2011), the Horns Rev Offshore Wind Farm (OWF) in Denmark (BioConsult 2006) and oil and gas platforms off the coast of California (Claisse et al., 2014). Studies on both brown crab and Atlantic cod to wind- and wave power foundations were also drawn upon (e.g., Krone et al., 2017; Langhamer and Wilhelmsson, 2009; Reubens et al., 2013).

The effects of electro-magnetic fields on shellfish species are identified and fully assessed in Section 13.5.3.6 of Chapter 13 of the EIAR for the proposed development alone and in Section 13.9.8 of Chapter 13 of the EIAR for potential EMF effects in-combination with other plans and projects. The impact will be highly localised and restricted to discrete areas within the array area and ECC. It is predicted that the impact may affect fish and shellfish receptors directly, potentially leading to behavioural changes within the near-field.

Shellfish receptors are widely distributed within the study area and Irish Sea; therefore, any localised behavioural changes are considered small compared to the overall extent of available habitat across the study area and wider region. Based on this, any effects of EMFs on fish and shellfish receptors are assessed as being at most barely discernible from baseline conditions. Consequently, the maximum magnitude of the impact is deemed to be low (adverse). The maximum low sensitivity and maximum low magnitude of the impact on fish and shellfish receptors would at most result in a slight (adverse) effect, which is not significant in EIA terms.

The Developer is confident that the EIAR provides a robust assessment of impacts from EMF on shellfish. An extensive review of the most up-to-date literature and data sources has been undertaken to ensure the assessment reflects the most accurate information and latest knowledge. The assessment identified no significant effects to shellfish from EMF and therefore no additional mitigation measures to the embedded mitigation measures identified above are deemed necessary.

Point 5 – Hydrodynamics

On page 46 of the submission, NFPO states “*Hydrodynamics play an important role in the transport of larvae, connectivity between populations, and recruitment to habitats for many shellfish species. Impacts of changes in hydrodynamics and wind wake effects on the pelagic larval life stages of shellfish species are largely unknown.*”

Response to Point 5 – Hydrodynamics

The assessments presented in Chapter 13 of the EIAR identified no significant effects to fish and shellfish and therefore no additional mitigation measures to the embedded mitigation measures identified in Table A13.6 of Chapter 13 are deemed necessary.

Chapter 10 of the EIAR, explains how hydrodynamic modelling has informed the assessment. Over the operational period, each foundation in the array area has the potential to interact with passing flows leading to local flow retardation (in front), acceleration (around) and turbulent wakes (behind). These interactions are due to structure-scale blockage occurring at individual sites. The scale of this interaction depends on the properties of the incident flows (ambient turbulence, flow speed, and direction) and the scale and type of structure involved. The magnitude of impact from changes in tidal conditions on the local water column (including stratification) and seabed is considered low (noticeable changes largely restricted to near-field and limited to times of peak flow). Scour protection around foundations also mitigates the potential for any changes in tidal flows leading to local scouring of the seabed which reduces the magnitude of impact on this receptor to negligible.

As the sensitivity of the water column and seabed is low and the magnitude of impact is assessed as low, the significance of the effect on the water column (including stratification) is considered to be slight which is not significant in EIA terms.

As stated above, Appendix 13.1 of the EIAR provides a description of the importance of the North West Irish Sea Gyre to the larval dispersion of the important prey species, *Nephrops*. It states that “[the larval dispersion of *Nephrops*] is thought to be influenced by the Irish Sea gyre.” As can be seen in the conclusions presented in Chapter 10 of the EIAR, the assessment did not predict any changes to thermal stratification either locally or at larger spatial scale, and therefore, the proposed development will not affect the stability of the North-Western Sea Gyre and the dispersal patterns of *Nephrops* larvae across the western Irish Sea. The Developer is confident that the assessment carried out on physical processes robustly assessed effects on thermal stratification and associated flow conditions including the North-Western Irish Sea Gyre; and therefore larval dispersion.

Point 6 – Site selection within the North West Irish Sea SPA

Page 46 of the NFPO submission refers to the North West Irish Sea SPA stating that it has not “*formed part of the site selection considerations.*”

Response to Point 6 – Site selection within the North West Irish Sea SPA

See the above response in regard to site selection (Section 5.6.3.2). The Developer submitted a full and robust NIS with the application that was completed to the highest scientific standards which, whilst prior to the designation of the North West Irish Sea SPA, the assessment has considered and incorporated all the QI of the SPA. Therefore, the Developer is confident that the proposed development does not have the potential for AEoI of the designated site.

Point 7 - Outcomes of AA and SC-DMAP

Page 47 of the submission refers to the NIS, “*the conclusion of the Natura Impact Statement that the proposed development will not have an Adverse Effect on the Integrity (AEoI) of the cSPA is not objectively justifiable.*” NFPO raise concerns regarding the methodology of the NIS in relation to other projects, “*The approach of the applicant is in stark contrast to how SPAs were considered in the recent South Coast Designated Maritime Area Plan (SC-DMAP) process. In that instance, the Seas Off Wexford cSPA was categorised as an exclusion zone for ORE development and a further 2km buffer zone was implemented around it due to the environmental sensitivity of the area.*”

The lack of consistency between these two examples is worrying and highlights the need for analyses such as these to be conducted independently and not by contractors acting on behalf of ORE applicant.”

Response to Point 7 – Outcomes of AA and SC-DMAP

The Developer wishes to reassure that the Supporting Information for Screening for Appropriate Assessment (SISAA) (previously referred to at the AA Screening) along with the NIS have been completed to the highest scientific standard using data collated from a variety of quality sources. The NIS concluded that no AEoI would result from the proposed development on any Natura 2000 sites.

For the responses regarding the DMAP please see Section 5.6.3.3 Designated Maritime Area Plans, in this report.

Point 8 - Extraction

The submission states “it is unclear from the application documentation as to the level of seabed and minerals that will be extracted as part of the investigation and construction stage including the depths of extraction, and whether the relevant permissions have been obtained by the applicant.”

Response to Point 8 – Extraction

Section 8.3.4 of Chapter 8: Construction Strategy – Offshore of the EIAR contains the relevant details for the indicative drill cutting volumes anticipated for the various foundation types. Additionally, Appendix A10.1: Marine Processes Review of Project Options of the EIAR, contains detailed descriptions of the construction activities that are likely to cause disturbance to the seabed.

The proposed development holds a Maritime Usage Licence (MUL) for activities associated with survey work. The proposed development will not be undertaking any activities that require additional licences (beyond the planning consent) for extraction.

5.6.3.9 Cumulative and in-combination impacts

Point 1 – Plans and projects considered

On page 48 of the submission NFPO states there is a lack of data to inform cumulative impact, “The applicant has not considered all relevant plans and projects in the in-combination assessment carried out in this application, nor has it carried out sufficient assessments relating to the in-combination effect of its own activities. As such, the possibility that the proposed project, either on its own or in combination with other plans or projects will have an adverse effect on any European Site cannot be excluded beyond a reasonable doubt.”

Response to Point 1 - Plans and projects considered

The NIS and EIAR have considered all relevant projects as set out by the methodology detailed in Section 1.13 of the NIS and Section 2.11 of Chapter 2: EIA and Methodology for the preparation of an EIAR. Appendix 3 of the NIS provides the in-combination long list of projects considered in the assessment. The NIS concluded that there would be no potential for AEoI on the QIs of the designated areas.

Point 2 – Oriel and Sceirde Rocks Windfarms

On page 49 of the submission, NFPO draws attention to the Oriel and Sceirde Rocks Windfarms, stating that the proposed development is “*In breach of the precautionary principle, the applicant has not examined the likelihood that there will be in combination effects on the Nephrops and fishing industry when the impacts of the Oriel and Sceirde Rocks Windfarm are considered, along with the other plans and projects of relevance.*” The NFPO submission goes on to say that there is a lack of information to assess the impact for Oriel Wind Park development; “*The confidence of the applicant's assessment is based on inadequate information to establish the direct and indirect construction or operational impacts of Oriel Wind Park. The applicant has an obligation to consider proposed and pending projects, utilising the precautionary approach. Oriel windfarm is progressing with the same deadlines as NISA, in relation to grid connection, operating times etc. It is very likely that the projects will be constructed at the same time, causing temporal overlap.*”

The environmental in combination effects have not been properly considered in relation to all stages of these projects, or indeed in relation to the Nephrops grounds.” The submission goes on to say “The Oriel project overlaps with Nephrops grounds, a fact that is not included in this application. The applicant is aware that there is a deficiency in data for vessels under 12 meters. The applicant should have carried out proper consultation with the industry so that the presence of Nephrops fishing operators in the Oriel windfarm area is recorded in this application, along with the resulting in combination effect. The disturbance of Nephrops habitats in two adjacent developments has not been considered in this application, in breach of the applicant's obligations.”

Response to Point 2 – Oriel and Sceirde Rocks Windfarms

Sceirde Rocks Windfarm, located off the Connemara coast in County Galway, is also a Phase 1 offshore wind farm. However, due to the distance between it and the east coast Phase 1 Projects it is less likely to present cumulative effects for multiple topics and so has been included within Tier 3 Offshore long list of projects. Refer to Point 3 below, for further details regarding Sceirde Rocks Windfarm.

In relation to cumulative impacts on Nephrops grounds with the Oriel Wind Park, the assessment identified no significant effects from cumulative sediment plumes and deposition, temporary habitat disturbance, long-term habitat loss, underwater noise, and EMF to shellfish including Nephrops. Specifically, through the Phase One Offshore Wind Farm Collaboration (refer to Chapter 16 in the EIAR) it was confirmed by Oriel Wind Park that the proposed development's infrastructure is outside the *Nephrops* area (which is defined as muddy sediment), with the infrastructure located on hard ground. Furthermore, it was confirmed by Oriel Wind Park that the closest *Nephrops* spawning, or nursey areas are 6km south and east from the Oriel offshore wind farm area boundary. Therefore, for the nephrops fisheries all potential impacts were assessed as not significant. Oriel has also prepared an FMMS which will be submitted with their planning application. It is, therefore, not expected that Oriel will cause impacts higher than those assessed for the proposed development alone for reduction in access impacts for the nephrops demersal otter trawl fleets (Irish and UK), Irish potting fleet and all other commercial fishing fleets.

The cumulative assessment presented in Chapter 16, Section 16.9.3 of the EIAR, assesses the cumulative effect of Oriel together with the proposed development for vessels under 12m, including related to loss of access to fishing grounds, displacement and disruption to commercial exploited resources. It is noted that at the time of writing, the Oriel EIAR was not available. The most recent data sets, which were available at the time of writing, were utilised for characterisation of the existing receiving environment. The Developer acknowledges that there is limited information available for vessels <12m, owing to a lack of VMS data for vessels of this size.

Data sets used to characterise <12 m vessels, as described in Appendix A16.1 of the EIAR and summarised in Chapter 16 of the EIAR included: including landings data sourced from the Sea Fisheries Protection Agency (SFPA), Marine Institute and BIM estimated annual Irish landings of shellfish (2004-2019), Marine Management Organisations landings statistics (2016-2021) and the Marine Institute whelk, lobster and brown crab fishing grounds for Irish potting vessels <15m length. Fishing activity across the offshore development area was also informed by a Fisheries Liaison Officer (FLO) who undertook consultation, as detailed in Appendix A1.2 of the EIAR.

In particular, the Marine Institute and BIM data included estimates of annual landings (tonnes) and value (€) of crustacean and bivalve shellfish (excl. prawns and mussels) and was sourced from logbook declarations and sales notes for vessels under 10 m, gatherer docketts, co-op data.

The limitations and uncertainty of specific data sources were taken into account and explained in Table 6.1 of the commercial fisheries technical report (Appendix 16.1 of the 2024 EIAR). The SFPA data was assessed with medium-high uncertainty and medium-low confidence. This uncertainty was taken account of within the impact assessment which concluded significant effects to the Irish potting vessels and Irish razor dredgers, with application of mitigation measures to reduce this to a not significant impact. The application therefore identifies the importance of the Nephrops fishing in the proposed development footprint and cumulatively with other projects.

Point 3 – Sceirde Rocks Windfarm

Also on page 49 of the submission, NFPO refers to Sceirde Rocks Windfarm, “*Sceirde Rocks Windfarm has been screened out by the applicant. There are limited areas around Ireland that contain prawn grounds; the Sceirde Rocks location is one of them and the cable corridor if granted permission will run straight through the Aran Islands prawn beds. This project should have been screened in for in combination ecological assessment, including for the Nephrops species and fishing vessels, which will involve repercussions for the Nephrops quotas and fleet capacity in Ireland.*”

Response to Point 3 - Sceirde Rocks Windfarm

Sceirde Rocks Windfarm has now withdrawn their planning application. Despite this, with regards to the recommendation to include the proposed Sceirde Rocks Windfarm in the cumulative impact assessment for *Nephrops*, the Developer considered that the Sceirde Rocks offshore development area is located on Ireland’s west coast and does not overlap with the western Irish Sea *Nephrops* population.

Therefore it is considered unlikely that the Sceirde Rocks Windfarm will raise the cumulative magnitude of impact to any higher than the proposed development alone effects for the nephrops demersal otter trawl fleets (Irish and UK), Irish potting fleet and all other commercial fishing fleets (Section 16.9.3 of the EIAR). As discussed in Section 3.5 Shellfish ecology *Nephrops* within the Fish and Shellfish Ecology Baseline Characterisation (Appendix A13.1 of the EIAR), *Nephrops* populations are highly discontinuous, with the western Irish Sea *Nephrops* population believed to be isolated from surrounding populations with limited imports of larvae from outside the Irish Sea. The Developer therefore does not consider it necessary to include the Sceirde Rocks project to assess cumulative ecological impacts on *Nephrops*. The significance of effect from displacement or disruption to commercial important resources from either Project Option 1 or Project Option 2 cumulatively with the Tier 1, 2 and 3 projects is expected to be moderate to slight for the Irish demersal otter trawl (nephrops) and Irish potting fleets and slight effect for all other fleets, which is not significant in EIA terms.

Point 4 – Proposed, pending and determined projects

The submission states on page 49 that the Developer “has also failed to take into consideration all relevant proposed, pending and determined projects in the context of the in-combination assessment in the EIAR and the NIS.”

Response to Point 4 – Proposed, pending and determined projects

The Developer notes this concern. As stated above, the Developer is confident that the NIS and EIAR have considered all relevant projects as set out by the methodology detailed in Section 1.13 of the NIS; and Section 2.11 of Chapter 2: EIA and Methodology for the preparation of an EIAR.

Point 5 – Commercial fisheries and food security

On page 50, NFPO raises concerns regarding commercial fisheries and food security “Food security issues and impacts on small-scale fisheries and environmental justice have been acknowledged to be three of the top ten concerns related to novel developments at sea. There is a serious impending spatial squeeze occurring arising out of the sheer number of developments and site investigations being considered in the vicinity of this proposed development which has not been adequately and properly considered by the applicant.”

Response to Point 5 – Commercial fisheries and food security

The concerns raised by NFPO regarding food security, impacts on small-scale fisheries, and environmental justice are well recognized, and their importance in the context of offshore developments is acknowledged.

Assessment of potential displacement impacts on commercial fisheries were assessed in Chapter 16: Commercial Fisheries of the EIAR, both in relation to the project alone effects and cumulatively, with other plans and projects in the Irish Sea. For the Nephrops demersal otter trawlers, the impact of displacement was found to be significant due to the project alone, given the high importance of the Nephrops fishing grounds within the array area. Mitigation includes the FMMS and implementation of the SFC.

The potential for spatial conflict resulting from loss of access to fishing grounds and associated displacement due to multiple developments is assessed within the cumulative impacts assessment for commercial fisheries, see Section 16.9 in Chapter 16: Commercial Fisheries of the EIAR. This was undertaken on the basis that the offshore wind farm developments included in the cumulative assessment are understood not to overlap or interact with Irish and UK demersal otter trawl vessels targeting Nephrops. Overall, it was considered unlikely that the cumulative projects would raise the cumulative impact to any higher than the proposed development alone effects for the Nephrops demersal otter trawl fleets.

Engagement with local fishers and stakeholders remains a priority for the Developer and is important to continue understanding potential challenges and to successfully implementing measures that support the coexistence of offshore renewable energy with sustainable fishing practices through the FMMS and SFC.

Point 6 – Fishing vessels

On page 50 of the submission, NFPO refers to a study by Dunpont, Herpers and Le Visage (2020). “The Short Background Study carried out on behalf of the European Commission on Recommendations for positive interactions between offshore wind farms and fisheries notes that spatial exclusion for fisheries can be common practice, including buffer zones. The Study states that: “Fishing vessels, on the other hand, move in more unpredictable ways. Consequently, with even more reason, in terms of safety, fishing activities whether active or passive are in most cases forbidden within the vicinity of OWF and their associated subsea cables”. The submission asks, “We would ask the Board to consider this study and to note that the applicant's documentation is deficient with respect to key elements that should be considered for this project and its site selection.”

Response to Point 6 – Fishing Vessels

In relation to access, the Developer confirms that Advisory safety zones of up to 500m in radius around individual structures undergoing installation will be established. Advisory safety zones of 50m will be sought for incomplete structures where construction activity may be temporarily paused. In addition, the Developer will request advisory safe passing distances surrounding vessels that are undertaking sensitive construction, installation, or maintenance works.

The advisory safety zones and advisory safe passing distances will be communicated to the fishing industry as set out in the Fisheries Liaison Plan within the Fisheries Management and Mitigation Strategy (FMMS). The Developer is committed to promote coexistence and resumption of fishing within the Array Area, out with the physical presence of infrastructure. This is delivered through a Coexistence Strategy within the FMMS.

The Developer is committed to continued engagement with the commercial fishing industry to support the development and implementation of a FMMS and Sustainable Fisheries Community (SFC). The FMMS has been drafted by the independent consultant that undertook the commercial fisheries impact assessment (Chapter 16 of the EIAR), in collaboration with the Developer and the Fisheries Liaison Officer (FLO). A vital element of the mitigation proposed in the FMMS is the implementation of the SFC. An overview of the SFC is contained within the FMMS. The SFC initiative has been developed by the FLO in collaboration with the Developer’s Commercial Fisheries Manager. The FLO has presented the FMMS and SFC to the commercial fishing industry with the intention to gain feedback on these documents/initiative. The FMMS and SFC initiative will remain live documents and the Developer confirms commitment to their development.

For further information relating to the FMMS, refer to Section 5.6.3.6 Ineffective mitigation and FMMS, in this report.

Point 7 – Marine Spatial Planning (MSP)

Lastly, the NFPO raises concerns regarding Marine Spatial Planning (MSP), “*It is noted that MSP replies on robust data on human uses of the sea to minimise spatial conflicts and account for the cumulative effects of multiple activities in decision making. This application and site selection process is deficient in relation to this data, both with respect to our clients' fishing activities, landings, fishing grounds, and in relation to the cumulative effect that the development will have on our clients' activities, in combination with other plans or projects, along with the designation of marine protected areas.*”

Response to Point 7 – Marine Spatial Planning (MSD)

The proposed development has long been considered in the context of Ireland’s maritime spatial planning. An overview of maritime spatial planning in Ireland is outlined in Section 5.6.3.3 Designated Maritime Plans in this report, with specific references outlining the proposed development’s consideration in this context.

5.6.3.10 Conclusion

The NFPO requested that An Bord Pleanála refuse the application, with the following considerations;

- Appropriate Assessment;
- Environmental Impact Assessment; and
- Proper Planning and Sustainable development.

5.6.1.1.1 Appropriate Assessment;

On page 51 of the submission, NFPO states “The applicant has not demonstrated that the likelihood that the proposed development which is located centrally within the North Irish Sea cSPA, on its own or in combination with other plans or projects, will have an adverse effect on the integrity of European sites, can be excluded beyond a reasonable scientific doubt.”

Response to Appropriate Assessment

Section 5.6.3.8 Appropriate Assessment and other ecological concerns, of this document, responds to concerns raised by NFPO in their submission regarding ecological concerns with particular reference to the adverse effects on designated sites and the NIS assessment.

The Developer can confirm that the NIS concluded that no AEoI would result from the proposed development on any Natura 2000 sites, including the North Irish Sea cSPA.

5.6.3.10.1 Environmental Impact Assessment

Point 1 – Appropriate site

On page 51 of the submission, NFPO states “The applicant has failed to demonstrate that the application site is the most appropriate site for the proposed development, taking into account environmental factors, for the very large scale and height of development proposed, having regard to the availability of reasonable alternatives.”

Response to Point 1 - Appropriate site

With regard to the proposed development, the Developer can confirm that site selection and design commenced evolution in 2008 and has since that time undertaken multiple extensive site surveys, design iterations and detailed consultation events which has led to the final development extent and layout options as they are presented in the EIAR for the purposes of the planning application. In 2014, the Offshore Renewables Development Plan (OREDPA) identified the East-Coast North region (within which the proposed development is located) as being viable for offshore wind.

Reasonable alternatives have been identified, described and evaluated within the EIAR, outlining the main reasons for the option chosen and taking into account the effects of the project on the environment. A robust assessment and evaluation of reasonable alternatives is set out in Chapter 5: Consideration of Alternatives of the EIAR. Within this chapter it can be seen that the site selection process is a balance of a number of technical, environmental and commercial factors to identify a viable project and location.

For further details, refer to Section 5.6.3.8.146.3.2 Site selection & consideration of alternatives, in this report.

Point 2 – Impact on fishing

Page 51 of the submission states “It has not been demonstrated that there will not be a very significant impact on fishing in the area of the proposed development having regard to the mitigation within the Fisheries Management and Mitigation Strategy (FMMS).”

Response to Point 2 – Impact on fishing

Assessment of potential displacement impacts on commercial fisheries were assessed in Chapter 16: Commercial Fisheries of the EIAR, both in relation to the project alone effects and cumulatively, with other plans and projects in the Irish Sea. For the Nephrops demersal otter trawlers, the impact of displacement was found to be significant due to the project alone, given the high importance of the Nephrops fishing grounds within the array area. Additional mitigation measures proposed, which were not embedded into the project design, are presented in Section 16.6 of Chapter 16 of the EIAR. Key measures include implementation of a Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS).

The FMMS has been drafted by the independent consultant that undertook the commercial fisheries impact assessment (Chapter 16), in collaboration with the Developer and the Fisheries Liaison Officer (FLO). A vital element of the mitigation proposed in the FMMS is the implementation of the SFC. An overview of the SFC is contained within the FMMS. The SFC initiative has been developed by the FLO in collaboration with the Developer's Commercial Fisheries Manager. The FLO has presented the FMMS and SFC to the commercial fishing industry with the intention to gain feedback on these documents/initiative. The FMMS and SFC initiative will remain live documents and the Developer confirms commitment to continue engagement with the commercial fishing industry to support the development of these documents.

Further details are found in Section 5.6.3.6 Ineffective mitigation and FMMS, in this report.

Point 3 – Environmental effects

Page 51 of the submission also states *“The applicant has not demonstrated that that the proposed development, on its own or in combination with other plans or projects, having regard to its scale and location will not have unacceptable environmental effects.”*

Response to Point 3 – Environmental effects

The NIS and EIAR have considered all relevant projects as set out by the methodology detailed in Section 1.13 of the NIS and Section 2.11 of Chapter 2: EIA and Methodology for the preparation of an EIAR. The NIS concluded that there would be no potential for AEoI on the QIs of the designated areas.

The concerns raised by NFPO have been addressed in detail in Section 5.6.3.9 Cumulative and In-combination impacts, in this report.

5.6.3.10.2 Proper Planning and Sustainable development

Point 1 – Adoption of ORE Designated Areas

On page 51 of the submission, NFPO states *“The proposed development is premature pending the adoption of the designation of Offshore Renewable Energy (ORE) Designated Areas to identify appropriate locations for large scale offshore marine development in accordance with proper planning and sustainable and government policy and in the absence of the publication of marine planning guidelines which are proposed under the Climate Action Plan 2024.”*

Response to Point 1 – Adoption of ORE Designated Areas

The Developer is confident they have complied with all relevant legislation and guidance throughout the application process and is willing to engage with stakeholder. For further details, refer to Section 5.6.3.3 Designated Maritime Area Plans, in this report.

Point 2 – Appropriate site

Page 51 of the submission states *“The applicant has failed to demonstrate that the application site is the most appropriate site for the proposed development, for the very large scale and height of development proposed, having regard to proper planning and sustainable development.”*

Response to Point 2 – Appropriate site

The submission has highlighted concern over the ability to consider this project and its impacts on these sites from a legal perspective. The Developer can confirm that this is what the NIS and EIAR demonstrate. Refer to Section 5.6.3.10.22 Consideration of alternatives and the site selection process, in this report.

Point 3 – Impact on commercial fisheries

NFPO states on page 51 of the submission, *“The site selection process for the proposed OWF failed to adequately take into account or give appropriate weight to the impact on commercial fisheries, and in particular to the very significant impact on the Nephrops fishery at this location and the social economic impacts in that regard. The applicant has failed to adequately consider alternative locations that would reduce or mitigate significant impacts on commercial fisheries.”*

Response to Point 3 - Impact on commercial fisheries

Assessment of impacts on commercial fisheries by the proposed development were assessed in Chapter 16: Commercial Fisheries of the EIAR, both in relation to the project alone effects and cumulatively, with other plans and projects in the Irish Sea. For the Nephrops demersal otter trawlers, the impact of displacement was found to be significant due to the project alone, given the high importance of the Nephrops fishing grounds within the array area. Key mitigation measures include implementation of a Sustainable Fisheries Community (SFC) and Fisheries Management and Mitigation Strategy (FMMS).

The Developer acknowledges the concerns of NFPO and commits to continuing consultations and engagement with members of the ORE Seafood Working Group and members of the fishing community. For further details, refer to Section 5.6.3.5 Impacts on commercial fisheries, in this report.

Point 4 – Cost benefit of the project

On page 51 of the submission, NFPO states *“A cost benefit analysis of the project, which includes a comparison of alternative, has not been produced by the applicant to satisfy the Public Expenditure Code which forms part of government policy to which the Board is obliged to have regard, inter alia, under section 143 of the Planning and Development Act 2000, as amended.”*

Response to Point 4 – Cost benefit of the project

The Developer acknowledges the NFPO queries around the application of the Public Spending Code (PSC) to the proposed development. As An Coimisiún Pleanála will be aware, the PSC applies to public capital investment in projects. NISA is the Developer of the proposed development and can confirm there is no public capital investment proposed for this project. Therefore, the proposed development does not come within the scope of the PSC.

Refer to Point 2 – Cost benefit analysis in Section 5.6.3.7.3 in this report.

Point 5 – Coastal landscape and seascape

Lastly on page 51 of the submission, NFPO states *“The scale and height of the proposed development would result in an entirely inappropriate form of development in this coastal landscape and seascape when considered with other concurrent projects and would be detrimental to the tourism industry which forms an important economic driver in the area.”*

Response to Point 5 – Coastal landscape and seascape

In Chapter 29 of the EIAR, the impact of the proposed development on seascape, landscape and visual amenity was assessed. Viewpoints were selected which represented views along the east coast from County Down in Northern Ireland to County Wicklow, including popular amenity and recreational locations including (but not limited to) Gormanston Beach, Laytown Beach, Red Island Skerries, Balbriggan Beach, Ardgillan Castle Grounds, Donabate Beach, Portmarnock Beach and Howth Head. Photomontages were prepared to illustrate the impact of the proposed development from these locations. The assessment is determined by combining judgements relating to both sensitivity and impact magnitude as per Section 29.2.4 of the EIAR and concluded that there will be no significant effects on the seascape, landscape or visual amenity arising from the proposed development.

Consequently, in the absence of significant effects on seascape, landscape and visual amenity, the assessment in Chapter 33: Socioeconomics, Tourism and Recreation of the EIAR, concluded that there will be no likely significant effects caused by the offshore development on tourism within the region.

This conclusion is reinforced by recent studies in the UK (Glasson *et al.*, 2022, Hatch 2022 and BiGGAR Economics, 2020) which concluded that offshore wind farms have had no correlating significant negative impact on tourism in their respective regions. An additional study (BiGGAR Economics 2021) on the potential impacts of wind energy on the tourism sector concluded that in certain areas of Scotland, those areas within the vicinity of windfarms experienced a boost in tourism employment statistics.

In establishing the baseline for the tourism assessment in Fingal, Section 33.3.9.1 of Chapter 33 of the EIAR specifically references the Fingal Tourism Strategy 2024-2029. As significant effects from the proposed development on tourism are not likely, the objectives of Fingal Tourism Strategy 2024-2029 will not be hindered by the proposed development.

Therefore, as there are no likely significant negative effects on seascape, landscape or visual amenity, it is concluded that the proposed development will not result in any significant negative effect on residential amenity.

5.6.4 Conclusion

The Developer recognises that the impact assessment predicted a Very Significant impact to Irish demersal otter trawlers targeting *Nephrops* grounds in the west Irish Sea, requiring implementation of additional mitigation measures delivered through the FMMS and SFC initiative. The resulting residual effect (which is not significant in EIA terms) relies upon the effective implementation of the FMMS and SFC initiative. The Developer is committed to developing and implementing the FMMS and SFC initiative through cooperation and collaboration with the fishing industry.

The points raised in the submissions in relation to commercial fishing, and all other points have been fully considered, and having considered those issues, the conclusions in the relevant impact assessments remain as set out in the EIAR and the NIS.

5.7 Sustainable Windfarm Environmental Group

5.7.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by the Sustainable Windfarm Environmental Group (hereafter referred to as 'SWEG').

5.7.2 Summary of the Key Points Raised by SWEG

SWEG raises a number of points in their submission which are covered under the following section headings below:

- Overview;
- The likely effects on the environment or any European site from the proposed development;
- The implications of the proposed development for maritime spatial planning;
- The implications of the proposed development for proper planning and sustainable development;
- Alternative Planning Proposals; and
- Concluding Statement.

5.7.3 Response to Key Points Raised

5.7.3.1 Overview

SWEG provide an introduction to their submission, highlighting their observations. In Section 1 of their submission, SWEG points relate to the following;

- Community confidence;
- What Statkraft's own consultants have to say; and
- The Irish Sea.

5.7.3.1.1 Community Confidence

Point 1 – Public engagement

SWEG states "Trust is definitely an issue when it comes to winning the confidence of our local community. On a number of occasions throughout the engagement process, Statkraft have changed the parameters of the proposed development in terms of height and number of wind turbines in the array. This has caused confusion and concern."

Response to Point 1 – Public engagement

The project design was evolving between June 2023 and April 2024 as the design of projects of this nature is an iterative and evolving process right up until the final design is confirmed. The information presented at each consultation event was an accurate representation of the project's proposed design at that moment in time. The most appropriate layouts and Wind Turbine Generator (WTG) options were presented based on several influences including the ground conditions, site output, the marine environment and the anticipated WTG technology available to the project. The project design evolved as survey results and technological advances became available which influenced revisions to the project design. These updates were presented as they were available to the public via the series of public consultation events and online through the Virtual Consultation Room hosted on the project website.

The public consultation events in July 2023, November 2024 and April 2024 presented both printed and on-screen materials which illustrated maximum WTG tip heights of 316m. Collectively, these measures ensured full transparency on the project design was facilitated ahead of submitting the planning application, with all detail still available to view in the publicly available planning application.

Section 2 in Appendix 1.2: Consultation Report of the 2024 EIAR states, “Public participation has been an integral part of the iterative design of the proposed development from the outset. Public consultation was carried out to inform the public and stakeholders of the progress of the project from a very early stage and to seek feedback and participation. The project and EIAR team has undertaken a comprehensive consultation and engagement process with stakeholders, landowners, and members of the public throughout the evolution of the proposed development. The primary objective of the public consultation process has been to provide opportunities for members of the public and interested stakeholders (including fisheries stakeholders) to contribute to the planning and design of the proposed development and to inform the development process. Public participation in the planning and design of the proposed development began in 2019 through on-the-ground engagement and information and media campaigns.”

“The early involvement of the public and stakeholders ensured the views of various groups, individuals and stakeholders were taken into consideration in the proposed development and in the preparation of this EIAR to ensure that the development is appropriate, in the context of the local area.”

Point 2 – Community Benefit Fund

SWEG acknowledges that Statkraft have been engaging with local community groups since 2019 but request that *“anything to do with the Community Benefit Fund should be independent and transparent.”*

Response to Point 2 - Community Benefit Fund

Offshore wind farms are being supported by the Department of Environment, Climate and Communications first Offshore Renewable Energy Support Scheme (ORESS 1).

ORESS 1 terms and conditions mandate that a Community Benefit Fund (CBF) equating to €2 per megawatt hour of electricity produced be established. This will see multi-million-euro annual funds becoming available for the benefit of the local area. This fund will be accessible from the construction phase of this project.

The developer will have overall responsibility for the CBF and the appropriate application of the funds. However, ORESS 1 sets out that the funds will be required to be independently administered through a 3rd party administrator which will be secured through open competition and not directly through the generators/operators of the facility or the Local Authority.

The CBF is intended to enable the local community, as a neighbour to the proposed development, to share in the benefits of offshore wind energy and to use those funds for the enhancement of the area.

The developer and the administrator of the funds will be accountable to SEAI from a governance perspective.

Point 3 – Statkraft’s experience

SWEG states that Statkraft is providing misleading information relating to their previous experience of offshore development, having sold their shares in Triton Knoll, Sheringham Shoal, Dudgeon, and Dogger Bank.

Response to Point 3 - Statkraft’s experience

In January 2023, Statkraft teamed up with Copenhagen Infrastructure Partners (CIP) a global leader in offshore wind energy projects. To deliver a project as significant as the proposed development, it is vital for Statkraft to partner with a company with a successful track record and expertise in offshore wind development. CIP and its construction partners Copenhagen Offshore Partners (COP) have many years’ experience in financing and developing offshore wind projects around the world. This partnership complements Statkraft’s previous offshore development work having been involved in the development, construction and operation of the aforementioned UK offshore wind projects previously. This partnership enables the project to harness the power of offshore wind and deliver clean energy to Ireland’s homes and businesses.

Point 4 – Socio-economic consideration

Socio-economic considerations; SWEG raise concerns that electricity prices quoted in Section 2.7.4 – The Need for Affordable Energy are misleading. SWEG also states *“Norwegian state-owned Statkraft and their*

partner, Danish fund management company Copenhagen Infrastructure Partners (CIP), secured an Irish government backed 500 MW project contract and not a 700 MW government backed project contract which is what their planning application is based on.”

Response to Point 4 - Socio-economic considerations

As is outlined in Chapter 5: Consideration of Alternatives of the EIAR, as the proposed development is for an offshore wind farm with fixed foundations, it will deliver low cost, renewable electricity to help the Irish Government meet its legally binding targets. The proposed development not only secures our energy independence and security, driving energy prices down for households, but this level of strengthened energy infrastructure also contributes to the futureproofing of Ireland’s economic growth.

In 2019, the proposed development received a grid connection assessment for a 500MW capacity project. Both the proposed development MAC application and the successful proposed development ORESS 1 bid contemplated a request for planning permission for additional capacity. The MAC is not explicit about the maximum capacity of the project and there is no legislative impediment to the Developer submitting a planning application for a larger capacity project. Applying for 700MW capacity will future proof the planning application and maximise the potential output of the project, enabling it to deliver even more clean energy.

5.7.3.1.2 What Statkraft’s own consultants have to say

Point 1 - SPA

In Section 1.2, SWEG highlight the designation of the North West Irish Sea cSPA. and comments made by the Irish offshore consultancy Gavin and Doherty Geosolutions (GDG) regarding the designation.

Response to Point 1 - SPA

The Developer notes the comments attributed to GDG. GDG does not speak for the proposed development or the Developer. It is also worth noting that these comments were made prior to the full EIAR and NIS being available for review

This cSPA overlaps fully with the proposed development’s MAC boundary. However, the Natura Impact Statement (NIS) that is submitted with this application concludes that the proposed development will not have any adverse effect on the integrity of the cSPA, or any other European Sites, either alone or in combination with any other plan or project. Further information is included in the NIS and in Chapter 15: Offshore Ornithology (hereafter referred to as the “Offshore Ornithology chapter”) of the EIAR.

Point 2 – Developer led versus plan led

Furthermore, SWEG states that “this is a 'developer led' project more concerned with corporate profits rather than 'plan led' with due regard for both the climate crisis and biodiversity loss.”

Response to Point 2 - Developer led versus plan led:

The approach to developing offshore renewable projects changed from a “developer” to “plan” lead approach in March 2023. The changes made are only applicable to Phase Two projects, which must now be built within a Designated Maritime Area Plan (DMAP) identified by the state. However, if Ireland is to achieve its renewable targets, developer led solutions are the only option for legacy and in development projects. Since the submission of the 2024 EIAR, the context underpinning the need for the proposed development has become more acute. Updated policy and market evidence further reinforce that need. Ireland has reaffirmed its offshore wind ambitions through Climate Action Plan 2025 and the Hamburg Declaration, while recent EPA projections indicate that, under both the with existing measures and with additional measures scenarios, Ireland is expected to remain substantially short of its 2030 national emissions reduction target. At the same time, the withdrawal of Sceirde Rocks has reduced expected Phase One offshore wind capacity to approximately 3.8GW, leaving a material gap relative to the national target.

The EIAR submitted with the application robustly identifies, describes and evaluates all reasonable alternatives to the proposed development and outlines the main reasons for the option chosen, considering the effects of the project on the environment.

5.7.3.1.3 The Irish Sea

In Section 1.3, SWEG raises a number of concerns outlined below:

Point 1 – Irish Sea flyway

SWEG begin to outline the Irish Sea flyway in relation to collision risk “The Irish Sea flyway is part of a Pan -European/ Worldwide Migration Route used by thousands of birds moving north in spring and south in autumn. To Scotland, Iceland, Faroes, Scandinavia, Russian Arctic, Greenland, Arctic Canada the Mediterranean Basin and Africa.

Many of these seabirds, gulls, terns, ducks, waders, swans and goose species will stage and need rest along the Irish Sea offshore sandbanks on the estuaries/beaches/islands on migration or over winter. There is considerable interchange between locations especially during periods of hard weather and peak migration times.”

Point 2 - Irish Sea basin

SWEG continues “Similarly, the Irish Sea basin receives many of the same species from across Europe moving in an east-west direction in autumn/winter and the reverse direction in spring” and continues to detail species specific migration patterns.

Response to Point 1& Point 2 – Irish Sea flyaway and basin

The Developer used the most up-to-date guidance and assessment tools (developed for the Marine Directorate in Scotland) to estimate collision risk to migratory waterbirds (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment).

The avoidance rates used for migratory species were in-built within the Marine Scotland mCRM tool based on published avoidance rates in Cook (2014), and match those presented in the most recent review of collision risk to migratory birds in Scotland (Woodward *et al.* 2023).

Point 3 – Collision risk

SWEG further raises a concerns regarding to collision risk and assessment methodology, “Reviewing the figures for collision risk for the turbines, which are the size of 8 full sized soccer pitches in swept area, spinning at over 200km per hour at the blade tips, a collision avoidance rate of between 98.5% and 99.96% as set out in the NISA application is frankly unbelievable and does not stack with the expert opinion of Sean Pierce, birdwatcher, kayak instructor and author, and Balbriggan resident with experience of watching bird movements over 30 years from the Arctic to the Antarctica.”

Response to Point 3 – Collision risk

The Developer used the most up-to-date guidance and assessment tools to estimate collision risk to migratory waterbirds (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment). This tool is the most robust way to quantify impacts to migratory species by making several assumptions about flight paths and species avoidance rates. All assumptions within the model are precautionary, for example, for most species it is assumed that 100% of birds are flying within the collision risk zone. In reality, this number will be considerably lower because many species fly close to the sea surface on migration (Eider and common scoter). Digital Aerial Surveys not flying at night or during certain weather conditions does not affect the assessment because the mCRM assumes species are present even if they were not recorded in the DAS and there is an inherent correction factor, namely nocturnal activity factors (NOCs), built into the model to account for collisions that may occur at night. A full review of the migratory bird assessments, including a literature review of flight heights and migration routes can be found here Appendix A15.3.

5.7.3.2 The likely effects on the environment or any European site of the proposed development

Section 2 of the SWEG submission outlines the group’s concerns on the following topics;

- Rockabill SPA and the Skerries Islands SPA;
- European Commission's Report on Ireland's Management of SPAs;
- European Court of Justice finds Ireland in breach of the Habitats Directive 92/43/EEC;
- Ireland in breach of the Birds Directive 79/409/EEC on the conservation of wild birds;
- Conservation status of the Roseate tern;
- Impact on the seabed and marine food chain; and
- Impact on marine mammals.

Initially the broad concerns raised within Section 2 are responded to below;

Point 1 – European sites

In Section 2 of their submission, SWEG states “We believe that Statkraft's proposed development if carried out in its current format will have serious negative implications for the following European sites: The Skerries Islands SPA; Rockabill SPA; The North-West Irish Sea cSPA; Lambay Island SPA & SAC; Rockabill to Dalkey SAC as well as their respective Special Conservation Interests (SCIs) of the sites in the case of SPAs and Qualifying Interests (QIs) of the sites in the case of SACs.”

Response to Point 1 – European sites

SWEG has highlighted concern over the proximity to and impacts on the North West Irish Sea cSPA, Rockabill SPA, Skerries Islands SPA, Lambay Island SPA and Rockabill to Dalkey Island SAC. The NIS thoroughly considers these designated sites within its Natura Impact Assessment, concluding no adverse effect on integrity on them.

For clarity, please refer to the following sections for the site specific assessments within the NIS which demonstrate these conclusions including consideration of mitigation;

- Rockabill to Dalkey Island SAC – Section 5.3.2;
- North-West Irish Sea SPA – Section 5.4.2;
- Rockabill SPA – Section 5.4.4;
- Skerries Islands SPA – Section 5.4.10; and
- Lambay Island SPA – Section 5.4.13.

The conservation objectives for Lambay Island SPA and Skerries Island SPA were updated in November 2024, 6 months after the application was submitted. The Developer has reviewed those updates and has provided an update to the NIS to cover the additional assessment (see NIS).

Additionally, the Developer conducted a 12-month programme of DAS from September 2024 to August 2025 across the Offshore Development Area and the wider NWIS SPA, covering up to 2,396 km². The surveys aimed to establish baseline data on the distribution and abundance of seabirds and marine mammals. This data was used to inform further design refinements (post-application) (See Appendix A5.1: Design Refinements for further details) as well as updated assessments for all QIs designated to the NWIS SPA (See NIS for the full assessments). In addition, following the RFI and engagement with NPWS, the WTG layouts for Project Option 1 and Project Option 2 were refined to reduce the spatial extent of overlap within the NWIS SPA to 0.02%, no adverse effect on the integrity of the NWIS SPA or any other designated sites has been concluded

Point 2 – Wind Turbine Generator height

After providing some legislative context the submission states at the bottom of page 10 “Should Statkraft be successful in their planning application, wind turbine generators almost the height of the Eiffel Tower and three times the height of the Dublin Spire will be pile driven into the seabed in very close proximity to 4 of

the 6 islands that lie just off the Fingal coast and within the Rockabill to Dalkey SAC and the North-West Irish Sea cSPA”.

Point 3 – Wind Turbine Generator height

SWEG go on to discuss the Natura 2000 network, which is responded to in the above and below responses, before stating “Astonishingly, Norwegian state owned Statkraft are planning to site a wind turbine generator almost the size of the Eiffel Tower less than 200 metres from Rockabill SPA. This shows a complete disregard for our protected Special Areas of Conservation and the species they serve to protect”.

Response to Point 2 & 3 – Wind Turbine Generator height

The NIS fully considers the heights of the wind turbine generators which are considered industry standard for projects advancing in planning regimes at the present time. In particular, the reduced impact can be related to the scale of the turbines by enabling significantly reduced interaction with ornithological receptors as per the following quote in Section 5.4.4.2.1 of the NIS; *“the Developer undertaken considerable work to mitigate the potential impacts of the Proposed Development on birds... refining the array area and increasing the draft height (blade tip clearance above sea level) of the turbines to 40m LAT...a draft height of 40m LAT results in a >90% reduction in terns flying within the rotor risk zone compared to an air draft of 22m. At 40m, this leaves just a 0.22% (Arctic tern) and 0.47% (common tern) probability that a bird is flying within the rotor swept zone, with similar reductions for Roseate tern. Consequently, the number of predicted collisions is extremely small for all tern species.”* Species specific responses are present in Theme 13 – Offshore Ornithology and Section 5.7.3.2.5 of this document.

Furthermore, it should be noted that following design refinements, the project now proposes the use of suction bucket jacket (SBJ) foundations for WTGs, and jacket foundations for Offshore Substation Platforms (OSPs) installed using either drilled pin piles or suction buckets (see Appendix A5.1) resulting in pile driving being removed from the project design and also a reduced spatial extent of infrastructure within the array area.

Point 4 – Rockabill SPA

“We are particularly concerned about the 'significant effect' we believe the proposed development will have on Rockabill SPA. Our independent research indicates that siting massive wind turbine generators so close to Rockabill SPA could have a catastrophic effect on the roseate tern population and other protected bird species, in terms of collision, foraging and provisioning for chicks and would likely force the protected species to abandon the nesting grounds they have used for decades as happened in Eastern German Bight SPA”.

Response to Point 4 – Rockabill SPA

As stated in the above, the NIS fully considers the Rockabill SPA in Section 5.4.4. stating; “It is therefore concluded that the proposed development, alone, would not adversely affect the integrity of the Rockabill SPA in view of the conservation objective to maintain the favourable conservation condition of breeding roseate tern, with specific regard to the barriers to connectivity attribute target of no significant increase [and with specific regard to the prey biomass availability attribute target of no significant decline]”. For further species-specific information please see Theme 13 – Offshore Ornithology and Section 5.7.3.2.5 of this document.

It is also important to note the Developer has implemented mitigation measures to reduce potential impacts, as per Section 5.4.4.2.1 of the NIS; *“the Developer had undertaken considerable work to mitigate the potential impacts of the Proposed Development on birds... refining the array area and increasing the draft height (blade tip clearance above sea level) of the turbines to 40m LAT...a draft height of 40m LAT results in a >90% reduction in terns flying within the rotor risk zone compared to an air draft of 22m. At 40m, this*

leaves just a 0.22% (Arctic tern) and 0.47% (common tern) probability that a bird is flying within the rotor swept zone, with similar reductions for Roseate tern. Consequently, the number of predicted collisions is extremely small for all tern species.”

5.7.3.2.1 Rockabill SPA and the Skerries Islands SPA

In Section 2.1, SWEG raises the following points;

Point 1 – Rockabill SPA and Skerries Island SPA

SWEG reiterates that “Rockabill SPA and The Skerries Islands SPA are ecologically sensitive areas and should not be considered as suitable locations for any Offshore Renewal Energy Project in their proximity.”

Response to Point 1 – Rockabill SPA and Skerries Islands SPA

See the above Section 5.7.3.2 Response to Point 1 – European sites and the NIS for further clarification.

Point 2 – Wind Turbine Generator height

The last point raised by SWEG in Section 2.1 of their submission is “Statkraft's proposed North Irish Sea Array aims to site wind turbine generators, almost the height of the Eifel Tower and three times the height of the Dublin Spire a mere 200 metres from Rockabill SPA. This is sheer recklessness and an ecological disaster waiting to happen. This must be prevented at all costs”.

Response to Point 2 – Wind Turbine Generator height

The NIS completes a thorough assessment against the sites’ conservation objectives for all screened in Likely Significant Effects. This includes the Rockabill SPA (Section 5.4.4 of the NIS). Please see the above Response to Point 2 & 3 – Wind Turbine Generator height for further information.

5.7.3.2.2 European Commission’s Report on Ireland’s Management of SPAs

Section 2.2 – SWEG provides a review of the European Commission report 'Assessment of the measures established in Special Protection Areas (SPAs) and their effectiveness' (2023) in which Ireland scored lowest across planning, implementation, site management, monitoring and conservation outcomes of SPAs.

Response to European Commission’s Report on Ireland’s Management of SPAs

The report titled ‘Assessment of the measures established in Special Protection Areas (SPAs) and their effectiveness’ was prepared in respect of Ireland’s implementation of the Birds and Habitats Directives and as such, is a matter for the State to address. Notwithstanding this, in the preparation of its planning application the Developer has undertaken a robust and comprehensive assessment to ensure concerns raised in the report are addressed in respect of this project, including:

- The Developer’s application for planning permission was accompanied by a robust NIS. This included extensive and comprehensive surveys, including surveying the entire NWIS cSPA during 2024-25, and data collection over a number of years, assessing the impact of the proposed development on all European sites;
- The Developer has undertaken significant stakeholder engagement, including the NPWS and local community groups; and
- The Developer has proposed targeted and bespoke mitigation measures to address any environmental impact, along with ongoing monitoring during construction and operation of the project.

The Developer has used all available and suitable data to ensure that the assessment within the NIS is based on up-to-date information at the time of writing.

Based on the conclusions within the NIS the Developer concluded no potential for AEoI and therefore the project will not hinder Ireland’s ability to maintain its designated sites with consideration of their conservation objectives.

5.7.3.2.3 European Court of Justice finds Ireland in breach of the Habitats Directive 92/43/EEC

SWEG states their concerns regarding the Habitat Directive in Section 2.3; “In June 2023, the Court of Justice of the European Union issued its judgement in the case of C-444/21 EU Commission v Ireland - 2021/03933, known as the Measures Case, and found Ireland to be in breach of its obligations under Article 4(4) and Article 6(1) of the Habitats Directive.”; They go on to reference two points:

SWEG state that Ireland is in breach “by failing to define detailed site-specific conservation objectives for 140 of the 423 sites of Community importance referred to in point 1 of the operative part, Ireland has failed to fulfil its obligations under Article 4(4) of Directive 92/43, as amended by Directive 2013/17”.

And “by failing to adopt the necessary conservation measures which correspond to the ecological requirements of the natural habitat types referred to in Annex I and the species referred to in Annex II to Directive 92/43, as amended by Directive 2013/17, present on the 423 sites of Community importance referred to in point 1 of the operative part, Ireland has failed to fulfil its obligations under Article 6(1) of Directive 92/43, as amended”.

Response to European Court of Justice finds Ireland in breach of the Habitats Directive 92/43/EEC

The Developer notes SWEG’s concern, but this matter falls outside the scope of project-level assessment, and this is a matter for An Coimisiún Pleanála to comment on as Article 4(4) imposes a legal obligation on member states rather than individual developers.

5.7.3.2.4 Ireland in breach of the Birds Directive 79/409/EEC on the conservation of wild birds

In Section 2.4, SWEG expresses concern relating to the Birds Directive, including:

Point 1 – Rockabill SPA

“We believe that Ireland is in breach of The Birds Directive 79/409/EEC on the conservation of wild birds given that it has been established by an EU assessment that Rockabill SPA has no specific, targeted, measurable and time bound formal conservation measures in place to deliver the favourable status of species. Furthermore:

- No conservation measures are based on site-specific conservation objectives and clearly linked to the objectives.
- The conservation measures are not clear and precise, sufficiently specific detailed and quantified.
- The conservation measure do not address all significant pressures and threats affecting bird species and their habitats on the site for any SPA”.

Response to Point 1 – Rockabill SPA

Site-specific conservation objectives have been in place for Rockabill SPA since 2013, and these form the basis on which the ecological requirements of the qualifying interests are defined and assessed.

The NIS has assessed the proposed development against the existing conservation objectives relevant to Rockabill SPA, with potential impacts considered in detail in Section 5.4.4 in both the original 2024 planning application and the update in response to the RFI.

On this basis, the Developer considers that the NIS has appropriately and robustly assessed the proposed development in the context of the conservation framework currently in place for Rockabill SPA.

Point 2 – Outdated conservation objectives

The SWEG submission raises a concern relating to the update of site conservation objectives, “The conservation objectives for Rockabill SPA that appear on the NPWS website is dated 8th May 2013, and the site synopsis is dated 3rd May 2015. The EU Commission report titled: 'Assessment of the measures established in Special Protection Areas (SPAs) and their effectiveness' was published in 2023.

The EU Commission assessment which includes Rockabill SPA, proves beyond doubt, that Ireland is not living up to its legal obligation to provide clear and precise, site specific conservation measures and objectives, addressing all significant pressures and threats affecting the bird species and their habitats in order to ensure their survival and reproduction in their area of distribution”.

Response to Point 2 – Outdated conservation objectives

The Developer notes this concern; however this matter falls outside the scope of project-level assessment. The Developer used the most recent conservation objectives for all relevant sites at the time of assessment.

Point 3 – NISA application

The submission states “Statkraft have based their Environmental Impact Assessment Report and their Natura Impact Statement, as they relate to Rockabill SPA, on conservation measures and objectives that have been proven to be inadequate and insufficient. This effectively means that the information that the EIAR and the NIS is based upon is fundamentally flawed.

Therefore, the application for the proposed development should be rejected as it puts the species and their habitats, protected by The Birds Directive 79/409/EEC, at great risk..

“Rockabill SPA is the only marine SPA assessed in the report by the European Commission, however, it is reasonable to believe that information provided for any of the SPAs and SACs mentioned for any of the Phase 1 Relevant projects would also prove to be unreliable and inadequate”.

Response to Point 3 – NISA application

The Developer has used the best and most up-to-date information available at the time of the assessments specifically utilising the conservation objectives that have been established by the competent authority for each of the sites.

Therefore, both Chapter 15: Offshore Ornithology and NIS are reliable and robust as they have been undertaken by competent experts with appropriate reference given to industry standards and all best available information.

5.7.3.2.5 Conservation status of the roseate tern

SWEG provide some context regarding the conservation status of the roseate tern before raising their relevant concerns under the following topics:

- Overview;
- Improving the conservation prospects of the priority species roseate tern throughout its range in the UK and Ireland;
- International (East Atlantic) Species Action Plan for the conservation of the roseate tern *Sterna dougallii* (2021-2030);
- Identifying NISA as a threat to the population of roseate terns at Rockabill;
- Loons abandoning Eastern German Bight SPA due to Offshore Wind Farms;
- A severe knowledge gap which impedes informed decisions; and
- Closing remarks on the conservation of the roseate tern.

5.7.3.2.5.1 Overview

Point 1 – SPAs

SWEG detail the three Irish SPAs that host the roseate tern “In Ireland, three SPAs host roseate tern: two as breeding sites (Rockabill and Lady's Island Lake) and one mainly as a post-breeding site (Dalkey Island).” SWEG detailed that “58% of the entire northwest Europe metapopulation of roseate tern are concentrated on Rockabill SPA.

Therefore, safeguarding this critical principal and breeding site is of the utmost importance to ensure the survival and reproduction of the protected species in their area of distribution”. SWEG then suggest in their submission that there are two major risks associated with the 58% majority at Rockabill Island which are detailed within Section 2.5.2 of their submission and the Developer’s response can be seen in Section 5.7.3.2.6

Response to Point 1 – SPAs

A clear assessment of the relevant conservation objectives for each qualifying interest of SPAs and cSPAs with connectivity to the Proposed Development was provided within the NIS. This includes a detailed assessment of the tern populations on Rockabill Island, which concluded no AEoI.

It should be noted that the Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing draft height, defined here as the minimum lower tip height of the turbines relative to LAT; to 35 or 40 m LAT. This vastly decreases the predicted impacts to terns that tend to fly at low altitudes, both while foraging and in transit. For example, based on the data for common tern and arctic tern presented in Johnston et al. (2014), increasing the draft height from 22m to 40m reduces the proportion of birds flying at the rotor swept height by over 90%. At 40m, this leaves just a 0.22% (Arctic tern) and 0.47% (Common tern) chance that a bird is flying within the rotor swept zone.

Furthermore, roseate tern were recorded in low numbers during the 41 months of DAS, a total of 16 roseate tern were recorded within the proposed array area plus a 2km buffer (during the 29 surveys between May 2020 and October 2022). DAS capture terns with high precision, ensuring reliable data collection throughout the breeding season when birds are most active in the area.

Point 2 -EU LIFE14

Section 2.5.1, SWEG provides a review of the EU LIFE14 project (2015 - 2020) on Roseate tern whose aim was to improve the conservation status of Roseate tern in UK and Ireland. Despite numbers at Rockabill Island increasing over the years studied, SWEG states that “*NISA has been named as a threat to the species.*”

Response to Point 2 – EU LIFE14

The Developer provided a robust assessment against all published conservation objectives at Rockabill Island SPA within the 2024 NIS. In addition, it was concluded within the NIS there is no potential for AEoI alone or in-combination (see Table 8.1 in the 2024 NIS). Please see the Response to Point 1 above for further detail.

5.7.3.2.5.2 International (East Atlantic) Species Action Plan for the Conservation of the roseate tern *Sterna dougallii* (2021-2030)

Point 1 – Density dependence

Section 2.5.2 of the submission states that the overall goal of the International (East Atlantic) Species Action Plan for the conservation of the roseate tern *Sterna dougallii* (2021-2030) is “*to maintain the growth of the East Atlantic Roseate tern population, while securing suitable sites for colonisation within a coherent network of European colonies*”. SWEG then detailed the two major risks associated with the roseate terns at one colony at Rockabill Island which are detailed in Point 1 below.

1. “*there are signs of density dependent effects on Rockabill (the largest colony) with lower- than-average productivity in the last five years, meaning that the site is producing fewer individuals to sustain the recent growth rate of the metapopulation. We can expect that the growth will therefore slow down or plateau*”.
2. “*in the case of a stochastic event affecting Rockabill, the colony may disperse to less suitable sink sites where productivity might be below the population maintenance level (so-called buffer effect)*”.

Response to Point 1a – Density Dependence

Density dependence is a well-documented factor influencing large seabird populations (Horswill *et al.*, 2017). It typically arises due to increased competition for resources, such as prey availability or nesting space, as colony sizes grow. Given the natural regulatory role of density dependence, there is no reason to expect that its influence would change following the construction of the proposed development.

In the seabird impact assessments, density dependence was not incorporated within Population Viability Analysis (PVA) models (mainly due to uncertainty regarding the level of appropriate density dependence), following a precautionary approach to avoid underestimating potential impacts. However, the inclusion of density dependence would, in fact, mitigate predicted impacts on tern populations by accounting for the

natural compensatory mechanisms that help regulate population size. Therefore, any potential effects of the Proposed Development are likely to be overestimated in the current assessments.

It should be noted, that within Chapter 15: Offshore Ornithology and the NIS assessments no significant adverse effects were concluded for any seabird species within the assessments.

Response to Point 1b- Stochastic events

Although unpredictable, stochastic events, such as a storms, disease outbreak, or other environmental change, could in theory cause breeding terns to relocate to alternative (potentially less productive) sites, there is currently no evidence to suggest this is probable at Rockabill Island SPA. The roseate tern colony has been stable and increasing due to long-term conservation efforts, including habitat management. Even after the Highly pathogenic avian influenza (HPAI) outbreak, the population of roseate terns has increased to its highest ever count (3,552 individuals), with good productivity (1.21) in 2024.

Studies on roseate terns suggest strong site fidelity, meaning they tend to return to the same breeding site rather than disperse widely. Therefore, if breeding birds were to relocate, this is likely to be temporary in nature and not result in long term declines in the Rockabill population.

Point 2 – Threats that have been linked to reduced productivity on the breeding grounds - Predation

SWEG then detail the following threats they state have been *“linked to reduced productivity on the breeding grounds [of roseate terns]”*:

- *Predation by large gulls and other avian predators, native and invasive non-native mammals;*
- *“Disturbance through uncontrolled human access and egg collecting;”*
- *Climate change;*
 - Extreme weather events;
 - Loss of nesting sites to coastal change; and
 - Long-term impacts of climate-driven environmental change.
- *Shortages of food;*
- *Developments of offshore windfarms; and*
- *Lack of sufficient protection of foraging areas.*

Response to Point 2a - Threats that have been linked to reduced productivity on the breeding grounds – Predation

There is no evidence that the construction and operation of the Proposed Development will alter the predator prey dynamics at colonies because the proposed development is detached from the colony. Additionally, there is no evidence that predation pressures are impacting the population or the SPA in achieving its conservation objectives.

Response to Point 2b - Threats that have been linked to reduced productivity on the breeding grounds – human access

Both productivity and colony counts are high suggesting that the colony is healthy and is not affected by these pressures. See response to Point 3 of Section 5.7.3.2.5.2 in this report for further context.

Response to Point 2c - Threats that have been linked to reduced productivity on the breeding grounds – Climate change

There is strong evidence that renewable energy, which includes the Proposed Development, will play a significant role in combating climate change by reducing reliance on fossil fuels and contributing to a cleaner, more sustainable energy future (Barthelmie & Pryor, 2021).

Response to Point 2d - Threats that have been linked to reduced productivity on the breeding grounds – Food shortages

There is evidence that food availability is a limiting factor in population growth and may be causing population declines in some seabird species (Green, 2017). Although there may be some temporary impacts to the prey of key important ornithological features (IoFs) during the construction window, there is no evidence that the Proposed Development will negatively impact prey availability over the long term. In fact, there is emerging evidence that OWFs can benefit seabird prey distributions, as the foundations of offshore WTG can act like an artificial reef and in turn increase prey species abundance and density (Wilson and Elliott, 2009; Gill et al., 2020; ter Hofstede et al., 2022; Watson et al., 2024).

In addition, the main driver of reduced prey availability is climate change (Green, 2017), and the proposed development will contribute to combating climate change by reducing reliance on fossil fuels and contributing to a cleaner, more sustainable energy future.

Response to Point 2e – Developments

A full assessment of the Rockabill SPA is provided in the NIS, and a response can be found in Theme 20: Appropriate Assessment. The attributes for the SPA are (1) Breeding population abundance: apparently occupied nests (AONs); (2) Productivity rate: fledged young per breeding pair; (3) Distribution: breeding colonies, (4) Prey biomass available; (5) Barriers to connectivity; and (6) Disturbance at breeding site. An assessment of each relevant attribute was made within the NIS. Even taking the precautionary approach and assuming that all roseate terns detected within the array area were breeding at Rockabill SPA, the conclusion of the assessment was that fewer than 0.7 birds would be impacted by the project per annum. Additionally, during the operational phase, there will be no impact on the underlying habitat that supports terns, nor will there be any reduction in the availability of suitable habitat for foraging or other essential behaviours (i.e. the presence of the windfarm is not expected to exclude terns, or negatively alter the habitat on which they rely). It was therefore concluded that there was no potential for an AEoI to the COs of the tern QI's of Rockabill SPA in relation to displacement, barrier effects or indirect effects due to impacts on prey species from the proposed development alone and therefore, subject to natural change, the common tern QI will be maintained in the long term with respect to displacement and barrier effect impacts.

Response to Point 2f - Threats that have been linked to reduced productivity on the breeding grounds – Foraging

The presence of the windfarm is not predicted to impact on the underlying habitat that supports terns and other seabirds, nor will there be any reduction in the availability of suitable habitat for foraging or other essential behaviours (i.e. the presence of the windfarm is not expected to exclude terns, or negatively alter the habitat on which they rely). See response to Point 6 for further information on prey species.

Point 3 – Proposed development

SWEG states that after the EU LIFE14 project, the EU East Atlantic Roseate tern Action Plan (2021 - 2030) was developed and states that the plan “*specifically addresses concerns relating to Statkraft's NISA development proposal*”.

Response to Point 3 – Proposed development

A full assessment of the Rockabill SPA is provided in the NIS, and a response can be found in Theme 20: Appropriate Assessment. The attributes for the SPA are (1) Breeding population abundance: apparently occupied nests (AONs); (2) Productivity rate: fledged young per breeding pair; (3) Distribution: breeding colonies, (4) Prey biomass available; (5) Barriers to connectivity; and (6) Disturbance at breeding site. An assessment of each relevant attribute was made within the NIS. Even taking the precautionary approach and assuming that all roseate terns detected within the array area were breeding at Rockabill SPA, the conclusion of the assessment was that fewer than 0.7 birds would be impacted by the project per annum.

Additionally, during the operational phase, there will be no impact on the underlying habitat that supports terns, nor will there be any reduction in the availability of suitable habitat for foraging or other essential behaviours (i.e. the presence of the windfarm is not expected to exclude terns, or negatively alter the habitat on which they rely). It was therefore concluded that there was no potential for an AEoI to the COs of the tern QI's of Rockabill SPA in relation to displacement, barrier effects or indirect effects due to impacts on prey

species from the proposed development alone and therefore, subject to natural change, the common tern QI will be maintained in the long term with respect to displacement and barrier effect impacts.

The Developer notes the comments made in Section 2.5.2 of the SWEG submission, but these comments are stated without robust or specific evidence to back up the claims. For example, evidence presented suggests that collision risk is highly unlikely to significantly impact tern populations (Perrow *et al.*, 2019). In addition, the evidence of displacement or reduced productivity is in reference to Harwood *et al.*, (2017), which is based on tracking data of a much larger tern species with a different ecology, the Sandwich tern. There is no robust existing evidence that smaller tern species are impacted by displacement effects or would use the array area to a lesser extent during operation.

5.7.3.2.5.3 NISA identified as a threat to the population of roseate terns at Rockabill

Point 1 – Offshore windfarms as a threat

In Section 2.5.3 of the SWEG submission it states that the “Development of offshore windfarms is a potential threat for roseate terns, which might have a threefold effect: collision risk, reduction of foraging area and changes to pelagic fish habitat. Collision risk is generally low for terns. Recent visual tracking study of roseate terns undertaken at Rockabill showed that the tracked birds were at 1-15 m above the sea surface 83% of the time and 96% of foraging attempts were made from <15 m (Perrow *et al.* 2019).”

Response to Point 1 – Offshore windfarms as a threat

Please see Section 5.7.3.5.2 in this report, Response to Point 3 – Proposed development for detail.

The Developer has already committed to considerable mitigation to minimise impacts to tern species by refining the array area and increasing the minimum air draft (the distance between the sea surface and the minimum rotor height). Roseate terns spend >97% of their flight time at an altitude below 22m (Johnston *et al.*, 2014). This results in a further >90% decrease in terns flying within the collision risk zone compared to an air draft of 22m. At 40m air draft, this leaves just a 0.22% (Arctic Tern) and 0.47% (Common Tern) chance that a bird is flying within the rotor swept zone (Johnston *et al.*, 2014). Consequently, the number of predicted collisions is extremely small for all tern species.

Point 2 – Forage fish availability

SWEG then refer to the foraging of roseate terns, “However, birds might pass through the windfarm rather than utilising this area for foraging, either because of an avoidance response to turbines or lack of suitable prey items within the wind/arm area (M. Perrow, pers. comm.), a possible contributory factor being large predatory fish moving into the resultant reef-like structures and competing for small prey (Dannheim *et al.* 2019, Gill & Wilhelmsson 2019)”.

Response to Point 2 – Forage fish availability

There is some evidence and expert opinion that predatory fish abundance may increase in OWFs due to reef effects (Dannheim *et al.* 2019, Gill & Wilhelmsson, 2019), but direct evidence linking seabird avoidance to reduced prey within OWFs due to increased predatory fish competition is still limited.

From an ecosystem-wide perspective, the presence of larger predatory fish in OWFs is generally positive for marine biodiversity (Gill *et al.*, 2019). However, some uncertainty remains regarding how predicted shifts in local forage fish populations may affect seabirds.

There is no evidence that roseate terns avoid OWFs. The Developer has also mitigated considerably for collision by increasing the air draft to 40m LAT. Due to the low flight height distribution of terns (Johnston *et al.*, 2014) and the increase in the minimum draft height the number of predicted collisions is extremely small for all tern species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.16 of the NIS.

Point 3 – Avoidance behaviours

“In the case of large windfarms, avoidance can effectively deprive birds of significant sections of their foraging area, as was demonstrated in the case of Sandwich terns breeding at Blakeney Point in relation to the Sheringham Shoal offshore wind/arm (Harwood *et al.* 2017).”

Response to Point 3 – Avoidance behaviours

Avoidance, or ‘disturbance and displacement’ has been assessed for all sensitive species within Offshore Ornithology chapter and NIS. The assessment has used the best available evidence to inform displacement and mortality rates and also aligns with guidance from other jurisdictions. No significant adverse effects were concluded for any species within the assessments.

Point 4 – Prey species

SWEG refer to prey species of the roseate tern “The indirect effects include impacts of construction on pelagic fish. One study linked the decline in foraging success of little terns *Sternula albifrons* with the decline of abundance of juvenile Atlantic herring during the pile-driving operation at Scroby Sands offshore wind farm, which eventually led to the unprecedented abandonment of eggs and very poor breeding success during the two years of construction (Perrow et al. 2011)”.

Response to Point 4 – Prey species

Chapter 13 provides a suitable assessment of the impacts to fish stocks and important prey species for seabirds. For an assessment of indirect impacts on higher trophic levels, the Developer refers to the assessments presented in Chapter 15: Offshore Ornithology (Sections 15.5.2.2, 15.5.3.5 and 15.5.4.2), respectively, as well as the NIS. As can be seen from the assessments presented in Chapter 15, all impacts on ornithological receptors as a result of changes in prey availability are concluded to be not significant in EIA terms. Likewise, the assessments presented in the NIS show that indirect effects on seabirds via impacts on prey species do not have the potential for AEOI of protected sites. Further detail with regards to this aspect is presented in the Theme 13 - Offshore Ornithology and Theme 20 - Appropriate Assessment responses. Therefore, it is considered that the proposed development is unlikely to result in the impacts found in the Perrow *et al.*, 2011 study.

Point 5 – Protecting foraging grounds

“The accelerating rate of offshore windfarm developments and other spatially occurring threats is further concerning in the light of the lack of sufficient protection of foraging areas around the colonies.

This is aggravated by the slowness in the process of reviewing SPA- and other Marine Protected Area (MPA) networks in all principal states within the breeding range of the roseate tern.”

Response to Point 5 – Protecting foraging grounds

The proposed development has been designed and robustly assessed in compliance with the EIA and Habitats Directives. The Developer notes that the MPA Bill is currently in legislative development and does not yet have effect in Ireland.

Point 6 – Requiring resources for major casework urgently

SWEG state “It is rather suspicious that a report specifically mentioning NISA and calling for urgent resources for major casework to be carried has been removed from public view”.

Response to Point 6 – Requiring resources for major casework urgently

The Developer notes that the LIFE project being inferred is “Improving the conservation prospects of the priority species roseate tern throughout its range in the UK and Ireland – LIFE14 Roseate Tern” which is available online at, [LIFE14 NAT UK 000394 AfterlIFE.pdf](#).

5.7.3.2.5.4 Loons abandon Eastern German Bight SPA due to Offshore Wind Farms

Point 1 – Large-scale effects of offshore wind farms on seabirds of high conservation concern

In Section 2.5.4, SWEG provides a review of work by Garthe *et al.* (2023) which took place in the North Sea. It reports that the distribution and abundance of loons (family Gaviidae) were reduced at distance of up to 9-12km from the OWF footprints. It states, “*Although renewable energies will be needed to provide a large share of our energy demands in the future, it is necessary to minimize the cost in terms of less-adaptable species, to avoid amplifying the biodiversity crisis*”.

Response to Point 1 – Large-Scale effects of offshore wind farms on seabirds of high conservation concern

An assessment of construction and operational impacts to divers (loons) has been provided in the EIAR and NIS. Divers require relatively shallow water and generally winter close to the east Irish Coast as presented in the HiDef (2019) data (covering the waters off of Gormanstown), ObSERVE Phase I data (Jessop *et al.*, 2018) and the NWIS cSPA DAS covering September 2024 to August 2025 across the Offshore Development Area and the wider NWIS SPA. Based on SNCB (2022b) advice and as requested by NPWS, the Developer assessed potential displacement of divers (loons) and common scoter with a 10km displacement buffer from the array area and export cable corridor (ECC). Based on the data available, the Developer's position is to use the following data sources for the red-throated diver assessment:

- Array area plus 4km = Project specific DAS; and
- 4km to 10km buffer = HiDef (2019) surveys (precautionary approach based on higher densities in comparison to Jessop *et al.* (2018)).
- NWIS cSPA DAS covering September 2024 to August 2025

It is important to note the development itself is not directly impacting any of the habitats on which red-throated divers rely, and the 10km buffer from the array area does not overlap with the most highly utilised locations (which all available datasets, including HiDef (2019), confirm as being close to the coast), therefore this species will not be displaced from their preferred locations. See Offshore Ornithology chapter for further details of the assessment for divers (loons).

Point 2 – Seabird responses

SWEG states “Different seabird species respond differently to the development of OWFs, with behavioural reactions ranging from complete avoidance to attraction. A recent review of 20 OWFs in European waters found that species responded differently and sometimes inconsistently across studies, ranging from strong avoidance to strong attraction to OWFs. Avoidance was mainly due to birds responding to OWF structures and was stronger when the turbines were operating, but could also occur as a result of boat traffic to and from the OWFs. When avoiding OWFs, species may experience functional habitat loss due to displacement, which could in turn result in increased energy consumption if the alternative foraging habitats are of poorer quality or if the individuals have to travel longer distances to reach their foraging areas. In contrast, if seabirds do not avoid OWFs or are even attracted to them, they risk colliding with the rotors or turbines, leading to increased mortality (reviewed in ref.21). However, the possible long-term effects of the different reactions towards OWFs at the population level are difficult to estimate.” And that “this cannot be allowed to happen to the roseate tern colony on Rockabill Special Protected Area”.

Response to Point 2 – Seabird responses

The statement from SWEG is correct, different species are known to exhibit varied responses to OWF developments. The latest robust evidence for species responses to OWFs was used to parameterise models within the assessment and determine the impacts of the Proposed Development.

There is no evidence that roseate terns avoid OWFs. The Developer has also mitigated considerably for collision impacts by increasing the air draft to 35/40m LAT.

Due to the low flight height distribution of terns (Johnston *et al.*, 2014) and the increase in the minimum draft height the number of predicted collisions is extremely small for all tern species. For more details on mitigation measures in place to reduce impacts to birds see Section 4.16 of the NIS. See response to Point 1 – Offshore windfarms as a threat, for further information regarding collision impacts to roseate terns.

5.7.3.2.5.5 Severe knowledge gap to make informed decisions

In Section 2.5.5 of the submission, SWEG begin to explain their support for offshore wind power generation before raising a number of concerns.

Point 1 – Site-specific and species-specific studies

The submission states “What is clear from the vast amount of studies and literature published for established offshore wind farms is that comprehensive studies must take place before the construction of offshore wind farms, especially in the case of areas of high sensitivity and biodiversity value. Studies undertaken must be SITE-SPECIFIC and SPECIES-SPECIFIC to ensure that:

- Ireland does not breach The Birds Directive 79/409/EEC;
- Ireland does not breach The Habitats Directive 92/43/EEC;
- There are no significant or adverse effects on the qualifying interests (QIs) for Special Areas of Conservation (SAC); and
- There are no significant or adverse effects on the special conservation interests (SCI) for Special Protected Areas (SPAs)”.

Response to Point 1 – Site-specific and species-specific studies

A total of 41 months of DAS campaign was undertaken to record the different species, and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025), with the latter surveys covering the full NWIS SPA. The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance (Parker et al., 2022a; NatureScot, 2023: Guidance Note 2), and the data collection period significantly exceeds the recommended duration to ensure appropriateness and reliability.

As noted by SWEG, there is a “*vast amount of studies and literature published for established offshore wind farms*”, which were considered and used as appropriate to inform the assessments and parameters used within models. The precautionary principle was applied consistently throughout the assessment process, ensuring that all potential impacts were fully considered, even in the face of scientific uncertainty. Predicted impacts were assessed against the most appropriate and up-to-date reference populations, ensuring a robust and evidence-based approach.

The NIS (Volume 1: Natura Impact Statement) provided all the relevant information for the competent authority to carry out an Appropriate Assessment in Natura 2000 protected sites in relation to birds. This included a thorough assessment of the attributes associated with the Conservation Objectives for each Qualifying Interest for the SPAs highlighted in Point 1.

Point 2 – Knowledge gap

SWEG highlights the study undertaken in the OSPAR region (Leemans, J.J. & M.P. Collier, 2022) but are concerned that “*few studies address the effects in the Irish sea*”. SWEG states “*This review shows that the geographical scope of published studies on offshore windfarm effects in the OSPAR region is concentrated around British, German, Dutch and Belgian waters in the southern North Sea. Few studies address the effects in the Irish Sea and Baltic Sea, while studies of offshore windfarm effects in the Northern Atlantic are lacking*”.

Response to Point 2 - Knowledge gap

Studies on the impacts of offshore wind farms (OWFs) within the Irish Sea are relatively limited due to the lower number of operational developments in the region.

Consequently, to predict potential impacts on seabird populations, it is necessary to draw upon evidence from regions where OWFs are more established, such as the North Sea (Dierschke *et al.*, 2016).

To ensure a site-specific understanding of seabird populations, the Developer conducted a robust baseline assessment, using systematic surveys across 41 months to record the different species, and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025), with the latter surveys covering the full NWIS SPA. Current evidence suggests that seabird species present in the Irish Sea exhibit broadly similar ecology and behaviour to those in the North Sea (Bradbury *et al.*, 2014; Johnston *et al.*, 2014). Key aspects such as foraging ranges, flight heights, and displacement responses to OWFs have been widely studied in the

North Sea and provide a valuable evidence base for understanding potential impacts in the Irish Sea (Cook *et al.*, 2012; Searle *et al.*, 2018; Woodward *et al.*, 2019).

Given the biological similarities between these populations, findings from North Sea studies can be appropriately applied to address data gaps in Irish Sea assessments, ensuring that impact predictions are based on the best available scientific evidence. This approach aligns with established principles of ecological research and impact assessment, which often require extrapolation from well-studied regions to areas with limited empirical data.

Point 3 – Potiek *et al.*, 2022

The highlighted report (Leemans and Collier, 2022) “*provides an update of earlier reports on the state of knowledge on the impacts of offshore wind farms*”. The SWEG submission then provides the summaries and findings of reports covered in the literature review by Leemans and Collier (2022), beginning with Potiek *et al.*, 2022; “*Potiek et al. (2022) and follow-up studies (Collier et al. 2022, Soudijn et al. 2022a) used the stochastic Collision Risk Model to calculate the estimated number of collision victims in all operational, planned, and proposed wind farms in the southern North Sea up to 2030 for the species of seabirds (10 species) and migrants (8 species) that are most vulnerable to suffer population impacts due to collision mortality. Among the 10 seabirds, the estimated number of collision victims was highest for northern gannet and lowest for arctic skua (Stercorarius parasiticus), while among the migratory species collisions were highest for common starling and lowest/or Bewick's swan (Cygnus (columbianus) bewickii) (Table 1). The cumulative effects of these collisions were assessed at the population level for different scenarios of wind farm development. Collision victims among northern gannet and herring gull exceeded acceptable levels of population impact in all scenarios (see Chapter 2.6), while for black- legged kittiwake and great black-backed gull these thresholds were violated in one scenario. For all other species, thresholds were not exceeded.*”

Response to Point 3 - Potiek *et al.*, 2022

The studies within Point 3 are focused on a different region and regional populations than those that would be impacted by the Proposed Development in the Irish Sea. The number of projects within the southern North Sea is far greater than those in the Irish Sea. In addition, the understanding of mitigation options and engineering developments now allow Developers to mitigate for impacts to species at collision risk to a far greater extent than many operation projects in the southern North Sea.

For example, the Developer has made considerable commitments to mitigate for impacts to potential collision risk species by increasing the draft height of the turbines to 35/40m LAT. The number of birds at collision risk height at 40m is considerably reduced compared to 22m, kittiwake have a reduction of birds at collision risk height of 82.2% between 22m and 40m (Johnston *et al.*, 2014). For a full list of the mitigation measures to be implement by the Developer, as well as relevant appendices, please see NIS (Section 4.16).

Point 4 – Welcker and Vilela, 2018 & 2019; and Welcker, 2019

The submission then summarises the studies by Welcker and Vilela, 2018 & 2019; and Welcker, 2019; “*Welcker & Vilela (2018, 2019) and Welcker (2019) wrote several reports on nocturnal bird migration in the German North Sea and Baltic Sea. Using radars, they found that nocturnal bird migration through these areas peaked in April and October. Migration intensities strongly increased after sunset, peaked before midnight, and subsequently decreased through the night. Higher bird flux rates were related to increasing tailwinds, and to a lesser extent, with seaward crosswinds.*

Additionally, weather conditions with low humidity and high barometric pressure, moderate winds and no precipitation were generally preferred by nocturnal migrants. In spring, migration intensity was positively correlated with higher ambient temperatures, while migration intensity increased with lower temperatures in autumn. The intensity of migration in the German North Sea declined with increasing distance to shore. Within the vertical range of the radars up to 1 km, 35% of all flights were recorded below 200 m. In the North Sea sites, the mean flight height was about 100 m higher in spring than in autumn, which is suggested to be due to seasonal differences in the prevailing wind direction in the area. Probably for the same reason, in autumn, flight height decreased with increasing distance to shore. Flight heights were positively correlated with migration intensity. At the end of the night, birds generally flew at lower altitudes, which suggests that an increasing proportion of birds prepares to land. This pattern likely explains the increase of the rate of

flight calls in the course of the night, with highest rates usually being reached just before dawn. Migration intensity as measured by the radar was positively correlated with the number of recorded flight calls of nocturnal migrants, especially in October and November when migration of the most vocal species (e.g. thrushes) peaked. In both seasons, the highest flight call rates were recorded in conditions with completely overcast skies, while in autumn the flight call rate was also higher with clear skies. In overcast conditions, birds might decrease their flight height and/or increase their call frequency due to decreased visibility, while clear skies in autumn are generally related to increasing migration intensities. In total, flight calls of 127 bird species were recorded in the offshore sites in the German North Sea and Baltic Sea at night.”.

Response to Point 4 - Welcker and Vilela, 2018 & 2019; and Welcker, 2019

Radar studies have been used to help monitor migratory movements for many studies, including OWFs and have provided useful data about flight heights and flight speeds. However, they do not identify to species level, so the data is of limited use when assessing species specific collision risk unless paired with other forms of data such as calls. It also has limited detection abilities for smaller birds. Therefore, as the purpose of the data collection at this stage is to obtain an overview of baseline populations and species for the assessment to be undertaken, a radar monitoring system would not be beneficial.

These techniques could collect additional data, but the assessment's conclusions are already robust, with no uncertainty about the low impact on migratory species. Given the strong evidence base and the Marine Directorate's mCRM tool enabling comprehensive cumulative impact assessment, further data collection is unnecessary. Furthermore, further data collection would not amend baseline populations used within the assessment.

Furthermore, given that the assumptions made within the model, site specific data on species presence or flight heights were not required. The Developer took a precautionary approach with regard to both species presence and percentage of birds flying in the collision risk zone (assumed to be 100%), and considers that the use of alternative/additional survey methods would not improve the accuracy of CRM assessments. Therefore, even with the collection of additional field data the assessment and conclusions would remain the same.

Point 5 - Marques et al., 2011

SWEG goes on to summarise Marques et al., 2011, “Displacement refers to the reduced density of species in the windfarm area (plus buffer) compared to the pre-construction densities (Marques et al. 2021). For offshore wind farms this is likely to relate to disturbance from the presence of the turbines, increased vessel activity and/or changes in prey availability related to OWF presence. In contrast, densities of birds in and around a windfarm may increase due to for example the provision of roosting spots or increase of prey resources or habituation. However, note that attraction not necessarily has a positive effect on birds as it may also increase collision risk (Marques et al. 2021). Marques et al. (2021) reviewed all available literature on bird displacement, concluding that negative effects of wind farms on bird abundance are often reported, yet other studies frequently found no displacement effects or even attraction effects. This variability suggests that displacement varies between species and within individuals of the same species, depending on the age and life cycle of the individual, in combination with local circumstances, the characteristics of the relevant windfarms and time after construction. Still, differences in the design of studies may also explain variability in the results (Marques et al. 2021)”.

Response to Point 5 – Marques et al., 2011

The Developer confirms that the displacement assessment was conducted in a balanced manner, carefully considering the available evidence while maintaining an appropriately precautionary approach. The Developer also notes, the increase in hard substrate and structural complexity due to the placement of subsea infrastructure was assessed within the Fish and Shellfish Chapter, Impact 9 of the EIAR (Chapter 13 Fish and Shellfish Ecology, Section 13.5.3.5). The maximum magnitude of the impact was assessed as Low adverse for both Project Option 1 and Project Option 2, with the maximum sensitivity of the receptors being Medium. Therefore, the significance of effects on fish and shellfish associated with the introduction of hard substrate and structural complexity during the operation phase of the Project was slight adverse, which is not significant in EIA terms. Based on these conclusions, there will not be any significant changes to fish species within the array (both positive or negative), therefore, there is not expected to be subsequent changes to bird densities within the array.

Point 6 – Vanermen et al., 2019 and Peschko et al., 2020.

SWEG summarises Vanermen et al., 2019 “After six years of post-construction monitoring at Thornton Bank, Vanermen et al. (2019a) showed that the numbers of northern gannet, razorbill and common guillemot have dropped by 98%, 75-80%, and 60-63% respectively. Herring gull and great black-backed gull were found to be attracted to the wind farm with respectively 3.9-4.9 and 5.3-6.6 times increases in densities in the wind farm area. Great cormorants (*Phalacrocorax carbo*) were also strongly attracted, showing an increase in numbers with factors of 40-43, as they were virtually absent in the area before construction. No significant or inconclusive results were found for northern Fulmar (*Fulmarus glacialis*), great skua (*Stercorarius skua*), little gull (*Hydrocoloeus minutus*), common gull, lesser black-backed gull, black-legged kittiwake, and Sandwich tern.”.

Continuing to summarise Peschko et al., 2020; “Peschko et al. (2020a) carried out a Before-After Impact-Control (BACI) analysis to study the displacement of common guillemot and black-legged kittiwake after the construction of four offshore windfarms north of Helgoland. The analysis showed that relative density of kittiwakes inside the wind farms decreased by 45% in the breeding season, and by 10% in spring, this latter effect not being significant. The relative density of guillemot in the wind farms was reduced by 44% in the breeding season, and by 63% in spring. The authors estimated that guillemots showed a response radius to the wind farms of approximately 9 km in spring, whereas for kittiwakes this radius was around 20 km in the breeding season. In another study, guillemots were shown to strongly avoid offshore wind farms close to their colony on Helgoland with a 63% reduction in the resource selection of the offshore wind farm areas compared with the surroundings (Peschko et al. 2020b). Furthermore, when turbine blades were rotating, the avoidance of guillemots increased to 75%”.

Response to Point 6 – Vanermen et al., 2019 and Peschko et al., 2020

The Developer notes the post-construction monitoring studies undertaken at existing OWFs. A variety of literature was reviewed to determine species-specific vulnerability to OWFs and were screened and assessed on this basis. Several of the studies mentioned had limitations with their methodologies.

A meta-analysis was conducted by GoBe (2024) for Outer Dowsing Offshore Wind (ODOW), to determine the most appropriate displacement rates to use within the assessment. The results of two analyses were scrutinised: a 2022 analysis carried out by APEM using all available displacement data on guillemot and razorbill (as part of work commissioned for the Hornsea Four project) and a study by Lamb *et al.* (2024) which carried out a similar exercise using a larger dataset including several additional species. The APEM study collated data from displacement effects of guillemot and razorbill at 21 offshore wind farms (OWFs) in the UK and in northwest Europe and concluded that some of the statistics and estimated levels of displacement were not appropriate for use where datasets contained a large proportion of observations reported as zero (0), known as zero-inflated datasets and commonplace in at-sea observations of seabirds (APEM, 2022). As such, APEM determined that displacement rates based on zero-inflated datasets should be treated with caution as they would likely reveal overestimated values due to these datasets being prone to greater variability in outputs than otherwise expected. Lamb *et al.* (2024) reviewed the results of 39 displacement studies and found that auks showed greater displacement effects during the non-breeding season than during the breeding season, with upper and lower confidence intervals of effect size set at 69% and 49%, respectively. As such, the mean level of displacement across all studies analysed by Lamb *et al.* (2024) for auks was in the region of 60%, although this is an annual displacement rate and therefore less appropriate for the Project as displacement is lower during the breeding season. The results of the meta-analysis suggest a 50% displacement and 1% mortality rate is appropriately precautionary. The Developer, however, has presented a more conservative rate of 60% displacement and 3-5% (breeding) and 1-3% (non-breeding mortality (Guidance Approach to displacement rates) as requested in RFI Section 8(ci) and NatureScot guidance (NatureScot, 2023a). Despite this, the Developer maintains that concluding on the 50% displacement and 1% mortality rate is robust and suitably precautionary based on the above evidence.

For context, SNCB guidance in UK windfarms has suggested a displacement range of 30% to 70% should be presented for auk species, with 50% generally presented by Developers as a central value. Considering mortality rates, SNCB guidance suggests presenting a mortality range of 1% to 10% for auk species, with 1% generally presented by developers as the most appropriate approach. For a full overview of displacement and mortality rates used for guillemot and razorbill in recently submitted UK projects, see 15.5.3.1 of the Chapter 15 of the 2024 EIAR.

Point 7 – Vanerman et al., 2021

The SWEG submission reviews “Vanermen et al. (2021) used GPS tracking data to compare the numbers of lesser black-backed gull before and after the construction of the Belgian Norther wind farm. They found a decrease in occurrence by 71% compared to the pre-construction period and accounting for the trend in control areas. However, large gulls such as lesser black-backed gulls tend to be attracted to fishing vessels. As such, the authors argue that it is hard to assess whether this distribution is due to disturbance induced by wind turbines, the absence of fishing activities inside the wind farm or a combination of both. Nonetheless, it is suggested that collision mortality is still the main concern for lesser black-backed gull, rather than the impact of habitat loss”.

Response to Point 7 - Vanerman et al., 2021

The Developer is aware of the study by Vanermen *et al.* (2021) and agrees it is difficult to determine if the results are as a result of presence of wind turbines, the absence of fishing activities inside the wind farm or a combination of both. The Developer undertook a screening exercise to evaluate which species should be included in the collision risk and/or disturbance and displacement assessments, based on a range of available data sources (e.g. Bradbury *et al.*, 2014; Garthe and Hüppop, 2004; Furness and Wade, 2012, Wade *et al.*, 2016, Dierschke *et al.*, 2016). According to Bradbury *et al.* (2014) and Dierschke *et al.* (2016) lesser black-backed gull sensitivity to disturbance and displacement is ‘very low’ therefore the presence of wind turbines is unlikely to deter them from entering the Array Area. As such lesser black-backed gull were screened out for further assessment of potential disturbance and displacement effects, however this species was screened in for further assessment of collision risk and the impacts apportioned to designated sites within mean maximum foraging range of the Proposed Development within the NIS. No adverse effects on integrity on any protected site for this qualifying interest species was concluded within the NIS.

Point 8 – Garthe et al., 2022

SWEG refers to the study by Garthe *et al.* (2022) “Based on aerial and ship-based surveys, a recent study analysed the effects of all operating offshore wind farms (OWFs) in the German EEZ on six seabird species (Garthe *et al.* 2022, Peschko *et al.* in prep.). A ‘before-after control impact’ (BACI) analysis was conducted to estimate the possible effects of OWF presence on the species density and to estimate the response range to the OWFs. For common guillemots, in autumn and in winter, a strong decline in abundance of respectively 91% and 67% was detected inside OWFs + 1 km buffer and of respectively 80% and 54% inside OWFs + 5 km buffer. Guillemot density was significantly affected up to a distance of 18-21 km in autumn and 15-18 km in winter. For razorbills, a decline in abundance of 55% inside OWFs + 1 km buffer and of 47% inside OWFs + 5 km buffer was detected in winter. Razorbill density was significantly affected up to a distance of 0-3 km. For northern gannets, in summer and autumn, abundance declined by respectively 75% and 81% inside OWFs + 1 km buffer and by respectively 32% and 43% inside OWFs+ 5 km buffer. Northern gannet density was significantly affected in summer and autumn up to a distance of 0-3 km. For northern fulmars, in spring and summer, abundance declined by respectively 91% and 64% inside OWFs + 1 km buffer and by respectively 84% and 43% inside OWFs + 5 km buffer. Northern Fulmar density was significantly affected up to a distance of 3-6 km in spring and 0-3 km in summer. For blacklegged kittiwakes, in spring, abundance declined by 35% inside OWFs + 1 km buffer and birds were affected up to a distance 0-3 km.

In winter, an abundance increase was detected for black-legged kittiwakes, which was not found to be significant for OWFs +1 km buffer, while for OWF + 5 km buffer an increase in abundance of 27 % was detected. For lesser black-backed gulls in summer an insignificant increase was detected for OWFs + 1 km buffer, while an abundance decline was found of 42% inside OWFs + 5 km buffer. Lesser black-backed gull density was significantly reduced up to a distance of 12-15 km. In autumn an increase in abundance of 70% was detected for OWFs + 1 km buffer”.

Response to Point 8 – Garthe et al., 2022

The Developer notes the post-construction monitoring studies undertaken at existing OWFs. The Developer carried out a detailed review of a variety of literature to determine species-specific vulnerability to OWFs, and species were screened and assessed on this basis. Data sources and justification for the parameters and values used are set out in detail in Chapter 15: Offshore Ornithology. The assessment concluded no significant impact on seabird species.

Point 9 – Red-throated Divers in the German Bight SPA

SWEG refers to the German Bight SPA, “The distribution of red-throated divers in the German Bight was found to be affected by ship traffic, including wind farm related ships (Burger et al. 2019). Divers were significantly more abundant in areas with low-frequency ship traffic. Ships sailing at high speed were seemed to be more disturbing than slow-speed ships. Also, Mendel et al. (2019) found that ship traffic had a significant negative impact on loons (*Gavia spp.*), indicating that offshore wind farms deterred loons through the combined effect of the wind turbines themselves and the associated ship traffic. In addition, ship speed was identified to have a strong effect on divers: after disturbance from high-speed vessels, resettlement of the disturbed area took longer than after disturbance from slow- or medium speed vessels (Dorsch et al. 2019). This latter study also indicated that divers kept longer distances to offshore wind farms at night, when wind turbines were illuminated with bright red aviation lights and white navigation lights (Dorsch et al. 2019)”.

Response to Point 9 - Red-throated Divers in the German Bight SPA

The Developer notes the post-construction monitoring studies undertaken at existing OWFs. A variety of literature was reviewed to determine species-specific vulnerability to OWFs, and were screened and assessed on this basis.

An assessment of construction and operational impacts to divers (loons) has been provided in the Offshore Ornithology chapter and NIS. Divers require relatively shallow water and generally winter close to the east Irish Coast as presented in the HiDef (2019) data (covering the waters off of Gormanstown) and ObSERVE Phase I data (Jessop *et al.*, 2018). Based on the coastal distributions of divers presented within these datasets and the obvious lack of overlap with the array area +8km buffer the Developer is confident that impacts to divers and seaducks during operation will be minimal and the Project will not be displacing divers from optimal habitat.

The Developer has updated the red-throated diver assessment to include potential disturbance up to 10km from the array area. The Developer notes the SNCB (2022) guidance in regard to potential red-throated diver displacement rates: “Displacement will not be 100% throughout the distance over which the effect occurs but there will likely be a gradation, with decreasing effects at increased distance from an OWF. That is to say that red-throated diver densities might be expected to increase at increasing distances from an OWF. While displacement within the OWF footprint may be close to 100%, the rate of change in displacement up to and beyond 4km appears to vary, perhaps between regions and survey platforms”.

The Developer has reviewed the available evidence on red-throated diver disturbance, and suggests to following displacement rates:

- Array area + 4km buffer = 100% displacement
- 4km to 10km buffer = 52% displacement

The Developer is committed to following vessel-best practise detailed in Appendix 14.5: Environmental Vessel Management Plan of the 2024 EIAR.

The Developer has also provided an assessment of potential red-throated diver disturbance from the construction and decommissioning and operation and maintenance of the ECC. Both updated assessments to not change the conclusions of no AEoI of red-throated diver within the North West Irish Sea SPA.

Point 10 – Hansen et al., 2020

“Hansen et al. (2020) experimentally showed that common guillemots (*Uria aalge*) respond to underwater noise, with indications of a greater response with higher sound levels.”

Response to Point 10 – Hansen et al., 2020

The Developer is aware of the Hansen *et al.* (2020) study and notes the SWEG's concern regarding the potential impacts of underwater noise on guillemot. The Developer notes underwater noise, while a concern for marine mammals and fish, is not considered a significant risk to seabirds as they primarily stay above or on the water's surface. Additionally, research on bird hearing physiology suggests birds do not hear well underwater and as such are unlikely to be impacted while diving. Research on ear structure in diving birds (e.g., Dooling and Therrien, (2012)) suggests that their ear structures are adapted to protect against the

pressure changes during dives, which could also help prevent damage from excessive noise exposure. Moreover, unlike marine mammals, birds are able to stay on the surface to avoid the underwater noise and/or fly away at low energetic expense, further reducing the risk of exposure. For further information please refer to Section 3.4.2.4 in the SISAA.

The Developer also highlights that the Hansen *et al.* (2020) study had a limited sample size, with only two guillemots involved. Additionally, since the study was conducted in a 'quiet pool,' the Developer believes it doesn't accurately represent the conditions of the marine environment.

Point 11 – Grey literature

The submission refers to knowledge collected in impact assessment frameworks as grey literature. Regarding this grey literature, the submission states “*Besides direct effects that offshore wind farms may have on birds, the large-scale at which these developments are expected to take place may have substantial effects also on local wind patterns, wave generation, tidal amplitudes, stratification of the water column, dynamics of suspended particles and bedload transport of sediment, while also providing extra hard substrate for biota. These developments are yet to occur, but the first modelling studies for the North Sea have been conducted that indicate that in certain areas major changes could take place (Boon et al. 2019, Zijl et al. 2021)*”.

Response to Point 11 – Grey literature

The Developer acknowledges the importance of understanding the hydrodynamic processes occurring in the north Irish Sea in the area of the proposed development. To that end, the Developer has undertaken a robust assessment within Chapter 10: Marine Geology, Oceanography and Physical Processes of the EIAR set within best practice guidelines and policy specific to marine processes. Site specific data were collated through metocean data collation and geophysical survey to contribute to the assessment process. Chapter 10 concluded that there are no significant effects in EIA terms, on any marine physical processes as a result of the proposed development.

It has been discussed in Chapter 12 Benthic Subtidal and Intertidal Ecology that the introduction of hard structures such as scour protection can lead to an increase in biomass and biodiversity which may be considered beneficial. Given the presence of epifaunal species and colonising fauna within discrete parts of the subtidal components of study area already, it is predicted that colonisation of hard substrates by common species such as bryozoans and ascidians will occur. Any beneficial effects associated with an increase in biodiversity will be highly localised in nature. The fish and bird assessments incorporated the results of relevant modelling to evaluate potential impacts on these receptors. The EIAR concluded that there were no significant effects on either fish or bird populations, in terms of the EIA Regulations.

Point 11 – Cumulative and population level effects

SWEG outlines relevant literature regarding cumulative and population level effects stating “There is a general agreement that there is a key need for an understanding of the potential cumulative impacts of offshore wind farms on birds (Fox & Petersen 2019, May et al. 2019).

There have been several attempts to carry out such cumulative assessments, each with different assumptions and without a general consensus on a certain approach (May et al. 2019)”.

Response to Point 11 – Cumulative and population effects

The Developer notes the SWEG’s comment regarding cumulative effects. The proposed development carried out a robust cumulative assessment on impacts to seabirds following guidance from the UK and used published impacts from other projects within the cumulative assessment.

In response to RFI Section 5, the Cumulative Effects section of the Offshore Ornithology chapter has been fully updated using the most current publicly available impact information (see the Offshore Ornithology chapter). The cumulative ornithology assessment now incorporates the revised project-alone assessment, the updated NWIS DAS dataset, and methodological updates arising from other RFI sections. In addition, impacts split by bio-season have been provided. In addition, an assessment of cumulative impacts on migratory bird populations has been added, considering the effects of the Irish Sea Phase 1 ORE projects and other existing or proposed plans and projects affecting the same populations. A collaborative approach has

been undertaken by the Irish Sea Phase 1 ORE projects, providing cumulative migratory bird collision modelling as set out in Appendix A15.4.

There are several levels of precaution inherent within the cumulative assessment leading to a proportionate assessment. For example:

- Several OWFs included within the cumulative assessment are operational. For these projects, predicted impacts are generally considered less influential because they form part of the existing baseline environment. In many cases, these OWFs have been in operation long enough that any associated effects are already reflected in observed demographic rates and regional population trends. There is also evidence from post-construction that birds may become habituated to these impacts over time, thus older OWFs are expected to have a reduced magnitude of impact relative to those predicted from their application. Despite this, operational OWFs remain included within this cumulative assessment as a precautionary approach;
- All projects within Irish and west coast UK waters were included in the cumulative assessment to ensure impacts are assessed at the appropriate ecological scale, reflecting the shared and highly mobile nature of seabird populations across the Irish Sea; these populations utilise interconnected foraging areas, migration routes and seasonal habitats that cross jurisdictional boundaries, meaning that developments across this wider region have the potential to contribute cumulatively to the same regional and biogeographic populations, and their inclusion therefore represents a precautionary, consistent and guidance-aligned approach to capturing the full extent of potential additive effects and avoiding underestimation of cumulative impacts; and
- Values are based on seasonal mean peaks, thus assuming the peak abundance is true of the whole season.

Point 12 – Human activities that can lead to bird mortality

SWEG state in their submission that “In addition to the difficulty to quantify the impacts of all relevant human activities that lead to bird mortality, translating these into population level effects has its own challenge. Population viability analyses are now routinely used during the consenting process for offshore wind energy developments to assess potential impacts to seabirds (Miller et al. 2019). But how these models are used gives still space for improvement. For instance, Horswill et al. (2022) argues based on the example of data collected from 70 colonies of black-legged kittiwakes across the UK and Ireland that including temporal trends in population viability assessments dramatically influences the projected rate of population decline. Therefore, they argue that environmental factors driving current population dynamics need to be incorporated in population viability impact assessments. In another study, Horswill et al. (2021) also pointed out the danger of using values from surrogate species or other populations of the same species in population level assessments when no data is available from the target population. Also for this study, they used black-legged kittiwakes breeding in the United Kingdom and Ireland as an example to indicate that using surrogate values to fill in missing parameters have large potential demographic impact, and that resulting biases are driven in unpredictable directions thus precluding assessments from being consistently precautionary.

“Furthermore, even if the effects are calculated at the population level, impact assessments need to be able to make statements whether or not these effects will have a significant negative impact on the population. Such evaluations have often been carried out using relatively simple criteria and thresholds like the the Potential Biological Removal (PBR). However, this approach has been challenged as e.g. it does not take any environmental variability into account and it implicitly assumes a fixed level of undemonstrated density dependence in population development (O'Brien et al. 2017, Miller et al. 2019). To solve such problems, the Dutch government has recently initiated the development of a novel method of impact assessment based on the outcome of population models. Within this approach, species-specific thresholds were defined for 21 bird species that consist of two parts:

- “A threshold population decline 30 years after the onset of a continuous prolonged impact, as a percentage X of the projected population size without the impact, which is considered acceptable.
- “A threshold probability Y that X is below this acceptable level after 30 years, which is considered an acceptable risk.”

Response to Point 12 – Human activities that can lead to bird mortality

PVA modelling is the industry standard and best available technique to determine the population consequences of impacts on seabird populations. The approach outlined broadly follows the approach utilised by the Developer when interpreting the PVA modelling outputs within the assessments. Environmental stochasticity and uncertainties in the input parameters were included in the model to provide robust confidence intervals in the outputs based on the best available evidence.

The outputs of the PVA were interpreted and placed into context in relation to current population trends at SPA colonies. In general, an impact of 0.5% reduction in population growth rate of the impacted population relative to the unimpacted population was used. This level of impact is well within the natural variability of population growth rates, which are influenced by factors such as density dependence and natural events (e.g., storms). Given this inherent variability, populations that have demonstrated long-term consistent growth are expected to be resilient to median Compound Growth Rates (CGRs) above 0.5%.

Density dependence is a well-documented factor influencing large seabird populations (Horswill et al., 2017). It typically arises due to increased competition for resources, such as prey availability or nesting space, as colony sizes grow. Given the natural regulatory role of density dependence, there is no reason to expect that its influence would change following the construction of the Proposed Development.

In the seabird impact assessments, density dependence was not incorporated within PVA models (mainly due to uncertainty regarding the level of appropriate density dependence), following a precautionary approach to avoid underestimating potential impacts. However, the inclusion of density dependence would, in fact, mitigate predicted impacts on tern populations by accounting for the natural compensatory mechanisms that help regulate population size. Therefore, any potential effects of the Proposed Development are likely to be overestimated in the current assessments.

Point 13 – Final remarks and recommendations

Within the Section titled ‘Final Remarks and Recommendations’ SWEG states “The level and scale at which displacement occurs varies between species and studies, likely to do with species sensitivity, and wind farm and habitat characteristics. As these studies are predominantly described from peer-reviewed literature, there is undoubtedly publication bias towards where effects have been demonstrated.

This review shows that the geographical scope of published studies on offshore wind farm effects in the OSPAR region is concentrated around British, German, Dutch and Belgian waters in the southern North Sea. Few studies address the effects in the Irish Sea and Baltic Sea, while studies of offshore wind farm effects in the Northern Atlantic are lacking. This limited geographical scope may partly be explained by the number of offshore wind farms in these areas, which is generally less than in the southern North Sea. Nonetheless, it shows that knowledge gaps on the effects of offshore wind farms on birds in these regions remain to be addressed by future studies.

The geographical scale of the density maps produced by Waggitt et al. (2019) show how the coherence of bird occurrence in the whole Northeast Atlantic can be achieved. Such studies on recent bird densities, extended by local age composition, -bird behaviour, and -flight characteristics could certainly help planning and assessment of offshore wind farms (e. g. Cleasby et al. 2020, Fauchald et al. 2021, Fijn et al. 2021, Potiek et al. 2019)”.

Response to Point 13 – Final remarks and recommendations

See ‘Response to Point 3 - Potiek et al., 2022’ and ‘Response to Point 6 – Vanermen et al., 2019 and Peschko et al., 2020’ which touch further on the points made.

Point 14 – Knowledge gap

SWEG continues, “This review also shows that no studies address the effect of different configurations of offshore wind farms, or for instance the use of corridors intended for birds, which is therefore another knowledge gap to be filled. Yet, in the coming years we reach the period when the lifetime of the first offshore wind farms is reached, raising the question around the effects of decommissioning of these structures. Currently, knowledge regarding the biological communities that develop on these structures and

their ecological role in the North Sea is currently insufficient to inform such decommissioning decisions (Fowler et al. 2019).”

Response to Point 14 – Knowledge gap

The Developer highlights that studies that have examined the influence of array configurations and corridors on displacement rates (van Bemmelen *et al.*, 2023). Some evidence suggests that offshore wind farm arrays with wider turbine spacing may result in lower displacement rates for seabirds but these are not conclusive.

Prior to decommissioning a study of the potential environmental impacts to benthic ecology receptors from the proposed decommissioning activities will be undertaken, considering the baseline environment at the pre-decommissioning stage. All mitigation measures to be captured will be captured within Appendix A6.2 Rehabilitation Schedule and the decommissioning strategy within the Appendix A6.1 Offshore EMP. Any licences or authorisations that might be required will be identified and obtained prior to decommissioning, including any supporting assessments, if required.

Point 15 – Knock-on effects

It states in the submission “Recently, concern has also risen about potential 'knock on' effects through the food chain that could be caused by OWF-induced ecosystem shifts such as, e.g., changes in seasonal and spatial stratification patterns, hydro-morphological changes and maybe even changes due to increases in benthic production on the foundations of the turbines and adjacent platforms (Zijl et al. 2021)”.

Response to Point 15– Knock-on effects

In respect to hydro-morphological related changes in production and knock-on effects on benthic production (as discussed in Zijl *et al.* 2021), modelling indicates that the magnitude of impact from changes in tidal conditions on the local water column (including stratification) and seabed is considered low. Consequently, associated impacts on benthic primary and secondary production will be negligible.

Point 16 –Knowledge gap

“What these reports prove is that there is a substantial knowledge gap to adequately assess the potential impacts offshore wind farms may have on specific bird species. How for example: Flight height can be affected by seasonality and prevailing wind direction; how flight heights change depending on the time of night; flight call rates in overcast versus clear conditions; how displacement varies between species and within individuals of the same species, depending on the age and life cycle of the individual, in combination with local circumstances, the characteristics of the relevant wind farms and time after construction; how the relative density inside the wind farm differs between species, at different distances during different seasons and how avoidance rates dramatically increase in certain species when turbine blades are rotating; the avoidance and negative effect that the frequency and speed of construction and maintenance ships has on different species; the danger of using values from surrogate species or other populations of the same species in population level assessments when no data is available from the target population. ”

Response to Point 16 – Knowledge gap

The Developer notes SWEG’s comments regarding knowledge gaps. All assessments have been completed in line with industry standards and guidance, with scenarios with the greatest magnitude of impact provided, and substantial precaution built into the assessments to account for uncertainty. In addition, mitigation measures have been put forward to minimise impacts on seabirds, including substantial array reductions from the original MAC boundary, and a significant increase in airgap (to 40m LAT).

5.7.3.2.5.6 Closing remarks on the conservation of the roseate tern

Point 1 – Knowledge gap

Section 2.5.6 outlines SWEG’s concluding remarks on the conservation status of the roseate tern, “What is clear is that there is simply not enough species specific knowledge available to assess what the effects the North Irish Sea Array will have on the artic tern; common tern; purple sandpiper and the roseate tern.”

Response to Point 1 – Knowledge gap

The Developer has undertaken an assessment based on the best available evidence for these species.

The NIS fully considers the Rockabill SPA, with roseate tern, common tern and Arctic tern all being screened in for collision risk, barrier effects and effects via impacts on prey sources during the operational phase, to assess the potential for an AEoI from the proposed development alone. With the following stated, within the NIS 1 (Section 5.4.4); *“It is therefore concluded beyond reasonable scientific doubt that the proposed development, alone, would not adversely affect the integrity of the Rockabill SPA in view of the conservation objective to maintain the favourable conservation condition of roseate tern. This conclusion is based on assessment of the relevant conservation objective attributes (including breeding population abundance, prey biomass available, and barrier to connectivity), for which the predicted effects during the operation phase would not undermine the achievement of the conservation objective.”*. For further species-specific information please see Theme 13 – Offshore Ornithology and Section 5.7.3.2.5 of this document.

There is clear evidence that collision risk will not lead to a significant number of mortalities or any population effects at Rockabill. See Responses 1 – 9 in *“5.7.3.2.5.2 International (East Atlantic) Species Action Plan for the Conservation of the roseate tern Sterna dougallii (2021-2030)”*.

As per the SISSA (Section 4) roseate tern, common tern and Arctic tern were screened out for the assessment of disturbance and displacement as *“These species have low vulnerability to disturbance / displacement from offshore wind farms (OWF) and vessel disturbance (Bradbury et al., 2014; Dierschke et al., 2016; Fliessbach et al., 2019).”*

The best available evidence (Bradbury et al., 2014; Dierschke et al., 2016; Fliessbach et al., 2019) suggests that the Qualifying Interests of Rockabill SPA are not prone to disturbance and displacement effects from OWFs. The following studies further support these findings regarding tern sensitivity to displacement:

- Van Bemmelen *et al.* (2024) tracked Sandwich terns from Scolt Head (Norfolk) and De Putten (Netherlands) with home ranges overlapping with existing arrays. Some displacement was suggested (in particular, higher rates of displacement with increased WTG density) but results were inconclusive due to considerable uncertainty, and some estimates suggested indifference.
- Thaxter *et al.* (2024) showed that Sandwich terns forage within windfarms although they may avoid them when in transit to other feeding areas. However, the paper speculates that this funnelling effect on commuting birds may be down to post construction changes in airflow patterns or prey base distribution rather than direct displacement.
- Harwood *et al.* (2017) suggested that there was no significant reduction in overall abundance of Sandwich tern after construction of Sheringham Shoal.
- Degraer *et al.* (2023) proposed that any differences in densities detected within and outside of the array area in their post construction displacement monitoring were likely to reflect a strong gradient in distribution from onshore to offshore, rather than an actual avoidance response.
- Percival (2020) found no strong evidence for displacement of common terns after post-construction monitoring at the Teesside Offshore Wind Farm from either boat-based counts or shore-based counts.

Point 2 – Rockabill SPA

SWEG refers to the Rockabill SPA, stating *“It is also clear that Statkraft's willingness to site a wind farm array 200 metres from Rockabill SPA shows a complete disregard for one of the rarest sea birds in Europe. As we have suspected all along, Statkraft are more interested in corporate profits than they are in protecting biodiversity and nature. Furthermore, we regard Statkraft's methods of determining collision and other risks to roseate terns for their EIA, NIS and AA as utterly inadequate”*.

Response to Point 2 – Rockabill SPA

The NIS thoroughly considers Rockabill SPA (Section 5.4.4) with a site specific assessment based on the best available evidence and guidance. See Responses 1 – 9 in *“5.7.3.2.5.2 International (East Atlantic) Species Action Plan for the Conservation of the roseate tern Sterna dougallii (2021-2030)”*.

In addition, the Developer has made significant commitments, including reducing the spatial extent of the offshore infrastructure, to reduce impacts to seabird species and in particular terns. The commitment to increase the minimum lower tip height of the turbines to 35/40m LAT decreases the predicted impacts to terns that tend to fly at low altitudes, both while foraging and in transit. For example, based on the data for common tern and arctic tern presented in Johnston *et al.* (2014), increasing the draft height from 22m to 40m reduces the proportion of birds flying at the rotor swept height by over 90%. At 40m, this leaves just a 0.22% (Arctic Tern) and 0.47% (Common Tern) chance that a bird is flying within the rotor swept zone.

Point 3 – Blade height

SWEG states “Their claim that birds will fly below the 40-metre clearance of rotor blades does not stand up to scrutiny. The following picture shows terns flying around and above Rockabill lighthouse, which stands at 46.5 metres above sea level”.

Response to Point 3 – Blade height

The flight behaviour of birds around island colonies cannot be used as a proxy for bird flight heights at sea. The Developer’s site-specific boat surveys recorded no terns at collision risk height across all surveys. In addition, the best available evidence and compiled flight height data in Johnston *et al.* (2014) clearly shows that terns tend to fly at low altitudes. Based on this robust dataset, at 40m, just 0.22% (Arctic Tern) and 0.47% (Common Tern) of birds fly within the rotor swept zone. Consequently, the number of predicted collisions is extremely small for all tern species. In addition, tracking studies of roseate terns from Rockabill SPA state that “1-15 m above the sea surface 83% of the time and 96% of foraging attempts were made from <15 m” (Perrow *et al.*, 2019), aligning with the evidence presented in Johnston *et al.* (2014).

Point 4 – German Bight SPA

SWEG refer to other protected areas “What we also know for a fact is the devastating impact offshore wind farms have had on the protected colony of loons once abundant in the Eastern German Bight SPA in the North Sea. We cannot let this happen to Rockabill SPA and the species protected by EU legislation”.

Response to Point 4 – German Bight SPA

See previous “*Response to Point 1 – Large-Scale effects of offshore wind farms on seabirds of high conservation concern*”. Based on available datasets showing the distribution of divers within the NWIS SPA (HiDef, 2019; Jessop *et al.*, 2019) the Developer is confident that impacts from the Proposed Development on divers will be minimal.

Point 5 – Rockabill SPA and Coquet Island SPA

The submission states “Rockabill SPA is the largest breeding colony of roseate terns in Europe. As a source colony, immigration from Rockabill is necessary to support the roseate tern population on Coquet Island SPA, which is located on the northeast coast of Britain. The potential significant effects of this proposed development and the implications are far reaching and could well signal the end of the Rockabill roseate tern colony which would affect the entire Northwest metapopulation.

Given the seriousness of the situation we would have expected Statkraft to have initiated transboundary consultations with the appropriate UK authorities, however, this does not appear to be the case”.

Response to Point 5 – Rockabill SPA and Coquet Island SPA

The Developer can confirm that transboundary consultation has taken place. The approach to transboundary consultation is detailed within Section 2.10 of Chapter 15: Offshore Ornithology. The likely significant transboundary effects are detailed within the assessment topic chapters of the EIAR and summarised in Chapter 37: Transboundary Effects.

No significant adverse transboundary environmental effects were identified. An Bord Pleanála, upon conclusion of the pre-application consultation stage with the Developer, directed that the United Kingdom, Northern Ireland, Wales, Scotland and Isle of Man should be notified of the application for the proposed development. All transboundary consultees were notified accordingly.

Point 6 – EU Court of Justice

SWEG refers to the EU Court of Justice, “It is also reasonable to expect that the EU Court of Justice would be surprised that the fate of the roseate tern, a rare seabird and the subject of substantial EU funding for conservation measures, could be placed in such a precarious position”.

Response to Point 6 – EU Court of Justice

Please refer to previous Responses to submission related to roseate tern.

Point 7 - Mitigation

SWEG outlines some mitigation measures “We believe that in order to fully protect the species, an exclusion zone mirroring the roseate terns foraging area of 30 km should be put in place around the ecologically sensitive Rockabill SPA. This would protect and conserve the roseate tern population and other protected species and their habitat, and would ensure the survival and reproduction in their area of distribution.”

Response to Point 7 – Mitigation

SPAs are not subject to exclusion zones. There is no precedent for such imposed exclusion zones within Ireland and the UK, and such a restriction is not a feasible mitigation measure for offshore wind projects. A buffer of 30km around Rockabill would not lead to a viable project based on the Developers MAC boundary. However, the Developer has committed to feasible mitigation measures to reduce impacts to seabirds, notably a raised air gap (to 35/40m LAT) and reductions in the spatial extent of offshore infrastructure. It should also be noted that the mean foraging range of roseate terns is $4.1\text{km} \pm 2.6\text{km}$ (Woodward et al., 2019). Therefore, the proposed development is beyond the mean foraging range for roseate terns from Rockabill Island itself, as Rockabill Island is located 11.9km from the array. Furthermore, within the assessments, which were completed in line with guidance and best practice, no significant adverse effects were concluded for any seabird species. In the NIS, no adverse effect was concluded for the conservation objectives for roseate tern at the Rockabill SPA, and as such, no exclusion zone is required.

Point 8 – Dutch White Paper

Finally, SWEG refer to the Dutch White Paper “According to the White Paper on Offshore Wind Energy (Partial review of the National Water Plan Holland Coast and area north of the Wadden Islands 29 (Dutch White Paper) published by the Dutch Ministry of Infrastructure and the Environment and the Dutch Ministry of Economic Affairs in September 2014, no more than 1% wildlife mortality is acceptable. This practice placed the nearest turbines 50km from the nearest lesser black-backed gull colonies. The Dutch White Paper states on page 29: 'For the protection of the lesser black-backed gull (*Larus fuscus*), special provisions have been made in respect of those parts of the northern Holland Coast area that lie within 50km of the Texel gull colony”.

Response to Point 8 – Dutch White Paper

The Developer has used a threshold of 1% increase in baseline mortality in the assessment process as a trigger for population modelling. This is considerably lower threshold than a ‘1% wildlife mortality’. Each SPA has been assessed in detail with full consideration of their conservation objectives with the NIS. No AEoI has been concluded for all SPAs.

5.7.3.2.6 Impact on the seabed and marine food chain

Point 1 – Impact on the seabed and marine food chain

In Section 2.6 of the submission, SWEG states “The drilling and pile driving required for Monopile installation will be likely to create massive amounts of sediment and may sometimes include chemical additives used as drilling cutting agents. Drilling cutting agents are a chemical pollutant which disrupt seabed nurseries for Phytoplankton, fish and shellfish. Phytoplankton is a main food source for fish stocks”.

Response to Point 1 - Impact on the seabed and marine food chain

Following design refinements, the project now proposes the use of suction bucket jacket (SBJ) foundations for WTGs, and jacket foundations for OSPs installed using either drilled pin piles or suction buckets (see

Appendix A5.1). As such pile driving is no longer included in the project design, The potential impact of construction activities on water quality due to suspended sediments has been thoroughly evaluated in Section 11.5.2.1 of Chapter 11: MW&SQ. Elevated suspended sediment concentrations (SSC) resulting from sediment plumes are primarily associated with offshore construction activities, including seabed preparation and the installation of WTG foundations, OSP foundations, inter-array cables, and ECC cables. The assessment utilised the output of the marine processes numerical modelling of scenarios with the greatest magnitude of impact for construction activities and associated sediment plumes to understand the potential impacts (see Appendix A10.2: Marine Physical Processes Numerical Modelling).

The potential effects of sediment suspension were assessed in terms of impact magnitude:

“Fish and many other organisms require dissolved oxygen in the water to survive. Dissolved oxygen levels can decrease due to various factors, including rapid temperature and salinity changes, as well as from the respiration of organic matter. Dissolved oxygen levels can also decrease as a reaction to nutrient inputs. When nutrient loading is too high, phytoplankton and/ or seaweed can bloom and then die. Bacteria and other decomposer organisms then use oxygen to break down the available organic matter, thus reducing dissolved oxygen levels in the water column...”

...The proposed activities are not anticipated to affect phytoplankton or dissolved oxygen as no nutrients are anticipated to be continually released in concentrations from the seabed. Further, there will be no outfalls or discharges associated with the proposed development. As such, the proposed activities are not expected to cause a reduction in the dissolved oxygen in the water column. Consequently, no source-receptor-pathways are identified for a deterioration of dissolved oxygen, phytoplankton blooms or eutrophication, as a result of the proposed construction activities.”

The remaining potential impacts, primarily related to bacterial mortality, were assessed against the sensitivity of MW&SQ receptors, including Bathing Waters, Shellfish Water Protected Areas, WFD Waterbodies (coastal and transitional), and non-designated waters. The significance of the effect on these receptors was determined to range from Imperceptible to Not Significant, meaning it is not considered significant in EIA terms.

In addition, the potential impact of the release of drilling mud has been thoroughly evaluated in Section 11.5.2.3 of Chapter 11: MW&SQ. This section discusses the type of drilling mud used, such as bentonite, stating:

“Bentonite is a non-toxic, inert, natural clay mineral (<63µm particle diameter) included in the List of Notified Chemicals approved for use and discharge into the marine environment. Classified as a Group E substance under the Offshore Chemical Notification Scheme for which it is least likely to cause environmental harm being “readily biodegradable and non-bioaccumulative”. This is further supported by bentonite being included on the OSPAR List of Substances Used and Discharged Offshore which are considered to Pose Little or No Risk to the Environment (PLONOR).”

The assessment utilised the output of the marine processes numerical modelling of scenario with the greatest magnitude of impact for HDD activities and associated sediment plumes (i.e. release of drilling mud) to understand the magnitude of potential impacts (see, Appendix A10.2)

The potential magnitude of impact from this release was assessed against the sensitivity of MW&SQ receptors. The significance of the effect on these receptors was determined to range from imperceptible to slight adverse, which is not considered significant in EIA terms.

Furthermore, the consequences of these issues on ecological receptors are considered in Chapter 12 Benthic Subtidal and Intertidal Ecology, Chapter 13 Fish and Shellfish Ecology and Chapter 14 Marine Mammal Ecology. Chapter 13: Fish and Shellfish identify the impacts of construction and SSC on all relevant fish and shellfish receptors, for example Section 13.5.2.1 assesses the temporary increase in SSC and sediment deposition arising during the construction phase of the proposed development. Chapter 12: Benthic Subtidal and Intertidal Ecology also sets out a full assessment of the potential for temporary increase in SSC in Section 12.5.2.1. It is noted that whilst seabed disturbance during the construction phase is expected to produce discrete sediment plumes, the spread of which will be determined by the prevailing tidal conditions, the material will be predominantly fine in character, and as such, plumes will be dispersed over several times before completely settling, with the flood-dominant tidal flow resulting in a net drift of the plume to the

north. However, SSC are expected to reduce quickly over time to background levels (i.e., within a couple of tidal cycles).

Point 2 – Chemical pollutants

“Chemical pollutants such as drilling agents, lubricants will also disrupt the spawning areas for sand eels. Sand eels are the main food source for Terns which are the most red-listed breeding birds on Rockabill”.

Response to Point 2 – Chemical pollutants

Following design refinements, the project now proposes the use of suction bucket jacket (SBJ) foundations for WTGs, and jacket foundations for OSPs installed using either drilled pin piles or suction buckets (see Appendix A5.1). As such pile driving is no longer part of the project design. For effects on fish and shellfish from chemical pollutants, the Developer would refer SWEG to Section 13.5.2.3 in Chapter 13, which presents the assessment for potential effects on fish and shellfish from the release of contaminated sediments and/or accidental contamination. As noted in Section 13.5.2.3, “*sediment sampling within the array area and ECC showed low contaminant levels in surficial sediments*”. Moreover, “*any released sediment-bound contaminants are likely to be rapidly diluted by tidal currents, and increased bio-availability that could potentially result in adverse eco-toxicological effects to fish and shellfish and their prey is therefore not expected*”. The assessment therefore concludes that any effects on fish and shellfish from contaminated sediments will not be discernible from baseline conditions and as such no significant effects are likely to occur.

Furthermore, as stated in Section 11.5.2.2 of Chapter 11: Marine Water and Sediment Quality (MW&SQ) of the EIAR, the Developer is committed to the use of good practice, due diligence and pollution prevention guidelines. Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to the International Convention for the Prevention of Pollution from Ships (MARPOL) in order to ensure any potential risk is minimised. Any planned discharges be permitted small volumes, would be intermittent, and would dilute and disperse quickly. Should an accidental spill occur, the appropriate reporting procedure would be followed, and all relevant parties would be informed to manage any such event.

In relation to effects on fish and shellfish from accidental pollution, the Developer would refer SWEG to Appendix A6.1: Offshore Environmental Management Plan (EMP), which details the mitigation measures that will be incorporated as part of the proposed offshore development in relation to each EIA chapter topic, including measures pertaining to pollution prevention and contingency measures. As can be seen from Section 5 of Appendix A6.1, the Developer is committed to the development of, and adherence to, a Marine Pollution Contingency Plan (MPCP) to minimise the potential for anthropogenic pollution inputs into the marine environment. This will include a chemical risk review with information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance. Moreover, navigational measures will be implemented to ensure safe passage of vessels and avoid collisions. Should an accidental spill occur, the appropriate reporting procedure would be followed, and all relevant parties would be informed to manage any such event. The Developer is confident that adherence to the EMP and MPCP will minimise the potential for anthropogenic pollutants to enter the marine environment.

For further information please see the response Theme 9 – Marine Water and Sediment Quality.

Point 3 - Sandbanks

“Placing large foundations in the proposed location may change the dynamics of the sandbanks and cause a silt build-up around the base foundations of up to 14m in diameter.”

Response to Point 3 – Dynamics of the sandbanks

The location of the proposed development offshore array area is considered to be relatively flat and featureless and is not an area associated with any sandbanks. The Developer has refined elements of the design to respond to third-party submissions, the continued public and stakeholder consultation and the RFI. In response to RFI Section 2 (a) and Section 10 (a) foundation types for Project Option 1 and Project Option 2 have been revised from monopiles and pin piles to suction bucket jackets for the wind turbine generator (WTG) and jackets with drilled pin piles or suction buckets for the OSP (see Appendix A5.1).

The most notable change in flows is due to local-scale (near-field) drag effects caused by the foundation structure which create flow accelerations around and between each foundation and individual wakes in their lee (flow reductions with increased turbulence). Flow accelerations around the foundations can also lead to local scouring of the seabed which is mitigated with the placement of scour protection. The majority of changes in flow direction remain within the array area and as small-scale changes (<0.9°) around individual foundations without any wider array-scale changes extending into the far-field to reach any marine process receptors.

5.7.3.2.7 Impact on marine mammals

SWEG's submission on marine mammals covers a number of points;

- Impacts of construction underwater noise;
- The effects of underwater noise; and
- Published research.

Point 1 – Impacts of construction underwater noise

In Section 2.7 of the submission, SWEG states their concern for the impacts of construction underwater noise (UWN) on Harbour porpoises, dolphins, and whales, basking sharks and Grey and Harbour seals specifically regarding the Habitats Directive and Natura 2000 sites. Stating, “*under the Natura 2000 programme, any harm to these protected marine mammals is unacceptable*”.

Response to Point 1 – Impacts of construction underwater noise

The assessment within the EIAR is based on the standard guidance in widespread use for the assessment of underwater noise caused by piling, and the NIS adequately considers the conservation objectives of the Habitat Directive. Disturbance to seal and harbour porpoise QIs from underwater noise and vessels during pre-construction surveys, construction and decommissioning has been considered and assessed in Section 5.3 and 6.3 of the NIS, both alone and in-combination with other projects where information is available.

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ or drilled pin pile foundations. Therefore, pile driving will not take place. Additionally, if high-order UXO clearance is required, the Developer has committed to use of a noise abatement system in the form of bubble curtain. Given the removal of pile driving impacts, and the use of noise abatement for UXO clearance, impacts to marine mammals are reduced compared to the 2024 Application. Please see the Chapter 14 of EIAR, MMMP (Appendix A14.5) and the NIS.

For the assessment of disturbance, both the dose-response function approach, and the level B harassment approach has shown that there is the potential for disturbance effects to porpoise in and associated with Rockabill to Dalkey SAC. In order to assess whether this disturbance has the potential to adversely affect the harbour porpoise community at the site, a Dynamic Energy Budget (DEB) approach was presented in the NIS. This DEB approach was used to predict the changes in individual body condition and explore how such changes could affect that individual's vital rates.

The assessment concluded that under the most realistic scenarios, disturbance from pile driving at the proposed development is not expected to result in any impacts to individual harbour porpoise vital rates. The NIS therefore concluded there is no “significant negative impact” to individual fitness or reproductive success (of any life stage) under any realistic scenario and so is therefore not expected to impact on the community at the Rockabill to Dalkey SAC.

Regarding basking sharks, the Developer would refer to the impact assessments for Group 1 fish presented throughout Section 13.5.2.4 of Chapter 13: Fish and Shellfish Ecology, which include basking shark. It is concluded that neither impulsive sounds nor non-impulsive sounds generated during construction, operation and maintenance, and decommissioning of the proposed development will result in significant effects to basking shark.

Point 2 – The effects of underwater noise

SWEG discusses the threats of underwater noise with reference to the Australian authorities that gave approval to Orsted to investigate the seabed at Gippsland with the condition that “*all work must stop if*

any marine mammal is injured or killed, and work cannot resume without government approval" (Renew Energy, July 2024). We expect a similarly rigorous approach from Irish authorities."

SWEG also mention "In 2018, the Guardian quoted Job Schot, chairman of EMK, an action group of Dutch fishermen, in saying 'They claim that the area around the windfarms creates some kind of paradise of biodiversity. It is exactly the opposite. The acoustic sound from the turbines discourages fish and if it carries on long enough they just don't come back. There are lots of oysters and mussels around the turbines, but not fish. It's a dead area.'"

"The ramming of seabed kills everything within 6km. The porpoises are deafened and once they lose their hearing, they die. There has not been enough research, but we see what is happening every day"

Response to Point 2 – The effects of underwater noise

It is noted that following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ or drilled pin pile foundations. As a result, pile driving is no longer required at the proposed development.

The likely effects of underwater noise generated during construction of the proposed development on fish and shellfish ecology and marine mammals have been identified, considered and assessed in Chapter 13 of the EIAR, Section 13.5. and Chapter 14 of the EIAR, Section 14.5. The assessments conclude that underwater noise generated during construction, including noise emitted during UXO clearance, would at most result in slight (adverse) effects, which is not significant in EIA terms. Therefore, no additional mitigation to that already identified in Table A13.6 in Chapter 13 of the EIAR and Table A14.6 in Chapter 14 of the EIAR is considered necessary, and no significant adverse residual effects on fish and shellfish and marine mammal receptors respectively have been predicted in respect to the impact.

It is known that the presence of anthropogenic structures in the marine environment can act as fish aggregating devices and artificial reef systems (Guerin et al., 2007, Zawawi et al., 2012). Further, ongoing studies have shown increases in fish abundance near WTG sites. Initial findings as part of the ongoing multi-year PrePARED (Predators + Prey Around Renewable Energy Developments) Project have shown there to be an increase in flatfish and gadoid abundance at the Beatrice and Moray East OWFs, when compared with outside offshore wind farm reference sites (i.e., sites where data on flatfish and gadoid abundance were recorded, but located outwith of any offshore wind farm area) (PrePARED, 2024). These findings support a number of studies which have reported the increased presence of foraging marine mammals within operational OWFs and other marine structure sites. For example, Russell et al. (2014) found that some tagged harbour and grey seals demonstrated grid-like movement patterns as these animals moved between individual WTGs, strongly suggestive of these structures being used for foraging. Further, studies at Dutch and Danish OWFs (Scheidat et al., 2011) and in the Moray Firth in Scotland (Fernandez-Betelu et al., 2022) suggest that harbour porpoise may be attracted to anthropogenic structures due to the potential for increased foraging opportunities within operating offshore windfarms. The study conducted by Fernandez-Betelu et al. (2022) found the increased foraging activity and the occurrence of harbour porpoise happened at night, with the change in diel pattern being specifically linked to the presence of an offshore structure.

The Developer strongly disagrees with the statement "*The ramming of seabed kills everything within 6km*". There is no evidence to support this claim.

The Developer strongly disagrees with the statement "*The porpoises are deafened and once they lose their hearing, they die*". It is acknowledged that there is a risk of auditory injury to marine mammals (PTS) from construction activities. This is fully assessed within EIAR Chapter 14 Marine Mammals. PTS does not mean an animal is deaf. PTS at the PTS-onset threshold means that the animal experiences a slight reduction in hearing sensitivity within a specific frequency range.

The MMMP (Appendix A14.5) has been revised to align with DAHG (2014) guidance as requested in the RFI from ACP. Clear commitments have been made to mitigation measures:

- UXO clearance – low order:
 - 1,000 m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes

- Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone
- UXO clearance – high order:
 - 1,000 m monitored zone monitored by MMO (supplemented by PAM) for 30 minutes
 - Use of ADD to deter marine mammals out of the monitored zone where predicted PTS ranges exceed 1km
 - Delay in activities until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone
 - Use of bubble curtain

Point 3 – Published research

SWEG states “Additionally, NISA recently secured a license from MARA for drilling, allowing noise levels of up to 162 dB. However, research published by Nature (Scientific Reports, srep11083) indicates that noise levels exceeding 130 dB cause marine mammals to avoid the area -a behaviour known as porpoising. With pile-driving noise peaking at 180 dB, well beyond the 162 dB threshold, there is a high risk of long-term damage to harbour porpoises, potentially compromising their survival”.

Response to Point 3 – Published research

The licence to which SWEG refer to is the Maritime Usage Licence (LIC230001) awarded by MARA and outside the scope of this application.

Irrespective it should be noted that following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ or drilled pin pile foundations. As a result, pile driving is no longer required at the proposed development.

5.7.3.3 The implications of the proposed development for maritime spatial planning

The points raised by SWEG on the implications of the proposed development for maritime spatial planning include:

- General failings in proper maritime spatial planning
- Visual impact of NISA
- Effects in cultural heritage, tourism and economy

5.7.3.3.1 General failings in proper maritime spatial planning

In Section 3.1, SWEG provides some legislative context and then states “*The MAC area for NISA (and 5 others in phase 1 of Ireland's ORE scheme) is not the result of proper maritime spatial planning and it thus in contravention of EU law.*”

The MAC site was chosen about 25 years ago by developers on the basis of then prevalent technology. In the meantime, EU law has imposed further obligations on Ireland in the form of the Habitats and Birds Directives, amongst others. One of the results is the Northwest Irish Sea cSPA designation in 2023, which did not exist when the MAC site was chosen. Due to those developments, i.e. the Northwest Irish Sea cSPA and advances in technology, the MAC site for NISA is no longer appropriate. The Irish government should have scrapped the MAC site and followed proper EU protocol in developing a fully cohesive maritime spatial plan with input from all stakeholders, including the public.”

Response to General failings in proper maritime spatial planning

Ireland transposed the MSP Directive through Part 5 of the Planning and Development (Amendment) Act 2018, with its transposition restated once the MAP Act came into effect. This established the legal basis and broad framework for Ireland to implement the MSP Directive through the development of a maritime spatial plan. Ireland established its first NMPF. The NMPF is in full compliance with relevant legal environmental requirements, a Strategic Environmental Assessment (SEA), a Natura Impact Statement (NIS) and an

Appropriate Assessment (AA) have also been carried out as part of the preparation of the NMPF. This is to ensure that the national objectives and outcomes respond to the sensitivities and requirements of the wider natural environment.

The offshore development area represents only 36% of the full MAC boundary area and was reduced as a commitment by the Developer to ensure optimal seabed usage where possible, whilst seeking to ensure the key environmental constraints and other marine users are impacted as minimally as possible.

The NIS assessed the likely effects of the proposed development to all the relevant European protected sites and found no AEoI on any site, either alone or in-combination with any other plan or project.

5.7.3.3.2 Visual impact of NISA

In Section 3.2, SWEG states the following key points relating to visual impacts of the proposed development;

Point 1 – Fingal Coast

SWEG begin by stating “The proposed scale and placement of the NISA wind farm, goes against best practice in other EU countries, particularly for what the Fingal Development Plan describes as “The sensitive coast of Fingal” with its mixed environments such as protected islands, cliffs, rocks and beaches”.

Response to Point 1 – Fingal Coast

The location and refinement process for the proposed development is described in full in Chapter 5 in the EIAR. As noted in Section 3.7.3.1 of this report, the Developer notes that there is no known set back distance from the coastline for offshore wind farms. Some examples in other EU countries where the wind farms are closer than 22km include:

- Middelgrunden Wind Farm in Denmark (3.5km);
- Vesterhav Nord and Vesterhav Syd in Denmark (5.5km and 4km respectively);
- Nysed Wind Farm in Denmark (10km);
- Korsnaes Wind Farm in Finland (13km); and
- Hollandse Kust Zuid and Nord in the Netherlands (18km)

Further information on the siting of the turbines is included in Section 5.7.3.4.1 of this report.

Visual impact assessment is informed by more contextual factors than solely the mathematical relationship between turbine height vs distance and included viewing angle. In this instance, significant visual impacts were considered not to occur. The methodology used in the assessment as described in Section 29.2.2 of the EIAR is the standard methodology used by SLVIA specialists in Ireland.

It should also be noted that Fingal County Council also concluded in their submission that they consider there to be no significant impacts on seascape from the proposed development.

Point 2 - Seascape impacts in Skerries and surrounding area

The submission states that “The visual obtrusion by the proposed NISA development will most affect the vista of the islands from the South end of South Strand where visual interaction with Rockabill, Colt, St. Patrick's and Shenick islands will be felt most. The visual degradation of the seascape will have in the scale proposed and closeness to shore a detrimental quality to the tourism and recreation offering in Skerries and surrounds.”

Response to Point 2 – Seascape impacts in Skerries and surrounding area

As discussed within Section 3.4.3.3 of the SLVIA document, it can be concluded that there are no significant seascape impacts in Skerries and the surrounding area. It should also be noted that Fingal County Council also concluded in their submission that they consider there to be no significant impacts on seascape from the proposed development.

Point 3 – Literature recommendations for siting OWF

SWEG makes reference to reports assessing the visual impacts of OWF;

- The Dutch White paper (Ministry of Infrastructure and the Environment & Ministry of Economic Affairs, 2014) recommends “*Views to the horizon were to remain obstructed and outside the 12 nautical mile zone as much as possible*”;
- The Review and Update of Seascape and Visual Buffer study for Offshore Wind farms (White Consultants, 2020) “on the visual impact of offshore wind farms suggests as a rule of thumb that a 1:100 turbine height to distance ratio will have a medium magnitude of visual impact, meaning that, in order to avoid a large or very large visual impact, a 100 metres high turbine should be placed at least 10km offshore, a 200 metre high turbine should be placed at least 20km offshore and a 300 metre high turbine should be placed at least 30km offshore”; and
- UK OESEA3 Environmental Report (DECC, 2016) “stated as part of Recommendation 1 that developments (individually or cumulatively) should aim to avoid causing significant detriment to amenity and well-being as a consequence of deterioration in valued attributes such as landscape, tranquillity and other factors”
 - “*In the discussion on visual buffers the report states:*
 - *Further conclusions of the work were that for high value and high sensitivity coastlines, a distance of 30km from the coast (the limit of visual acuity) could be attributable to developments for a range of sizes (e.g. 3.6MW to 15MW)’ (p291)”.*

Response to Point 3 – Literature recommendations for siting OWF

Whilst a number of reports and studies and their associated findings / recommendations have been referenced in the SWEG submission, the Developer notes that these do not represent best practice guidance for SLVIA of offshore wind farms in Ireland. Notwithstanding the empirical data and methodologies employed in the preparation of these studies and reports, the findings and recommendations can only be taken as the opinion of the authors rather than established guidance for this jurisdiction. By contrast, the SLVIA from the proposed development is based on the guidance set out in Section 29.2.2 of Chapter 29 of the EIAR and provides comprehensive guidance within the Irish jurisdiction.

5.7.3.3.3 Effects in cultural heritage, tourism and economy

In Section 3.3, SWEG details their concerns under the following points:

- Effects on cultural heritage;
- SLVIA impact on south coastal area oof Skerries;
- Effects on tourism;
- Effect on tourism and property prices;
- UK White Consultants report; and
- Skerries tourism

Point 1 – Effects on Cultural Heritage

SWEG states “The visual obtrusion created by the turbines against the 5 islands off Skerries creates a conflict with Maritime Spatial Planning and a seascape confusion and overbearing sense of scale particularly to St Patrick's Island (or Church Island) home of a 6th century monastery linked to St Patrick and his followers. In other Cultural Heritage considerations, Rockabill is key to an ancient, 5000-year-old, solstice alignment with the twin standing stones at Baltray on the North Side of the Mouth of the Boyne”.

Response to Point 1 – Effects on Cultural Heritage

The recorded site of an early monastery on St Patrick’s Island (RMP DU005-019001-5) was not included in the assessment of visual impacts from offshore turbines as the ecclesiastical remains are not listed as a

national monument, nor possess a direct marine context as set out in Section 25.2.5 of Chapter 25 of the EIAR. Early medieval ecclesiastical sites were established within a variety of landscape contexts and were not specific to island contexts. Notwithstanding that, assessment was carried out with regards to the recorded Martello Tower and promontory fort on Shenick's Island c. 1.2km to the southwest (CHVP58) and Rockabill Lighthouse (CHVP59), c. 4.5km to the east-northeast. At both locations, the impacts of the offshore turbines is assessed as indirect, negative and long term, with a medium magnitude and a moderate significance of effect. Given these results, it is fair to apply this result to the denuded remains of the early medieval ecclesiastical site on St Patrick's Island.

Similarly, the recorded site of the twin standing stones at Baltray (LH025-002) was not included in the assessment of visual impacts from offshore turbines as the ecclesiastical remains are not listed as a national monument, nor possess a direct marine context as set out in Section 25.2.5 of Chapter 25 of the EIAR. Standing stones were established within a variety of landscape contexts and were not specific to coastal contexts.

An assessment was carried out at CHVP02 & 03 (Drogheda East and West Lighthouse Complex and Lady's Finger, Maiden Tower and Boat House), c. 2.2km southeast of the stones at Baltray and a slight negative effect was determined arising from the presence of the offshore turbines over 17km to the southeast. Given the results of this assessment, it would be fair to apply the same conclusion with regards to the setting of the twin standing stones at Baltray. No impacts would occur on the possible solstice alignment between the stones and Rockabill, as no turbines will be located within this alignment.

Point 2 - SLVIA impact on the south coastal area of Skerries

SWEG continue "According to our verified calculations, the nearest turbine of 316 metres height in option 2 of the planning application will appear 3.49x the height of Rockabill lighthouse, which stands at 46.5m tall from sea level. This has a profound detrimental effect on the seascape particularly from the south coastal side of the town near the Rugby club, the Rush Road entrance to the town with vistas of mountains, islands and coast will have a significant negative effect on the established tourism town of Skerries. But also the 290 m high option 1 is similarly obtrusive and even more numerous at 49 units, a number which kept growing during the consultation process creating issues of trust with the proposing company and the community." SWEG states that "The visual obtrusion created by the proposed development will have the greatest impact on the vista of the islands from the south end of South Strand particularly Rockabill, Colt, St Patrick's and Shenick islands."

Response to Point 2 - SLVIA impact on the south coastal area of Skerries

In Chapter 29 of the EIAR, the impact of the proposed development on seascape, landscape and visual amenity was assessed. Viewpoints were selected which represented views along the east coast from County Down in Northern Ireland to County Wicklow, including popular amenity and recreational locations including (but not limited to) Gormanston Beach, Laytown Beach, Red Island Skerries, Balbriggan Beach, Ardgillan Castle Grounds, Donabate Beach, Portmarnock Beach and Howth Head. Photomontages were prepared to illustrate the impact of the proposed development from these locations. The assessment concluded that there will be no significant negative effects on the seascape, landscape or visual amenity arising from the proposed development.

Therefore, as there are no likely significant negative effects on seascape, landscape or visual amenity, it is concluded that the proposed development will not result in any significant negative effect on residential amenity. It should also be noted that Fingal County Council also concluded in their submission that they consider there to be no significant impacts on seascape from the proposed development.

Point 3 - Effects on tourism

SWEG state in their submission, "The visual degradation of the seascape, in the scale proposed and proximity to shore, will have a detrimental effect on the tourism and recreation offering in Skerries and surrounds."

SWEG feels that rowers visiting from the USA to the annual 3-Island Challenge currach race run by the local Currachaí na Sceirí club may not wish to go if the area is "*over-dominated by mis-scaled*"

turbines which would not be approved in most EU countries which are outside the 12 nautical miles or 22km limit and recommended to be placed at least 30km from shore if sized over 300 metres.”

Response to Point 3 - Effects on tourism

Construction and operational impacts on marine recreational activities in terms of recreational sailing, diving, other water sports and angling within the proposed development boundary are addressed in Sections 20.5.2.3 and 20.5.2.4 of Chapter 20: Infrastructure and Other Users in the EIAR. Section 20.5.2.3 of the EIAR concluded that there was the potential for slight effects from direct displacement or access impacts on marine recreational activities from increased vessel movements and the use of advisory safety zones to recreational sailing, angling and other water sports. Section 20.5.2.4 concluded that there was the potential for slight effects from indirect disturbance or displacement impact from construction activities due to the physical presence of infrastructure (i.e., WTGs) during operation but this is not significant in EIA terms. Further information on the potential impacts to marine recreational activities is presented in Section 3.17.3.1 herein.

The operation of the offshore wind farm is not predicted to alter the attractiveness, use or viability of tourism destinations, nor to affect patterns of recreational or visitor behaviour. Coastal sense of place is influenced by the relationship between land and sea, expansive seaward views, cultural and maritime associations, and patterns of recreation and use. The operation of the proposed development has the potential to influence these qualities through changes in distant offshore views. Operational seascape effects are assessed on seascape character and visual receptors in Chapter 29. The SLVIA concluded that the proposed development would not give rise to significant operational phase seascape effects, and that visual effects from the majority of assessed viewpoints range from imperceptible to slight or moderate-slight, with no significant effects identified in EIA terms.

This is further reflected in Fáilte Ireland’s report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape currently being drafted (findings of which were shared with the Developer). This confirms that for those who noticed Renewable Energy Infrastructure at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident, and that for two in three visitors, Renewable Energy Infrastructure did not factor into their decision making when choosing their destination. For those aware of Renewable Energy Infrastructure, 61% report no impact on enjoyment of landscape.

Therefore, it can reasonably be concluded that it is unlikely that the presence of the offshore infrastructure will negatively impact the Irish tourism industry.

Section 33.5.3.5 of the Chapter 33: Socioeconomic Tourism and Recreation in the EIAR, concludes that there will be neutral, long-term and not significant impacts effects on tourism or recreational, community and social facilities throughout the operational phase of the proposed development. Therefore, there are no significant impacts effects arising from the proposed development which will impact any activities.

A desk-based study was carried out to identify and engage with local operators of marine activities, including boating clubs. Engagement with Currachaí na Sceirí was conducted several times ahead of the submission of the planning application. The Developer would welcome continued engagement with the operators. As part of the proposed development, the Developer has committed to a community benefit fund, which will have benefits for local community groups or organisation should that be of interest.

Point 4 - Effect on tourism and property prices

SWEG is concerned about the effect on local tourism jobs in Skerries and “are also concerned of the negative economic impact on property prices and change of atmosphere from an unspoilt marine town to having an industrialised vista of very large proportions ever present nearshore.”

Response to Point 4 – Effect on tourism and property prices

A socio-economic assessment of the potential impacts of the proposed development is presented in Chapter 33: Socioeconomic, Tourism and Recreation. Socio-economic, tourism and recreation are addressed in Chapter 33 as elements of the environmental factor, population, which is listed in Article 3 and Annex IV of the EIA Directive. As noted in Section 33.2.1 of the EIAR, *‘The socio-economic impacts of the proposed development are considered at varying spatial levels according to the nature of the effects considered. The*

potential economic impacts arising from the proposed development (i.e. employment and GVA generation) are considered at regional level which comprises the Eastern and Midland Region in Ireland.’ Socio-economic, tourism and recreation are addressed in Chapter 33 of the EIAR as elements of the environmental factor, population, which is listed in Article 3 and Annex IV of the EIA Directive.

Socio-economic impacts are considered at a population level. Impacts on individual receptors were not considered in the EIAR. This complies with the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022), which states ‘*the transposing legislation does not require assessment of land-use planning, demographic issues or detailed socioeconomic analysis.*

Section 3.4.3.3 of this report states that they are not considered to be any significant visual effects arising from the offshore elements of the proposed development. Consequently, significant negative effects on property values are not likely to occur.

Studies in Denmark (Jensen et al., 2018) have noted that while there are negative impacts to real estate properties from onshore windfarms, there is no significant effect from offshore windfarms on properties with a view of the windfarms from the house itself, or from the nearby beaches.

Point 5 - UK White Consultants report

SWEG suggest that the UK White Consultants Report “further advises that seascapes with national trails/coast paths, such as the Fingal coast, are of high value and should have at least a medium-large buffer size (see section on visual impact)”.

Response to Point 5 – UK White Consultants report

Impacts to seascapes along the Fingal Coast are assessed in Chapter 29 in the EIAR. Section 29.5.6.1 concludes that there are no significant negative effects arising from the WTGs on any receptors along the Fingal Coast.

Similar conclusions were made by Fingal County Council in their submission (see Section 4.2.3.4 of this report) which note “the proposal is most clearly visible along the northern edge of the Fingal coast, at the viewpoints at Balbriggan, Ardgillan, Skerries and Loughshinny. Based on the details submitted, Fingal County Council considers that the proposal would not impinge in any significant way on the landscape in Fingal County and thus would not be contrary to Objective GINHO59, which is to ensure that ‘that new development does not impinge in any significant way on the character, integrity and distinctiveness of highly sensitive areas and does not detract from the scenic value of the area’”

Therefore, there will not be any significant negative impact to seascapes along the Fingal Coast, including any of the national trails or coastal paths.

Point 6 – Skerries Tourism

SWEG includes a submission from Skerries Tourism which states that “These are amenities that will be directly impacted by NISA, and the Statkraft planning application if approved interrupting the majesty and serenity of the views in direct contradiction to the Tourism strategy Fingal has set out. ‘Developing Tourism Offering: Specific Development of Skerries and Balbriggan’. The tourism strategy specifically sets out the development of both Skerries and Balbriggan as centres for tourism growth.

‘Promote and facilitate the development and growth of Balbriggan and Skerries as primary service, social, cultural and local tourist centres in North Fingal”.

“This proposed array in the NISA under the current planning application will negatively impact this key objective by significantly interfering with the landscape views and marine life. There is a significant lack of tourism infrastructure in the area, specifically bed nights. The potential for new bed nights to be added will be hindered if the very strength that we have from a tourism offering- natural and unspoilt views, is undermined, as will be the case if this planning application is permitted.”

Response to Point 6 – Skerries Tourism

This is further reflected in Fáilte Ireland’s report on Visitor Awareness and Perceptions of Renewable Infrastructure in the Irish Landscape currently being drafted (findings of which were shared with the

Developer). This confirms that for those who noticed Renewable Energy Infrastructure at their location, six in ten claim it had no impact on their enjoyment, with more positivity than negativity evident, and that for two in three visitors, Renewable Energy Infrastructure did not factor into their decision making when choosing their destination. For those aware of Renewable Energy Infrastructure, 61% report no impact on enjoyment of landscape.

Therefore, it can reasonably be concluded that it is unlikely that the presence of the offshore infrastructure will negatively impact the Irish tourism industry. In the absence of significant effects on seascape, landscape and visual amenity, the assessment in Chapter 33: Socioeconomics, Tourism and Recreation, concluded that there will be no likely significant effects caused by the offshore development on tourism within the region.

This conclusion is reinforced by recent studies in the UK (Glasson *et al.*, 2022, Hatch 2022 and BiGGar Economics, 2020) which concluded that offshore wind farms have had no correlating significant negative impact on tourism in their respective regions. An additional study (BiGGar Economics 2021) on the potential impacts of wind energy on the tourism sector concluded that in certain areas of Scotland, those areas within the vicinity of windfarms experienced a boost in tourism employment statistics.

In establishing the baseline for the tourism assessment in Fingal, Section 33.3.9.1 of Chapter 33 of the EIAR specifically references the Fingal Tourism Strategy 2024-2029. As significant effects from the proposed development on tourism are not likely, the objectives of Fingal Tourism Strategy 2024-2029 will not be hindered by the proposed development.

5.7.3.4 The implications of the proposed development for proper planning and sustainable development

The points raised by SWEG on the implications of the proposed development for proper planning and sustainable development include:

- Proper Planning; and
- Sustainable Development.

5.7.3.4.1 Proper Planning

SWEG highlights concerns regarding proper planning in Section 4.1 of their submission;

- Excerpts from the Inspector's Report ABP-315801-23;
- Guidance document on wind energy development and EU nature legislation;
- Guidance documentation on designated renewables acceleration areas;
- Identifying important bird and biodiversity areas (IBAS) in Irish waters;
- Transboundary consultation process – Statkraft fail in their obligations;
- Public consultation deficiencies; and
- Statkraft visualization in planning application (Photo montages).

5.7.3.4.1.1 Excerpts from the Inspector's Report ABP-315801-23

Point 1 - Excerpts from the Inspector's Report ABP-315801-23

After supplying some legislative context, SWEG states a series of points noted in the Inspector's Report ABP-315801-23, that required addressing in the application.

Response to Point 1 - Excerpts from the Inspector's Report ABP-315801-23

The Developer can confirm that the points made by the Inspector have been addressed in the following sections of the application, see Table 5.7.1.

Table 5.7.1: Points addressed in Inspector's Report ABP-315801-23

Point made in Inspector's Report	Where addressed in Application
The National Marine Planning Framework - in particular the need to clearly indicate project compliance with NMPF policies and objectives,	Chapter 3: Legal and Policy Framework (EIAR) Appendix A3.1: NMPF Compliance Report
Policy context surrounding the proposal ranging from strategic to local in relation to the Regional Spatial Economic Strategy for the Eastern & Midland Region, and the development plans for the relevant Coastal Planning Authorities,	Chapter 3: Legal and Policy Framework (EIAR)
Public consultation process and stakeholder engagement undertaken. The prospective applicant indicated that several public consultation exercises have already been undertaken with coastal communities.	Appendix A1.2 Consultation Report
Coastal Planning Authorities consultees which include Louth, Meath and Fingal County Councils and Dublin City Council.	Chapter 3: Legal and Policy Framework (EIAR),
Visual amenity of infrastructural elements, including an assessment of landscape and seascape impacts from along the coastline and beyond.	Chapter 29: Seascape Landscape and Visual
Potential impact on cultural heritage including the archaeological heritage of Bremore Head & Environs	Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage
Potential impact on biodiversity, including coastal and marine habitats and species, and migratory and /or mobile species (incl. European sites, seabirds, bats, marine mammals, fisheries & benthic communities), potential noise impacts during the construction and operational phases, including the transmission of noise into the water column from the operational turbines; and the submission of a peer reviewed analysis of monitoring data from similar operational offshore wind/arms, for mobile species (incl. sea birds & marine mammals).	Chapter 12: Benthic Subtidal and Intertidal Ecology Chapter 13: Fish and Shellfish Ecology Chapter 14: Marine Mammal Ecology Chapter 15: Offshore Ornithology Chapter 16: Commercial Fisheries Chapter 23: Biodiversity
Potential impacts on hydrodynamics, wave patterns and coastal processes (incl. patterns of erosion & deposition along the coastline); potential impacts on water quality arising from the excavation works for the turbines and OSP foundations and subsea cables (incl. suspended sediments), and the destination of any contaminated material (incl. any EPA licence requirements).	Chapter 10: Marine Geology, Oceanography and Physical Processes Chapter 11: Marine Water and Sediment Quality
Impact on commercial fisheries	Chapter 16: Commercial Fisheries
Construction related practices and methodologies, which are intrinsic to the installation of the infrastructure, that are not clarified at the application stage should be set out and assessed in the application (incl. EIAR & NIS), and subject to a compliance condition which could include the submission of a CEMP. This approach is supported by several legal judgements and by legal advice to the Board.	Chapter 8: Construction Strategy – Offshore Chapter 9: Construction Strategy – Onshore
Any land acquisition/CPD/substratum requirements	Chapter 7: Description of the Proposed Development - Onshore

Point made in Inspector's Report	Where addressed in Application
Location of the operational and maintenance base (probably Greenore in County Louth) and operational port (not yet determined).	Chapter 8: Construction Strategy – Offshore
Environmental impact assessment	Environmental Impact Assessment Report, Volumes 1 - 12
Appropriate assessment	Supporting Information for Screening for Appropriate Assessment Natura Impact Statement (NIS)

Point 2 - Our Observations

SWEG states that “The information that Statkraft have submitted with their planning application is vast and extensive. It is impossible to read and evaluate all the documentation provided within the timeframe given to the public to make a submission.”

Response to Point 2 - Our Observations

The public consultation period is set by legislation and is standard for all projects, including complex and significant infrastructure projects. An eight week consultation period was available for members of the public and consultees to consider and review the planning application documentation. In this regard, the Developer notes that 59 submissions were received in respect of the project based on a review of the planning documents available online including the 124 page submission from SWEG.

Point 3 - Our Observations

SWEG state “We have read sections of the Natura Impact Statement and Environmental Impact Assessment Report and what we find striking is how little impacts are being reported given the magnitude of the proposed development. The level of compliance with the NMPF for example simply does not stack up.”

SWEG goes on to say that they do not agree with either the EIA or the NIS, “We simply do not believe the contents of either report and feel that a thorough forensic examination of both the Natura Impact Statement and Environmental Impact Assessment Report would uncover many irregularities.”

Response to Point 3 - Our Observations

The AA Screening and NIS are provided by the Developer the purpose of informing the competent authority (in this case, An Coimisiún Pleanála) for its determination on Appropriate Assessment.

In reaching this conclusion, the NIS then assesses whether the proposed development, alone or in-combination with other plans and projects, will have an adverse effect on the integrity of any European site(s) in view of best scientific knowledge and the Conservation Objectives (COs) of the sites.

The NIS, as submitted by the Developer, is in full compliance with the requirements of the Habitats Directive and concludes that the proposed development, either individually or in combination with other plans or projects, will not adversely affect the integrity of any European sites.

In addition, the EIAR is prepared by the Developer and submitted to An Coimisiún Pleanála as part of a consent process. The EIAR is in full compliance with the requirements of the EIA Directives. An Coimisiún Pleanála uses the information provided to assess the environmental effects of the proposed development and, in the context of other considerations, to help determine if consent should be granted.

The preparation of this planning application, including the NIS and EIAR, was a comprehensive and significant process undertaken over a number of years. It included technical studies and ecological surveys undertaken over several years, carried out by expert surveyors; the preparation of a robust NIS and EIAR by the best scientific experts with significant experience in developments of this nature across Europe. The

Developer considers the application to be robust, comprehensive and to be of the highest standard and it disagrees in the strongest terms with this implication that the reports contain "irregularities".

Point 4 - Sandeels

SWEG has highlighted a concern regarding sandeels, "Our question is: Given the level and magnitude of disturbance highlighted in Table 5.2 on the previous page, how is it possible for sandeels - the main prey for roseate terns - to be so minimally impacted? Statkraft have previously said in applications for survey work and site investigations that sandeels would be negatively impacted. How can sandeels be negatively impacted through smothering in survey work carried out over a short duration and minimally impacted with such colossal construction work carried out over a long period of time? This does not make sense."

Response to Point 4 - Sandeels

Information on the ecology of sandeel and the distribution of sandeel in the offshore development area is presented in Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation of the EIAR. The impacts of the proposed development on sandeel have been assessed in detail in Chapter 13: Fish and Shellfish Ecology of the EIAR.

Potential effects on sandeel due to temporary damage and disturbance of the seabed during construction activities such as, cable installation and jack-up and anchoring operations are assessed in Section 13.5.2.2 of Chapter 13. It is concluded that the sensitivity of sandeel to the impact is medium (Table 13.16 of Chapter 13 of the 2024 EIAR) and that the magnitude of the impact is low (adverse) (Table A13.10), with the significance of effects considered to be slight (adverse), which is considered to be not significant in EIA terms.

Furthermore, the Developer is confident that the EIAR adequately considers impacts on sandeel and its supporting habitats. As can be seen from the conclusions presented in Chapter 13, the assessment did not predict any significant effects to sandeel at the population level. Whilst there is likely to be localised changes in the distribution and abundance of sandeel during construction these will be short-lived and not lead to long-term significant changes. Likewise, any loss of sandeel habitat during the operation of the proposed development will be highly localised and not result in long-term significant changes to sandeel. The risks of effects on sandeel to affect protected seabird populations are identified and fully assessed in Section 5.4 and 6.4 within the Natura Impact Statement (NIS). With consideration that the predator species are not solely reliant on sandeel, and that the impacts are limited in area, the NIS concludes that indirect effects on seabirds via impacts on prey species do not have the potential for Adverse Effects on the Integrity (AEoI) of protected sites, including the Rockabill SPA and the North West Irish SEA cSPA.

5.7.3.4.1.2 Guidance document on wind energy development and EU legislation

Point 1 - Guidance documentation on wind energy development, EU nature legislation

SWEG have provided excerpts of relevant guidance documentation and literature on wind energy development and EU nature legislation saying, "*We believe that the proposed development will result in 'significant effects' on many fronts.*"

Response to Point 1 – Guidance documentation on wind energy development and EU nature legislation

The Developer is confident that a robust assessment of all stages of the proposed development has been undertaken in line with all the relevant and current best practice. The methodology is explained in Chapter 2: EIA and Methodology for the Preparation of an EIAR and the offshore topics of interest are set out in Chapters 10-20 of the EIAR.

Point 2 – Extended timeframes

The submission highlights provide three examples of scenarios that require an extended timeframe. The first is that "*Long-lived species, such as large migratory birds of prey, that return to Europe and breed only after three or four years of age. The loss of immature individuals through wind turbine collision mortality soon after fledging or on migration may only be measurable in the breeding population when the breeding adults are not replaced by returning birds of breeding age. This may occur only after three to four years from the project becoming operational but will remain after the project has ceased operation.*"

Good Practice: With reference to the conservation objectives of the Natura 2000 sites, assess the population consequences of wind turbine collision mortality from when the plan or project commences to when the effect is predicted not to occur anymore.”

Response to Point 2 – Extended timeframes

The Developer notes the statement on ensuring impacts are measured from first operation to when the effect is no longer occurring. This methodology has been fully integrated into the assessment approach. Specifically, population models were conducted from the point of first operation through to decommissioning, ensuring that potential impacts on all age classes were considered in line with the demographic distribution of a stable population.

To provide a conservative and precautionary assessment, models assumed a closed population structure, meaning no immigration or emigration, and did not incorporate density-dependent regulation, which could otherwise buffer population changes (Frederiksen et al., 2004). Over a 35-year operational period, the difference in the population growth rate (CGR) between an impacted and unimpacted population remained relatively stable. This consistency in CGR trends provides confidence that the approach offers a robust means of assessing long-term population-level effects. Given that CGR accounts for cumulative reductions in population size over time, it serves as a reliable metric for evaluating the significance of potential project-related impacts in an ecologically meaningful manner (Searle et al., 2018; Horswill & Robinson, 2015).

This approach aligns with best-practice guidance and, although the underlying assumptions are hugely precautionary, ensures that assessments reflect real-world population dynamics, enabling a more accurate understanding of potential ecological consequences over the lifespan of the development.

Point 3 – Coastal habitat change

The second example provided by SWEG is *“Climate change-induced sea level rise reduces the extent of a coastal habitat within the next 25 years. The loss of a coastal habitat under the footprint of wind turbine foundations can be predicted at the time of construction. The significance of habitat loss over a 25-year operational phase of the plan or project may be considerable greater when the loss of coastal habitat to sea level rise is taken into account. This is especially important if implementing the project may prevent climate change-related management actions from being taken e.g. managed realignment of the coastline.*

Good practice: With reference to the conservation objectives of the Natura 2000 sites, assess the loss of habitat from the footprint of the plan or project in combination with scientifically justifiable predictions of habitat loss or gain within the Natura 2000 site under different scenarios of climate change-induced sea level rise.”

Response to Point 3 – Coastal habitat change

The Developer notes the concern around impacts associated with climate change-induced sea level rise. However, the Developer disputes the statement that the presence of turbine foundations may result in habitat loss within coastal habitats and coastal Natura 2000 sites.

The distance between the turbine foundations and the nearest site designated for coastal habitats is 2.4km (the Rockabill to Dalkey Island SAC designated for reefs), and the distance to the nearest site with non-marine features with the potential to be impacted by sea level rise being 15.7km (the Rogerstown Estuary SAC). Therefore, the habitat loss caused by the footprint of the turbine foundations will not impact on any Natura 2000 sites considered for coastal habitats.

Point 4 – Extended timeframes

The final example provided by SWEG is *“Development of a reef community on turbine foundations in marine waters. Establishing communities on artificial structures, and other marine species in response, is a dynamic process that can take many years and is complicated by factors such as reduced fishing pressure. Such effects are likely to develop over the entire operational phase of a wind energy development plan or project. If foundations and/or material such as rock armour are left in situ after decommissioning then the effects, whether positive or negative, may also last for perpetuity.*

Good practice: Identify potential trophic consequences of reef development in relation to the ecological characteristics or function of the Natura 2000 site and assess the likely effects. Conduct monitoring, not just to drive colonisation, but to evaluate the consequences for groups such as marine mammals, so that informed decisions can later be made about decommissioning.

Consider whether the development of benthic communities on emplaced substrates (e.g. rock armour) makes a positive contribution to biodiversity and ecosystem function or to the degradation of natural habitat. This will depend in part on the historical context, e.g. whether there has been past loss of hard substrate habitats.

Consider monitoring invasive non-native species that may colonise hard structures, because they tend to colonise new substrate faster than native species.”

Response to Point 4 – Extended timeframes

It has been discussed in Chapter 12 Benthic Subtidal and Intertidal Ecology that the introduction of hard structures such as scour protection can lead to an increase in biomass and biodiversity which may be considered beneficial. Given the presence of epifaunal species and colonising fauna within discrete parts of the subtidal components of study area already, it is predicted that colonisation of hard substrates by common species such as bryozoans and ascidians will occur. Any beneficial effects associated with an increase in biodiversity will be highly localised in nature.

It is acknowledged that vessels trips to port during the construction phase, which will contribute to the risk of introduction or spread of MINNS through ballast water discharge. However, the significance of effect is considered to be not significant, which is not significant in EIA terms.

5.7.3.4.1.3 Guidance document on designated renewables acceleration areas

Point 1 - Renewable Energy Directive

SWEG then goes on to highlight REPowerEU and the Renewable Energy Directive , stating “*However, while the deployment of wind energy needs to be massively accelerated, the transition towards 100% renewable energy should not come at the expense of nature or exploit the weakening of environmental legislation.*”

Response to Point 1 – Renewable Energy Directive

Given the need to speed up the EU’s clean energy transition, the Renewable Energy Directive EU/2018/2001 was revised in 2023 by amending Directive EU/2023/2413 (RED III) which entered into force on 20 November 2023. This sets a binding target for the share of energy from renewable energy sources in the EU of 42.5% by 2030, with the aim of securing 45%. RED III notes that the energy sector contributes 75% of total GHG emissions in the EU. Through the reduction of associated GHG emissions, renewable energy will directly contribute to tackling additional environmental challenges including the loss of biodiversity and pollution. RED III notes that member states should be able to combine different non-fossil energy sources by taking into account their specific national circumstances to achieve climate neutrality by 2050.

As set out in Section 3.4.11 of Chapter 3: Legal and Policy Framework of the EIAR, the proposed development will directly contribute to the achievement of RED III targets by utilising Ireland’s offshore resources to provide a significant source of offshore renewable energy by 2030.

The Developer notes SWEG's comments on the designation of renewable acceleration areas, which will benefit from streamlined permitting processes to promote rapid development for renewable projects. RED III was transposed into Irish law in August 2025, although acceleration areas have not yet been formally designated and therefore post-date the application of the proposed development. The MAP Act provided a pathway to permit a select number of offshore renewable projects, including the proposed development, which had advanced under the existing foreshore regime to transition to the new MAC regime once established, to enable achievement of Ireland's 5GW by 2030 offshore renewable energy target. The Developer strongly welcomes the implementation of RED III and its aim to reduce overall permitting timelines for renewable energy projects located outside renewable acceleration areas, which includes the proposed development.

RED III will have very positive implications for the proposed development and the Developer is confident that it will directly contribute to the achievement of its renewable energy targets.

5.7.3.4.1.4 Identifying Important Bird and Biodiversity Areas (IBAS) in Irish waters

In Section 4.1.4, SWEG detail the meaning and procedures of identifying IBAs.

Point 1 - IBAs informing SPAs

SWEG goes on to discuss how this can inform new protected areas, *“Once sites have been identified, BirdWatch Ireland will advocate for new SPA designations to follow IBA criteria. As part of its commitments to protect nature at sea, the Irish government has committed to designating additional SPAs as part of the Natura 2000 network, with Minister Noonan announcing a new “Seas off Wexford SPA” in January 2024. Like other countries that have used IBAs as a base reference for their own SPAs, IBA sites should inform new SPA designations”*. SWEG then discusses MPAs and the importance of this project.

Response to Point 1 - IBAs informing SPAs

The Developer provided a robust assessment of all SPAs in proximity to the proposed development within the NIS (Section 5 and 6). The Appropriate Assessment takes into consideration all current or proposed European sites under the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC) including all SPAs, cSPAs, SACs and pSACs. The assessment within the NIS concluded that there was no potential for AEoI alone or in-combination for any of the Conservation Objectives of all designated sites considered (see Table 8.1 in the NIS).

5.7.3.4.1.5 Transboundary consultation process

Point 1 - Transboundary consultation process

Section 4.1.5 of the submission outlines the Espoo convention and details how the Developer should contact the relevant authorities in the UK or other states. Then the submission states *“Once again, we point to the fact that any of the studies based on any of the protected species at any of the protected sites - either SPAs or SACs is based on insufficient data and information. With specific regard to Rockabill SPA it has been established that Rockabill is a source colony for the roseate tern and has been producing a surplus of birds to disperse to other colonies. (Seward et al. 2019).”*

“Statkraft have failed in their obligations under the Espoo Convention by not initiating a transboundary consultation with the relevant UK authorities.”

Response to Point 1 – Transboundary consultation process

The Developer can confirm that transboundary consultation has taken place. The Developer’s approach to transboundary consultation is detailed within Section 2.10 of the EIAR. The likely significant transboundary effects are detailed within the assessment topic chapters of the EIAR and summarised in Chapter 37: Transboundary Effects.

No significant adverse transboundary environmental effects were identified. An Coimisiún Pleanála, upon conclusion of the pre-application consultation stage with the Developer, directed that the United Kingdom, Northern Ireland, Wales, Scotland and Isle of Man should be notified of the application for the proposed development. All transboundary consultees were notified accordingly.

5.7.3.4.1.6 Public consultation deficiencies

Point 1 - Public consultation

In Section 4.1.6, SWEG states *“We wish to highlight that the public consultation by Statkraft in relation to the scale of the development and turbine height was in our view inadequate. In every step in the public consultation, the numbers and sizes of the wind turbines in the proposed North Irish Sea Array (NISA) were altered leading to confusion and exasperation by members of the local community.”* The submission then goes on to say *“The 316m high option 2 was never floated to the public in Statkraft’s consultations.”*

Response to Point 1 - Public consultation

The information presented at each consultation event was an accurate representation of the proposed development’s design at that moment in time. The public consultation events in July 2023, November 2024

and April 2024 presented both printed and on-screen materials which illustrated maximum WTG tip heights of 316m. The team also discussed these heights with members of the public at length.

The most appropriate layouts were presented based on several influences including the ground conditions, site output and the marine environment. The proposed development design evolved as survey works and technological advances were made which influenced revisions to the project design. These updates were presented as they were available to the public via the series of public consultation events.

Point 2 – Photomontages

SWEG also raised issues with the Developer’s photomontages saying, “*the higher representations of turbines in Statkraft’ photo montages were significantly under-scaled by 15-30%.*” And continued to detail their own methodology, providing visualizations and calculations.

“We finally met with Statkraft representatives at the City North Hotel in May 2024 where our concerns were presented and a continued disagreement as to the scales was expressed and that our maths models were correct. This meeting led to one more model being produced as shown below with our annotations, which we still claim is 15% under-scaled thus leading us to conclude that the consultation process was skewed and inaccurate”.

Response to Point 2 - Photomontages

Section 29.2.2 of the EIAR details that the photomontages have been produced in accordance with the SNH (NatureScot), Visual Representation of Wind Farms Guidance, Version 2.2 (SNH, 2017a), which is the industry standard in the Ireland and the UK. They were created using an industry standard process in compliance with the relevant guidelines. They have been surveyed to within 10cm of the turbine locations. Appendix 3.4.1 Photomontage preparation and verification sequence of this report has been prepared to demonstrate the process undertaken to ensure the correctness of photomontages. This process has been applied throughout the evolution of the project and is applied to all photomontages that have been presented at the public consultation events. Whilst not usual practice to use man-made features, the Developer used Rockabill lighthouse to ensure that the scale of the proposed development could be easily identifiable to members of the public, in an effort to ensure transparency and accuracy of the photomontages produced by the Developer.

5.7.3.4.1.7 Statkraft visualization in planning application (photomontages)

Point 1 - Statkraft visualization in planning application (photomontages)

SWEG detail how they have checked the scale of the turbines depicted in the photomontages provided by the Developer, especially in relation to the Rockabill lighthouse.

Response to Point 1 - Statkraft visualization in planning application (photo montages)

The verifiable photomontage methodology involves modelling the turbines and placing them at the correct scale and location within a digital terrain model of the entire study area that is then matched to baseline photography in a sequenced and highly accurate process. Although it is not necessary to use man-made features (with a known height) such as Rockabill lighthouse as a reference in this process, it was used in this instance for cross checking purposes and particularly to ensure that the lateral viewing angle of the WTG arrays was precise.

To fully address concerns that the proposed WTGs are accurately depicted, a sequence of process images has been produced to show the steps in the photomontage process that ensure scale and positional accuracy. The same process is then shown in relation to the existing Arklow Bank turbines to confirm its accuracy. The process involves merging a spatially accurate Digital Terrain Model (DTM) with a spatially accurate and precisely placed 3D model of the development. Then, the photographic detail captured at each representative viewpoint location is replicated digitally to generate equivalent photoreal renders (snapshots) of the model that can be precisely matched to the baseline photography. The placement of the proposed WTGs within the baseline photographic image is aided by a simple wireline image, which also matches the parameters of the captured photography, and serves as a go-between with the digital and the real world. The process relies on precise coordinates / dimensions for the viewer location and the proposed development, and the resulting outputs are all computer generated using established guideline-based / best practice methods. Human

interpretation does not play a significant role in ensuring accuracy when combining the constituent elements of each verified view (photomontage).

Point 2 – Mathematical models

SWEG provide their calculations and mathematical model used.

Response to Point 2 – Mathematical models

In relation to the mathematical models that were prepared in an attempt to assess the accuracy of the photomontages, it is acknowledged that they were fully correct in terms of their calculation of the vertical angle the WTG blade tips needed to be presented above the sea horizon from Skerries. However, the heights were calibrated against the nearest lateral turbine to Rockabill Lighthouse, which happens to be one of the turbines furthest from the viewer (in the east of the array) – not the nearest turbine to the viewer, which is actually the 6th closest to Rockabill Lighthouse. When using this turbine to calibrate heights, both the mathematics and the photomontages give the same answer thereby highlighting that the photomontages are correctly scaled.

Confirmation of the calculations along with detail on the corrected calibration and graphics to provide further context were shared with SWEG by the Developer on May 28th, following the meeting in City North Hotel.

5.7.3.4.2 Sustainable Development

5.7.3.4.2.1 Negative impact on the seabed

Point 1 - Negative impact on the seabed

SWEG begins their sustainable development Section (4.2.1) by saying “The drilling and pile driving required for Monopile installation into the seabed is likely to create massive amounts of drilling waste material in the form of sediment which will cloud waters and sometimes include drilling cutting agents in the form of chemical additives. This is a pollutant which will cause disruption of seabed nurseries for phytoplankton and fish and shellfish for spawning area for sandeels the food for Terns our most local red listed breeding birds on Rockabill. Phytoplankton is a main food source for fish stocks. The placing of large foundations in the proposed location may change the dynamics of sandbanks and silt build-up the areas of foundation of up to 14 meter in diameter. This has been reported in the Arklow bank development. In essence, the marine ecosystems may be altered and threatened by the 35-49 units proposed.”

Response to Point 1- Negative impact on the seabed

Following design refinements, the project now proposes the use of suction bucket jacket (SBJ) foundations for WTGs, and jacket foundations for OSPs installed using either drilled pin piles or suction buckets, as such pile driving is no longer included in the project design. See response to 5.7.3.2.6 Impact on the seabed and marine food chain, in this report.

5.7.3.4.2.2 Effect on Coastal erosion

Point 1 – Inter-annual variation

SWEG highlight in their submission that *“Currently, the SPA area covering the islands around Skerries is experiencing increased coastal erosion. Due to extent of the erosion, human burials of archaeological interest were uncovered in 2019. Further changes to tidal flows around the bases of the 35-49 turbines placed close to the islands may increase the potential for further coastal erosion by creating more sand and silt build up around the turbines which can steal sand from deposition on the nearby islands, increasing coastal erosion and reducing the size of the habitats for nesting birds. (ref. National Museum of Ireland, ref. IA/44/2017 Isabella Mulhall, asst. keeper and surveyed by Karl Bardy in 2017, copied below).”*

Response to Point 1 – Inter-annual variation

Inter-annual natural variation in coastal erosion is part of baseline behaviour and is expected to continue irrespective of any offshore wind developments. Section 10.3.5.8, Chapter 10 Marine Geology, Oceanography and Physical Processes identifies that periods of contemporary erosion are attributable to storm events (acute erosion) rather than gradual and progressive erosion (chronic erosion). Section 10.3.7.2, Chapter 10 Marine Geology, Oceanography and Physical Processes discusses the role of stormy periods of

waves in driving coastal erosion. Graph 10.3 of Chapter 10 of the 2024 EIAR identifies that the majority (48%) of waves arrive at the proposed development offshore wind farm from the south-south-east (SSE) with only around 9% from the east-north-east (ENE), which is the direction for wave moderations occurring closest to the adjacent coastline.

The potential effect on the offshore wind farm on modifying storm waves is reviewed in Chapter 10 Marine Geology, Oceanography and Physical Processes, Section 10.5.3.4, Impact 12 - Physical changes to the coastline from a modification in storm waves due to array-scale blockage. Wave models are used to help (conservatively) quantify moderations to wave conditions passing through the array and onward to the coastline compared to equivalent baseline conditions. Figures A10.13 and A10.14 present the reduction (OWF – baseline) in wave heights for two representative wave directions (ENE and SSE). Whilst there is a small reduction in wave heights predicted in the immediate lee of the windfarm, this “sheltering” effect quickly dissipates over the far-field towards the adjacent coastline.

The model has also been used to predicted changes in tidal flows (OWF – baseline) which is reviewed in Chapter 10 Marine Geology, Oceanography and Physical Processes, Section 10.5.3.4, Impact 13 – Physical changes to marine processes receptors from modification of tides due to array-scale blockage. In general, predicted changes to tidal flows remain within the array area as localised wake related effects. These effects are also responsible for the development of local scour processes around each foundation which are planned to be mitigated with scour protection.

Based on the consideration of predicted changes to both wave and tidal flows due to the offshore wind farm, there are expected to be no discernible changes to coastal erosion, including for the Skerries Islands SPA area.

Point 2 - Effect on coastal erosion

SWEG’s submission says in Section 4.2.2 “Further changes to tidal flows around the bases of the 35-49 turbines places close to the islands may increase the potential for further coastal erosion by creating more sand and silt build up around the turbines which can then steal sand from depositing on the nearby islands, increasing coastal period and reducing the size of the habitats for nesting birds.”

Response to Point 2 – Effect on coastal erosion

In Chapter 10: Marine Geology, Oceanography and Physical Processes of the EIAR the potential impacts of each stage of the proposed development on marine processes are considered and assessed. In relation to construction activities (Section 10.5.2 in Chapter 10 in the EIAR), the assessed sediment plume spreading over the far-field is established using modelling tools and for a representative envelope of four tidal conditions (i.e. ebb and flood releases for both neap and spring tidal conditions). These have been updated due to the indicative inter-array layouts for Project Option 1 and Project Options 2 have been revised (refer Appendix A5.1).

The marine processes receptors exposed to construction activities in the array area are isolated parts of the water column (which experience a short-term increase in suspended sediment concentration in the form of sediment plumes) and small areas of the corresponding seabed due to settlement from sediment plumes and spoil disposal. The impact pathways do not reach any part of the adjacent coastline, any estuary, or rocky islands in the nearshore, or any marine designated areas.

In the ECC, during cable trenching activities, small parts of the seabed which are reached by trace levels of the sediment plume include the Rockabill to Dalkey Island SAC but only with very low concentrations (1 to 2mg/l, equivalent to the typical variation in ambient levels) and for a short period. The sensitive receptor of interest within the SAC are Reefs [1170] which surround rocky features such as Rockabill. It is concluded within Chapter 10, that for the area of seabed within Rockabill to Dalkey Island SAC, the sensitivity of the receptor is medium, and the magnitude of impact is low, the significance of the effect from Project Option 1 and Project Option 2 on the seabed is also considered to be slight.

5.7.3.4.2.3 Failure to provide adequate environmental protection – decommissioning, deconstruction, rehabilitation

SWEG refers to the Rehabilitation Schedule (Appendix A6.2) raising the following concerns;

Point 1 – Lack of specific details

SWEG state *“While the document mentions the needs for a Rehabilitation Schedule as required by the Maritime Area Consent (MAC), it does not provide detailed, concrete actions or strategies for the rehabilitation process. It mainly focuses on general principles and broad approaches without specifying exact steps or methods for rehabilitation.”*

Response to Point 1 – Lack of specific details

A Rehabilitation Schedule is provided in Appendix A6.2 of the EIAR. The Rehabilitation Schedule outlines the obligations the proposed development has in relation to decommissioning and rehabilitation of the marine environment within the Maritime Area Consent (MAC) boundary, as set out in the Maritime Area Planning Act 2021 (‘MAP Act’), and a high-level summary of the proposed development’s approach to decommissioning and rehabilitation.

Given the final design of the proposed development is required to provide the particulars of decommissioning and rehabilitation, the particulars were not provided in the Rehabilitation Schedule submitted with the planning application. However, the Rehabilitation Schedule will be updated with the particulars of rehabilitation and decommissioning and will be included within the MAC at least three months prior to construction of the proposed development, in line with the requirements of the MAP Act.

The Rehabilitation Schedule is a live document that will continue to be updated as the project design is finalised. The specifics of the approach to decommissioning and rehabilitation will be dependent on the final design of the proposed development including the WTG option that is selected, the foundation option and the method of foundation installation.

Point 2 – Limited clarity on implementation

The next point raised is *“The schedule lacks clarity on the specific timeline for the implementation of rehabilitation activities. It mentions the start and completion points but does not provide a detailed schedule of activities or milestones to ensure effective and timely rehabilitation.”*

Response to Point 2 – Limited clarity on implementation

The Rehabilitation Schedule will be prepared taking into consideration the latest technological advances as well as legislative and environmental requirements at the time of decommissioning. The decommissioning of the wind farm and its key components will be carried out under the best practices at that point of time. The Developer is currently considering that the end of life, decommissioning and waste management will follow the ESG strategy of Statkraft and CIP. This strategy focusses on maximising waste circularity into projects to minimise use of raw materials and maximise reuse/ recycling and recovery of any materials used. Disposal of materials is the last option. The information on decommissioning and waste management can be found in Chapter 8: Construction strategy offshore and Chapter 31: Resource and Waste Management.

Point 3 – Inadequate cost estimate

Point 3 is *“The document briefly mentions estimated costs and the requirement for a Rehabilitation Bond but does not delve into specific cost breakdowns or detailed financial planning for the rehabilitation process. This lack of detailed cost estimation could lead to uncertainties in funding and executing the rehabilitation activities.”*

SWEG provide more information, *“A study published in February 2024 by the Harvard Business Review on the Long-term Costs of Wind Turbines highlights the hidden costs associated with wind turbines, especially as they grow larger. It emphasizes that while larger turbines can capture more energy, the maintenance and decommissioning costs can eventually outweigh the benefits. Bigger is not necessarily better!”*

Response to Point 3 – Inadequate cost estimate

A Rehabilitation Schedule is provided in Appendix A6.2 of the EIAR. The Rehabilitation Schedule outlines the obligations the proposed development has in relation to decommissioning and rehabilitation of the marine environment within the Maritime Area Consent (MAC) boundary, as set out in the Maritime Area

Planning Act 2021 ('MAP Act'), and a high-level summary of the proposed development's approach to decommissioning and rehabilitation.

As required by Condition 21 of the MAC, the Developer is required to provide a Rehabilitation Bond to the state to reflect the estimated costs of rehabilitation.

Point 4 – Ambiguity in authorisations

The next concern raised states *“While it mentions the need for obtain in other authorisations for rehabilitation, it does not clearly specify the types of authorisations required, the process for obtaining them, or the expected timelines or costs involved.”*

Response to Point 4 – Ambiguity in authorisations

The Rehabilitation Schedule will be prepared taking into consideration the latest technological advances as well as legislative, environmental and authorisation requirements at the time of decommissioning. The decommissioning of the wind farm and its key components will be carried out under the best practices and relevant authorisations at that point of time.

Point 5 – Lack of detail on waste disposal and recycling of materials

SWEG's final concern states *“Blades remain problematic to recycle. Currently, most blades are shredded, incinerated, or sent to landfill”*.

The submission continues, *“The structural deterioration and pollution from failed and abandoned wind turbines and their associated infrastructure has caused significant environmental damage throughout Europe.”*

Response to Point 5 – Lack of detail on waste disposal and recycling of materials

The approach to waste management during decommissioning is set out in Chapter 31: Resource and Waste Management of the EIAR. In Section 31.5.5; Decommissioning in Chapter 31 of the EIAR, *“The operational life of the proposed development is anticipated to be up to 35 years. Once the proposed development has reached the end of its operational life, a decision will be made regarding decommissioning. A Rehabilitation Schedule will be prepared taking into consideration the latest technological advances as well as legislative and environmental requirements at the time of decommissioning.”*

The Developer is currently considering that the end of life, decommissioning and waste management will follow the ESG strategy of Statkraft and CIP. This strategy focusses on maximising waste circularity into projects to minimise use of raw materials and maximise reuse/ recycling and recovery of any materials used. Disposal of materials is the last option. Currently the Developer is considering that all installed infrastructure to 1m below the seabed will be removed- as per current best practice. The information on decommissioning and waste management can be found in Chapter 8: Construction strategy offshore and Chapter 31: Resource and Waste Management.

Point 6 – General concerns on decommissioning

Finally, SWEG states *“The failure to implement strict licensing requirements with respect to the funding and timely dismantling of wind turbine projects has been a central issue in addressing this problem. The Netherlands, Denmark and Scotland have recently taken action by requiring the establishment of a 'dismantling fund, and a dismantling time limit of two years after operations. In the absence of these 'safeguards', and given the experimental nature of the new enlarged wind turbines used in the NISA project, the local environment, community and Irish taxpayer are being placed under unreasonable and excessive risk.*

The failure to ensure a secured NISA/Statkraft 'dismantling fund for the NISA project, impacts the subsequent economic feasibility of recycling the wind turbine minerals into new turbines, which in turn necessitates the need for further mineral extraction and associated environmental damage and pollution at a global level.

The implementation of strict and progressive licensing requirements has the capacity to transform wind turbine energy into a safe and sustainable industry. ”

Response to Point 6 – General concerns on decommissioning

As required by Condition 21 of the MAC, the Developer is required to provide a Rehabilitation Bond to the state to reflect the estimated costs of rehabilitation.

The approach to decommissioning will be documented in the Rehabilitation Schedule (Appendix A6.2) which will be subject to consultation with the Maritime Area Regulatory Authority and relevant stakeholders as required. The Rehabilitation Schedule will also form part of the MAC for the proposed development following the grant of development permission. Please see the above responses for specific details.

5.7.3.4.2.4 Human Rights in wind turbine supply chains

Point 1 - Human Rights in wind turbine supply chains

SWEG details ActionAid, 2018 *“To achieve the emission reduction goals set out in the Paris Agreement on climate change, governments worldwide will need to urgently increase their reliance on renewable energy. As a result, the demand for minerals needed in sustainable energy technologies like wind turbines will increase. However, the production of these minerals can bring about adverse human rights impacts and environmental risks, as we have seen illustrated in this report. It is imperative that companies and governments seize the opportunity to ensure that tackling climate change, sustainable development and protecting human rights go hand in hand.”*

SWEG go on to say *“To work towards this goal, NISA should be obligated to follow best practice and conduct and publish an in-depth analysis of its supply chains for NISA in accordance with OECD Guidelines and UNGPs regarding due diligence in the supply chain.”*

Response to Point 1 - Human Rights in wind turbine supply chains

The two developers delivering the proposed development both have stringent ESG standards, which includes management systems and commitments to ensure human rights are embedded into their projects. This commitment extends to the supply chain where all materials and products are manufactured. The Developer will only engage with supply chain who are committed to improving and respecting human rights of their employees; this includes promoting living wages and reasonable working hours.

Point 2 – Chemical/pollution load

Furthermore, NISA should be obligated to conduct a study on the total chemical/pollution load of the NISA development taking into account any and all activities, materials, sourcing, transporting, manufacturing, abrasion, leaking etc. from sourcing materials to the completion of deconstruction and rehabilitation of NISA.”

Response to Point 2 - Chemical/pollution load

All chemical and material components used during the proposed activities will be thoroughly documented, properly stored, and transported in accordance with best practices to minimise environmental impact. It is important to clarify that the EIAR does not require an assessment of the environmental impacts of component manufacturing, as these are regulated under manufacturer-specific quality standards and compliance processes. However, the EIAR does assess components introduced into the marine environment, particularly where a direct pathway of effect may exist.

In the Offshore EIA, Chapter 11: MW&SQ covers in-depth the following potential impacts relating to potential pollution sources in the offshore environment. Specifically, Sections 11.4.2 - 11.4.4 of Chapter 11: MW&SQ outline the proposed activities that could potentially lead to accidental release or spills of materials or chemicals during construction, operation and decommissioning phases of the proposed development. This section feeds into Table A11.5 (Chapter 11), which provides detailed information on the substances that could be involved in such accidental releases. For instance, the chemical and material components of each Wind Turbine Generator (WTG) including, lubricating oils, hydraulic oils, coolants (such as grease, synthetic oil, and nitrogen), transformer oil, sulfur hexafluoride (SF6), and glycerol.

As stated in Section 11.5.2.2 (Impact 2) of Chapter 11: MW&SQ, the Developer is committed to the use of best practice, due diligence and pollution prevention guidelines. Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to the International Convention for the Prevention of Pollution from Ships (MARPOL) in order to ensure any potential risk is minimised.

5.7.3.5 Alternative Planning Proposals

SWEG have described an alternative plan for the proposed development, *“Statkraft and their partner, Danish fund management company Copenhagen Infrastructure Partners (CIP), secured an Irish government backed 500 MW project contract and not a 700 MW government backed project contract which is what their planning application is based on.*

This is very significant as it means that the number of wind turbines in this development proposal could be reduced by 40% and still fulfil Statkraft's 500 MW project contract with the Irish government. This reduction would lead to a large buffer around Rockabill SPA as it would eliminate the most southerly wind array.

We are, therefore, proposing a 40% reduction in the number of wind turbine generators for Option 1 and Option 2”

SWEG suggest this alternative plan could be “A potential compromise to achieve sufficient distance from Rockabill SPA within the approved MAC area could be to push the NISA development into the North-East corner of the MAC area.”

Response to Alternative Planning Proposals

In 2019, the Developer received a grid connection assessment for a 500MW capacity project. Both the proposed development MAC application and the successful proposed development O-RESS 1 bid contemplated a request for planning permission for additional capacity. The MAC is not explicit about the maximum capacity of the project and there is no legislative impediment to the Developer submitting a planning application for a larger capacity project.

Ireland's 2023 Climate Action Plan set a target for 5GW of offshore wind energy to be connected to the electrical grid by 2030. The Climate Action Plan 2024 subsequently established a roadmap for how this would be achieved. Following the ORESS 1 auction in June 2023, EirGrid announced that almost 3.1GW of capacity had been procured by successful bidders. Additional capacity will be required if Ireland is to meet its climate action targets.

As outlined in Chapter 5: Consideration of Alternatives, the development of the proposed development has been a complex, multi-faceted process commencing in 2008. The most appropriate project design which is presented in the planning application has been presented based on a number of influences including the seabed conditions, landowner negotiations and the marine environment.

The project design has evolved as survey works, and technological advances have been made which influenced revisions to the project design.

The site was selected having regard to 13 environmental and technical criteria, as described in Section 5.5 of Chapter 5 of the 2024 planning application, including the avoidance of designated sites.

While the designation of the NWIS cSPA in 2023 altered the position in respect of one of those criteria, the remaining site selection considerations were unchanged. The subsequent designation of a European site does not, in and of itself, render a site unsuitable for development or preclude the grant of consent; rather, the question for assessment is whether the proposed development can be shown, on the basis of the available scientific evidence and appropriate assessment, to avoid adverse effects on the integrity of the site.

By that stage, the Developer had compiled a substantial body of ecological and environmental survey data, which informed the NIS and supported the conclusion that the proposed development would not adversely affect the integrity of the NWIS cSPA or any other European site, either alone or in combination with other plans or projects.

In addition, following the RFI and engagement with NPWS, the WTG layouts for Project Option 1 and Project Option 2 were refined to reduce the spatial extent of overlap within the NWIS SPA to 0.02%, no adverse effect on the integrity of the NWIS SPA or any other designated sites has been concluded. Accordingly, the Developer maintains that the site remains suitable for the proposed development.

The project design incorporated into the planning application was presented in public consultation events as detailed in Appendix A.1 of Appendix 1.2 Consultation Report of the 2024 EIAR. For subsequent consultations see Appendix A1.2 Consultation Report.

5.7.3.6 Concluding Statement

SWEG raise concerns in their concluding section;

Point 1 – Proper legislation

The SWEG submission states that “Ireland’s maritime area is colossal – seven times the size of our landmass. When the seabed is included, we have 7,500 km of coastline. There is ample space to site offshore wind farms that work in harmony with nature and not against it. As in many situations one of the biggest considerations when it comes to siting offshore wind turbines is LOCATION, LOCATION, LOCATION.”

“Relevant projects should never have been green lighted without the proper legislation in place.

The long promised Marine Protected Areas Bill (MPA) which requires that Ireland protect 30% of its seas by 2030 has not yet been enacted. This legislation would go a long way to ensure that offshore wind farms are sited in appropriate locations.

The expression 'Prevention is better than cure' comes to mind when considering the recently passed EU Nature Restoration Law. This legislation aims to repair 80% of Europe's wetlands, rivers, forests, grasslands, marine ecosystems, and the species they host by 2030”.

Response to Point 1 – Proper legislation

The Developer is confident that a robust assessment of all stages of the proposed development has been undertaken in line with all the relevant and current best practice. The methodology is explained in Chapter 2: EIA and Methodology for the Preparation of an EIAR and the offshore topics of interest are set out in Chapters 10-20 of the EIAR.

The Irish MPA Bill is not yet legally binding and in fact has not yet been published. Therefore, this assessment is under no obligation to take it into consideration as the assessment is only required to consider existing legislation. There is precedence for constructing OWF within designated site with the Kentish Flats OWF extension being constructed within the Outer Thames Estuary SPA, and both Race Bank OWF and Sofia OWF within the UK having parts of the proposed developments within designated sites.

It should also be noted that various onshore wind farms within Ireland are also within onshore Special Protection Areas (SPA). The NIS, which was submitted along with the planning application for the proposed development (Natural Impact Statement Volumes 1 & 2), concludes that there is no potential for the Proposed Development to cause an AEoI on any SPAs, including the North West Irish Sea (NWIS) candidate SPA (cSPA). Therefore, this should not be a concern and so fulfil the requirements as set out by the Habitats and Birds Directives. The NIS carries out a full assessment on the potential to impact the NWIS cSPA and clarified in above responses and the assessment is located in Section 5.4.2 of the NIS.

Point 2 – European sites

We do not want to see a situation at any point in the future where Rockabill or any of the other European sites that lie off the Fingal coast fall under the remit of The EU Nature Restoration Law due to the inappropriate siting of NISA's wind turbine generators.”

Response to Point 2 – European sites

The Developer wishes to reassure SWEG that the NIS submitted with the application has thoroughly assessed all relevant European sites, including Rockabill SPA (Section 5.4.4 of the NIS) against their specific conservation objectives and found no AEoI.

Point 3 - Values

“In our opinion, Norwegian state-owned Statkraft and Danish fund management company CIP are more interested in profit and the bottom line and much less interested in vulnerable species that depend on designated protected areas for their very survival”.

Response to Point 3 – Values

Protecting the environment is vitally important to the developer and has been a significant consideration at every stage of the proposed development’s design. It is of utmost importance to the developer that the project can exist in harmony with the area’s local communities, biodiversity, and its landscape.

To that end, years of detailed ornithological, marine mammal and environmental surveys and assessments have been conducted which have influenced the project’s final design, the conclusions of which are available to review as part of the project’s EIAR.

Point 4 – Biodiversity loss

“Yes, we have climate targets that we must reach, but we cannot allow the advancement towards addressing climate concerns lead to even greater biodiversity loss”.

Response to Point 4 – Biodiversity loss

Please see the above response in Section 5.7.3.2.5.4 regarding biodiversity loss, Response to Point 1 – Large-Scale effects of offshore wind farms on seabirds of high conservation concern.

Point 5 - Acknowledgement

“Should the development proposal go ahead in its current format, we genuinely fear that catastrophic consequences will occur. We want to avert that crisis. And for biodiversity and nature’s sake, we hope we will be listened to”.

Response to Point 5 – Acknowledgement

The proposed development application contains both an EIAR and a NIS that fully considers all environmental receptors and threats. The NIS has thoroughly assessed the proposed development against the conservation objectives at all relevant designated sites.

5.7.4 Conclusion

The Developer acknowledges the issues and concerns of SWEG raised herein and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR.

5.8 References

Bradbury, G., Trinder, M., Furness, B., Banks, A.N., Caldow, R.W.G., *et al.* 2014. Mapping Seabird Sensitivity to Offshore Wind farms. PLoS ONE 9(9): e106366.

Barthelmie RJ, Pryor SC. 2021. Climate Change Mitigation Potential of Wind Energy. *Climate*. 9(9):136. <https://doi.org/10.3390/cli9090136>

Cook, A.S.C.P., Johnston, A., Wright, L.J. and Burton, N.H.K. 2012. 'A review of flight heights and avoidance rates of birds in relation to offshore wind farms', BTO Research Report No. 618, British Trust for Ornithology, Thetford, UK.

Dannheim, J., Bergström, L., Birchenough, S.N.R., Brzana, R., Boon, A.R., Coolen, J.W.P., Dauvin, J.-C., De Mesel, I., Derweduwen, J., Gill, A.B., Hutchison, Z.L., Jackson, A.C., Janas, U., Martin, G., Raoux, A., Reubens, J., Rostin, L., Vanaverbeke, J., Wilding, T.A., Wilhelmsson, D. and Degraer, S. 2019. 'Benthic effects of offshore renewables: identification of knowledge gaps and urgently needed research', ICES Journal of Marine Science, 77(3), pp. 1092–1108. Available at: <https://doi.org/10.1093/icesjms/fsz018>.

Department of Arts, Heritage and the Gaeltacht (DAHG). 2014. Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters.

Department of Energy and Climate Change (DECC) 2016. UK Offshore Energy Strategic Environmental Assessment (OESEA3) Environmental Report. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/504827/OESEA3_Environmental_Report_Final.pdf [Accessed February 2025]

Dierschke, V., Furness, R.W., and Garthe, S. 2016. Seabirds and offshore wind farms in European waters: Avoidance and attraction. *Biological Conservation*, 202, 59-68.

Dooling, R., and Therrien, S. 2012. Hearing in Birds: What changes from air to water. *Advances in Experimental Medicine and Biology*, 730: 77-82.

Furness, R.W., and Wade, H. 2012. Vulnerability of Scottish seabirds to offshore wind turbines', The Scottish Government, Edinburgh. Available online at: <http://www.scotland.gov.uk/Resource/0040/00401641.pdf> [Accessed July 2023].

Garthe S., Peschko, V., Schwemmer, H., and Mercker, M. 2022. Auswirkungen des Offshore-Windkraftausbaus auf Seevögel in der Nordsee. Talk at the 31. Meeresumwelt-Symposium, Hamburg, Germany.

Garthe., S., and Hüppop, O. 2004. Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index. *Journal of Applied Ecology*, 41: 724-734.

Gill, A.B., Bartlett, M., Judd, A., Lowe, S., Matthies, M. & Speedie, C. 2019. 'Potential interactions between diadromous fish species and electromagnetic fields from marine renewable energy developments', *Environmental Impact Assessment Review*, 86, p. 158460. Available at: <https://www.tandfonline.com/doi/full/10.1080/23308249.2019.1584601> (Accessed: 11 February 2025).

Hansen, K., Hernandez, A., Mooney, T.A., Rasmussen, M.H., Sørensen, K., and Wahlberg, M. 2020. The common murre (*Uria aalge*), an auk seabird, reacts to underwater sound. *The Journal of the Acoustical Society of America* 147(6): 4069-4074.

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, N.H.K. 2014. 'Modelling flight heights of marine birds to assess collision risk with offshore wind turbines', *Journal of Applied Ecology*, 51(1), pp. 31–41. Available at: <https://doi.org/10.1111/1365-2664.12191>

Leemans, J.J., and Collier, M.P. 2022. Update on the current state of knowledge on the impacts of offshore wind farms on birds in the OSPAR Region: 2019-2022. Bureau Waardenburg Report 22-198. Bureau Waardenburg, Culemborg.

Marques, A.T., Batalha, H., and Bernardino, J. 2021. Bird Displacement by Wind Turbines: Assessing Current Knowledge and Recommendations for Future Studies. *Birds* 2(4): 460-475.

Ministry of Infrastructure and the Environment, and Ministry of Economic Affairs. 2014. White Paper on Offshore Wind Energy: Partial review of the National Water Plan: Holland Coast and area north of the Wadden Islands. Ministry of Infrastructure and the Environment, and Ministry of Economic Affairs. Available online at: https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010080/EN010080-001201-spirit%20Energy%20Marine%2010%20-%20White%20Paper%20on%20Offshore%20Wind%20Energy%20Netherlands%20Ministry%20of%20Infrastructure%20and%20the%20Environment%2009_2014.pdf [Accessed February 2025].

NatureScot. (2023c), Guidance Note 8: Guidance to support Offshore Wind Applications: Marine Ornithology Advice for assessing the distributional responses, displacement and barrier effects of Marine birds, January 2023.

Peschko, V., Mendel, B., Müller, S., Markones, N., Mercker, M., and Garthe, S. 2020. Effects of offshore windfarms on seabird abundance: Strong effects in spring and in the breeding season. *Marine Environmental Research* 162: 105157.

Potiek, A., Leemans, J.J., Middelveld, R.P., and Gyimesi, A. 2022. Cumulative impact assessment of collisions with existing and planned offshore wind turbines in the southern North Sea. Analysis of additional mortality using collision rate modelling and impact assessment based on population modelling for the KEC 4.0, Rapport 21-205. Bureau Waardenburg, Culemborg.

Ramboll, 2016. Arklow Bank. Dumping at Sea permit application, Supporting Information.

RTÉ (2025) *Ireland's Climate Action and the Potential Costs of Missing Targets*. Available at: <https://www.rte.ie/documents/news/2025/03/irelands-climate-action-and-the-potential-costs-of-missing-targets.pdf> (Accessed: 20 May 2026).

Searle, K.R., Mobbs, D.C., Butler, A., Trinder, M. and Coyle, M. 2018. Assessing the cumulative impacts of offshore wind farms on seabirds: a review of modelling and key uncertainties, *Scottish Marine and Freshwater Science*, 9(7), pp. 1–136. Available at: <https://doi.org/10.7489/12118-1>

SMRU. 2024. Additional Information for the NIS Quantification of the proportion of SACs impacted by disturbance from piling. NISA Examination Report.

SNCB. 2022. Joint SNCB Interim Displacement Advice Note. Available online at: <https://hub.jncc.gov.uk/assets/9a6cb87c-80c5-4cfb-9102-39f0228dcc9a> [Accessed February 2025].

van Bemmelen, R.A., Leemans, J.J., Collier, M.P., Green, R.M.W., Middelveld, R.P., Thaxter, C.B., & Fijn, R.C. 2023. Avoidance of offshore wind farms by Sandwich Terns in the North Sea increases with turbine density. *Ornithological Applications*, 125(4), duad055.

Vanermen, N., Courtens, W., Van De Walle, M., Verstraete, H., and Stienen, E.W.M. 2021. Belgian seabird displacement monitoring program. in S. Degraer, R. Brabant, B. Rumes & L. Vigin (Ed.). *Memoirs on the Marine Environment*. Blz. 33-46. Royal Belgian Institute of Natural Sciences. Brussels.

Vanermen, N., Courtens, W., Van De Walle, M., Verstraete, H., and Stienen, E.W.M. 2019. Seabird monitoring at the Thornton Bank offshore wind farm. in (Ed.). *Environmental Impacts of Offshore Wind Farms in the Belgian Part of the North Sea: Marking a Decade of Monitoring, Research and Innovation*. Blz. 85. Royal Belgian Institute of Natural Sciences, OD Natural Environment, Marine Ecology and Management. Brussels.

Wade, H.M., Masden, E.A., Jackson, A.C., and Furness, R.W. 2016. Incorporating data uncertainty when estimating potential vulnerability of Scottish seabirds to marine renewable energy developments', *Mar. Policy* 70 108–13.

Welcker, J. 2019. Patterns of nocturnal bird migration in the German North and Baltic Seas. Technical report. BioConsult SH, Husum. 61 pp

Welcker, J., and R. Vilela, 2019. Weather-dependence of nocturnal bird migration and cumulative collision risk at offshore wind farms in the German North and Baltic Seas. Technical report. Bio- Consult SH, Husum. 70 pp.

Welcker, J., and R. Vilela, 2018. Analysis of bird flight calls from the German North and Baltic Seas. Final Report – June 2018. BioConsult SH, Husum. 128 pp.

White Consultants. 2020. Review and update of seascape and visual buffer study for offshore wind farms. BEIS. Available online at: https://assets.publishing.service.gov.uk/media/5ef9a3abd3bf7f769a4e7742/White_Consumants_2020_Seascape_and_visual_buffer_study_for_offshore_wind_farms.pdf [Accessed February 2025].

Zijl, F., Laan, S.C., Emmanouil, A., van Kessel, T., van Zelst, V.T.M., Vilmin, L.M., and van Duren, L.A. 2021. Potential ecosystem effects of large upscaling of offshore wind in the North Sea. Bottom-up approach. Deltares.

5.8 Wild Irish Defence CLG

5.8.1 Introduction

This section provides a response to submissions made to An Bord Pleanála (now An Coimisiún Pleanála) by the Wild Irish Defence CLG (hereafter referred to as ‘WID’).

The submission contains a report of issues raised and includes one appended report titled ‘Pile Driving Noise Survey’ by Rand Acoustics.

5.8.2 Summary of the Key Points Raised by WID

WID raised a number of key points, which are dealt with as sub-themes below.

- Identification of Accidental Pollution and Water Quality;
- Temporary Threshold Shift (TTS)/Noise Impacts;
- Physical Processes and Climate;
- Ecological Concerns and Mitigation; and
- Design Flexibility.

5.8.3 Response to Key Points Raised

5.8.3.1 Identification of Accidental Pollution and Water Quality

The WID submission raised numerous points on accidental pollution and water quality that are detailed below.

- Per- and poly- fluoroalkyl substances (PFAS);
- Bisphenol A (BPA);
- Seawater abstraction;
- Thermal pollution; and
- Oil pollution.

Point 1 - PFASs

Paragraph 2.1 of the WID submission states: *“There is no acknowledgement or identification of the use of PFAS (per- and poly- fluoroalkylated substances) in the components for the wind development, impacts on the supply chain environment or marine environment, and waste disposal, mitigation and or compensation measures. This must be addressed in an addendum EIAR and NIS¹. ”*

Response to Point 1 – PFASs

At this stage, the exact compositions of OWF components, and their manufacturing processes, are not fully defined. However, all chemical and material components used during the proposed development activities will be thoroughly documented, properly stored, and transported in accordance with legislation and best practices to minimise environmental impact.

The use of PFAS in materials is regulated under manufacturer-specific quality standards and compliance processes.

The EIAR does assess components introduced into the marine environment, particularly where a direct pathway of effect may exist. However, the potential release of PFAS was found to have no likely significant effect. The potential for any accidental spills or releases of materials and chemicals during construction, operation, and decommissioning is fully assessed in Section 11.5.2.2 of Chapter 11: MW&SQ of the EIAR. Accidental spills or releases is also assessed within the NIS.

As noted by WindEurope¹, the wind industry is already using PFAS-free coatings for the rotor blades. The WindEurope statement acknowledges that the wind industry also continuously assesses whether other components and materials may contain PFAS and, if so, whether PFAS-free alternatives are available. Yet, PFAS may be utilised in offshore wind developments, for example:

- Hydraulic fluids & lubricants – in gearboxes, bearings, and hydraulic systems, the PFAS-containing substances are within sealed or closed-loop systems, meaning they are not released into the environment.
- Electrical insulation & cable coatings – PFAS-based materials in cable insulation, gaskets, and circuit boards are enclosed within protective systems and are not expected to leach under normal conditions.

This material has been appropriately considered in regard to accidental release or spills of materials or chemicals. It was determined that due to their use primarily in closed systems, and the presence of effective mitigation measures to prevent any risk of environmental release (see Appendix A6.1: Offshore EMP), there are not likely to be any significant effects. Therefore, no specific additional mitigation is required in the EIAR and NIS.

The impact of waste disposal of materials at all phases of the project is considered within Chapter 31 Resource and Waste Management, which confirms that all waste will be managed in line with current legislation and practice in Ireland. In addition, the offshore EMP contains an Offshore Waste Management Procedure which is a live procedure that will be updated with best practice and current legislative requirements, although not specifically stated which contaminants will require management this will include the appropriate management of waste materials with PFAS.

Point 2 - BPA

Paragraph 2.2 of the submission highlights that “*There is no acknowledgment or identification of the use of BPA (Bisphenol A) in the components for the Wind Park, in particular the epoxy used to coat the blade which wear creating BPA contaminated microplastics environment or marine environment, mitigation and or compensation measures. This must be addressed in an addendum EIAR and NIS.*”

Response to Point 2 - BPA

BPA is a building block for epoxy resins commonly utilised in offshore wind turbine blades and coatings. The EIAR assesses the components introduced into the marine environment, particularly where a direct pathway exists. However, the potential release of BPA was considered in the identification of contamination impacts to be assessed but not found to have any likely significant effect in the MW&SQ assessment, with rationale outlined below.

The potential release of BPA during the service life of the turbines is expected to be negligible. The only mechanism for BPA-containing epoxy particles to be released from operational wind turbine blades is through mechanical stress or scratches that penetrate the protective coating and expose the underlying resin. In such cases, any released BPA would undergo further biotic and abiotic degradation in water, preventing long-term persistence in the environment. Ultimately, the combination of protective coatings and ongoing maintenance practices in offshore wind farms is designed to minimise the release of BPA and microplastics ensuring their longevity and resistance to harsh marine conditions.

BPA has been appropriately considered in regard to accidental release or spills of materials or chemicals; the presence of effective mitigation measures to prevent any risk of environmental release (see Appendix A6.1: Offshore EMP of the EIAR). Therefore, no specific additional mitigation is required in the EIAR.

However, all chemical and material components used during the proposed activities during construction, operation and decommissioning will be thoroughly documented, properly stored, and transported in accordance with best practices and industry standards to minimise environmental impact.

¹ <https://windeurope.org/wp-content/uploads/files/policy/position-papers/20231009-WindEurope-statement-on-PFAS-restriction.pdf>

Seawater Abstraction

The WID submission states in paragraph 2.3 that, *“There is no acknowledgment or identification of any abstraction and return of seawater during construction or operation of the Wind Park (i.e. to cool motorised parts, for cleaning etc). In the onshore environment or marine environment, mitigation and or compensation measures. This must be addressed in an addendum EIAR and NIS and a Water Framework Directive standalone compliance report.”*

Response to Point 3 - Seawater Abstraction

The Developer has considered the need for (and the assessment of) seawater abstraction and/or extraction in line with the proposed design refinements outlined in Appendix A5.1.

Small volumes of seawater or freshwater will be extracted and used for the mix water for the grout during the construction phase; the grout formulation will be developed as part of the detailed design phase. Any seawater extraction will be carried out via an intake system on the installation or support vessel. The intakes are submersible or deck-mounted pumps which pull raw seawater through specialized filtration systems which prevent the intake of marine organisms, silt and debris. The extracted seawater will be entirely used for grout mixing with no release of excess water or mix water back into the marine environment. It is expected that all grouting materials will comply with the OSPAR list of approved substances used and discharged offshore, which are considered to Pose Little or No Risk to the Environment (PLONOR). All grout handling operations shall employ appropriate containment measures to prevent release to the marine environment. This activity has been considered within Chapter 12: Benthic and Intertidal Ecology; Chapter 13 Fish and Shellfish; and the SISAA.

The Developer can confirm that the proposed development will not involve any abstraction (i.e. extraction, use and return of seawater) during the operation and/or maintenance of the proposed infrastructure.

Offshore wind farms generally do not require large continuous seawater abstraction in the same way as desalination plants, aquaculture facilities, or industrial cooling facilities. It is worth highlighting that High Voltage Direct Current (HVDC) convertor substations, required for long distance voltage transmission (e.g. >80km) involve the conversion of alternating current (AC) to HVDC. This process does generate heat and would require a cooling system feed with a seawater supply. However, the proposed development does not require this type of transmission infrastructure, the OSP (Offshore Substation Platform) will be an AC platform only and as such, will not necessitate seawater abstraction for a cooling system.

Should seawater abstraction be required for vessel machinery and / or vessel operations, the management of this will be covered by standard operating procedures and Ballast Water Management Plans (BWMP). This is a vessel-specific document required to prevent the spread of invasive aquatic organisms, which is required by the International Maritime Organization (IMO) under the Ballast Water Management Convention (BWM).

Point 4 -Thermal Pollution

The WID submission highlights thermal pollution within paragraph 2.4; *“There is no acknowledgment or identification of any thermal pollution during construction or operation of the Wind Park that would impact water or atmospheric temperature, in the marine environment, including mitigation and or compensation measures. This must be addressed in an addendum EIAR and NIS and a Water Framework Directive standalone compliance report.”*

Response to Point 4 - Thermal Pollution

The proposed development is not anticipated to have a significant impact on the temperature of the surrounding environment. The Offshore Substation Platform (OSP) will include modular units and decks designed to accommodate a heating, ventilation, and air-conditioning (HVAC) system, ensuring effective temperature regulation. Offshore cables will be buried where feasible and appropriately protected to minimise potential effects on environmental receptors from heat and electromagnetic fields.

Additionally, key factors such as cable voltage, burial depth, and local environmental conditions have been carefully considered. Given these design considerations and embedded mitigation measures, thermal pollution is not considered a significant impact pathway for the proposed development, and thus no amendments are considered necessary within the EIAR, NIS or WFD compliance assessment.

Point 5 - Oil Pollution

WID has expressed a concern regarding oils and lubricants used within the operation and maintenance phase in paragraph 2.5, stating that “*Section 5.2.3.2.5 of the NIS identifies the use of oils/lubricants for turbines, the mitigation paragraph underneath indicates the mitigation will “minimize and manage accidental spills” but does not assess the quantity of oils/lubricants etc. used per turbine in yearly operations, quantify potential leaks or the impact of the oils and lubricants that cannot be contained in normal operations or in the event of an accident. This must be addressed in an addendum EIAR and NIS and a Water Framework Directive standalone compliance report. The mitigation measures only appear to address impacts on fish but sediment dwelling species, cetaceans, birds and cumulative impacts with other wind farms must be considered.*”

Response to Point 5 - Oil Pollution

The potential for oil spills is addressed in the Offshore EIA Appendix A11.1: WFD Compliance Report, which serves as a signposting document to Offshore EIA Chapter 11. Sections 11.4.2 – 11.4.4 of Chapter 11: MW&SQ chapter outline the potential impact of accidental releases or spills of materials or chemicals across all project stages, directly informing the WFD Compliance Assessment. In particular, Sections 11.4.2 - 11.4.4 of Chapter 11: MW&SQ outline the proposed activities that could potentially lead to accidental release or spills of materials or chemicals during construction, operation and decommissioning phases of the proposed development. This section feeds into Table 11.22 (Chapter 11), which provides detailed information on the substances that could be involved in such accidental releases (see response above regarding EIAR for more information).

As stated in Appendix A11.1: WFD Compliance Report, Paragraph 11.4.9, “*This section should be read in conjunction with Chapter 11: Marine Water and Sediment Quality, which presents the detailed assessment for the potential changes to MW&SQ receptors.*” The WFD Compliance Assessment evaluates compliance with the WFD (and European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003)) and related legislation (see Section 11.2: Regulatory Background; Appendix A11.1).

Appendix A11.1: WFD Compliance Report, Paragraph 11.4.13 acknowledges the potential impact of oil spills: “There are no chemical discharges proposed for any phase of the proposed development. Some substances may be accidentally released/spilled into the environment during construction/routine maintenance activities, such as oil, fuel, and anti-fouling paints. The Developer is committed to implementing standard guidance and best-practice techniques throughout all construction, operational, and decommissioning activities. This commitment (as referenced in Chapter 2: Mitigation and Monitoring Measures) serves as embedded mitigation measures, ensuring suitable preventative measures are implemented.”

The WFD Compliance Assessment concluded that the proposed development will not result in a deterioration of the current status of the identified protected waterbodies (Appendix A11.1; Table 11.4).

In the Offshore EIAR, Chapter 11: MW&SQ covers in-depth the following potential impacts relating to potential pollution sources in the offshore environment. Specifically, Sections 11.4.2 - 11.4.4 of Chapter 11 outline the proposed activities that could potentially lead to accidental release or spills of materials or chemicals during construction, operation and decommissioning phases of the proposed development. This section feeds into Table 11.22 (Chapter 11), which provides detailed information on the substances that could be involved in such accidental releases. For instance, the chemical and material components of each Wind Turbine Generator (WTG) including, lubricating oils, hydraulic oils, coolants (such as grease, synthetic oil, and nitrogen), transformer oil, sulfur hexafluoride (SF6), and glycerol. Notably, these substances will be contained within closed systems, which are, by definition, isolated from direct pathways to the marine environment unless there is an unintended spill or release. While the exact quantities and specific chemicals to be used are not yet determined, it is possible to estimate the potential risks based on known operational factors.

For example, Table 11.22 estimates the worst-case scenario number of vessel trips required (e.g., a maximum of 3,008 return trips during the construction phase) and other relevant factors, providing insight into the potential risk of any accidental spills or releases of chemicals from these closed systems.

It is acknowledged that the possibility of accidental releases or spills of substances such as grease, oil, fuel, anti-fouling paints, and grouting materials into the marine environment cannot be ruled out. However, as stated in Section 11.5.2.2 (Impact 2) of Chapter 11: MW&SQ, the Developer is committed to the use of best

practice, due diligence and pollution prevention guidelines (see Table 5.8.1). Any planned releases will adhere to the pollution prevention and control requirements of the Industrial Emissions Directive 2010/75/EU (European Parliament and Council, 2010) as well as to the International Convention for the Prevention of Pollution from Ships (MARPOL) in order to ensure any potential risk is minimised. Any planned discharges will be licenced (e.g. via Dumping at Sea Permit), will occur in small volumes, intermittently, and are expected to dilute and disperse quickly. Should an accidental spill occur, the appropriate reporting procedure would be followed, and all relevant parties would be informed to manage any such event (see pollution contingency plans in Table 5.8.1 below).

Numerous mitigation measures are employed to minimise potential for marine environmental pollution. Table 11.21 of Chapter 11: MW&SQ details the embedded mitigation of relevance to MW&SQ including pollution prevention measures, pollution prevention management and best practice measures, and disposal of waste management. In addition, Appendix A6.1: Offshore Environmental Management Plan (EMP) details the mitigation measures which will be incorporated as part of the proposed development in relation to each offshore EIA chapter topic, including those measures pertaining to pollution prevention and contingency measures. The main pollution prevention and contingency measures to be implemented during construction and operation of the proposed development are outlined in Table 5.8.1

Table 5.8.1 Pollution prevention and contingency measures detailed in the Offshore Environmental Management Plan (EMP) to be implemented during the construction and operation and maintenance (O&M) phases of the proposed offshore development

Measure	Detail
Marine Pollution Contingency Procedures (MPCP)	• Informed by the Guidance for Pollution Prevention 5 (GPP5): Works and Maintenance in or near Water • Compliance with MARPOL • Spill kits on board all vessels and on each WTG to contain any fluids in the unlikely event of pollutant release • Each WTG will be equipped with sensors to enable early detection of fluids and leaks • Emergency response procedures to cover accidental spills and potential contaminant release – including key emergency contact details • A chemical risk review including how and when chemicals (including vessel fuels) are to be used, stored and transported in accordance with recognised best practice guidance and national and international regulations and commitments; • Navigational safety measures (e.g., guard vessels, safety buoys, lighting of active working zones) to reduce the likelihood of collision events; • Implementation of these measures would reduce the likelihood of potentially harmful pollutants to be released into the marine environment, thereby reducing the likelihood of pollution impacts on sensitive fish and shellfish receptors.
Offshore Waste Management Procedure (OWMP)	• Disposal of sewage and other waste in a manner which complies with all regulatory requirements, including but not limited to the International Maritime Organization (IMO) International Convention for the Prevention of Pollution from Ships (MARPOL) requirements • Application of the waste hierarchy (prevention, re-use, recycle, recovery, and disposal) to minimise the amount of waste produced, and reduce, as far as possible, the amount of waste that is disposed of in landfill; • Waste disposal procedures, ensuring all waste that cannot be reused, recycled or recovered will be kept onboard vessels and safely disposed of onshore in a suitable licensed waste facility; • Code of conduct for vessel operators with respect to the discharge of wastewater and handling and storing of hazardous materials
Environmental Vessel Management Plan (EVMP)	• Measures to ensure safe passage of vessels and avoid collision • Measures to address the risks, methods and procedures to deal with any collision incidents

In addition, Section 6 (Training and Awareness) of the Offshore EMP (Appendix A6.1: Offshore EMP) details of the project personnel induction procedure, which includes covering:

- Environmental documentation of relevance (e.g. EMP);
- Environmental aspects and impact issues associated with the scope of work;
- Key mitigation measures employed; and

- Environmental regulatory requirements.

Section 6 of Appendix A6.1: Offshore EMP outlines the specific information that would be provided at daily/weekly briefings to personnel involved in activities where there could be a risk of occurrence of pollution incidents. This information would include control measures to implement so as to mitigate the likelihood of the pollution incidents, for example:

- Dealing with oil and chemical spills;
- Type of spill kits and their use;
- Storage and handling of hazardous material (according to Control of Substances Hazardous to Health (COSHH));
- Minimising waste; and
- Waste separation, appropriate storage and Duty of Care.

Sections 11.5.2.2 - 11.5.4.2 of Chapter 11 provide a detailed assessment of the overall significance of effect caused by any accidental releases or spills of materials or chemicals (a metric incorporating the sensitivity of potential MW&SQ receptors and the predicted magnitude of impact). These sections conclude that the magnitude of impact of any potential accidental releases or spills of materials or chemicals (considering the inclusion of embedded mitigation outlined above) would be negligible, and therefore the effect would not be significant in EIA terms. As such, no additional mitigation measures have been considered necessary for the construction, operation and decommissioning phases specific to the potential impacts of planned discharges or accidental release or spills of materials or chemicals on MW&SQ.

Regarding the concerns raised that the NIS has inadequately assessed the risk of accidental pollution and has not included assessment for the use of oils and lubricants, the Developer has considered all potential pollution sources from the proposed development within the NIS (see section 4.3, 5.1, 5.2, 5.3 and 5.4). The NIS, utilised the assessment conducted Chapter 11: MW&SQ of the EIAR to ascertain to ascertain that there will be no adverse effect on the integrity of European Sites.

5.8.3.2 TTS/Noise Impacts on Cetaceans

Section 2.6 of the submission details WID's concerns regarding TTS and noise impacts on cetaceans.

The Developer confirms that following further design refinement (detailed in Appendix A5.1: Design Refinements), WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. The use of suction buckets and drilled piles removes the option of driven monopile foundations for both Project Option 1 and Project Option 2, meaning no percussive piling is required for the Proposed Development, resulting in a significant reduction in underwater noise generated. This design refinement has substantially reduced the risk profile of TSS impacts on cetaceans and is this considered when responding to the points made by WID on this issue.

The Developer's response is provided against the following points:

- Finneran et al, 2023
- Natura Impact Statement (NIS)
- Cumulative exposure
- Frequency-specific sensitivity
- Behavioural disturbance
- Mitigation
- Older studies

Point 1 – Finnernan et al., 2023

The first point raised by WID is *“The impact assessment and conclusions in relation to cetacean and TTS/ Noise impacts do not appear to take into consideration Finnernan et al 2023- Temporary threshold shift in bottlenose dolphins exposed to steady-state, 1/6-octave noise centred at 0.5 to 80 kHza3. The NIS and EIAR should review its assessment and conclusions in light of these recent finding and apply the precautionary principle.”*

Response to Point 1 – Finneran et al., 2023

The Developer did not use the Finneran et al (2023) paper in the impact assessment for the following reasons:

- The purpose of the study was to *“measure TTS in bottlenose dolphins at a number of different exposure frequencies, to increase the available data for developing an auditory weighting function for predicting TTS onset”*. There is no apparent intention that the findings should be directly applicable to impact assessments. Instead, the authors indicate that the findings should be used in combination with other studies to develop an updated High Frequency (HF) auditory weighting function. Such an updated auditory weighting function has not been provided by Finneran et al. at to date. Additionally, for the reasons below, an update based on Finneran et al. is not recommended.
- While the study does suggest that a revision to TTS thresholds may be necessary, it does not propose a revised threshold or discuss application in a wider context.
- The study was limited to two captive animals. The results were not consistent between the two subjects, and only one of them was tested with sounds <1 kHz. This would not suggest that the results should lead to revised criteria.
- The findings at 8 kHz are not consistent with previous work, nor was there a clear relationship between the behavioural results and the ABR results, so they should be viewed with caution until they can be validated by further studies.
- All tests were conducted using steady state, narrowband pure tones which are not representative of pile driving noise. Therefore, it cannot be assumed that the same results would be found using broadband impulsive noise (like pile driving).

In the absence of an updated HF auditory weighting function and criteria, although the study contributes to the overall knowledge of effects of noise on bottlenose dolphins, the impact assessment for the proposed development could not and should not have incorporated the findings of Finneran et al (2023).

Point 2 - NIS

Paragraph 2.6.1 of the submission draws attention to the NIS, *“The Natura Impact Statement relies on older data (NMFS 2018, Southall et al. 2019, Finneran 2015) for noise thresholds. Finneran et al. (2023) provides more recent thresholds and refined criteria that are not reflected in this assessment which cannot therefore be considered up to date and definitive.”*

Response to Point 2 – NIS

The Developer refers to the response regarding Finneran et al (2023) above.

The EIAR and NIS presents auditory injury impacts using the latest guidance in NMFS (2024) for auditory weighting functions and PTS thresholds.

Point 3 – Cumulative exposure

Paragraph 2.6.2 states *“The NIS assessment of cumulative exposure effects appears qualitative and lacks detailed quantitative modelling, which is emphasized in Finneran et al. (2023) as critical for accurately assessing impacts, the cumulative impacts should be assessed in a more detailed manner including visual models identifying overlap of noise from multiple sources and developments that may impact cetaceans and pinnipeds habituating the area and any such species that migrate through the area.”*

Response to Point 3 – Cumulative exposure

Finneran *et al.* (2023) does not mention cumulative exposure assessments as claimed by the submission.

The methodology of the NIS is detailed in Appendix A13: Underwater noise assessment of the NIS and meets the requirements set by the National Physical Laboratory (NPL) Good Practice Guide 133 for underwater noise measurement (Robinson *et al.*, 2014). The underwater noise modelling is based on standard approaches and established methodologies that have been applied to all offshore wind developments in Ireland and the UK since the relevant guidance (i.e. Southall *et al.*, 2019 for marine mammals) was published.

Point 4 – Frequency-specific sensitivity

The submission states in the point 2.6.5, “*While the NIS acknowledges the hearing ranges of cetaceans, it does not delve into frequency-specific sensitivity as detailed in Finneran et al. (2023), which can influence the assessment of noise impacts.*”

Response to Point 4 – Frequency-specific sensitivity

Please see NIS Appendix A13, specifically Section 2.2.1, which goes into some detail on the frequency-specific hearing of the key species, and which is explicitly included in the underwater noise modelling. From this information, it can be seen that the Developer has presented a robust assessment on cetaceans and has adopted the precautionary principle throughout.

See response regarding Finneran *et al.* (2023) above.

The EIAR and NIS presents auditory injury impacts using the latest guidance in NMFS (2024) for auditory weighting functions and PTS thresholds.

Point 5 – Behavioural disturbances

The submission highlights behavioural disturbances in paragraph 2.6.4: “*The NIS briefly addresses behavioural disturbances using generic thresholds. Finneran et al. (2023) emphasize the need for more detailed assessments of behavioural impacts, considering both short-term and long-term exposure.*”

Response to Point 5 – Behavioural disturbances

Finneran *et al.* (2023) does not provide thresholds for behavioural disturbance, nor does it make recommendations for detailed assessment of behavioural reactions. Although it uses behavioural reaction methodologies to identify TTS, this should not be confused with behavioural disturbance.

The Developer confirms that following further design refinement (detailed in Appendix A5.1: Design Refinements), WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. The use of suction buckets and drilled piles removes the option of driven monopile foundations for both Project Option 1 and Project Option 2, meaning no percussive piling is required for the Proposed Development, resulting in a significant reduction in underwater noise generated.

Point 6 – Mitigation

The WID submission states in paragraph 2.6.5 that “*Mitigation measures mentioned include the use of acoustic deterrent devices (ADDs) and bubble curtains to displace marine mammals from the noise impact zone before piling activities commence. However, a recent paper 4 at appendix 1, based on actual data obtained by Rand Acoustics has found these mitigation measures to be wholly inadequate and the distances and impacts of the affected noise to be underestimated.*”

The mitigation measures as identified will not be enough to prevent significant impacts on cetaceans and do not guarantee displacement fast and far enough to prevent damage. The paper concludes: “This paper presents the methodology, analysis, and results of an independent investigation of underwater noise levels from pile driving by the crane ship Orion utilized as a pile driving vessel in the Vineyard Wind BOEM lease Area OCS-A 0501 southwest of Nantucket Island, Massachusetts. The pile driving operations included double bubble curtains and hydro damper net for noise controls. Nonetheless, the survey results find pile

driving impulsive sound levels are similar to seismic airgun arrays and raise concerns about heightened adverse noise impacts on marine mammals”.

Response to Point 6 – Mitigation

The Developer confirms that following further design refinement (detailed in Appendix A5.1: Design Refinements), WTGs are now proposed with SBJ foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. The use of suction buckets and drilled piles removes the option of driven monopile foundations for both Project Option 1 and Project Option 2, meaning no percussive piling is required for the Proposed Development, resulting in a significant reduction in underwater noise generated.

Noise mitigation will only be required in the unlikely event of high-order UXO clearance. The primary UXO clearance method will be low-order. However, should high-order clearance be required, the Developer has committed to the use of a Noise Abatement System (NAS) (e.g. bubble curtains or similar).

This concern is regarding mitigation measures that Rand (2024) has described as inadequate. The report by Rand Acoustic is an isolated report by an acoustician with limited experience in underwater noise assessment and monitoring, based on one incidence, without information on the piling being measured and without apparently understanding the purposes and operation of the noise abatement systems in use. A coefficient used in the report calculations is deemed to be inappropriate.

Bubble curtains have been in widespread, effective use in the North Sea sector (in particularly Germany) for more than 10 years, with significant literature available for its noise reduction performance. Bellmann *et al.* (2020) is recommended as a key summary of these data. Dahne *et al.* (2017) provides further evidence on the effectiveness of bubble curtains in reducing underwater noise from pile driving (which in the case of the proposed development is no longer applicable due to design refinements but has been considered in the event high order detonation is required).

Furthermore, McGarry *et al.* (2022) and Phillips *et al.* (2025) provide evidence of the effectiveness around the use of ADDs in deterring marine mammals from potential injury zone. A short summary of the ADD evidence base for harbour porpoise is provided in Appendix E of Appendix A14.5: MMMP. It should be highlighted again that percussive piling is no longer required for the Proposed Development, resulting in a significant reduction in underwater noise generated.

Point 7– Older studies

Paragraph 2.6.6 concluded *“The Natura Impact Statement is broadly consistent with older studies but does not fully align with the latest findings of Finneran et al. (2023) in several areas, including updated noise thresholds, cumulative exposure assessment, frequency-specific sensitivity, and detailed behavioural impact assessments. Incorporating these elements would enhance the robustness and accuracy of the impact assessment on cetaceans. For a comprehensive and up to date NIS, it would be advisable to include the latest thresholds and findings from Finneran et al. (2023), especially regarding cumulative and frequency- specific impacts, and to expand the behavioural impact assessments accordingly. It should also be noted that Ireland has a strict protection of cetaceans in its waters under the National Wildlife Acts 1976 to present, in addition to the Habitats Directive.”*

Responses to Point 7 – Older studies

See response regarding Finneran *et al.* (2023) above.

The EIAR and NIS presents auditory injury impacts using the latest guidance in NMFS (2024). Chapter 14 concludes there is no significant effect from auditory injury (PTS) from pre-construction surveys, UXO clearance, or other construction activities.

The NIS concludes that auditory injury (PTS) from pre-construction surveys, UXO clearance, or other construction activities will not result in an AEOI for any marine mammal SAC.

Point 1 – Physical Processes

WID raised concerns in paragraph 2.7 of their submission regarding the assessment of physical processes within the NIS, *“There does not appear to be modelling of changes to morphology of the seabed at and adjacent to, the development site due to scour and deposition of seabed, sediments and an assessment of the changes on habitats and species. There is a mention of scour protection, but this mitigation in itself is an additional impact that was not actually assessed. In section 5.1.2.4 of NIS (see below) the applicant admits to impacts on species but offers no mitigation instead opining that the effects will remain in array area (with no supporting evidence) and therefore there is “no impact will occur on SAC”, however this cannot be a reliable conclusion with no modelling of the effects. More information is required.”*. WID continue to quote parts of the NIS.

Response to Point 1 - Physical Processes

The NIS has used the technical assessments (including marine physical process modelling) and impact assessment within the EIAR. The marine processes assessment has followed current best practice, supported by modelling, to consider how the offshore windfarm structures are likely to interact with tides and waves, and the consequence of these interactions on the local seabed and along the adjacent coastline.

Section 10.3.8.1, Chapter 10 Marine Geology, Oceanography and Physical Processes identifies that the array area is assessed to be too deep for any wave driven sediment transport for either typical wave conditions or larger storm conditions.

The potential effect of the offshore wind farm on modifying storm waves is reviewed in Chapter 10 Marine Geology, Oceanography and Physical Processes, Section 10.5.3.4, Impact 12 - Physical changes to the coastline from a modification in storm waves due to array-scale blockage. Wave models are used to help (conservatively) quantify moderations to wave conditions passing through the array and onward to the coastline compared to equivalent baseline conditions. Figures 10.23 and 10.24 present the reduction (OWF – baseline) in wave heights for two representative wave directions (ENE and SSE). Whilst there is a small reduction in wave heights predicted in the immediate lee of the windfarm, this “sheltering” effect quickly dissipates over the far-field towards the adjacent coastline. As waves approach the shallow water fronting the coastline, the greatest moderation to wave heights at this location is due to shoaling effects.

The model has also been used to predicted changes in tidal flows (OWF – baseline) which is reviewed in Chapter 10, Section 10.5.3.4, Impact 13 – Physical changes to marine processes receptors from modification of tides due to array-scale blockage. In general, predicted changes to tidal flows remain within the array area as localised wake related effects. These effects are responsible for the development of local scour processes around each foundation which is planned to be mitigated with scour protection.

Based on the consideration of predicted changes to both wave and tidal flows due to the offshore wind farm, there are expected to be no discernible changes to coastal erosion or effects on local seabed morphology, other than the potential for local scouring around the base of each foundation. There would be no large array-scale influence on seabed morphology.

The NIS has used the technical assessments (including marine physical process modelling) and impact assessment within the EIAR to ensure that the NIS fully considers all potential adverse effects the proposed development may have on seabed habitats. Sediment modelling was conducted and can be seen in Figure 5.2 through 5.11 of the 2024 NIS, this has been updated to reflect the design refinements. As quoted by the submission, Section 5.1.2.4.1 concludes no adverse effect, with the modelling evidencing changes being spatially limited to within the vicinity of foundations, it is reasonable and logical to conclude that seabed morphology would not be impacted 20.3km away from the border of the SAC.

The presence of foundations may introduce changes to the local hydrodynamic and wave regime, resulting in changes to the sediment transport pathways with associated effects associated with scouring and changes in sediment transport potentially making benthic habitats less suitable for some species. Consequently, no

significant impacts on benthic ecology are anticipated, and no AEoI is concluded in the NIS on these features.

Point 2 - Climate wind patterns

Paragraph 2.8 highlights *“There does not appear to be modelling of changes to climate wind patterns of the airspace at and adjacent to the development site, and an assessment of the changes (wake effect) on bird species or energy efficiency of the development.”*

Response to Point 2 - Climate wind patterns

Regarding the WID’s concern on climate wind patterns, there is no evidence to support that changes to climate wind patterns would have a significant effect on designated sites, therefore this impact has not been considered within the NIS. Additionally, Section 28.5.3.2 of Chapter 28 of the EIAR notes *‘in addition, the [EPA 2022] research indicated a likely reduction in windspeed by the mid-century. A summer reduction in 10-m wind speed range is expected from 0.3% to 3.4% for the RCP4.5 (medium global emission) scenario and from 2% to 5.4% for the RCP8.5 (high global emission) scenario.’* This is not considered to be significant in the wider scope.

Point 3 – Damage to turbine blades

In paragraph 2.9, WID states *“There does not appear to be any impact assessment of damage to turbine blades due to wind shear in excess of operating limits and the impact a separated blade(blades) may have on the marine environment habitats and species.”*

Response to Point 3 – Damage to turbine blades

Potential risk events are identified and assessed for all stages of the proposed development, in Chapter 34: Major Accidents and Disasters of the EIAR. The potential impacts of standard repair activities and maintenance requirements are assessed within the EIAR chapters.

In response to the concern regarding separated blade(s), the Developer refers to Appendix A8 of the Offshore Environmental Management Plan in the NIS (Appendix A6.1: Offshore EMP of the EIAR). This is the ‘Dropped Objects Procedure’ and states that *“the contractor must make all reasonable attempts at retrieval including surveying the seabed, if required, as part of the investigations into the retrieval of the Dropped Object.”*

Point 4 – Fire Safety

Paragraph 2.9 goes on to highlight fire safety, *“the Fire response plan/risk assessment should also be detailed for assessment.”*

Response to Point 4 – Fire Safety

The Developer appreciates this concern, however, following a risk assessment on the potential fire risks (outlined below) and based on best practice and guidance, a standalone Fire Response Plan is not deemed necessary for the proposed development. It should be noted that for the operational phase of the proposed development there will be specific controls in place, as detailed in Chapter 34 of the EIAR (Major Accidents and Disasters).

A risk assessment on the potential fire risks is included in Table 34.8 in Section 34.5.5 of Chapter 34, under the following risk IDs:

- C4
- C10
- O6
- O7
- D6

- D11

All risk events are deemed low risk events as defined in Section 34.2.6 of Chapter 34 of the EIAR.

With regards to fire control measures during the construction phase, Table 34.8 of Chapter 34 notes with regards to C4 *‘the Developer will implement a robust Health, Safety and Environmental supplier assessment process that will be used to ensure all contractors delivering work on the projects are fully competent to do so, in addition the Developer will also provide a set of HSE requirements to all tier-one suppliers to ensure the HSE expectations are understood and HSE objectives are aligned. The developer will also carry out an appropriate level of monitoring and supervision throughout the project to ensure works are carried out as per agreed HSE plans and processes.*

Through the Developers membership of the Global offshore wind health and Safety Organisation (G+) they are actively involved in identifying and implementing best practice guidance for the industry and as such they will ensure any health and safety improvements are applied to the project wherever possible.

Appropriate site personnel will be trained as first aiders.’

With regards to C7 *‘The Developer will implement a robust Health, Safety and Environmental supplier assessment process that will be used to ensure all contractors delivering work on the projects are fully competent to do so, in addition the Developer will also provide a set of HSE requirements to all tier-one suppliers to ensure the HSE expectations are understood and HSE objectives are aligned. The developer will also carry out an appropriate level of monitoring and supervision throughout the project to ensure works are carried out as per agreed HSE plans and processes.’*

Operational control measures include ‘Prior to commissioning, the contractor will be required to ensure that all fire safety and detection equipment and systems have been designed and installed to industry good practice. During commissioning all systems will be validated. It is noted that fire suppression systems at the OSP and WTGs will be non-water based.

Personnel undertaking inspections and maintenance works will be fully trained in safe working procedures. Appropriate operations personnel will be trained as fire marshals.’

5.8.3.4 Ecological Concerns and Mitigation

Point 1 – Hydrological pathways

Section 2.8 on page 7 of the submission notes that *“WID believe that the applicant has incorrectly screened out NATURA2000 sites and Water bodies under the Water Framework directive by not taking appropriate consideration of the hydrological pathways in the marine environment and migratory and or normal flight paths of avian species. No discharges from Waste Water agglomerations have been included despite potential cumulative interactions with pollution emissions (PFAS, Microplastics, CECs), thermal pollution, sediment etc. as there is a paucity of data in relation to the substances used to lubricate, operate and maintain engineering parts of the turbines and in relation to use of water to cool moving parts which may contribute to thermal and emission pollution there may be a requirements for a "combined approach" assessment under the Water Framework Directive (art.10(2) if Article sixteen or substances in Annex XI of that directive are engaged.”*

Response to Point 1 – Hydrological pathways

The Developer notes that WID has raised a potential issue in respect of both hydrological pathways with waterbodies under the WFD, which would include primarily inland water bodies; rivers, lakes, groundwater, estuaries but also coastal waters; and aerial pathways with SPA protection under the Birds and Habitats Directives. The screening stage was undertaken in accordance with the European Commission Guidance (EC 2021), and as such the connectivity of the proposed development to sites and qualifying features that may include hydrological and/or ornithological objectives have been considered when screening in sites (See Section 3.1 Approach to Screening of the NIS). The Developer does not believe any sites have been incorrectly screened out.

In addition, Appendix A11.1: Water Framework Directive Compliance Assessment notes that *“no pathway arising from the activities in the marine environment have been identified that could potentially impact*

freshwater WFD water bodies or protected areas". On this basis, there is no pathway (or route to impact), that may affect normal flight paths of avian species.

Waste water discharges and accidental pollution are potential impacts that are considered within the NIS and EIAR (including in Appendix A11.1) where there is the potential to effect a sensitive receptor. Specific measures to prevent and manage emissions are provided in the onshore CEMP and the offshore EMP. Please see Section 1.8.3.1 above regarding further responses to this submission on accidental pollution.

Point 2 – North Western Irish Sea Gyre impacts

Paragraph 2.9 details "There does not appear to be any impact assessment of the development on the North Western Irish Sea Gyre and its importance to the life cycle of Nephrops, particularly in relation to sediment dispersal, operational impacts."

Response to Point 2 – North Western Irish Sea Gyre impacts

Information on the ecology of Nephrops and the distribution of Nephrops grounds in the fish and shellfish ecology study area is presented in Section 3.5, titled 'Shellfish ecology, Nephrops' of the Appendix 13.1: Fish and Shellfish Baseline Characterisation of the 2024 EIAR. This includes a description of the importance of the North West Irish Sea Gyre to the life cycle of Nephrops, noting that "*Across the western Irish Sea, larval dispersal [of Nephrops] is thought to be influenced by the Irish Sea gyre, a seasonal water circulation feature that forms above the western Irish Sea mud belt in spring and summer, partly coinciding with the Nephrops larval dispersal period (Hill et al., 1996). It has been suggested that the gyre promotes the retention of resident larvae and thus may provide an important mechanism to maintain the western Irish Sea Nephrops population (Hill et al., 1996).*"

Impacts of the proposed development on physical processes are identified and assessed in Chapter 10: Marine Geology, Oceanography and Physical Processes of the EIAR which is supported by Appendix A10.2 which presents the approach to hydrodynamic modelling and confirms that the extent includes the location of the Western Irish Sea Gyre.

The assessments in Chapter 10 concluded that there will be no significant changes to marine processes receptors including the Western Irish Sea Gyre. including from sediment dispersal and operational impacts. Therefore, as there is no physical processes impact on the gyre, there is no pathway to impact the lifecycle of Nephrops.

Point 3 – Mitigation

Paragraph 2.10 states "*The NIS continuously refers to mitigation measure in the CEMP – mainly appendix 8 and O-EMP appendix 7. This is not legally sound. All mitigation measures and assessment of same must be contained in the stand-alone NIS preferable in one section.*"

Response to Point 3 – Mitigation

Section 4 of the NIS; Identification of Potential Impacts and Mitigation Measures provides full consideration of the mitigation measures recommended for the proposed development. The CEMP and Offshore EMP are appended to the NIS and as such are considered to be part of the NIS. Use of appendices are an accepted practice with large scale project applications.

Point 4 – NWIS SPA

WID states in paragraph 2.11, that "*No meaningful assessment of the North West Irish Sea cSPA has been carried out and any assessment seems to be only based on a connection to the Rockabill SPA and tern colony. A proper assessment and mitigation measures in accordance with the law for this cSPA which we remind the Applicant is fully protected now as per the Birds and Habitats Directives must be carried out.*"

Response to Point 4 – NWIS SPA

All SPAs and cSPAs within the scope of assessment have been considered, including North West Irish Sea cSPA. Additional Digital Aerial Survey (DAS) of the North West Irish Sea SPA was undertaken between

September 2024 and August 2025 to further the baseline understanding of the cSPA and has been incorporated into the assessments of the EIAR and NIS.

The NIS concludes that there will be no adverse effects on the integrity of the NWIS SPA in view of the site's conservation objectives, either alone or in-combination with other plans and projects.

5.8.3.5 Design Flexibility

Lastly, in paragraph 2.12, WID raises a concern in relation to “the issuance of a “Design Flexibility Opinion” by An Bord Pleanála and its subsequent use by the applicant to provide an NIS and EIAR based on theoretical infrastructure that may change as per their comments below. It is our opinion that this approach is not in accordance with the requirement for definitive findings capable of removing all scientific doubt on impacts identified in NIS and assessed in AA. If detailed geophysical site investigation surveys are still required to determine locations of elements for the developments, then this information should be collected before any consent process is attempted.”

Response to Design Flexibility

The selection process for the final Project Options 1 and 2 are fully compliant with the requirements of the EIA Directive and Birds and Habitats Directives. Use of design flexibility is recognised as a proven and acceptable approach to consenting where there is uncertainty in the final design of a project and is an established procedure for ensuring robust assessment of significant effects. The planning application, and particularly the EIAR and NIS comprehensively assess both project options as provided for in the Design Flexibility (DF) Opinion² to ensure compliance with both EIA and Habitats Directive. In preparing these environmental reports the Developer considered longstanding best practice from other jurisdictions which have permitted and implemented design flexibility in the development of offshore renewable projects over a significant time period. In each topic chapter of the EIAR, a precautionary approach is taken when assessing the potential impacts to receptors. Where the design details are unconfirmed, ranges of parameters (with minimum and maximum values identified) and discrete design options are provided in order to capture the design flexibility awarded to the Developer by An Bord Pleanála through the DF Opinion. The details provided by the Developer under section 287A(e) of the Planning Acts, and subsequent issuance of a DF Opinion will ensure that the Board, in its assessment of the proposed development, will be able to conduct both EIA and AA.

As referred to in Section 2.8.2.1 of Volume 2, Chapter 2: EIA and Methodology (EIAR), section 3.5.8 of the EPA 2022 Guidelines provides the following guidance for the preparation of an EIAR where the level of detail in a project may be limited: “Where provision of full details of the construction and/ or operation of a project is not practicable in an EIAR, the extent of environmental effects of the project should be set out so that the CA has sufficient information about the context, for their assessment and decision. To do this, a description of the project should be provided to enable the worst-case effects of the project to be described in an EIAR. The detailed design can then vary without rendering the EIA process inadequate”.

5.8.4 Conclusion

The Developer acknowledges the issues raised herein and has addressed these concerns. Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

² The design flexibility opinion for the proposed development was issued by An Bord Pleanála under Section 287B of the Planning Acts dated 26 January 2024

5.9 Isle of Man Territorial Sea Committee

5.9.1 Introduction

This section provides a response to the submission made to An Bord Pleanála (now An Coimisiún Pleanála) by the Isle of Man Territorial Sea Committee (hereafter referred to as ‘TSC’) in relation to the proposed development.

An Coimisiún Pleanála, as well as seeking responses to the submissions received as part of the statutory consent process, has also issued the Developer with a request for further information (RFI). The Developer has responded to this RFI in a separate report (refer to Response to RFI document) which is submitted alongside this response to submission document.

RFI Section 18 states *“The Board notes that the observation received by the Territorial Sea Committee on behalf of the Isle of Man, raises, inter alia, concerns in relation to the lack of consideration of designated Manx sites, with potential for transboundary impacts in particular in relation to birds, fish/shellfish, and marine mammals. The applicant is requested to address the Isle of Man observation.”* The responses in this report address the points raised by TSC.

5.9.2 Summary of the Key Points Raised by the TSC.

The TSC raises a number of key points, which are dealt with as sub-themes below:

- Initial Statement;
- Benthic Subtidal and Intertidal Ecology;
- Fish and Shellfish Ecology;
- Marine Mammal Ecology;
- Offshore Ornithology;
- Commercial Fisheries; and
- Shipping and Navigation.

5.9.3 Response to Key Points Raised

5.9.3.1 Initial Statement

The TSC provides a summary letter of multiple points that were subsequently detailed in an accompanying comments document. Some points of note include the request that the Isle of Man should be identified as one of the main stakeholders, given the proximity of the proposed development and Manx territorial limits; the TSC is satisfied with the information provided that all international environmental standards and best practice will be adhered to for the collection and analysis of data, along with implementing appropriate mitigation measures where required. Additionally, the TSC requests that appropriate consideration is given to the species which are protected under the Wildlife Act 1990, and ensure that there are no detrimental impacts on these species as part of the proposed development. They also request that the same consideration would be applied to marine protected sites, species, habitats and landscapes including transboundary impacts arising from the proposed development. The TSC submission states that cumulative effects of the proposed development will be investigated and requests that the relevant fisheries organisations are included as consultees. A request for consideration of *“the impact on infrastructure and transport activities, including but not limited to, Manx shipping and navigation and aviation interests, including airport radar issues”* is also made. Responses to these points can be found below and a detailed response has been provided.

Consultation

The TSC states *“Any marine developments within or adjacent to the Isle of Man territorial waters could potentially impact commercial fisheries in Manx waters so it would be appreciated of the relevant fishing organisations on the Island were included as consultees via the appointed Fisheries Liaison Officer.”*

Response to Consultation

The assessment of effects on commercially important fish and shellfish resources concludes that effects would be localised, temporary or short-term and not significant in EIA terms, it is expected that any impact on stocks within the Irish EEZ would become negligible in the context of the Isle of Man EEZs, due to the distance of the proposed development from the EEZs and the dissipation of any stock-level effect over this distance. Effects on these foreign commercial fishing fleets, in terms of reduction in access to fishing grounds and displacement into alternative grounds including other EEZs, have been intrinsically considered throughout the commercial fisheries impact assessment process. No significant effects have been identified on foreign commercial fishing fleets in terms of reduction in access to fishing grounds and displacement into alternative grounds, including other EEZs. Refer to Section 16.8 of Chapter 16: Commercial Fisheries for further information.

Consultation with fishermen is ongoing for the proposed development and consultation with relevant fishing organisations on the Island will be conducted.

Orsted's proposed Offshore Wind Farm (OWF) Agreement for Lease

On page 2 of their initial statement, the TSC states the presence of the Mooir Vannin Offshore Wind Farm: *"The TSC wishes to point out that there is an AfL with Orsted for an OWF, the proposed Mooir Vannin Offshore Windfarm, within Isle of Man territorial waters. The TSC advises that this is something that might need to be taken into account as part of the consideration of cumulative impact assessment and any impact on shipping routes around the Isle of Man"*.

Response to Orsted's proposed OWF Agreement for Lease

The Developer did include the Mooir Vannin Offshore Wind Farm within the cumulative effects assessment. The project was named 'Isle of Man (Mooir Vannin)' and is captured within the 'long list' in the Offshore Stage 1 and Stage 2 Cumulative effects matrices in Section 4 of Appendix 38.2: Stage 1 and Stage 2 CEA (Offshore) of the 2024 EIAR. Each of the topics considered the 'long list' and undertook a screening assessment to determine if a project was to be included within their cumulative effects assessment. Mooir Vannin was screened into the assessments of marine mammal ecology (Chapter 14: Marine Mammal Ecology of the 2024 EIAR) and commercial fisheries (Chapter 16: Commercial Fisheries of the 2024 EIAR). Both of these cumulative assessments resulted in no significant effects. Mooir Vannin was not screened into the shipping and navigation cumulative effects assessment as it was determined from available marine traffic data that there was no physical effect- receptor overlap.

Crogga Hydrocarbon Site

The TSC notes the presence of the Crogga Hydrocarbon Site: *"The Department of Infrastructure (DOI) has issued a Seaward Production Innovate Licence to Crogga Limited in respect of the hydrocarbon block 112/25. This licence commenced on 1 January 2019"*.

Response to Crogga Hydrocarbon Site

The Developer notes the absence of the Crogga Hydrocarbon Site from its assessments.

The Developer notes that the licence expired in February 2025. It is understood that geotechnical, geophysical and 3D seismic surveys were undertaken during the lifetime of the Seaward Production Innovate Licence. Given the licence expired in 2025 there will be no overlap with construction, operation or decommissioning of the proposed development.

Marine Navigation

The TSC states concerns about the risk of interference with marine navigation: *"As an Island nation, any significant risk of interference with marine navigation is of concern to the TSC with regard to transport to and from the Island, and shipping lanes in our territorial waters which are used to connect the UK and Ireland. The TSC suggests continued engagement with the Isle of Man Steam Packet Company to ensure that there are no impacts to the well established shipping routes from the Island to Ireland."*

Response to Marine Navigation

The Developer acknowledges the request and will continue to consult with DOI and engage with the Isle of Man Steam Packet Company on the matter of shipping and navigation routes. Chapter 17 Shipping and Navigation of the EIAR reviews the vessel routes in the region. The Developer can confirm that the Isle of Man Steam Packet Company routes pass in excess of 7nm from the proposed development area and that the proposed development will not have an impact on the established ferry routes.

Data Sources

The TSC has noted concerns regarding the data sources used within the assessment and the lack of the utilisation of the Manx Marine Environmental Assessment stating: *“The TSC would draw the applicant’s attention to the Manx Marine Environmental Assessment (MMEA) which provides a useful overview of the Island’s marine environment and should be taken into account as part of both the transboundary and possibly also the cumulative impacts assessment as part of this application. More detail will be provided below in respect of scientific areas of the MMEA that should be reviewed. The TSC also notes in the comments provided that there have been requests to use more up to date data sources where they are available”*.

Response to Data Sources

The Developer acknowledges the request to consider the MMEA, and the specific points at which it is requested through the subsequent contents of the TSC submission. Where relevant, the MMEA (and other data sources requested) have been considered and addressed within the responses below.

5.9.3.2 Benthic Subtidal and Intertidal Ecology

The TSC raises points that relate to the 2024 EIAR and are set out in the following sections:

- Chapter 12: Benthic Subtidal and Intertidal Ecology of the 2024 EIAR;
- Appendix 2.1: Scoping Report – 5.4 Benthic and Intertidal Ecology of the 2024 EIAR; and
- Appendix 12.1: Array Area Benthic Survey Report of the 2024 EIAR.

5.9.3.2.1 Chapter 12: Benthic Subtidal and Intertidal Ecology

Point 1 – Contamination levels

In point 1 of their submission, the TSC raises a concern regarding the level of knowledge on contamination levels, stating that *“Contamination levels are expected to be low. They know they are low as they sampled the intertidal area, so why expected and not known?”*

Response to Point 1 – Contamination levels

Sediment-bound contaminant levels are likely to be low as indicated by site-specific survey results. Due to the low level of contaminants detected, the coarse nature of the intertidal sediments (as opposed to fine sediments which are more commonly associated with contaminants) and the remoteness of potential contamination sources, it would be expected that contaminant levels are low across the intertidal study area. However, a precautionary approach has been used as discrete hotspots of contamination are possible which may not have been detected by survey work.

Point 2 – Proposed development figures

In point 2 of the TSC submission it states, *“It would be useful to have some figures showing the site with the relevant designations, sample locations and sediment distributions”*.

Response to Point 2 – Proposed development figures

All figures, including those depicting relevant designations, sample locations and sediment distributions are provided in:

- Appendix 12.1: Array Area Benthic Survey Report of the 2024 EIAR;

- Appendix 12.2: Cable Route Benthic Survey Report of the 2024 EIAR; and
- Volume 7A, Chapter 12 Benthic Subtidal and Intertidal Ecology - Figures of the EIAR.

Point 3 – Underwater noise on benthic receptors and other impacts scoped out

In Point 3, the TSC raises a concern regarding Table 12.14 of Chapter 12: Benthic Subtidal and Intertidal Ecology of the 2024 EIAR. The TSC states that *“There is no mention of noise impacts here. I appreciate benthic species are less sensitive to noise compared to other marine animals such as cetaceans and fish. However, this and other potential issues have not been addressed here, with no information provided for the justification of them being scoped out. This also should include permanent loss of habitat in construction. Under decommissioning they should also consider habitat loss – once the turbines are removed.”*

Response to Point 3 – Underwater noise on benthic receptors and other impacts scoped out

The impacts of noise and habitat loss on benthic receptors were fully considered before being scoped out of the assessment within the EIAR during the scoping assessment phase, on the basis that the magnitude of impact would not result in any significant effects; see Appendix 2.1 Scoping Report Section 5.4.5 of the 2024 EIAR for more details.

The long-term or permanent subtidal habitat loss / change from the presence of foundations, scour protection and cable protection is assessed in Impact 6, Section 12.5.3.1 of Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR. Habitat disturbance during decommissioning is assessed in Section 12.5.4.2 of Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR.

Point 4 – Construction phase impacts within Chapter 12

The TSC reiterates that the *“Same comments above apply”* for Section *“12.5.2 [of Chapter 12: Benthic Subtidal and Intertidal Ecology of the EIAR] and onwards.”*

Response to Point 4 – Construction phase impacts within Chapter 12

Section 12.5.2 within Chapter 12 of the EIAR provides the Construction Phase impacts that have been assessed. The Developer can confirm that the responses to Point 3 above can also be applied to this comment – any impacts during the construction phase to benthic habitats were fully considered before being scoped out of the assessment within the EIAR during the scoping assessment phase, on the basis that the magnitude of impact would not result in any significant effects.

Point 5 – Magnitude of INNS impact

Point 5 of the TSC submission, in relation to invasive species, quotes Chapter 12: Benthic Subtidal and Intertidal Ecology of the 2024 EIAR, *“The report states that “based on current scientific knowledge it is not possible to predict whether such a spread will occur and to what extent and it is predicted that the impact will affect receptors indirectly.”* TSC questions how these statements are made if the information is not available.

Response to Point 5 – Magnitude of INNS impact

The potential introduction and spread of invasive species as a result of the proposed development depends on a number of factors which are challenging to identify/quantify, such as source, quantity, adaptability and competition. Predicting such an occurrence is difficult and, consequently, a precautionary approach used here particularly in relation to receptors as providing a definitive statement on risk could be mis-leading. An Offshore Environmental Management Plan (EMP) (Appendix A6. Offshore Environmental Management Plan of the EIAR) has been developed and will continue to be refined in advance of construction. The Offshore EMP will be implemented which will include marine biosecurity measures detailing how the risk of introducing INNS will be minimised

Point 6 – Magnitude of water and sediment quality impact

The TSC refers to *“Impact 14 – Reduction in water and sediment quality through release of contaminated sediments and/or accidental contamination”* within Chapter 12: Benthic Subtidal and Intertidal Ecology of

the 2024 EIAR. The submission states “*Same comment as above. If it is not possible to predict what will happen how can these assessments be made?*”

Response to Point 6 – Magnitude of water and sediment quality impact

The Developer notes this comment, however, Chapter 12: Benthic Subtidal and Intertidal Ecology of the 2024 EIAR does not state that it is not possible to predict what will happen in the case of water and sediment quality. Surveys were conducted to provide data as to levels of sediment bound contaminants within the area of the proposed development and it is predicted that these contaminants along with accidental spills will disperse quickly and are unlikely to persist in the marine environment, see Section 12.5.2.4 of Chapter 12: Benthic Subtidal and Intertidal Ecology of the 2024 EIAR for more details. Additionally, an Offshore EMP has been developed (Appendix A6.1 Offshore Environmental Management Plan of the EIAR) which contains Marine pollution contingency measures that will be implemented to manage the risk of accidental spillages from construction equipment or collision incidents. This will include a chemical risk review with information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance.

Point 7 – Removal of substrate

In point 7, the TSC is concerned that “*There is no mention of the impacts associated with removing the hard substrate (monopile bases) and the impact on biodiversity and abundance. See earlier comment. This also applies to Table 12.21.*”

Response to Point 7 – Removal of substrate

As a result of design refinements, the Wind Turbine Generator (WTG) foundations will be suction bucket jackets (SBJ). In Section 6.11.2 of Chapter 6 Description of the Proposed Development Offshore of the EIAR, it confirms that at decommissioning the transition piece in the jacket foundation will be removed however it is assumed the foundations will be cut to approximately -2m below the seabed and removed, as it may be determined that full removal would result in greater environmental impacts than leaving in-situ. Additionally, buried infrastructure such as cables would also be left in-situ as would cause a greater impact to remove them.

As indicated in Chapter 12: Benthic Subtidal and Intertidal Ecology Sections 12.5 of the EIAR, the magnitude of impacts will be lower during decommissioning than during the construction given that, where appropriate, buried assets will be left in situ when the proposed development is decommissioned, if it is determined that the removal would result in greater environmental impacts than leaving in-situ.

Point 8 – Transboundary effects

In point 8, the TSC highlights that “*There is no mention here to the Isle of Man. I appreciate that it is unlikely to have an effect, but we still should be included here*”.

Response to Point 8 – Transboundary effects

This comment has been noted by the Developer. The study area and Zone of Influence (ZoI) identified for benthic subtidal and intertidal ecology was limited to the modelled tidal ellipse and does not extend to the Isle of Man.

Point 9 – Study area

In point 9 of the submission, the TSC references Figure 12.2, asking “*Why was the wider study area not sampled?*”.

Response to Point 9 – Study area

It should be noted that the primary aim of the survey was to characterise the benthic environment across the proposed development footprint. The survey area reflected the proposed development boundaries at the time of survey; however, these boundaries were subsequently redesigned after the baseline survey had been completed.

The methodologies adopted for the baseline characterising survey follow relevant guidelines:

- Guidelines for EIA in Britain and Ireland. Marine and Coastal, Final Document (Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)
- Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects (Judd, 2012).

The latter guideline document states, for sedimentary habitats: *"The scale and extent of the survey should reflect the extent of the habitat and complexity of biotopes and the proposed footprint of the project."*

Appropriate information describing the habitats and communities of the wider ZoI was provided by existing historical data as listed in Table A12.3.

5.9.3.2.2 Appendix 2.1: Scoping Report – 5.4 Benthic and Intertidal Ecology

Point 10 Potential impacts

In point 10 of their submission, the TSC identifies a concern with the potential impacts; *"It is agreed that piling is unlikely to have a significant impact, but certain life stages are more susceptible, such as larvae, and this should be recognised. For example, scallop larvae can be impacted by pile driving and this can potentially affect the fishery."*

Response to Point 10 – Potential impacts

As a result of design refinements in response to the RFI, piling is no longer included in the construction strategy for the WTG and Offshore Substation Platform (OSP) foundations. WTG foundations will be installed with suction buckets and OSP with either SBJ or pin piles, meaning no percussive piling is required for the proposed development resulting in a significant reduction in underwater noise generated. Jackets with a suction bucket installation method generate underwater noise similar to background noise levels as the only noise generated is from the pump which installs the suction buckets on the seabed. Further information on design refinements is available in Appendix A5. Design Refinements.

These refinements do not alter the overall conclusions of the assessment: the significance of effects for all fish and shellfish receptors, including shellfish larvae remains slight (adverse) and therefore not significant in EIA terms (see Section 13.5.2.4 of Chapter 13 Fish and Shellfish Ecology of the EIAR).

5.9.3.2.3 Appendix 12.1: Array Area Benthic Survey Report

Point 11 – Survey design

In point 11, the TSC highlights that *"It is not very clear how the number and location of the sampling sites was determined. The report states a random stratified sampling approach but how does that actually work? For example, why were two sites sampled 15 times while the other two were only sampled 5 times? I assume this is related to the size of the different habitats but it could be made clearer."*

Response to Point 11 – Survey design

The number of sites sampled within each substrate type was guided by the distribution of substrate types with the number of samples taken from each sediment type being proportional according to the extent of that sediment within the survey area. The type of substrate anticipated was determined by reference to available data sources as listed in Section 2.2 of Appendix 12.1 Array Area Benthic Survey Report of the 2024 EIAR. Distribution of sediment types according to EUSeaMap (2021) are shown in Figure 12.3 of the 2024 EIAR.

Point 12 – Exclusion areas

In point 12, the TSC submission recommends that *"the area stated as "seapens and burrowing megafauna in circalittoral fine mud" should be excluded from development i.e. monopiles should be sited away from that area."*

Response to Point 12 – Exclusion areas

This comment has been noted by the Developer. During site-specific surveys this habitat biotope was identified at one site to the south east of the array area outside of the offshore development boundary (see

Figure 12.5 of the 2024 EIAR) therefore no turbines will be placed there as it is outside the array area. Additionally, Chapter 12 - Benthic Subtidal and Intertidal Ecology: Table A12.7 of the EIAR states that *"Presence of sensitive habitats will be identified through a review of the latest available benthic datasets and pre-construction surveys. Proposed development infrastructure will avoid protected habitats wherever reasonably practicable to an extent not resulting in a hazard for marine traffic and Search & Rescue capability."*

Point 13 – Zone of Influence

In point 13, the TSC states that *"Only the array area was surveyed so any assumptions made regarding the surrounding area e.g. the Zone of Influence (ZoI) need to be viewed cautiously."*

Response to Point 13 – Zone of Influence

Site-specific surveys for the proposed development have been undertaken to provide an up-to-date characterisation of the benthic subtidal and intertidal habitats and species occurring within the study area (Figure A12.1 of Chapter 12 – Benthic Subtidal and Intertidal Ecology). The study area was set with reference to the modelled greatest excursion distance (from tidal ellipse and sediment plume modelling) and encompasses both the array area and ECC (as indicated by the offshore development area) and a Zone of Influence (ZoI) extending 12km from the offshore development area. The survey areas are referred to as 'intertidal survey area', 'ECC subtidal survey area' and 'array subtidal survey area' (Figure 12.3 of the 2024 EIAR).

All survey methodologies were in line with the relevant guidance documentation (Cefas, 2002; Cefas et al., 2004; Davies et al., 2001; Ware and Kenny, 2011). The data are considered to represent a robust baseline against which indirect impacts are assessed. See Response to point 9 for further explanation on the spatial extent of the benthic surveys.

5.9.3.3 Fish and Shellfish Ecology

The TCS raises points that relate to Chapter 13: Fish and Shellfish Ecology within the 2024 EIAR, which are set out in the following sections;

- General Points;
- Baseline Report and Main Report Consistency;
- Study Area Appropriateness;
- Species of Conservation Importance and Designated Sites;
- Valued Ecological Receptors;
- Species Relevance and Inclusion;
- Spatial and Temporal Considerations.

5.9.3.3.1 General Points

Points 14 and 15 – Consideration of Manx Territorial Waters

The submission points to the references of the Isle of Man within the Chapter, *"In the Fish and Shellfish Technical Report and Assessment Chapter there are four (4) and one (1) relatively general references to the Isle of Man respectively. Given that the Fish and Shellfish study area extends significantly into Manx territorial waters, it is of concern that little apparent consideration of this jurisdiction has been made"*.

Furthermore, the submission states, *"The Isle of Man Territorial Sea Committee therefore seeks reassurance that Manx interests and transboundary impacts have been appropriately considered and assessed."*

Response to Points 14 and 15 – Consideration of Manx Territorial Waters

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters. Impacts to the fish and shellfish resources within the study area have been assessed within Chapter 13 of the 2024 EIAR, which concluded that there were no significant effects from the proposed development on these species. The Developer has however undertaken further review of Manx interests of relevance to fish and shellfish, and has subsequently included European seabass *Dicentrarchus labrax* and the common skate complex (recognised as two distinct species, the flapper skate *Dipturus intermedius* and the blue skate *Dipturus flossada*) into the Appendix 13.1: Fish and Shellfish Ecology Baseline Characterisation of the 2024 EIAR and Chapter 13: Fish and Shellfish Ecology, given their protection status within Isle of Man MNRs and their highly mobile nature. These additions are reflected in Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation of the EIAR, and Chapter 13: Fish and Shellfish Ecology of the EIAR. For clarity, the Developer confirms that no potential for significant effects has been concluded for these additional receptors. Furthermore, the Developer has updated the Transboundary Effects assessment within Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR, to include consideration of effects on marine features found in Isle of Man territorial waters, including features protected within Manx MNRs.

5.9.3.3.2 Baseline Report and Main Report Consistency

Points 16 and 17 – Inconsistencies in assessment

Point 16 of the TSC submission suggests, “*The technical baseline report and main assessment report seem to generally align. However, some inconsistencies were observed, particularly in species mapping and references to data sources, such as the absence of cross-referenced maps in both reports. Additionally, some species were mentioned in one report but not sufficiently covered in the other, leading to potential gaps in the impact assessments.*”

The TSC submission goes on to make recommendations “*Ensure consistency in both reports regarding species data, maps, and methodologies. Any updates or changes in species coverage or spatial boundaries should be reflected in both reports to avoid contradictory conclusions. e.g., in section 16.2.2 Study Area for commercial fisheries, Chapter 16 of the EIAR - include Figure 2-1: Study Area for Fish and Shellfish Ecology Baseline from Appendix-13.1 for consistency and to minimise the potential gaps in the impact assessments.*”

Response to Points 16 and 17 – Inconsistencies in assessment

The reports should not be considered inconsistent - the reason not all species mentioned in the Fish and Shellfish Ecology Baseline Characterisation (Appendix 13.1 of the 2024 EIAR) were carried forward to the impact assessment stage (Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR) is due to the methodology used in the assessment process. As detailed in Section 13.2.5 within Chapter 13 of the 2024 EIAR, the impact assessment for fish and shellfish species has taken a Valued Ecological Receptor (VER) approach to allow the assessment to focus on the most common and important species that might be affected by the proposed development. The list of factors considered to identify VERs and the VER species list can be found in Section 13.3.10 of Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR. A detailed justification for the selection of VERs is given in Section 3.9 of the Fish and Shellfish Ecology Baseline Characterisation (Appendix 13.1: of the 2024 EIAR).

Appendix 13.1: of the 2024 EIAR has been revised to reflect any additional data sources that have become available since submission of the 2024 EIAR. The new information has been reviewed and included to ensure the baseline is informed by the most current and up-to-date data, and these updates are reflected in Appendix A13.1: Fish and Shellfish Technical Baseline, and Chapter 13: Fish and Shellfish Ecology of the EIAR, to ensure consistency between the two reports.

5.9.3.3.3 Study Area Appropriateness

Point 18 – Limitations of study area/ Zone of Influence

The TSC raises a number of points regarding the study area appropriateness, beginning with the assessment. “*The Zone of Influence (ZoI) was adequately defined for mobile species like herring, mackerel, and diadromous fish. However, for less mobile or sessile species (e.g., brown crab, whelk and scallops), the study*

area was too limited and may not fully encompass their ecological zones. There were also instances where boundaries cut through designated Manx Marine Nature Reserves (MNRs), which could lead to fragmented assessments.”

Response to Point 18 - Limitations of study area/ Zone of Influence

The Developer is confident that the approach used to define the fish and shellfish ecology study area including ‘zones of influence’ is robust and appropriate. As noted in Section 13.2.2 Study Area within Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR, the extent of the fish and shellfish ecology study area has been set to capture the greatest spatial extent of potential direct and indirect effects that may arise from the proposed development. The extent of potential effects that may occur beyond the boundaries of the offshore development area, such as effects arising from changes in suspended sediment concentrations and underwater noise, have been determined by project-specific sediment plume and underwater noise modelling.

As noted in paragraph 2.2.1 of the Appendix 13.1 of the 2024 EIAR, the approach to identify the fish and shellfish study area was initially developed at the proposed development scoping stage, in line with Department of Communications, Climate Action and Environment (DCCAE) Guidance (DCCAE, 2017).

The important species afforded protection by Manx MNRs (e.g., basking shark, sandeel, plaice, European eel, herring, Atlantic cod) have been included as VERs in the impact assessment in Chapter 13: Fish and Shellfish Ecology of the 2024 EIAR, which concluded that there were no significant effects from the proposed development on these species. The Developer has however undertaken further review of Manx interests of relevance to fish and shellfish and has subsequently included European seabass and the common skate complex into the Appendix 13.1: of the 2024 EIAR and Chapter 13: of the 2024 EIAR, given their protection status within Isle of Man MNRs and their highly mobile nature. These additions are reflected in Appendix A13.1: of the EIAR, and Chapter 13: Fish and Shellfish Ecology of the EIAR. For clarity, the Developer confirms that no significant effects have been concluded for these additional receptors.

Furthermore, the Developer has updated the Transboundary Effects assessment within Chapter 13 of the 2024 EIAR, to include consideration of effects on marine features found in Isle of Man territorial waters, including features protected within Manx MNRs. These updates are reflected in the Chapter 13: Fish and Shellfish Ecology of the EIAR. For clarity, the Developer confirms that no significant transboundary effects have been concluded for these additional receptors.

Point 19 – Zone of Influence associated with fisheries

The TSC states that *“It is particularly important to consider study areas/‘zones of influence’/assessments in relation to statistical and related fisheries reporting areas, e.g., ICES statistical rectangles. Fish and Shellfish ecology fundamentally link to fishing activity, and so an appropriate balance should be found between these two receptors so that they are aligned.”*

Response to Point 19 - Zone of Influence associated with fisheries

Groundfish assemblages in the study area have been characterised by reference to ICES data collected as part of the Northern Irish Ground Fish Survey (NIGFS) and the Offshore Beam Trawl Survey (BTS), as detailed in paragraph 2.3.4 of Appendix 13.1 of the 2024 EIAR.

Data were obtained for the years 2012-2022 covering ICES statistical rectangles 36E3 and 36E4 to characterise assemblages within the array area, export cable corridor (ECC) and adjacent areas of the ZoIs and ICES rectangles 35E3, 35E4, 37E3 and 37E4 to obtain data for fish assemblages for the outer sections of the ZoIs. The Developer is confident that the data used to characterise the baseline environment for fish receptors are robust and sufficient for the purposes of EIA.

The Developer is also confident that the approach used to define the study area for fish and shellfish is appropriate, for the reasons outlined in Point 18 above.

Point 20 – Expansion of study area

The TSC recommends that the study area should be expanded “*for sessile species to include their full ecological range. Avoid cutting through MNRs and ensure that the entire reserve area is considered for species that reside or move across these boundaries.*”

Response to Point 20 – Expansion of study area

The Developer is confident that the approach used to define the fish and shellfish ecology study area including ‘zones of influence’ is robust and appropriate for the reasons outlined in Point 18 above.

With regard to the Isle of Man MNRs, these sites lie outside of the fish and shellfish ecology study area, to provide clarity on this, the MNRs have been presented relative to the Isle of Man MNRs in Figure A3.10, in Appendix A13.1. Notwithstanding this, the fish and shellfish resources in Manx territorial waters have been assessed within Chapter 13 of the EIAR to account for any species that reside within or move across these boundaries. No significant effects from the proposed development have been concluded on these species. Furthermore, the Developer has updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features found in Isle of Man territorial waters, including features protected within Manx MNRs. These updates are reflected in the Chapter 13: Fish and Shellfish Ecology of the EIAR. For clarity, the Developer confirms that no significant transboundary effects have been concluded for these additional receptors.

Point 21 – Inshore fishing grounds considered for the baseline characterisation

The TSC draw attention to a Figure in a Report by the Marine Institute, “*Please compare map in Figure 2-30: Inshore Fishing Grounds Targeted by Potting (Marine Institute, 2016) in Appendix-13.1 of the fish and shellfish ecology baseline characterisation Volume 9: Appendices (Offshore) to maps at this link:- <https://www.gov.im/media/1363405/ch-41-fisheries.pdf>*”

Response to Point 21 - Inshore fishing grounds considered for the baseline characterisation

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters. Impacts to the fish and shellfish resources within the study area have been assessed within Chapter 13 of the EIAR, which concluded that there were no significant effects from the proposed development on these species. Furthermore, following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jacket (SBJ) foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. These refinements removes piling from the construction strategy and significantly reduce the range of effects from the proposed development (notably from underwater noise); the fish and shellfish ecology assessment has been updated to reflect these changes in Chapter 13. The Developer has updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features and resources found in Isle of Man territorial waters. As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters.

Point 22 – Illustration and assessment of offshore grounds

TSC notes that additional consideration of offshore grounds may be required, stating: “*Figure 3-19 (Baseline) shows inshore dredge fishing grounds, but nothing offshore – the fleet may not differentiate between these areas and fish between inshore and offshore grounds – so for completeness and displacement/cumulative impacts perspectives there should be illustration and assessment of offshore grounds.*”

Response to Point 22 – Illustration and assessment of offshore grounds

For information on offshore fishing grounds, detailed information is provided in the Commercial Fisheries Technical Report (Appendix A16.1 of the EIAR), which provides an account of commercial fisheries in and around the proposed development area.

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters. Impacts to the fish and shellfish resources within the study area have been assessed within Chapter 13 of the 2024 EIAR, which concluded that there were no significant effects from the proposed development on these species. Furthermore, following further design refinement in response to the RFI,

WTGs are now proposed with suction bucket jacket (SBJ) foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets. These refinements significantly reduce the range of effects from the proposed development (notably from underwater noise); the fish and shellfish ecology assessment has been updated to reflect these changes in Chapter 13. The Developer has updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features and resources found in Isle of Man territorial waters. As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters.

Point 23 – Nephrops fishing areas

The TSC submission refers to Figure 3.22, highlighting that it “*shows only fishing activity inshore and around the array, but for completeness and displacement/cumulative impacts perspectives there should be illustration and assessment of offshore grounds. Nephrops fishing occurs further north and east, including into Manx waters. How has the assessment considered these areas?*”

Response to Point 23 – Nephrops fishing areas

The Developer acknowledges that Figure 3.22 in Appendix 13.1 of the 2024 EIAR does only show Nephrops landings for EU vessels ≥ 12 m length operating inside the Irish EEZ.

Impacts on Nephrops and their supporting habitat are identified and fully assessed in Section 13.5 of Chapter 13 of the 2024 EIAR, and no potential for significant effects were concluded. The Developer confirms that this assessment has considered the whole of the western Irish Sea Nephrops population inhabiting the Western Irish Sea Mud Belt, including in the Manx section, although acknowledges that Figure 3.22 in Appendix 13.1 does not show offshore Nephrops fishing activity. Subsequently, offshore Nephrops fishing activity has been presented in Figure A3.8 of Appendix A13.1 (as requested in RFI Section 11 (e), see Response to RFI document). Furthermore, following refinements to the proposed development design, the fish and shellfish ecology assessment has been updated, with these changes reflected in Chapter 13. The Developer has also updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features and resources found in Isle of Man territorial waters. As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters.

Point 24 – Western Irish Sea Mud Belt impacts

Point 24 of the submission states “*How might the development relate to ongoing work in the Manx section of the Western Irish Sea Mud Belt in relation to FU15 and potential windfarm impacts?*”

Response to Point 24 and 25 – Western Irish Sea Mud Belt impacts and spatial management measures

Impacts on Nephrops and their supporting habitat are identified and fully assessed in Section 13.5 of Chapter 13, and no potential for significant effects were concluded. The Developer confirms that this assessment has considered the whole of the western Irish Sea Nephrops population inhabiting the Western Irish Sea Mud Belt, including in the Manx section. Furthermore, following refinements to the proposed development design, the fish and shellfish ecology assessment has been updated, with these changes reflected in Chapter 13. The Developer has also updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features and resources found in Isle of Man territorial waters. As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters.

For impacts on the Nephrops fishing industry operating in FU15, the Developer would refer to Chapter 16: Commercial Fisheries of the 2024 EIAR which also contains a Transboundary Effects assessment.

The Developer has reviewed the information provided however, no update to the assessment is required in Chapter 16. Planned, existing and/or approved projects selected through the screening exercise as relevant to the assessment of cumulative likely significant effects to commercial fisheries are presented in Table 16.14 of the EIAR. The Developer recognises that the impact assessment predicted a significant impact to Irish demersal otter trawlers targeting Nephrops grounds in the west Irish Sea, requiring implementation of additional mitigation measures delivered through the Fisheries Management and Mitigation Strategy (FMMS) and Sustainable Fisheries Community (SFC) initiative. The Developer is committed to developing and implementing the FMMS and SFC initiative through cooperation and collaboration with the fishing industry.

5.9.3.3.4 Species of Conservation Importance and Designated Sites

The TSC requests that all internationally and statutorily-designated sites, within the neighbouring jurisdiction of the Isle of Man, should be considered in the context of transboundary impacts. The submission lists the following points:

Point 26 to 28 – Identification of designated sites

The TSC highlights a perceived issue with the identification of designated sites, “*how does the process accommodate statutory marine protected area designations in neighbouring jurisdictions that are not, or have never been EU member states- e.g. the Isle of Man? It appears to be restricted only to EU-based Directives and classifications*”. In Points 27 and 28, the TSC inquires how transboundary impacts and specifically Manx designated marine sites have been considered.

Response to Point 26 to 28 – Identification of designated sites

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters. Impacts to the fish and shellfish resources in the study area have been assessed within Chapter 13, which concluded that there were no significant effects from the proposed development on these species. The Developer has however undertaken further review of Manx interests of relevance to fish and shellfish and has subsequently included European seabass and the common skate complex into the Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation and Chapter 13: Fish and Shellfish Ecology of the EIAR, given their protection status within Isle of Man MNRs and their highly mobile nature. Moreover, following further design refinement in response to the RFI, the fish and shellfish ecology assessment has been updated to reflect these changes in Chapter 13. In response to the RFI, and also to incorporate the design refinements, the Developer has also updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features, resources and marine protected area designations found in Isle of Man territorial waters. As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters.

Point 29 to 31 – Marine Nature Reserves

Continuing to explain their concern regarding protected sites, the TSC states “*There are several fish and shellfish and their management that are features and/or objective of Marine Nature Reserves (MNRs), including the multilateral conservation agreements noted in the text, and to which the Isle of Man is also a signatory to.*” The TSC requests a list of considered sites is provided.

Response to Point 29 to 31 – Marine Nature Reserves

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters. Impacts to the fish and shellfish resources in the study area have been assessed within Chapter 13, which concluded that there were no significant effects from the proposed development on these species. Notwithstanding this, following further design refinement in response to the RFI, the fish and shellfish ecology assessment has been updated to reflect these changes in Chapter 13. In response to the RFI, and also to incorporate the design refinements, the Developer has also updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features, resources and marine protected area designations found in Isle of Man territorial waters. The following MNRs, and their fish and shellfish features, now incorporated into Appendix A13.1, and Chapter 13, are provided in Table Error! No text of specified style in document..9.1 below:

Table 5.9.1 Isle of Man Marine Nature Reserves with noted fish and shellfish species (DEFA, 2025)

Marine Nature Reserve	Noted fish and shellfish features
Douglas Bay MNR	European eel
Little Ness MNR	European eel, herring (spawning), whiting (spawning/nursery)
Ramsey Bay MNR	European eel, common skate, European sea bass (nursery), Atlantic cod (spawning/nursery), sandeels
Langness MNR	European eel, basking shark, cod (spawning/nursery), herring (spawning)

Marine Nature Reserve	Noted fish and shellfish features
Baie ny Carrickey MNR	European eel, basking shark, spiny lobster
Calf and Wart Bank MNR	Sandeel, basking shark, spiny lobster
Port Erin Bay MNR	Basking shark, plaice (spawning/nursery)
West Coast MNR	European eel, basking shark, plaice (spawning/nursery), sandeel
Niarbyl Bay MNR	European eel, basking shark

The Developer has also undertaken further review of Manx interests of relevance to fish and shellfish, and has subsequently included European seabass and the common skate complex (recognised as two distinct species, the flapper skate and the blue skate) into the Appendix A13.1 and Chapter 13, given their protection status within Isle of Man MNRs and their highly mobile nature.

As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters, or receptors of the MNRs.

5.9.3.3.5 Valued Ecological Receptors

Point 32 – Consideration of Manx protected sites and species

The TSC submission states “*The legally-protected status and conservations objectives (including the context of multilateral international agreements to which Isle of Man is also signatory to) would suggest inclusion, or at least explicit consideration of Manx sites and protected species, and yet there seems to be no reference to the island.*”

Response to Point 32 - Consideration of Manx protected sites and species

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters. Impacts to the fish and shellfish resources in the study area have been assessed within Chapter 13 of the 2024 EIAR, which concluded that there were no significant effects from the proposed development on these species. However, in response to the RFI, the Developer has undertaken further review of Manx interests of relevance to fish and shellfish, and has subsequently included European seabass and the common skate complex (recognised as two distinct species, the flapper skate and the blue skate) into the Appendix A13.1 and Chapter 13, given their protection status within Isle of Man MNRs and their highly mobile nature. As detailed in the Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters, or receptors of the MNRs.

Point 33 – Consideration of Manx designated sites and valued ecological receptors

Point 33 of the submission asks, “*How have Manx designated sites and valued ecological receptors been considered within the EIA process and report?*”

Response to Point 33 - Consideration of Manx designated sites and valued ecological receptors

The Developer acknowledges that part of the fish and shellfish ecology study area overlaps with Manx territorial waters.

Impacts to the fish and shellfish resources in the study area have been assessed within Chapter 13 of the 2024 EIAR, which concluded that there were no significant effects from the proposed development on these species. Notwithstanding this, following further design refinement in response to the RFI, the fish and shellfish ecology assessment has been updated to reflect these changes in Chapter 13. In response to the RFI, and also to incorporate the design refinements, the Developer has also updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features, resources and marine protected area designations found in Isle of Man territorial waters. The MNRs with qualifying fish and shellfish features, now incorporated into Appendix A13.1, and Chapter 13, are provided in Table 5.9.1.

In response to the RFI, the Developer has also undertaken further review of Manx interests of relevance to fish and shellfish, and has subsequently included European seabass and the common skate complex (recognised as two distinct species, the flapper skate and the blue skate) into the Appendix A13.1 and Chapter 13 of the EIAR, given their protection status within Isle of Man MNRs and their highly mobile nature. As detailed in the Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters, or receptors of the MNRs.

Point 34 – General comment

The TSC goes on to suggest that Point 33 can be “*similarly extended to all other relevant receptor chapters.*”

Response to Point 34 – General comment

This comment is acknowledged by the Developer, noting similar points have been provided by TSC in the relevant sections of this document with responses provided by the Developer.

5.9.3.3.6 Species relevance and inclusion

The TSC states that there is limited consideration for some commercial species (such as turbot, spurdog and squid), and conservation and recreational species (such as basking shark and tope) particularly those located in the Manx waters. Additionally, species protected under Isle of Man legislation, such as species listed in the Wildlife Act 1990, are not fully addressed, both as features of the development study area and from transboundary perspectives. The submission lists the following points:

Point 35 – Fish and shellfish species considered

The first concern is regarding the assessment of fish and shellfish species, “*Commercial species like king scallop, queen scallop, and brown crab etc. were included, whilst other commercial species of interest such as; turbot, spurdog, and, squids are not considered in Table 3-4: Summary of fish and shellfish VERs and their value/importance within the fish and shellfish study area. Also there was limited consideration for some conservation and recreational species, such as basking shark and tope particularly those located in the Manx waters. Additionally, species protected under Isle of Man legislation, such as species listed in the Wildlife Act 1990, were not fully addressed, both as features of the development study area and from Transboundary perspectives.*”

Response to Point 35 - Fish and shellfish species considered

As detailed in Section 13.2.5 within Chapter 13 of the 2024 EIAR, the impact assessment for fish and shellfish species has taken a Valued Ecological Receptor (VER) approach to allow the assessment to focus on the most common and important species that might be affected by the proposed development. Therefore, not all species mentioned in the Fish and Shellfish Technical Baseline (Appendix 13.1: Fish and Shellfish Ecology Baseline Characterisation of the 2024 EIAR) were taken forward to the impact assessment stage. The list of factors considered to identify VERs and the VER species list can be found in Section 13.3.10 of Chapter 13 of the 2024 EIAR. As can be seen from Section 13.3.10 of the 2024 EIAR, the importance of fish and shellfish species has been assessed using a range of factors, including their ecological and conservation value. The evaluation of importance has also considered the commercial value of species, the potential for migratory species to transit the fish and shellfish study area, and the importance of the fish and shellfish study area to support key life stages, such as spawning and nursery periods. Therefore, all species (both commercial and non-commercial) were considered relative to their ecological value.

As can be seen from Table 13.9 in Chapter 13 of the 2024 EIAR, the assessment covered a wide range of fish and shellfish species, including commercially important species (e.g., plaice, Nephrops, brown crab), species that spawn and/or have nursery areas in the study area (e.g. herring, whiting, sole, sandeel) and species of conservation interest (e.g., basking sharks, Atlantic cod, Atlantic salmon). It should be noted that species of conservation and recreational importance identified to be present in the fish and shellfish study area include basking shark, spurdog (listed as spiny dogfish) and tope and as such, impacts on these species have been assessed in Chapter 13 of the 2024 EIAR.

Notwithstanding this, the Developer has undertaken further review of Manx interests of relevance to fish and shellfish, and has subsequently included European seabass and the common skate complex (recognised as

two distinct species, the flapper skate and the blue skate) into the Appendix A13.1 and Chapter 13 of the EIAR, given their protection status within Isle of Man MNRs and their highly mobile nature. The Developer also acknowledges that no reference was made to transboundary impacts in Manx territorial waters and the legally-protected status of fish and shellfish species in Manx waters. The Developer has therefore updated the Transboundary Effects assessment within Chapter 13, to include consideration of potential effects on marine features, resources and marine protected area designations found in Isle of Man territorial waters. As detailed in Chapter 13, no potential effects are anticipated to extend to the Isle of Man territorial waters, or receptors of the MNRs.

Point 36 - Fish and shellfish species considered

The TSC makes a recommendation to *“Ensure that all relevant species, including those of conservation and recreational importance (e.g., basking sharks, diadromous fish), are fully considered, both locally and for adjacent jurisdictions. Review species protected under Manx law at the links provided below and confirm they are covered in the assessment.”*

Response to Point 36 - Fish and shellfish species considered

As per response to Point 27 and Point 35, species protected under Manx law have been assessed in the EIAR as VERs and have now been assessed further; see Chapter 13 of the EIAR for further details.

Point 37 and 38 – Additional information for the inclusion of Manx species

The TSC submission provides some additional information including the *“Manx Marine Environmental Assessment, and the relevant chapter.”* And reference to *“Bangor University reports”*.

Response to Point 37 and 38 - Additional information for the inclusion of Manx species

The Developer appreciates the information provided and acknowledges the request to provide additional information on species distributions and ecology in Manx territorial waters. As detailed in the response to point 35 above, in response to the RFI, the Developer has updated the Transboundary Effects assessment within Chapter 13, to include explicit consideration of potential effects on marine features, resources and marine protected area designations found in Isle of Man territorial waters. As detailed in Chapter 13, there are no significant effects anticipated to occur on any features, resources or marine protected area designations found in Isle of Man waters. This conclusion reflects the absence of any direct or indirect (e.g. from sediment transport or underwater noise) interactions between the proposed development and Isle of Man MNRs. Following design refinements, piling has been removed from the construction programme. Under the revised construction strategy, the greatest impact to fish and shellfish from underwater noise is now predicted to arise during high order clearance of Unexploded Ordnance (UXO). As set out in Table 13.11 of Chapter 13 of the 2024 EIAR, the clearance of UXO will follow a mitigation hierarchy with high order detonation of UXO only taken place where avoidance, relocation, removal or low order deflagration is not possible. Where there may be clusters of UXO requiring detonation, these UXO would not be detonated at the same time to minimise the area affected by underwater noise and the sound levels received by marine species at any one time. In addition, the Developer has committed to the use of a Noise Abatement System (NAS) in the form of bubble curtains or similar if high order UXO clearance is required to minimise the sound emitted during detonation. As described in Chapter 13 of the 2024 EIAR, high order clearance of UXO constitute discrete events that would result in a brief (i.e., seconds) increase in underwater noise.

Potential mortality or recoverable injury to fish and shellfish receptors due to high order UXO clearance are predicted to be restricted to areas within Irish waters, and the risk of behavioural responses and/ or temporary changes in hearing sensitivities to receptors in Manx territorial waters is low given the distance of the proposed development from Isle of Man waters (> 50km). Further, any potential impacts to fish and shellfish features of importance to the Isle of Man that may transit the fish and shellfish ecology study area have already been assessed within Chapter 13 of the 2042 EIAR and Chapter 13, with no significant effects identified.

Given the above, the Developer does not consider it necessary to review additional data sources specific to Isle of Man waters, including Bangor University papers relating to Manx marine ecology, or the Manx Marine Environmental Assessment.

5.9.3.3.7 Spatial and Temporal Considerations

The TSC raises a number of points relating to spatial and temporal considerations;

Points 39, 40 and 41 – Inclusion of temporal factors

Point 39 of the submission states *“The report reasonably considered the spatial distribution of most species, including feeding, spawning, and nursery areas. However, temporal factors (such as seasonal migrations or spawning periods) were not consistently addressed, especially for species like salmon and sea trout, which have distinct seasonal movements.”*

In Point 40, the TSC makes a recommendation *“Incorporate seasonal factors for key species, particularly for migratory fish and breeding periods. Make sure that both adult and juvenile life stages, as well as larvae distributions, are considered in the assessments.”*

The TSC urge for the consideration of temporal factors in Point 41, suggesting that they may *“have relevance in relation of timing of development works, and therefore should be considered as well as spatial aspects”*.

Response to Points 39, 40 and 41 – Inclusion of temporal factors

Information on the movement patterns including migration periods of diadromous species and elasmobranch species is provided in Section 3.6 Diadromous species and Section 3.7 Elasmobranchs of Appendix 13.1: Fish and Shellfish Ecology Baseline Characterisation, respectively. Detailed information on the spawning behaviour of fish and shellfish species including spawning periods is provided in Section 3.2 and Sections 3.4 to 3.7 of Appendix 13.1. In addition, Appendix 13.1 has been updated to provide further information on the distribution of active herring spawning grounds within the Irish Sea. These additions are presented in Section 3.2 of Appendix A13.1: Fish and Shellfish Ecology Baseline Characterisation.

Point 42 and 43- Connectivity

The TSC quotes Section 3.5.26 of Chapter 13 of the 2024 EIAR, *“Scallop in the Irish Sea represent spatially discrete stocks, though some can be interconnected through larval dispersal. Larval dispersal simulations indicate no connectivity between stocks in the northern Irish Sea and around the Isle of Man and stocks in the southern Irish Sea and further south. By contrast, stocks in Cardigan Bay and off the Irish coast show limited connectivity, while strong connectivity is predicted between stocks in the south Irish Sea and northeast Celtic Sea (Marine Institute and Bord Iascaigh Mhara, 2024).”*

The TSC submission suggests the review of a paper by Close *et al.* (2024) titled ‘Connectivity between populations of the scallop *Pecten maximus* in the Irish Sea and the implications for fisheries management.’

Response to Point 42 and 43- Connectivity

The Developer notes this recent publication and has therefore incorporated due consideration to the findings of Close *et al.* (2024), within the paragraph 3.5.26 of Appendix A13.1. The Developer does however note that while recent studies, including Close *et al.* (2024), provide insight into the natural connectivity of *Pecten maximus* populations across the Irish Sea, these findings relate solely to biological population dynamics and do not introduce any pathways of effect between the proposed development and Isle of Man territorial waters. The proposed development is located entirely outside Isle of Man waters, with no direct or indirect interactions predicted for scallops.

Potential effects on king scallop populations, including those that may utilise wider Irish Sea habitats, have been fully assessed within Chapter 13 of the 2024 EIAR and Chapter 13, and no significant effects on king scallop are concluded. Accordingly, the findings of these studies do not alter the overall conclusion that the proposed development will not give rise to any significant transboundary effects on Isle of Man marine features.

Points 44 and 45 – Nephrops fishery

The TSC draws attention to Figure 3.22 in Appendix 13.1 of the 2024 EIAR, stating that the *“Nephrops Fishing Grounds in the Western Irish Sea (Marine Institute, 2016). The two maps within this figure don’t appear to correlate very well. The distribution of burrows extends much further north and west than the heat map of fishing activity. It is well known that fishing occurs throughout FU15, and consistent with burrow*

distribution. It appears that the fishing activity has been selected either by national jurisdiction or by vessel nationality or by zone of influence. The assessment should be made on the stock and interactions across the distribution – or acknowledge the restricted data presentation and rationale.”

In Point 45, the TSC submission reiterates the concern regarding the selective presentation of Nephrops fishing activity.

Response to Points 44 and 45 - Nephrops fishery

Please see response to Point 23.

5.9.3.3.8 Protected Sites

The TSC recommends that the inclusion of all MNRs and relevant protected species from Isle of Man’s MNR byelaws are fully considered in the assessment. The importance of this is highlighted for king scallop and brown crab. The submission listed the following points:

Point 46, 47 and 48 – Inclusion of Manx statutory sites

Point 46 highlights the lack of inclusion of Manx statutory sites, *“While the EIAR considered European sites, it did not sufficiently address statutorily designated sites under Isle of Man legislation, such as MNRs. This could lead to gaps in protection and management for these areas, which are crucial for species like king scallop and brown crab. Especially when the developments ZoI cuts through Manx NMR as indicated by Figure 2-30: Inshore Fishing Grounds Targeted by Potting (Marine Institute, 2016).”*

The TSC recommends the inclusion of all MNRs and relevant protected species from Isle of Man’s MNR byelaws in the assessment and provides links to further related information.

Response to Point 46 to 48 – Inclusion of Manx statutory sites

The potential for impacts on king scallop and brown crab was assessed in Chapter 13 of the 2024 EIAR, which concluded no significant effects from the proposed development on these species.

Whilst the Chapter 13 of the 2024 EIAR focused primarily on European sites, the Developer has since included due consideration of the Isle of Man MNRs, and their associated fish and shellfish features in the Appendix A13.1 and Chapter 13. These MNRs, and the species for which they are designated, are summarised in Table 5.9.1. Notably, the Transboundary Effects assessment has also been updated to consider potential interactions with marine features, resources, and protected area designations within Manx territorial waters. This included a further review of Manx ecological interests, resulting in the addition of European seabass and the common skate complex (flapper skate and blue skate) to the assessment, recognising both their protected status within MNRs and their highly mobile nature. The proposed development lies entirely outside of Isle of Man waters, and Chapter 13 confirms that no direct effects are predicted to extend into Manx territorial waters. Further, any potential impacts to fish and shellfish features of importance to the Isle of Man that may transit the fish and shellfish ecology study area (e.g. basking shark) have been assessed within Chapter 13 of the 2042 EIAR and Chapter 13, with no significant effects identified.

5.9.3.3.9 Data and Evidence Validity

The TCS expressed concern that data specific to the Isle of Man had not been utilised in the assessment.

Points 49, 50, 51 and 52 – Data sources

Point 49 of the TSC submission presents a concern regarding data sources, noting that *“Data sources, such as AFBI surveys, were used appropriately, but the report lacked integration of local Isle of Man data, such as the Manx Marine Environmental Assessment (MMEA) and Bangor University reports, which contain valuable information on species distributions and ecology, particularly in relation to linkages between the Isle of Man and Wales.”*

The TSC advises in Point 50 to *“Incorporate local Isle of Man datasets, such as the MMEA and Bangor University studies, to ensure a more complete and contextually relevant assessment. Address any data gaps by conducting additional surveys if needed, particularly for species that are poorly documented. Please see as referenced below.”*

TSC provides links to the Manx Marine Environmental Assessment (MMEA) (Point 51) and information from Bangor University (Point 52).

Response to Points 49, 50, 51 and 52 – Data sources

Please refer to Response to Point 37 and 38 - Additional information for the inclusion of Manx species, for a response in relation to considering additional datasets from the Isle of Man.

5.9.3.3.10 Cumulative Impacts

Points 53 and 54 – Cumulative impacts

Point 53 of the TSC submission pointed to the assessment of cumulative impacts, stating that *“several developments within or near the Isle of Man were not adequately considered. Additionally, some project statuses were outdated, and their inclusion in the cumulative impact map was inconsistent.”*

The TSC made a recommendation in Point 54 to *“Update the cumulative impacts section to include all known and planned developments within the Isle of Man territorial waters, particularly those that may affect fish and shellfish ecology. Ensure the most recent project statuses are reflected and that developments are correctly categorised.”*

Response to Points 53 and 54 – Cumulative impacts

In relation to cumulative effects with known and planned projects within Isle of Man territorial waters, the Developer highlights Section 13.9.1 of Chapter 13 of the 2024 EIAR and Appendix 38.2 Stage 1 and Stage 2 CEA (Offshore) of the 2024 EIAR, which details the methodology for identifying plans and projects to be included in the cumulative impact assessment. The list of projects and plans to be included within the cumulative impact assessment was compiled from the available data at the time of authoring the EIAR. As can be seen in Appendix 38.2 of the 2024 EIAR, this includes Mooir Vannin OWF. The proposed Mooir Vannin OWF is located more than 100km from the proposed development outside the cumulative assessment area applied to fish and shellfish. Moreover, data available when authoring the EIAR indicated that construction of Mooir Vannin is likely to begin after construction of the proposed development has been completed. Therefore, the Mooir Vannin OWF has been screened out of the CEA for fish and shellfish in the 2024 EIAR.

The Developer has updated the Cumulative Effects assessment for fish and shellfish receptors to reflect the design changes of the proposed development (e.g., removal of piling from the construction strategy) and updates to the list of plans and projects considered for assessment. These updates are presented in Section 13.9 of Chapter 13 and include a reduction to the project screening distance to assess potential cumulative impacts associated with electro-magnetic fields and seabed-disturbance events, including temporary damage to the seabed, increases to suspended solids, and changes in sediment deposition. The screening distance for these impacts has been reduced from 100km to 24km on account of the changes to the project design (i.e., removal of dredging), the predicted sediment dispersal patterns associated with the proposed development alone, and the anticipated localised nature of any potential EMF effects from operational and proposed power transmission cables. This list of projects screened into the cumulative effects assessment for fish and shellfish now also includes existing oil and gas pipelines within the 24km screening range (i.e., Interconnector 1 and Interconnector 2) to account for potential maintenance activities which may result in temporary seabed disturbance and associated changes to SSC and sediment deposition.

To assess cumulative impacts arising from impulsive noise sources (e.g., UXO clearance at the proposed development in combination with piling operations at consented or proposed OWFs), the previously defined screening range of 100km buffering the offshore development area has been retained. The proposed Mooir Vannin OWF is located more than 100km from the proposed development outside the cumulative assessment area applied to fish and shellfish and has therefore been screened out of the updated CEA in Chapter 13. All other known and planned developments in Isle of Man territorial waters (e.g., the Isle of Man Spur Pipeline and associated Control Umbilical) also fall outside of the screening ranges applied for fish and shellfish and have therefore been screened out of the updated CEA in Chapter 13.

5.9.3.3.11 Impact Significance and Mitigation

Points 55 and 56 - Impact Significance and Mitigation

The TCS raises a concern regarding the significance of impact for diadromous fish in Point 55, *“The significance of impacts for species like king scallop and brown crab was well-considered, but for other species like diadromous fish (salmon, sea trout), there was a lack of life stage-specific analysis. Further mitigation measures for sensitive species were also insufficiently detailed, and residual effects were not always clear.”*

In Point 56, the TCS recommends that *“all species, including juveniles and larvae, are considered in the impact assessment.”* They go on to suggest the Developer *“Propose additional mitigation measures for highly sensitive species, and clarify residual effects, particularly where impacts are deemed significant. Strengthen the connection between fishery impacts and fish/shellfish ecology chapters. are proposed, and residual effects are clarified, particularly where impacts are deemed significant. Strengthen the connection between fishery impacts and fish/shellfish ecology chapters.”*

Response to Points 55 and 56 - Impact Significance and Mitigation

Impacts on diadromous species, including Atlantic salmon and sea trout, were identified and fully assessed in Section 13.5 of Chapter 13 of the 2024 EIAR. The assessment considered the potential for construction, operational and decommissioning activities to influence the migration behaviour of these species. As the majority of diadromous fish of relevance to the proposed development spawn in freshwater, the life stages present within the marine environment, and therefore relevant to the assessment are juveniles and adults. The same applies to European eel, which spawn in the Sargasso Sea, meaning the marine life stages assessed are likewise juveniles and adults.

Mitigation measures relevant to fish and shellfish ecology are set out in Table 13.11 of Chapter 13 of the 2024 EIAR. These embedded measures form part of the proposed development design, and identify measures incorporated as part of the proposed development and that are relevant to fish and shellfish ecology (these measures are referred to throughout the EIAR as embedded mitigation measures). Table 13.31 in Section 13.7 summarises the residual effects for all fish and shellfish receptors. As shown in Table 13.31, effects associated with construction, maintenance, and decommissioning are assessed as at most slight (adverse) and therefore not significant in EIA terms. Given that no significant effects were identified for diadromous species, or for other key receptors such as king scallop and brown crab, no additional mitigation beyond the embedded measures in Table 13.11 was considered necessary.

5.9.3.3.12 Monitoring Plans

Points 57 and 58 - Monitoring Plans

Point 57 in the TSC submission states that *“The monitoring plans proposed were generally weak, with few specifics on how impacts on key species would be tracked post-construction. For example, there were limited plans for long-term monitoring of species like scallops or diadromous fish, which are crucial for both commercial fisheries and conservation.”*

The TCS recommends in Point 58 for the Developer to *“Develop robust, species-specific monitoring plans to track the long-term effects of the wind farm on fish and shellfish populations. This should include seasonal monitoring to capture variations in species presence and activity, and a focus on tracking both direct and cumulative impacts.”*

Response to Points 57 and 58 - Monitoring Plans

The Developer considers that the assessment presented in Chapter 13 of the EIAR, together with the clarifications provided in Chapter 13, demonstrates that the potential effects on fish and shellfish receptors have been fully and appropriately assessed. To ensure that no residual impacts of significant effect arise on ecological receptors, the Developer has proposed several embedded mitigation measures. These measures are detailed in Chapter 13 and are incorporated into the design and delivery of the proposed development.

With the implementation of these embedded mitigation measures, the Developer is confident that there will be no significant residual effects on fish and shellfish receptors. Therefore, the Developer is confident that there will be no monitoring requirements in relation to fish and shellfish ecology. Environmental

management commitments relevant to the construction and operational phases of the proposed development are detailed in Appendix A16.2 Fisheries Management and Mitigation Strategy and Appendix A6.1 Offshore Environmental Management Plan.

Point 59 – Conclusion for fish and shellfish

The TSC submission section on fish and shellfish ecology concludes “*The EIAR for the NISA project has addressed many key factors in assessing fish and shellfish ecology, but there are several gaps, particularly in terms of species inclusion, spatial boundaries, cumulative impacts, and monitoring plans, and particularly in relation to specific consideration of the Isle of Man as a neighbouring jurisdiction and with territorial interests within the study area. By incorporating local Isle of Man data, expanding the scope for sessile species, addressing cumulative effects comprehensively, and strengthening the monitoring framework, the assessment can better align with ecological and regulatory standards.*”

Response to Point 59 – Conclusion for fish and shellfish

This comment is acknowledged by the Developer, however the assessment undertaken by the Developer is very robust, following relevant guidance and is precautionary in nature. The fish and shellfish resources in the fish and shellfish ecology study area (including migratory species that may transit through the wider Irish Sea) have been assessed within the Chapter 13 of the 2024 EIAR, which concluded that there were no significant effects from the proposed development on these species, both from the proposed development alone and in-combination with other plans and projects.

As detailed above, in response to the RFI, the Developer has updated the Transboundary Effects assessment within Chapter 13, to include explicit consideration of potential effects on marine protected area designations found in Isle of Man territorial waters. As detailed in Chapter 13, there are no significant effects anticipated to occur on any features, resources or marine protected area designations found in Isle of Man waters.

The Developer considers that the assessment presented in Chapter 13 of the 2024 EIAR, together with the clarifications provided in Chapter 13, demonstrates that the potential effects on fish and shellfish receptors, within, and outside of the Isle of Man territorial waters, have been fully and appropriately assessed. To ensure that no residual impacts of significant effect arise on ecological receptors, the Developer has also proposed several embedded mitigation measures. With the implementation of these embedded mitigation measures, the Developer is confident that there will be no significant residual effects on fish and shellfish receptors, and therefore no monitoring requirements in relation to fish and shellfish ecology.

5.9.3.4 Marine Mammal Ecology

The TSC raised points that relate to:

- Chapter 14 Marine Mammal Ecology of the EIAR;
- Volume 8, Appendix 2.1: Scoping Report, 5.6 Marine Mammal Ecology of the EIAR;
- Volume 9, Appendix 14.1: Underwater Noise Modelling Report of the EIAR;
- Volume 9, Appendix 14.2: Marine Mammal Baseline Characterisation of the EIAR;
- Volume 9: Appendix 14.3 Marine Mammal Uncertainties and Limitations of the EIAR;
- Volume 9, Appendix 14.4: Marine Mammal Mitigation Protocol of the EIAR;
- Natura Impact Statement, Main Report; and
- Volume 2: Appendix 4 Cable Route Benthic Survey Report of the NIS.

5.9.3.4.1 Chapter 14 Marine Mammal Ecology

The key points in relation to Chapter 14: Marine Mammal Ecology of the EIAR include:

Point 60 – Inclusion of figures

The TSC submission suggests rearranging the structure of the document, “*It would be helpful if the figures were within this chapter rather than another section.*”

Response to Point 60 – Inclusion of figures

This comment has been acknowledged by the Developer, however, no further action is required.

Point 61 – Inclusion of Manx datasets

The TSC refers to Table 14.2 “*The table does not mention any of our Manx data, such as the MMEA report or Manx Wildlife Trust (MWT)/Manx Whale and Dolphin Watch (MWDW) surveys.*”

Response to Point 61 - Inclusion of Manx datasets

The Manx Whale & Dolphin Watch data was used by Evans & Waggitt (2023) to inform the resulting density surfaces. The EIAR assessment uses the Evans & Waggitt (2023) density surfaces for harbour porpoise, bottlenose dolphins, common dolphins and minke whales. Thus, Manx data have been incorporated into the baseline characterisation.

The Developer acknowledges that in the 2024 EIAR, pile driving disturbance to marine mammals was predicted to occur in Manx waters. However, following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place, and there is now no predicted disturbance to marine mammals in Manx waters.

Point 62 – Inclusion of a figure illustrating surveys

The TSC refers to Table 14.2 highlighting that, “*It would be useful to see this on a map to help understand survey coverage*”.

Response to Point 62 - Inclusion of a figure illustrating surveys

This comment has been acknowledged by the Developer, however, the required data are provided with Table 14.2 within Chapter 14 of the 2024 EIAR. The extent of most data sources is provided in Appendix 14.2 Marine Mammal Baseline Characterisation of the 2042 EIAR and Appendix A14.2.

Point 63 – Clarification on duration of impacts

The TSC points to Table 14.4 and states that “*The report needs to be more specific on the duration “...changes that last for years.” How many years? 3? 43? Also, the duration values for the other magnitude are much lower than reported for other Irish wind farms.*”

Response to Point 63 - Clarification on duration of impacts

Unfortunately, there are no standard agreed definitions for magnitude, therefore it is acknowledged that different EIARs may use slightly different definitions. The duration values used in the magnitude scores used for the proposed development are the same as those used for Codling, and not dissimilar to those used for Arklow Bank Wind Park 2.

Point 64 – Harbour porpoise dose-response function

The TSC raises a concern regarding harbour porpoises, suggesting that “*Care should be taken when comparing impacts and effects at different sites. Location and species conditioning will play a role in their behaviour, and this may not be a true reflection of what may happen here, only an indication.*”

Response to Point 64 - Harbour porpoise dose-response function

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place, and the harbour porpoise dose-response function is not used in the updated EIAR (as it is piling specific).

Point 65 – Grey seal telemetry data

The TSC refers to Section 14.3.2.6 of Chapter 14: Marine Mammal Ecology of the EIAR, “*Telemetry data has also shown a connection to the Isle of Man, with seals tagged in Strangford Lough. The work was done by Sea Mammal Research Unit (SMRU) in Scotland.*”

Response to Point 65 - Grey seal telemetry data

This comment has been acknowledged by the Developer. The telemetry data owned by SMRU were used to generate the seal habitat preference maps (Carter et al 2022) which provide the at-sea density estimates used in the quantitative assessment.

Point 66 – Inclusion of Manx Marine Nature Reserves

The TSC highlights in Table 14.8, *“It makes no reference to the Manx Marine Nature Reserves (MNRs). These should be included here.”*

Response to Point 66 - Inclusion of Manx Marine Nature Reserves

The EIAR now includes the Manx MNRs (see section 14.3.3 Designated sites). The MNRs were designated to provide areas that are protected from damaging activities and impacts, and within the MNRs, there should be no damage to protected species. Given the limited impact ranges predicted for the proposed development during construction (due to the removal of pile driving), operation and maintenance and decommissioning, there is expected to be no impact to marine mammals within the Isle of Man MNRs, therefore they have been screened out of further assessment.

Point 67 – Clarification on footnotes

The TSC submission draws attention to footnotes 8-10 of this Chapter of the EIAR. *“It is not clear what they mean here. Is the report suggesting that the SCANS IV data/ Evans and Waggitt (2023) data are incorrect and that is why they aren’t using it? Why would they not use the most up to date data? Possibly because the abundance is that much higher?”*

Response to Point 67 – Clarification on footnotes

The Developer apologises for any confusion. The footnote was intended to highlight that the density estimates for bottlenose dolphins provided by different studies are incompatible with the Management Unit (MU) abundance estimate from IAMMWG (2023). For example, the SCANS IV abundance estimates for the Irish Sea is 8,199 in block CS-D and 127 in CS-E, resulting in an abundance of 8,326 bottlenose dolphins across the Irish Sea MU (Gilles et al., 2023). This is incompatible with the IAMMWG (2023) Irish Sea MU abundance estimate of 293 bottlenose dolphins (based on old SCANS III data).

The EIAR quantitative assessment uses a range of density estimates including the proposed development site-specific surveys, SCANS IV density surface (Gilles et al 2025), ObSERVE2 strata 5 densities (Giralte Paradell et al., 2024) and the seal habitat preference maps (Carter et al 2020). Some of these data sources were published following the submission of the 2024 EIAR. These are the most up to date and appropriate density estimates to be used to assess impacts from the proposed development. Please note, that for bottlenose dolphins, the SCANS IV density surface results in an abundance of 8,225 bottlenose dolphins across the Irish Sea MU (Gilles et al., 2025). This is incompatible with the IAMMWG (2023) Irish Sea MU abundance estimate of 293 bottlenose dolphins and as such, when using the SCANS IV density surface it is more appropriate to use an MU of 8,225 bottlenose dolphins (Gilles et al., 2025).

Point 68 – Operational noise

The TSC submission raises a concern regarding the operational phase, *“What about operational noise? As the Irish Sea becomes more crowded with more and more OWFs operational noise will become more of an issue. We assume this was scoped out at an earlier stage?”*

Response to Point 68 - Operational noise

Disturbance from operational noise has now been included in the EIAR (in response to RFI Section 10 (h)). The underwater noise modelling predicts that disturbance using the Level B harassment threshold (120 SPLrms) is limited to 150m from an operational geared-drive WTG, while the ambient noise levels in the Irish Sea have been reported to reach up to 140dB re1μPa, primarily driven by wind and wave activity (Nedwell, 2007). Tougaard et al. (2020) found that operational turbine noise levels were 10–20dB below the received levels measured from ships for the same distance and frequency range. Consequently, a mean sound pressure level of 120dB is unlikely to be discernible under these conditions. For these reasons, it is considered that noise from operational wind turbines will not have a significant impact on marine mammals.

Point 69 – Decommissioning impacts

The TSC raises an issue regarding prey species at decommissioning, *“What about the impacts associated with removing biota from the pile foundations? This may have provided prey for cetacean and seal species.”*

Response to Point 69 – Decommissioning impacts

Consideration of the impacts to prey species has been considered within Chapter 13 Fish & Shellfish Ecology of the EIAR. Given that there is expected to be no significant impacts to any of the prey species during the decommissioning phase (see Chapter 13 Fish & Shellfish Ecology, section 13.5.4 of the EIAR), the predicted impact on marine mammals is of negligible magnitude. It should be noted that prior to decommissioning a study of the potential environmental impacts to marine mammal receptors from the proposed decommissioning activities will be undertaken, considering the baseline environment at the pre-decommissioning stage. All mitigation measures to be delivered will be captured within the Rehabilitation Schedule and Offshore EMP. Any licences or authorisations that might be required will be identified and obtained prior to decommissioning, including any validation, updating or new submission of an EIAR, as required.

Point 70 – Pile driving parameters and soft start procedures

The submission highlights Table 14.14 *“Pile driving parameters and soft start procedures. What about the use of Acoustic Deterrent Devices (ADDs), or the use of Marine Management Organisation (MMO) and Passive Acoustic Monitoring (PAM)?”*

Response to Point 70 - Pile driving parameters and soft start procedures

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 71 – Operational noise

The TSC reiterates their concern regarding operational noise *“As the report has identified, there is still a lack of data on operational noise from larger wind farms, surely this should be scoped in? Especially as more and more larger OWFs are planned for the Irish Sea and cumulative impacts will need to assess this too.”*

Response to Point 71 - Operational noise

Disturbance from operational noise has now been included in the EIAR (in response to RFI Section 10(h)). The underwater noise modelling predicts that disturbance using the Level B harassment threshold (120 SPLrms) is limited to 150m from an operational geared-drive WTG, while the ambient noise levels in the Irish Sea have been reported to reach up to 140dB re 1 µPa, primarily driven by wind and wave activity (Nedwell, 2007). Tougaard et al. (2020) found that operational turbine noise levels were 10–20dB below the received levels measured from ships for the same distance and frequency range. Consequently, a mean sound pressure level of 120dB is unlikely to be discernible under these conditions. For these reasons, it is considered that noise from operational wind turbines will not have a significant impact on marine mammals.

Point 72 – High order UXO detonation

The submission states *“It is concerning that so many individuals could be injured by this (harbour porpoise, seals and bottlenose dolphins). As protected species this is a concern.*

Also using the Management Unit (MU) for scale makes it appear like an insignificant percentage of the population but from a local perspective that is significant. In fact, any permanent damage to these species could impact the designated features/protected sites.”

Response to Point 72 - High order UXO detonation

The methods of UXO clearance considered for the proposed development may include the primary methods of removal/ relocation or low-order deflagration. If this is not possible, then high-order detonation will be a last resort method. If the high-order clearance is required, the Developer committed to use of a noise abatement system for example a bubble curtain. This drastically reduces the number of animals predicted to be injured (please see the revised assessment presented in 14.5.2.3 Impact 4 – Auditory injury (PTS) from UXO clearance in Chapter 14).

Point 73 – Monopiles and beyond

The TSC highlights an issue concerning the population size of marine mammals. *“As stated previously care should be taken when only using the MU as the population size. From a local perspective this could be significant. This applies across the entire report. Additionally, the numbers of potentially impacted animals is high. As a protected species this is a concern and could affect the NIS assessment.”*

Response to Point 73 – Monopiles and beyond

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place and there is now no predicted disturbance to marine mammals in Manx waters

The Developer has used the cetaceans MUs as provided in the current guidance (IWMMWG, 2023). It is noted that in IAMMWG (2023) a MU is defined as *“a geographical area in which the animals of a particular species are found to which management of human activities is applied”*.

The Developer acknowledges TSCs concern about local populations, however there is no evidence to support the identification of a local population size against which to base assessments, given there is no data on the residency of individuals in the area.

Point 74 - Magnitude of Impact

The TSC references the density estimate figures for harbour porpoise disturbance, stating *“These figures for Harbour porpoise disturbance are very large. It is appreciated that this can be minor in effect but still it’s a huge number of individuals.”*

Response to Point 74 - Magnitude of Impact

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

The number of harbour porpoise predicted to be disturbed by construction activities at the proposed development is now drastically reduced considering there is no pile driving.

Point 75 - Harbour seals

The TSC submission suggests a mitigation measure *“Could a piling restriction be put in place during pupping season to protect the vulnerable seal pups?”*

Response to Point 75 - Harbour seals

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 76 - Magnitude of impact

The TSC is concerned about the magnitude of impact to harbour seals from pile driving *“Large numbers of harbour seals could be impacted here.”*

The report needs to acknowledge that their numbers are not increasing to the same extent as grey seals and therefore this non-fatal impact could be affecting the condition of individuals and subsequently the population as a whole.”

Response to Point 76 - Magnitude of impact

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 77 - Magnitude of impact

The TSC raise a concern regarding the magnitude of impact to grey seals, suggesting the *“numbers seem high here.”*

Response to Point 77 - Magnitude of impact

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 78 – Prey availability

The TSC submission refers to Section 14.5.4.4 and prey availability. The submission states that *“There is no consideration of the loss of prey availability as a result of the monopiles being removed. There is some evidence that suggests they form fish aggregation sites and that the rock armour forms habitats for lobsters and crabs.”*

Response to Point 78 – Prey availability

Given that there is expected to be no significant impacts to any of their prey species during the decommissioning phase (see Chapter 13 Fish & Shellfish Ecology, Section 13.5.4 of the EIAR), the predicted impact on marine mammals is of negligible magnitude. It should be noted that prior to decommissioning a study of the potential environmental impacts to marine mammal receptors from the proposed decommissioning activities will be undertaken, considering the baseline environment at the pre-decommissioning stage. All mitigation measures to be delivered will be captured within the Rehabilitation Schedule and Offshore EMP. Any licences or authorisations that might be required will be identified and obtained prior to decommissioning, including any validation, updating or new submission of an EIAR, as required.

Point 79 – Transboundary effects

The TSC highlights that the cumulative impact assessment *“does not clearly outline the transboundary nations that could be affected nor does it mention the Isle of Man.”*

Response to Point 79 – Transboundary effects

Within Chapter 14 of the EIAR, Table 14.47 outlines the potential transboundary effects on marine mammals receptors. This incorporates other states, specifically, Northern Irish waters, Welsh waters, Manx waters, Scottish waters, and English waters. Therefore, the transboundary nations, including Isle of Man territorial waters are included within the assessment. The assessment concluded no significant effects (in EIA terms) on any of the transboundary nations.

Point 80 - Screening

The TSC submission suggests that *“This section is not very clear as to what other projects are screened in or not. A quick table or list would be useful here. Therefore, it is difficult to agree if there are cumulative impacts with other wind farms in close proximity to the proposed development or not.”*

Response to Point 80 - Screening

In response to the RFI, the cumulative effects assessment has been updated to incorporate the NSIP Guidance. The projects ‘screened in’ are shown in Section 38.2.5 of Chapter 38: Cumulative and Inter-related Effects.

Point 81 - Screening

The TCS submission states *“Table 14.50. The Manx Offshore Wind Farm (OWF), Mooir Vannin, does not appear to be on the list.”*

Response to Point 81 - Screening

Mooir Vannin was included in the cumulative effects assessment, see Section 5.19.3.1 in this report.

Point 82 – Harbour porpoise population

The TSC raises a concern regarding the harbour porpoise population; *“We are not sure a decline of 20% in harbour porpoise, even with it recovering within 6-7 years, is acceptable. If this is the case at other wind farm site or other developments that must have a cumulative impact on the local and regional populations?”*

Response to Point 82 - Harbour porpoise population

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 83 – Cumulative impacts

The TSC does not agree with the assessment of cumulative impacts, *“The magnitude is assessed to be medium for harbour porpoise. As a protected species any impact on their population is not good, especially an impact on reproductive success. Could this impact, which is taken in isolation, have a cumulative impact with other factors, such as climate change, resulting in a significant effect on the population? This is not considered. These factors are reviewed in isolation and are predictions, which does not fill the reader with confidence in the assessment.”*

Response to Point 83 - Cumulative impacts

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place at the proposed development and this impact is no longer considered in the impact assessment

A revised assessment of potential effects and cumulative effects assessment has been undertaken for marine mammals and is presented within Chapter 14: Marine Mammal Ecology.

Point 84 – Bottlenose dolphins

Point 84 of the submission states *“The number of bottlenose dolphin that could potentially be disturbed is high especially as this is based on the MU, rather than a local population estimate. As outlined above we are not sure we agree with an assessment of slight.”*

Response to Point 84 - Bottlenose dolphins

There is no *“local population estimate”* for bottlenose dolphins off the east coast of Ireland. The EIAR assesses against the MU, which is the Irish Sea for bottlenose dolphins.

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place at the proposed development.

The number of bottlenose dolphins predicted to be disturbed by construction activities at the proposed development is now drastically reduced considering there is no pile driving.

Point 85 and 86 – Harbour and grey seals recovery

The TSC raises a concern regarding harbour seals, stating that the *“Impacted numbers for harbour seals is again high and with their less than successful population recovery we are concerned that this might be another factor that slows their progress, even though the population is thought to be favourable in Ireland.”*

The TSC refers to Table 14.68 in Point 86, stating that *“Again, high numbers of grey seal will be impacted, even as a population percentage.”*

It is appreciated that this impact is not expected to affect the population trajectory over a generational scale, however large numbers will nevertheless be impacted. We are not sure we feel comfortable about this elevated figure. This applies to the above comments too”

Response to Point 85 and 86 – Harbour and grey seals recovery

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place at the proposed development.

The number of harbour and grey seals predicted to be disturbed by construction activities at the proposed development is now drastically reduced considering there is no pile.

The assessment including Tiers 1, 2, and 3 is highly conservative, as detailed in Section 14.9.4.7 of Chapter 14 of the EIAR. The assessment for the Phase 1 projects concluded no change to the harbour and grey seal populations, since the impacted populations are predicted to continue on the same trajectory and at exactly the same size of the unimpacted populations.

Point 87 – Vessel disturbance

The TSC states in their submission *“The lack of knowledge around vessel disturbance would suggest that monitoring would be useful. This applies to all sites, rather than assuming it isn’t an issue or is difficult to understand. Displacement of animals from one area to another affects their overall health and adds to their energy expenditure. If an individual has to move away from one area it is likely to have to move to another, to another, to another as a result of a series of developments, where is left for them to go? Is it suitable/safe? Can they feed there?”*.

Response to Point 87 - Vessel disturbance

The Developer notes TSC’s concern on the potential of vessel disturbance on marine mammal receptors. The impacts on vessel disturbance have been assessed in full within Chapter 14 of the EIAR, using all best available information at the time of submission of the planning application. The impact on all marine mammal species considered to be either slight (not significant) or imperceptible (not significant).

The Developer has committed an EVMP (Appendix 14.5: EVMP of the 2024 EIAR) where vessel movements will be managed through the implementation of vessel codes of conduct that will mitigate the negative impacts to marine mammals (e.g. limited vessel speeds, adherence to vessel transit routes), following relevant guidance to minimise the risks of injury and disturbance to marine mammals.

Therefore, the Developer considers that additional monitoring for the impacts of vessel disturbance due to the proposed development are not required. However, the Developer does note the potential benefit of monitoring, particularly in relation to cumulative impacts with other proposed developments and suggests that this is an option considered among the wider East Coast Phase 1 Monitoring Group.

Point 88 - General comment

Point 88 of the TSC submission states *“Although the proposed development does not fall within the recently recognised Central Irish Important Marine Mammal Area (IMMA) (see below), there is no mention of it within the report and it should be highlighted.”* The submission also provides some additional information.

Response to Point 88 - General comment

This comment is acknowledged by the Developer. It should be noted however that IMMAs are not legal designations, and the declaration of these areas by the IUCN are made on the basis of independent, expert-driven assessments on the available peer-reviewed data against a set of criteria. While the areas have been identified as important for marine mammals, there are currently no conservation measures identified. The intention of the IMMAs is to inform the design and planning of future MMPAs and protected networks, and it is recognised that not all suggested IMMAs will be granted any form of protection in the future. Thus there is no requirement to consider them further for the proposed development.

Point 89 – Management units

The TSC suggests that *“It is important to think about the usage within the MUs, whilst the entire ‘population’ which uses the area defined as a management unit may not be significantly impacted the more localised scale (i.e. Irish Sea) needs to be considered.”*

Response to Point 89 – Management Units

The EIAR assessment is provided against the MU. The IAMMWG (2023) states that "Management Unit (MU) typically refers to a geographical area in which the animals of a particular species are found to which management of human activities is applied." There is no evidence of any "local scale populations" of harbour porpoise, minke whales, etc in the local area.

Point 90 – Behavioural disturbance

The TSC refers to Table 5.10, noting that “*Behavioural disturbance from other activities should include O&M as maintenance surveys of rock armour and cabling will have an impact too.*”

Response to Point 90 - Behavioural disturbance

The Developer confirms that the potential impacts of behavioural disturbance from operation and maintenance activities has been considered. Operational activity such as offshore maintenance, repair and replacement works, reburial or replacement of array cables will result in minimal underwater noise and has not been included in further assessment. The underwater noise produced during these activities will be largely dominated by the associated vessel noise, which has been assessed separately in the EIAR (section 14.5.3.2), concluding no significance of effect.

5.9.3.4.3 Volume 9, Appendix 14.1: Underwater Noise Modelling Report

The submission provides the following comments on Appendix 14.1: Underwater Noise Report of the 2024 EIAR:

Point 91 - Piling

The TSC points to Section 3.2.2, stating “*Where it states that only one pile will be installed within a 24 hour period, will this include night time? Obviously MMOs will not be able to operate in the dark so PAMs must be used if necessary.*”

Response to Point 91 - Piling

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 92 – Vessel size

The TSC references Table 5.2, “*Is the size of the vessels appropriate for vessels using/working within the wind farm area?*”

Response to Point 92 - Vessel size

All equipment and vessels used in the construction, operation and maintenance and decommissioning of the proposed development will be the industry standard.

5.9.3.4.4 Volume 9, Appendix 14.2: Marine Mammal Baseline Characterisation

The submission provides the following comments on Appendix 14.2: Marine Mammal Baseline Characterisation of the 2024 EIAR:

Point 93 – Marine Nature Reserves

The TSC highlights Figure 2, “*Although the Isle of Man does not have any SACs we do have Marine Nature Reserves, many of which have cetaceans and seals as designating features.*”

Response to Point 93– Marine Nature Reserves

The EIAR now includes the Manx MNRs (see section 14.3.3 Designated sites). The MNRs were designated to provide areas that are protected from some damaging activities and impacts, and within the MNRs, there should be no damage to protected species. Given the limited impact ranges predicted for the proposed development during construction (due to the removal of pile driving), operation and maintenance and decommissioning, there is expected to be no impact to marine mammals within the Isle of Man MNRs, therefore they have been screened out of further assessment. The Developer confirms that the important conservation features of the designated statutory marine protected areas were considered

Points 94 to 97 – MMEA data

The TSC submission in Point 94 goes on to reference Table 1, “*As above there is no mention of the use of any Manx data, such as the MMEA report.*”

Point 95 and 96 state “It’s a shame that Manx data have not been incorporated into the abundance and distribution assessments. This could have provided some additional information.”

“If Manx data had been used would their assessment be different? Probably not but we don’t know definitively.”

The TSC submission refers to telemetry in Point 97, “The report refers to connectivity between Ireland and Wales, England and Scotland. However, there is no mention of the Isle of Man. We know from work undertaken by SMRU tagging seals in Strangford Lough that several of them reached the Isle of Man. One was even a regular visitor.”

Response to Points 94 to 97 – MMEA data

The Developer acknowledges that in the 2024 EIAR, pile driving disturbance to marine mammals was predicted to occur in Manx waters. However, following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place, and there is now no predicted disturbance to marine mammals in Manx waters.

In relation to cetaceans, it should be noted that Manx Whale & Dolphin Watch data was used by Evans & Waggitt (2023) to inform the resulting density surfaces. The EIAR assessment uses the Evans & Waggitt (2023) density surfaces for harbour porpoise, bottlenose dolphins, common dolphins and minke whales. Thus, Manx data have been incorporated into the assessment within the Evans & Waggitt density surfaces.

In relation to seals, the telemetry data owned by SMRU were used to generate the seal habitat preference maps (Carter et al 2022) which provide the at-sea density estimates used in the quantitative assessment.

5.9.3.4.5 Volume 9: Appendix 14.3 Marine Mammal Uncertainties and Limitations

The submission provides the following comments on Volume 9, Appendix 14.3: Marine Mammal Uncertainties and Limitations of the 2024 EIAR:

Point 98 – Volume 9, Appendix 14.3 Marine Mammal Uncertainties and Limitations

The TSC submission has no comment on this document.

Response to Point 98 - Volume 9, Appendix 14.3 Marine Mammal Uncertainties and Limitations

No response required.

5.9.3.4.6 Volume 9, Appendix 14.4: Marine Mammal Mitigation Protocol

The submission provides the following comments on Appendix 14.4: Marine Mammal Mitigation Protocol of the 2024 EIAR:

Point 99 - Volume 9, Appendix 14.4: Marine Mammal Mitigation Protocol

The TSC raises a concern regarding Marine Mammal Observers efficiency at night “If MMO’s are to be employed on back-to-back shifts to enable 24-7 construction operations, how will they observe marine mammals at night? The next sentence refers to daylight hours only so why employ MMOs during the night? This paragraph is confusing.”

Response to Point 99 - Volume 9, Appendix 14.4: Marine Mammal Mitigation Protocol

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place and has been removed from the MMMP (Appendix A14.5).

MMOs are included in the mitigation measures for geophysical surveys and UXO clearance activities, however these will happen in daylight hours only. Outside of daylight hours there will be passive acoustic monitoring (PAM) operators. The phase ‘back-back shifts’ refers to the MMO’s and PAM operators working sequentially, to ensure that there are no gaps in the installation period where monitoring will not be occurring and ensure 24-7 construction when needed.

Point 100 - Passive Acoustic Monitoring

Furthermore, the TSC raises a concern regarding Section 4.4.2 Passive Acoustic Monitoring of the Marine Mammal Mitigation Protocol. *“I thought I read in one of the previous chapters/reports that piling activity would not be 24-7 and only one pile would be installed per day, so which is it?”*.

Response to Point 100 – Passive Acoustic Monitoring

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place and has been removed from the MMMP (Appendix A14.5).

Point 101 - Noise abatement

The TSC comments that *“It is reassuring to see that noise abatement systems are being suggested.”*

Response to Point 101 - Noise abatement

This comment is acknowledged by the Developer.

5.9.3.4.7 Natura Impact Statement, Main Report

The submission provided the following comments on the Natura Impact Statement:

Point 102 – Manx data

The TSC refers to Table 1.4, commenting that *“it would have been beneficial to have included Manx data here”*.

Response to Point 102 – Manx data

This comment has been noted by the Developer. The data used to inform the assessment for marine mammals was collated from relevant sources to provide a full and robust baseline for the assessment.

The Developer acknowledges that in the 2024 EIAR, pile driving disturbance to marine mammals was predicted to occur in Manx waters. However, following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place, and there is now no predicted disturbance to marine mammals in Manx waters.

For further detail, please see Response to Points 94 to 97 – MMEA data.

Point 103 – Marine Nature Reserves

The TSC refers to Table 5.6 of the NIS, stating *“The Manx MNRs are not included here and should be. Many of the designating features are for marine mammals. What is concerning is they have consulted with the IOM Government at the scoping stage and yet the MNRs have still be excluded”*.

Response to Point 103 - Marine Nature Reserves

The EIAR now includes the Manx MNRs (see section 14.3.3 Designated sites). The MNRs were designated to provide areas that are protected from some damaging activities and impacts, and within the MNRs, there should be no damage to protected species. Given the limited impact ranges predicted for the proposed development during construction (due to the removal of pile driving), operation and maintenance and decommissioning, there is expected to be no impact to marine mammals within the Isle of Man MNRs, therefore they have been screened out of further assessment.

Points 104 to 106 – Calving season mitigation

The TSC makes the following suggestion in Point 104, *“Could piling activities be restricted during calving season, if this level of disturbance is to be experienced?”*

Point 105 of the TSC submission refers to Section 6.3.1.1.1.1, *“It is likely that other developments will apply the relevant mitigation but there is no certainty of that at this time and caution should be taken when making assessments based on that statement.”*

The TSC submission makes another suggestion in Point 106, “*Could bubble curtains and/or pile restrictions be put in place during the calving period?*”

Response to Points 104 to 106 – Calving season mitigation

Following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place.

Point 107 – Cumulative assessment

The TSC submission raises a query regarding harbour porpoise disturbance, “*If harbour porpoises move to another area due to disturbance and other areas are excluded too, as a result of other wind farm developments, where does this leave the harbour porpoises and other marine mammals? The space available to them shrinks. This does not seem to really have been addressed through the cumulative assessment.*”

Response to Point 107 - Cumulative assessment

This comment has been noted by the Developer. All in-combination effects on marine mammals have been fully assessed within the NIS within Section 6.3.

Point 108 – Marine Nature Reserves

The TSC reiterates that “*There is no mention of any of the 10 Manx MNRs and it should.*”

Response to Point 108 - Marine Nature Reserves

The Developer acknowledges that in the 2024 EIAR, pile driving disturbance to marine mammals was predicted to occur in Manx waters. However, following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place, and there is now no predicted disturbance to marine mammals in Manx waters.

The EIAR now includes the Manx MNRs (see section 14.3.3 Designated sites). The MNRs were designated to provide areas that are protected from some damaging activities and impacts, and within the MNRs, there should be no damage to protected species. Given the limited impact ranges predicted for the proposed development during construction (due to the removal of pile driving), operation and maintenance and decommissioning, there is expected to be no impact to marine mammals within the Isle of Man MNRs, therefore they have been screened out of further assessment.

5.9.3.4.8 Volume 2: Appendix 4 Cable Route Benthic Survey Report

Point 109 – Intertidal

The TSC raises a concern regarding intertidal licensing, “*Why did the foreshore licence not cover the southwest section?*”

Response to Point 109 - Intertidal

The Export Cable Corridor and Landfall both went through site selection and refinement after the receipt of the foreshore licence in 2021. This resulted in a very small area that was outside of the original foreshore licence application. However, irrespective, a walkover survey was conducted, with visible species recorded and photographs taken to allow the biotopes to be mapped to as fine a degree as possible considering the lack of infauna and Particle Size Analysis (PSA) samples in this area. Therefore, the Developer considers the area appropriately considered despite remaining outside of the foreshore licence.

Point 110 - General comment

The TSC considers that “*The layout of the EIA was not well presented and required some navigation. Figures are reported separately from the main chapters, and you have to refer to various other chapters for the detailed information. It is appreciated that you don’t want to repeat the same information over and over again but this seems to be rather messy. Not intuitive and lots of jumping around from chapter to chapter.*”

Response to Point 110 – General comment

The Developer welcomes the comment on the structure of the EIA. The structure is designed to allow for a streamlined EIA and prevent repetition through cross-referencing other documents. The Developer appreciates the feedback.

Point 111 – Summary - Manx data

The TSC states that *“Although the proposed development is a considerable distance from the Isle of Man the documentation still needs to include Manx data, such as the MMEA report, and refer to our protected sites and our legislation. For example, how can density estimates be made if Manx data are not incorporated or how can potential impacts to important features can be assessed if they are not included with the reports. It appears that in some figures the Isle of Man has been excluded from the assessment altogether.”*

Response to Point 111 – Manx data

The Developer acknowledges that in the 2024 EIAR, pile driving disturbance to marine mammals was predicted to occur in Manx waters. However, following further design refinement in response to the RFI, WTGs are now proposed as SBJ foundations, and OSPs as jacket foundations with SBJ foundations. Therefore, pile driving will not take place, and there is now no predicted disturbance to marine mammals in Manx waters.

The EIAR now includes the Manx MNRs (see section 14.3.3 Designated sites). The MNRs were designated to provide areas that are protected from some damaging activities and impacts, and within the MNRs, there should be no damage to protected species. Given the limited impact ranges predicted for the proposed development during construction (due to the removal of pile driving), operation and maintenance and decommissioning, there is expected to be no impact to marine mammals within the Isle of Man MNRs, therefore they have been screened out of further assessment.

Point 112 – Summary - Cumulative impacts

The TSC raises a concern regarding the cumulative impacts assessment *“Although the NIS presented no ecological impacts and this is unlikely to change the outcomes of the statement, I feel that the cumulative assessment is not comprehensive enough and this is where impacts could be most relevant to the Isle of Man. For example, operational noise may not have fatal impacts on our species however, little is known about the long-term exposure this type of noise will have and it will only increase as more larger wind farms are built. Additionally, as species distribution becomes squeezed, albeit temporarily, there will be less space for them and where they are displaced to may not be ideal impacting their long term health/survivability, both individually and as a population.”*

Response to Point 112 - Cumulative impacts

Within the NIS, only European sites are considered, which includes SPAs (and SACs) only. Therefore, Manx designated sites that are not designated under the Habitat's Directive would not qualify for inclusion in the NIS.

The Developer confirms that impacts on the Isle of Man have now been considered within the relevant chapters of the EIAR within the Transboundary Effects assessments, and summarised within Chapter 37.

Operational noise is an impact that is now considered within Chapter 14: Marine Mammal Ecology, the MSFD assessment (Appendix A3.2) and the NIS. For continuous noise, the impact pathways assessed in the EIAR included operational noise and vessel traffic marine mammals. Under the EIAR the assessment concluded there is no significant effect in EIAR terms and no risk in relation to GES under D11C1 Continuous Noise (Appendix A3.2 MSFD Assessment).

5.9.3.5 Offshore Ornithology

In this section of the TSC's submission, the concerns raised are no longer numbered and so the Developer has also stopped numbering responses accordingly.

Migratory birds

The TSC states that *“The North Irish Sea region, which includes the Isle of man and Ireland is a critical area for various migratory bird species. The North Irish Sea Array OWF, proposed off the coast of Ireland, has the potential to impact migratory bird species that travel between the Isle of Man and Ireland. Careful planning, ongoing monitoring, and the implementation of mitigation measures, where effects are identified, in line with concepts of cumulative transboundary effects, are essential to holistically minimise these impacts and protect the biodiversity of both regions.”*

Response to Migratory birds

The Developer notes the TSC’s comment regarding migratory species. The Developer does not consider additional mitigation or monitoring necessary to assess collision risk for these species given the minimal predicted impact of the proposed development on migratory birds. The Developer also used the most up-to-date guidance and assessment tools to estimate collision risks (Appendix 15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment of the EIAR, and Appendix 15.4 Offshore and Intertidal Ornithology Migratory Collision Risk Modelling) of the EIAR. Whilst there are limitations, this tool is currently considered the most robust way to quantify impacts to migratory species by making several assumptions about flight paths and species avoidance rates.

Further information on the transboundary assessment carried out for offshore ornithology is presented in Section 15.8 of Chapter 15: Offshore Ornithology. No significant effects are predicted to arise from any of these transboundary impacts. Therefore, there are no likely significant transboundary effects on offshore and intertidal ornithology predicted.

Protected Sites

The TSC states that *“In the EIAR and Natura Impact Statement, SPAs have been identified but there is no account of Manx sites – designated MNRs and ASSIs and key seabird sites in Manx National Heritage (MNH) ownership.”* It is requested that consideration of potential impacts is not limited to SPAs and an European level assessment made for the Isle of Man (for potential Bern Convention Emerald Sites, equivalent to SPA).

Response to Protected Sites

Within the NIS, only European sites are considered, which includes SPAs (and SACs) only. Therefore, Manx designated sites that are not designated under the Habitat’s Directive would not qualify for inclusion.

The Developer confirms that impacts on the Isle of Man have now been considered within Chapter 15 of the EIAR within the Transboundary Effects assessment.

This point was raised by An Bord Pleanála in RFI Section (18) and has been addressed in the Response to RFI document. The proposed development’s effects on Isle of Man seabirds are negligible, with less than 1% of impacts apportioned to any colony and no meaningful contribution to cumulative effects.

Data Sources

The TSC provided a list of data sources and reports to be considered in the EIA report for completeness of project impacts.

Response to Data Sources

The Developer has considered the outlined data sources where relevant, and these have already been accounted for within the assessments where appropriate. Use of the Seabird Monitoring Programme Database, which incorporates colony count data from the 2017 Manx seabird census. Notably at time of application the most recent count on the Calf of Man on the SMP database for Manx shearwater was 2014, though the presence of updated counts is noted. Other data sources such as the Manx Bird Atlas have been considered in terms of general baseline characterisation but are not considered a key data source for informing the ornithological assessment. The Isle of Man Birds of Conservation Concern has also been considered, but Birds of Conservation Concern Ireland has been used as a key source due to the Proposed Development being present in Irish Waters. The Manx Marine Environmental Assessment is not considered

relevant due to the Proposed Development being in Irish, not Manx, waters. However, potential impacts of the Proposed Development on Manx receptors has been considered.

Migratory species

The submission states that migratory birds on the Manx BirdLife Red List that travel between Ireland and the Isle of Man are on particular concern. The TSC requests the consideration of the following migratory species:

- Hen Harrier (*Circus cyaneus*) - IOM Amber-listed
- Short Eared Owl (*Asio flammeus*) - IOM Red-listed
- Chough (*Pyrrhocorax pyrrhocorax*) - IOM Amber-listed.

Response to Migratory species

The Developer notes the TSC's concern regarding migratory birds. The Developer also notes the most up-to-date guidance and assessment tools were used to estimate collision risks (Appendix 15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment of the 2024 EIAR, and Appendix 15.4 Offshore and Intertidal Ornithology Migratory Collision Risk Modelling of the 2024 EIAR). The parameters in the mCRM tool are precautionary. Although there are limitations, the data that is available indicates that the percentage at risk of collision are precautionary. Therefore, the predicted impacts are likely to be an over-estimation of the actual impacts.

The Developer notes the TSC's comment regarding including Hen Harrier, Short Eared Owl and Chough. Further migratory assessment has been undertaken in response to the RFI and this is included in Appendix A15.3 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment).

The Developer has carried out the following within Appendix A15.3:

- Hen harrier were included in the mCRM analysis, using parameters from Woodward et al. (2023) and it was concluded that impacts were very small for this species. Short-eared owl were also assessed using the mCRM tool and again the impacts were minimal despite overly precautionary methods used in the tool.
- Chough are not in the mCRM tool so a literature review has been conducted to assess the potential risks to collision. And it is highly likely that the impacts for these species would be very low.

In-Combination Assessment

The TSC states that *"the proposed Mooir Vannin (Isle of Man) Offshore Wind Farm (OWF) is scoped in to the NIS for Marine Mammals (NIS - Table 6.1) but not for Offshore Ornithology (Table 6.4) which is more likely to be susceptible to cumulative impacts"*.

Response to In-Combination Assessment

For clarification, the proposed Mooir Vannin (Isle of Man) Offshore Wind Farm (OWF) is scoped into the NIS for Marine Mammals (NIS - Table 6.2) but not for Offshore Ornithology (Table 6.4 in the NIS) as there was no publicly available information for the proposed development at the time of submission.

It should be noted, since the Planning submission (June 2024) an EIA for the Mooir Vannin OWF has been released into the public domain and as such the Developer has included this data within the relevant updated assessments (Chapter 15 of the EIA, and the NIS).

5.9.3.6 Commercial Fisheries

The IoM submission states that the Department of Environment, Food and Agriculture (DEFA) does not see a direct impact on the IoM commercial fishing industry from the proposed development. However, the submission suggests there may be indirect impacts. This includes;

Cumulative impacts on fisheries

The submission raises a concern regarding Nephrops and mixed whitefish fishing grounds, “*Whilst IOM vessels do not normally participate in these fisheries in this area, the cumulative displacement effect of the developments may force fleets (Northern Irish and Republic of Ireland fleets in particular) onto fishing grounds between the Isle of Man and Northern Ireland. Some of this area within UK waters is designated as Marine Conservation Zones and the displaced fishing activity may undermine the conservation objectives of those sites. Fishery productivity in the areas remaining open to fishing in the North Irish Sea may reduce in terms of catch-per-unit-effort, resulting in increased benthic impact from fishing activities in an already heavily disturbed benthic environment.*”

“*Developers should (collectively) consider the cumulative and indirect impacts of the proposed developments, and mitigate these impacts where possible in consultation with impacted fleets, and monitor the resultant change in fishing behaviour as a result of displacement, including (but not limited to) changes in:-*

- *Spatial distribution of fishing activity of impacted fleets;*
- *Changes in landings, effort, and landings per unit effort, in the western Irish Sea fisheries;*
- *Changes in relative benthic status before, during and after construction and throughout the operational phase; and,*
- *Changes in number of vessels engaged in demersal trawl fisheries in the western North Irish Sea fishing grounds.”*

Response to Cumulative impacts on fisheries

The Developer highlights that since submission of the 2024 EIAR, the Developer has reviewed the RFI, third-party submissions, including the Isle of Man Territorial Sea Committee submission, and the outputs of continued consultation with commercial fisheries stakeholders. The commercial fisheries assessment has therefore been updated through Chapter 16: Commercial Fisheries, Appendix A16.1: Commercial Fisheries Technical Report, and the updated Appendix A16.2: Fisheries Management and Mitigation Strategy (FMMS). These documents provide updated baseline evidence, updated proposed development design parameters, an updated cumulative effects assessment, and further detail on fisheries coexistence, monitoring, governance and adaptive management.

In the 2024 EIAR, WTG monopile foundations and OSP monopile and jacket foundations with pin piles were considered. Following further design refinement in response to the RFI, WTGs are now proposed with suction bucket jacket (SBJ) foundations, and OSPs with jacket foundations installed with either drilled pin piles or suction buckets.

This design refinement has been incorporated into the Chapter 13: Fish and Shellfish Ecology and the Chapter 16: Commercial Fisheries. It reduces the underwater noise risk profile associated with WTG foundation installation and has informed the updated assessment of potential effects on commercially important fish and shellfish receptors, including Nephrops, king scallop, brown crab and other relevant species.

The cumulative and indirect impacts of the proposed developments, on commercial fisheries have been assessed in Chapter 16 of the 2024 EIAR and in the update to Chapter 16. As part of An Bord Pleanála’s request for information, RFI 5 requests that the cumulative effects of the proposed development are updated and in RFI 12 (b) “*The applicant is requested to address observations by prescribed bodies and observers who raise concerns in relation to the displacement of fishing effort during operational activities.*”

The revised assessment does not identify any material change to the overall assessment conclusions presented in the 2024 EIAR, with cumulative residual effects remaining not significant in EIA terms (Refer to Chapter 16 of the EIAR).

Therefore, the significance of effect from the reduced access, or exclusion from established grounds from the installation of either Project Option 1 or Project Option 2 cumulatively with the Tier 1, 2, and 3 projects is expected to be moderate to slight for the Irish demersal otter trawl (Nephrops) and Irish potting fleets and slight for all other fleets, which is not significant in EIA terms.

Therefore, the significance of effect from displacement leading to gear conflict and increased fishing pressure from the installation of either Project Option 1 or Project Option 2 cumulatively with the Tier 1, 2 and 3 projects is expected to be moderate to slight for the Irish demersal otter trawl (Nephrops) and Irish potting fleets and slight effect for all other fleets, which is not significant in EIA terms.

Therefore, the significance of effect from displacement or disruption to commercially important resources from either Project Option 1 or Project Option 2 cumulatively with the Tier 1, 2 and 3 projects is expected to be moderate to slight for the Irish demersal otter trawl (Nephrops) and Irish potting fleets and slight effect for all other fleets, which is not significant in EIA terms.

The Developer acknowledges that cumulative fisheries effects may require ongoing review, as displacement and changes in fishing behaviour can be influenced by the timing and construction methods of multiple projects, wider fisheries management measures, environmental change and market conditions. The updated FMMS therefore includes a Cumulative Mitigation Strategy, supported by fisheries liaison, the SFC and the Digital Effort Traceability Project (DETP), to provide a mechanism for reviewing fisheries evidence and stakeholder feedback over time.

DETP, an SFC project initiative, is particularly relevant to the TSC's request for monitoring changes in fishing behaviour, as it is designed to provide high-resolution, fisheries-led information on fishing activity, spatial footprint, gear activity, catch, landings and traceability. This will support before-and-after review of fishing distribution, effort, landings and potential displacement for participating vessels, while the SFC will provide the framework through which monitoring outputs, fisheries feedback and reported displacement issues can be reviewed and, where necessary, used to inform proportionate adaptive management.

The Developer recognises that cumulative fisheries displacement is a dynamic issue and that potential changes in fishing behaviour may not be attributable to one project alone. The updated FMMS therefore includes a Cumulative Mitigation Strategy, supported by the Fisheries Liaison Strategy, SFC, DETP and ongoing engagement with fisheries stakeholders and relevant public bodies. DETP will support evidence-led monitoring of fishing activity, spatial footprint, effort, catch, landings and potential displacement for participating vessels. The SFC will provide framework through which monitoring outputs, fisheries feedback and reported displacement issues can be reviewed and, where necessary, used to inform proportionate adaptive management.

5.9.3.7 Shipping and Navigation

The TCS expresses concerns regarding marine navigation, particularly in relation to transport to and from the island.

Shipping and Navigation

The TSC draws attention to the shipping routes, stating *“The Department of Infrastructure (DOI) as represented by the Territorial Sea Committee (TSC) would like to note that the economy of the Island is highly reliant on regular, safe shipping for its goods, and any deviations from well-established timetables and routes, would not support the Island’s business community that rely on daily deliveries via the Isle of Man Steam Packet Company.*

“It would appear from the proposed position of North Irish Sea Array, that there should not be any impact on the shipping routes as operated by the Isle of Man Steam Packet Company, however it is recommended that there is direct liaison with them to confirm this position.

“The Territorial Sea Committee therefore request that you please keep the Department fully engaged as the process progresses, and also request continued engagement with the Isle of Man Steam Packet Company.”

Response to Shipping and Navigation

The Developer acknowledges the request and will continue to consult with DOI and the Isle of Man Steam Packet Company on the matter of shipping and navigation routes.

5.9.4 Conclusion

The Developer acknowledges the points raised by the TCS and will continue to seek engagement with the relevant stakeholders to align with requirements.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

5.10 BirdWatch Ireland

5.10.1 Introduction

This section provides a response to submissions made to An Bord Pleanála by BirdWatch Ireland (hereafter referred to as ‘BWI’) in relation to the proposed development. A summary of the key points raised by the stakeholders is provided in Section 5.10.2. The (Section 5.10.3) has been categorised into a number of sub-themes due to the varying points contained in the submission.

5.10.2 Summary of the Key Points Raised by Stakeholders

The below submission raised a number of distinct points which are dealt with as sub-themes below.

- General comments on the impacts of ORE windfarm projects;
- General comments on Protected Areas in the North Irish Sea;
- BWI concerns about overlap with the distribution and foraging area of key species;
- Other migratory flying animals; and
- Concluding remarks.

5.10.3 Response to Key Issues Raised

5.10.3.1 General comments on the impacts of ORE windfarm projects

Point 1 - Collision Risk and Displacement

BWI believe the assessment of collision risk and displacement is not thorough stating, “*Although reports on Displacement and Collision Risk have been submitted by the Company behind the NISA development, we do not believe that all the potential impacts of Displacement and Collision Risk have been comprehensively assessed*”.

Response to Point 1 – Collision Risk and Displacement

The Developer notes BWI's concerns regarding the assessment of Displacement and Collision Risk.

The methodology for assessing displacement and barrier effects is based on RFI Section 8 (a)iii. The Proposed development was requested to use NatureScot displacement rates (NatureScot, 2023) (in preference of Natural England rates which were used in the application and agreed for use among Phase One ORE projects).

The methodology for assessing collision effects is based on available evidence and the most recent guidance produced by the joint SNCBs (JNCC et al., 2024). Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks and the modified version of the mCRM tool (HiDef Aerial Surveying Ltd., 2024), was used to undertake migratory collision risk modelling (Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment).

The assessment of displacement and collision is included in Chapter 15: Offshore Ornithology of the EIAR and within the NIS. All bird species recorded in sufficient numbers (through the Developer’s extensive digital aerial survey campaign) to allow modelling to occur and that are likely to be susceptible to displacement and/ or collision were assessed. Where species were not included in the modelling, information and justification on this is provided in the EIAR and the Screening for Appropriate Assessment (SISAA).

This information shows the robust process that has been carried out to consider and assess the potential impacts of birds from collision and displacement from the proposed development.

Point 2 – Cumulative Impacts

BWI raise a concern regarding the cumulative assessment of the proposed development, asking, “*How are the cumulative impacts of this proposed development being examined? We believe it is not enough to state the cumulative impacts will be assessed as part of the site assessments for each project currently in the planning system off the east coast of Ireland. If the North Irish Sea Windfarm development proceeds alongside the other two submitted to date (Oriel and Arklow Bank 2), and those expected soon (Codling and Dublin Array), collectively, there will be a near continuous chain of turbines stretching from Dundalk to north Wexford. This will likely precipitate changes at an ecosystem level to both the biotic and abiotic environments. Offshore sandbanks, geomorphology and coastal erosion will all be impacted with knock-ons to the benthos and small prey-fish populations on which our seabirds and cetaceans are dependent*”.

Response to Point 2 – Cumulative Impacts

This point (or similar) was raised by An Bord Pleanála in RFI Section 5 and has been addressed in the Response to RFI document.

Point 3 – Wider Ecological Impacts

BWI state in their submission “*Wider ecological impacts on fish stocks/prey base, particularly during construction. Knowledge of the impact on the prey base/fish stocks is essential to be able to fully assess the impacts on seabirds. This is not adequately addressed in any of the reports. Impacts on fishing effort and location - how will fishing efforts be shifted by the proposed windfarm and what is the likely impact of such a shift? This has also not been addressed*”.

Response to Point 3 – Wider ecological Impacts

The Developer notes BWI's concerns regarding the impacts of the proposed development on prey species and foraging grounds, particularly during construction. A full assessment on the impact of the development on fish, including prey species is included in Chapter 13: Fish and Shellfish Ecology of the EIAR. A more detailed response on this point has been provided in Section 3.9 Fish and Shellfish Ecology in this report.

The Developer also notes BWI's concerns regarding the impact on fisheries and fishing grounds. The changes in commercial fisheries operations have been considered within Chapter 16: Commercial Fisheries of the EIAR, and a more detailed response on the potential alteration of fishing effort has been provided in Chapter 13 of the EIAR and Section 3.12- Commercial Fisheries of this report.

Point 4 – Non-seabirds

Lastly, BWI raise issues with non-seabird species “*Impacts on non-seabird species, waterbirds and other larger birds using the air space. The flight heights are not known for key species and this data has not been collected, as the digital aerial surveys do not collect flight height data. This impact has therefore not been fully assessed*”.

Response to Point 4 - Non-seabirds

The Developer notes BWI's concerns regarding flight height data for non-seabird species and the potential that this impact has not been assessed. The Developer used the most up-to-date guidance and assessment tools to estimate collision risk to non-seabird, migratory species (Appendix A15.3 Offshore and Intertidal Ornithology Collision Risk Modelling Assessment, and Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment) namely, Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and the modified version of the mCRM tool (HiDef Aerial Surveying Ltd., 2024), was used to undertake migratory collision risk modelling (Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment). The assumption used within that model for any species lacking robust data was that 100% of a given species migrates at collision risk height. Woodward *et al.*, 2023 assume that collision risk height ranges from 22 m to 300 m above sea level.

The proposed development minimum tip height (relative to LAT) is 40 m. As such, applying the Woodward *et al.* assumption overestimates the proportion of birds that would be flying at collision-risk height within the

context of the proposed development. This makes the approach highly precautionary, as it assumes a far greater overlap between bird flight heights and the rotor-swept area than would realistically occur.

The predicted project alone impacts from these migratory collision risk models are all not significant and therefore the Developer considers the impact to be fully assessed.

For other large bird species, which are non-migratory 41 months of digital aerial surveys were conducted which would identify any such species. From this three such non-migratory species which are not seabirds, divers or seaducks were recorded within a 10km buffer of the wind farm. None of these three species were recorded within the array itself. There is therefore no likely route to impact such birds. As can be seen the assessment has considered non-seabird species within the assessment where appropriate.

5.10.3.2 General comments on Protected Areas in the North Irish Sea

Point 1 – North West Irish Sea SPA

The first concern raised by BWI relates to the location of the proposed development within the North West Irish Sea (NWIS) SPA. The submission states, *“The proposed NISA development lies completely within the North-west Irish Sea SPA (004236). The designation comes with a list of ‘Activities Requiring Consent’, one of which, ARC 30, states “Any activity intended to disturb birds, including by mechanical, air gas, wind powered or audible means”. This is a somewhat obtuse statement and in our opinion a large wind powered generating station operating within the SPA is highly likely to ‘disturb birds’. These ARCs need to be defined by Government in a much more comprehensive manner going forward to ensure proper protection for seabirds”*.

Response to Point 1 – North West Irish Sea SPA

The Developer notes BWI concerns regarding the wording of ARC 30 however we note this is a comment that is aimed at NPWS. An ARC is a specific activity designated pursuant to the Birds and Natural Habitats Regulations 2011, as amended which cannot be carried out within a Natura 2000 site without first obtaining the prior consent of the Minister for Housing, Local Government and Heritage (‘the Minister’) or by another relevant public authority. This obligation to obtain a prior consent includes the consent (planning permission) granted by a planning authority or An Coimisiún Pleanála under the Planning and Development Act 2000, as amended. All of the works carried out as part of the Project will be carried out pursuant to a consent granted by An Bord Pleanála pursuant to section 293 of the Planning Acts and therefore no separate or additional consent from the Minister is required in respect of any ARC.

The Developer also notes, the methodology for assessing displacement and barrier effects is based on RFI Section 8 (a) iii. The proposed development was requested to use NatureScot displacement rates (NatureScot, 2023) (in preference of Natural England rates which were used in the application and agreed for use among Phase One ORE projects). Furthermore, the methodology for assessing collision effects is based on available evidence and the most recent guidance produced by the joint SNCBs (JNCC et al., 2024).

It should be noted that the Developer provided a robust assessment against all published conservation objectives for the North-west Irish Sea SPA; this can be found within the NIS. The assessment considered all pathways to impact, both alone and in-combination with other projects. This assessment concluded no potential AEoI alone or in-combination for all qualifying interests.

Point 2 – Marine Important Bird and Biodiversity Areas

BWI refers to Marine Important Bird and Biodiversity Areas, *“Birdwatch Ireland and BirdLife International have been working together over the last year to identify Marine Important Bird and Biodiversity Areas in Irish waters. Although the project has not been officially uploaded to the global IBA [Important Bird and Biodiversity Areas] database, the interim findings are available (see Figure 1) and these concur closely with the boundaries of the state's SPA.*

This area of the north-west Irish Sea is critically important for a suite of seabirds, some of which are globally threatened (Kittiwake, Puffin) and others for which the area supports the largest colony of Roseate

Terns in Europe and the north Atlantic (Rockabill) and the largest Irish colonies of Shag, Herring Gull, Kittiwake, Guillemot, Razorbill (Lambay Island) and Common Tern (Rockabill)”.

Response to Point 2 – Marine Important Bird and Biodiversity Areas

The Developer notes BWI's point regarding Marine Important Bird and Biodiversity Areas in Irish waters and notes that the data has not yet been officially uploaded to the global IBA [Important Bird and Biodiversity Area] database, but that interim findings are available.

During the development of the proposed development the Developer considered all relevant, available published data at the time. This information was used to inform the likely requirements for data collection, modelling and the assessments. The developer understands the importance of the area to seabirds in the Irish Sea and a dedicated 41 month Digital Aerial Survey (DAS) campaign was undertaken to record the different species and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025), with the latter surveys covering the full NWIS SPA. The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance, and the data collection period exceeds the recommended duration to ensure appropriateness and reliability.

In addition, vessel surveys, coastal vantage point (VP) surveys, Passive Acoustic Monitoring (PAM) and landfall surveys were carried out. Further detail on all site-specific surveys for ornithology can be found in Chapter 15 of the EIAR.

The extensive datasets were used to characterise the baseline environment and carry out modelling and assessments on the impacts from the proposed development. The Developer used a precautionary approach ensuring that scenarios with the greatest magnitude of impact were considered. The Developer also notes the methodology for assessing displacement and barrier effects is based on RFI Section 8 (a)iii. The Proposed development was requested to use NatureScot displacement rates (NatureScot, 2023) (in preference of Natural England rates which were used in the application and agreed for use among Phase One ORE projects).

The methodology for assessing collision effects is based on available evidence and the most recent guidance produced by the joint SNCBs (JNCC et al., 2024). Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology – Advice for assessing collision risk of marine birds (NatureScot, 2023) and assessment tools to estimate collision risks and the modified version of the mCRM tool (HiDef Aerial Surveying Ltd., 2024), was used to undertake migratory collision risk modelling (Appendix A15.4 Offshore Ornithology Migratory Collision Risk Modelling: Irish East Coast Phase One Offshore Wind Projects Cumulative Assessment).

The assessment, as shown in Chapter 15 of the EIAR and within Chapters 5 and 6 of the NIS shows that all species mentioned by BWI were fully considered. As noted in response above, the assessment concluded no AEoI, both alone and in-combination with other projects, on the North-west Irish Sea SPA.

A number of significant commitments and changes to the Development have been considered by the Developer throughout the process to date. The most significant of these in terms of reducing the development's impacts on bird species are:

- The committed reduction in the overall application boundary for the wind farm of more than 60% from the awarded MAC area. This commits the Developer to a greatly reduced area of seabed where the turbines can be located, significantly reducing any overall displacement impacts to bird species.
- The commitment to increasing the minimum blade tip height from 22m MSL to 40m LAT to significantly reduce estimated collision risk.

Therefore, as can be seen the importance of the area for birds has not been underestimated by the Developer and a robust and thorough assessment has been undertaken to determine the projects potential impacts of birds utilising the area.

5.10.3.3 BWI concerns about overlap with the distribution and foraging areas of key species

Point 1 – Data gaps

BWI state in their submission “*We are very concerned that there are key data gaps and questions remaining on the impact of the windfarm on important species, that have been omitted from the many ornithological reports which have been submitted in the NISA application. We set out some of these concerns below, but due to a lack of capacity within our organisation and the very tight timescales for scrutiny of the large number of reports submitted, there may well be other questions*”.

Response to Point 1 – Data gaps

The Developer notes BWI’s concerns regarding data gaps. However, the Developer considers the baseline data collected for the proposed development to be of a sufficient standard to robustly inform the assessment of likely significant effects on ornithological receptors. Baseline data was collected over 41 months to record the different species and the numbers present within the wind farm site and a 4km (29 surveys between May 2020 and October 2022) or 10km buffer (12 surveys between September 2024 and August 2025), with the latter surveys covering the full NWIS SPA. The collected data robustly characterises the baseline environment across multiple years and three full breeding seasons. Both the data collection methodology and the analysis align with industry guidance (Parker *et al.*, 2022a; NatureScot, 2023: Guidance Note 2), and the data collection period exceeds the recommended duration to ensure appropriateness and reliability.

Publicly available datasets and literature were also scrutinised (HiDef, 2019; Jessop *et al.*, 2018), where appropriate, to inform the assessment of impacts within the offshore ECC. Additional landfall surveys were conducted to inform the species composition and assessment of the cable landfall effects.

Point 2 – Jessopp *et al.*, 2018

The submission refers to the study by Jessopp *et al.* (2018) in regard to data gaps, “*The seasonal distribution and abundance of seabirds in the whole Irish Sea is described in Jessopp *et al.* (2018), on the basis of the Government funded ObSERVE Programme. This also shows high usage of the north-west Irish Sea area year-round for many species (see Figure 79) including Kittiwake, a globally threatened species (IUCN/Birdlife International)*”.

Response to Point 2 – Jessopp *et al.*, 2018

The Developer is aware of the Jessopp *et al.* (2018) dataset and used the data consistently where appropriate throughout the assessment.

The Developer has collected a higher resolution dataset with substantially higher monthly coverage across multiple seasons and years compared to Jessop *et al.* (2018). This has provided a full detailed baseline and understanding of seabird behaviour within the proposed development area and surrounding buffer to underpin the assessments.

Therefore, as it can be seen, the Jessop data referred to by BWI has been used where appropriate, but the extensive digital aerial surveys the developer has undertaken provides a much bigger dataset, at a greater resolution allowing for a much greater characterisation of ornithology in the area which has allowed for the robust assessment to be carried out.

Point 3 – Manx Shearwater

The BWI submission states “*It has long been known that one of the key foraging areas for the internationally important colonies of Manx Shearwater in Wales {Skomer and Skokholm, Pembrokeshire} is the North- west Irish Sea (see Guilford *et al.* 2008). In summer 2024, Birdwatch Ireland rediscovered a colony of this species nesting on Lambay Island (Newton *et al.*, unpublished report). Given these birds are likely to forage in the NISA development area, and they are highly threatened by rat depredation on the island, GPS-tracking work should be conducted urgently before any construction activity commences*”.

Response to Point 3 – Manx Shearwater

The Developer is open to monitoring and is committed to participating in the ‘East Coast Monitoring Group’ (ECMG), to discuss and agree potential strategic monitoring initiatives in relation to offshore ornithology. The need for strategic monitoring, and the level of participation by individual developments, will be determined by the conclusions of the EIAR process, in consultation with statutory and technical stakeholders, and with a focus on validation and evidence gathering.

The Developer also reiterates that it is not anticipated that construction activity within the NWIS SPA will impact this species. As discussed in Chapter 15 of the EIAR and within the NIS, Manx shearwater have adaptable foraging strategies due to their large foraging range and can feed on a range of species including herring, sprat and sandeel, adapting their diet to prey availability. They also expend minimal energy flying and have an extensive foraging range. Therefore, localised construction activity will not impact their populations in a material way.

In addition, Manx shearwater fly at low altitudes close to the sea surface, therefore, are not a collision risk species (as assessed within Chapter 15 of the EIAR and within the NIS). This is especially true given the proposed development’s mitigation committing to a minimum blade tip height of 40m LAT.

Point 4 – Tagging

BWI refer to the ShapeTagging of the Seatrack Project. They provide a link which they state shows that “*Kittiwakes breeding at Irish sea colonies (Rockabill, Dublin and Skomer Island, Wales) tend to remain in the Irish Sea year-round making any offshore windfarm a potential threat*”. BWI go on to say that “*This type of tagging work should be extended to a greater range of the breeding seabirds of Lambay Island so that the annual movements of Fulmars, Cormorants, Shags, Gannets, Guillemots, Razorbills and Puffins are better understood. Indeed, numbers and breeding success of all seabirds at Dublin colonies should also be monitored over the longer term; if ORE projects progress, the impacts over time need to be assessed*”.

BWI then refer to the Developer’s EIAR and tagging work, “*Although the NISA consortium’s EIAR included GPS-tracking data (mostly from Birdwatch Ireland’s work) showing foraging areas for several species, they omitted some easily accessible data for one of the most important species in the area, the Roseate Tern. Using boat-based visual tracking, we have mapped foraging trips of this species from Rockabill (Perrow et al. 2019). This shows regular use of the very area selected for the windfarm several km to the north east of Rockabill (Figure 2) and failure to address this issue is a serious omission.*”

Response to Point 4 – Tagging

The Developer is aware of the tracking data and information available from Perrow *et al.* (2019). It presents some useful information on roseate tern foraging ranges from the colony and information on flight heights which was reviewed and cited in the Technical Baseline (Appendix A15.1: Offshore and Intertidal Ornithology Technical Baseline) and used to inform the assessments. However, it should be noted the Developer did not have access the raw data from the Perrow *et al.* (2019) study at the time of application, and therefore further analysis was not possible.

While the Perrow data may indicate slightly different usage of the array area when compared alongside the DAS data collected by the Developer (such as a different bird density in a specific month), this information does not undermine the adequacy or robustness of the baseline data collected by the Developer for conducting a reliable assessment. The assessments presented in Chapter 15 of the EIAR are based on 41 months of DAS data, including 12 months of data which covered the entire NWIS SPA, which recorded Roseate tern within the breeding season and in July.

Additional tracking data collection or incorporation of alternative sources of tracking data are highly unlikely to alter the assessment’s outcomes or conclusions in any significant way. Assessments under current guidance and best practice are considered precautionary, and while tracking data may inform certain parameters within collision and displacement assessments, it is not feasible to use tracking data to inform densities or presence of birds in specific months as tagging is often only undertaken on a small proportion of individuals at specific colonies. Therefore, it cannot be concluded how many individuals outside of the tagging dataset use the development area. It is thus not possible to incorporate this data into the ornithology assessments, which require density or abundance estimates to undertake.

The Developer is confident that the assessment carried out in the EIAR and NIS comprehensively assesses the impacts of the proposed development using the best available evidence and most up-to-date guidance.

Additionally, the Developer is committed to ongoing strategic monitoring to be developed and finalised within an East Coast Monitoring Group. The Developer welcomes BWI's input into forming a strategic monitoring plan.

Point 5 – Rockabill SPA

BWI's submission refers to the Rockabill seabird colony as "*one of the most important colonies [BWI] have monitored and managed over the years*". They go on to say "*Our staff have over many years observed large numbers of auks (Guillemots and Razorbills) moving approximately north-south past Rockabill during the summer months, likely to be heading to foraging grounds in the north Irish Sea and which may well include usage of the proposed wind farm area. These birds almost certainly breed on Lambay, and although we have GPS-tracked both species on the island, the feeding areas we typically located were to the east of the island. We are aware of work conducted at other large seabird colonies that showed birds breeding in different sub-colonies on the island used very different foraging areas (Bogdanova et al. 2014). Our previous auk-tracking work probably did not sample the sub-colony(ies) of birds that use the north-south corridor passing Rockabill. More information on the movements of Guillemots and Razorbills from Lambay is needed to show that there is no significant windfarm impact to these species.*"

Response to Point 5 – Rockabill SPA

The Developer notes BirdWatch Ireland's concerns regarding data gaps on the movements of guillemots and razorbills from Lambay Island. However, the Developer considers the baseline data collected for the proposed development to be of a sufficient standard to robustly inform the assessment of likely significant effects on ornithological receptors. See Response to Point 1 – Data gaps for detail on baseline data collection.

Point 6 – Peschko et al. (2020)

BWI state that "*there is also growing evidence of the avoidance of offshore windfarm by Guillemots during the breeding season (Peschko et al., 2020)*".

Response to Point 6 – Peschko et al. (2020)

The Developer is also aware of the Peschko *et al.* (2020) study. The Developer undertook an intensive evidence review alongside the other Phase One Projects to determine the most appropriate methodologies and displacement rates to use based on available literature from post construction monitoring. Both the APEM (2022), within which the Peschko *et al.* (2020) study is reviewed, and Lamb *et al.*, (2024) studies highlight the difference in displacement between breeding and non-breeding birds. It should be noted that whilst an informative study, the Peschko *et al.* (2020) findings are based on 12 tagged individuals only with a short study duration (8–26 days), therefore a potential bias due to study and sample size should be considered when interpreting the data. It should also be noted that displacement may vary on a site by site basis, thus tracking data collected from a single geographical location has limited standalone relevance. Rather, based on taking the average rate of displacement from all studies collated for the APEM (2022) review (not including ones where an attraction was demonstrated), a displacement rate of 25% to 30% across all seasons is considered most appropriate and scientifically robust. The Developer assess guillemot using a precautionary displacement rate of 50% and a mortality rate of 1% (Developer Approach to displacement rates), with a displacement rate of 60% displacement and a mortality rate range of 1% to 3% (non-breeding) and 3% to 5% (breeding) (Guidance Approach to displacement rates) also presented (see Chapter 15 of the EIAR).

5.10.3.4 Other migratory flying animals

Point 1 – Migratory Movements

BWI also highlight concerns regarding bats, noting that they can “*demonstrate considerable spring flight activity of Leisler's Bats over Rockabill. Given the Arklow Bank (Phase 2) developers have recorded both Leisler's and Common Pipistrelle bats in their area to the south, there is growing evidence of widescale migratory movements of these animals across the Irish Sea.*”.

Response to Point 1 – Migratory Movements

The Developer confirms that Chapter 35: Offshore Bats provides an updated and comprehensive assessment of offshore bat activity and potential migratory movements. As set out in Section 35.3.5 of Chapter 35, detections of Leisler's bat and Nathusius' pipistrelle within the array area during 2024 were extremely limited, comprising isolated and short-duration passes with no pattern indicative of UK–Ireland migration. These findings are contextualised in the updated offshore bat literature review (Section 35.3.3.2 of Chapter 35: Offshore Bats of the EIAR), which incorporates recent UK and European tracking studies demonstrating that offshore bat occurrence is sporadic, weather-dependent and not associated with defined migratory corridors.

Chapter 35 also integrates evidence from the Irish Phase One Projects offshore wind applications (Oriel Wind Park, Dublin Array, Codling Wind Park and Arklow Bank II). Each of these projects undertook multi-season offshore monitoring and likewise recorded very low and intermittent offshore bat activity. This consistent regional pattern strongly reinforces the conclusion that offshore bat presence in the Irish Sea is rare, opportunistic and not suggestive of sustained migratory movement.

The implications of these findings for the proposed development are assessed in Impact 5 and Impact 8 of Chapter 35, both of which confirm that no significant effects are predicted for migrating bats.

Point 2 – Ongoing monitoring

The submission raised points in relation to additional monitoring in relation to bats to be carried out by the Developer, “*We believe further work is required before consents are given for offshore wind construction*”.

Response to Point 2 – Ongoing monitoring

The Developer confirms that Chapter 35 fully incorporates updated 2024 vessel, headland and Rockabill survey data, providing an updated baseline. As set out in Sections 35.2.4 and 35.3.5 of Chapter 35, all 2024 survey results have been analysed, including offshore detections, coastal headland activity and the updated Rockabill roost inspections. These surveys confirmed a small, temporary Leisler's day roost within Building One and found no evidence of pipistrelle roosting in 2024. Potential interaction pathways between Rockabill-associated bats and the array area were reassessed within Impacts 3, 6, 7 and 8, with Section 35.7 of Chapter 35 confirming that no significant effects arise. Offshore activity across all three years remains extremely low and episodic, and no behaviour indicative of interaction with the array was recorded.

Point 3 – Appendix 1. Initial results of NGO bat monitoring on Rockabill Island by Bat Conservation Ireland in conjunction with BirdWatch Ireland.

The BWI submission provides a report from Bat Conservation Ireland in conjunction with Bat Watch Ireland that presents initial results of bat monitoring on Rockabill Island.

Response to Point 3 - Appendix 1. Initial results of NGO bat monitoring on Rockabill Island by Bat Conservation Ireland in conjunction with BirdWatch Ireland.

See response in Section 5.10.3.4 Point 1 – Migratory Movements.

Point 4 – Concluding Remarks

Finally, the BWI submission refers to an agreed programme of works BWI has with “*four windfarm consortia currently seeking consent off the east of Ireland, including NISA*”. This will “*better monitor breeding seabird numbers and productivity at the key colonies in County Dublin: Lambay, Ireland's Eye, Howth Head, the Skerries Islands and others.*”

This work commenced in May 2024, is ongoing and needs to be repeated in 2025 and beyond. It complements annual wardening and monitoring at the key tern colonies especially Rockabill, but also Baltray and Portrane.

In parallel, a targeted programme of GPS-tracking and GLS (geolocator) deployment work on the key species that utilise to NISA development area, namely Manx Shearwater, Gannet, Cormorant, Guillemot, Razorbill and Kittiwake needs to be undertaken. This work should be concentrated on the two closest SPAs, north cliffs of Lambay (all species) and Rockabill (Kittiwakes only)”.

Response to concluding remarks

The Developer notes the suggestions on monitoring provided by BWI. The Developer has already undertaken some strategic monitoring of east coast colonies during the 2024 breeding season and was central to the formation of the East-coast monitoring group. This group would like to progress and undertake monitoring collaboratively with other developers and key stakeholders such as BWI and NPWS.

5.10.4 Conclusion

As can be seen above, the points raised by the BirdWatch Ireland have been considered within the EIAR and NIS. The Developer acknowledges the issues raised herein and has addressed these concerns.

Having considered the points raised, the conclusions in the relevant impact assessments remain as set out in the EIAR and NIS.

5.10.5 References

APEM. (2022). Review of evidence to support auk displacement and mortality rates in relation to offshore wind farms. APEM Scientific Report P00007416. Ørsted, January 2022, Final, 49 pp.

Jessopp, M., Mackey, M., Luck, C., Critchley, E., Bennison, A., and Rogan, E. (2018). The seasonal distribution and abundance of seabirds in the western Irish Sea. Department of Communications, Climate Action and Environment, and National Parks & Wildlife Service, Department of Culture, Heritage & the Gaeltacht, Ireland. 90.

JNCC, Natural England, Natural Resources Wales and NatureScot. (2024), ‘Joint advice note from the Statutory Nature Conservation Bodies (SNCBs) regarding bird collision risk modelling for offshore wind developments’, JNCC, August 2024.

Lamb, J., Adams, E., Cook, A., and Williams, K.A. (2024). ‘A synthetic analysis of post-construction displacement and attraction of marine birds at offshore wind energy installations’, Environmental Impact Assessment Review, Volume 108, 107611, ISSN 0195-9255.

NatureScot. (2023). NatureScot Guidance Note 2: Guidance to support Offshore Wind Applications: Advice for Marine Ornithology Baseline Characterisation Surveys and Reporting.

Parker, J., Banks, A., Fawcett, A., Axelsson, M., Rowell, H., Allen, S., Ludgate, C., Humphrey, O., Baker, A. & Copley, V. (2022a). Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards. Phase I: Expectations for pre-application baseline data for designated nature conservation and landscape receptors to support offshore wind applications. Natural England. Version 1.1. 79 pp.

Perrow, M., Harwood, A., Berridge, R., Burke, B., Newton, S., and Piec, D. (2019). Foraging and chick-provisioning ecology of Roseate Terns breeding at Rockabill. British Birds, 112(9), 496-516.

Peschko, V., Mercker, M., and Garthe, S. (2020). Telemetry reveals strong effects of offshore wind farms on behaviour and habitat use of common guillemots (*Uria aalge*) during the breeding season. Marine Biology, 167:118. Available online at: <https://link.springer.com/content/pdf/10.1007/s00227-020-03735-5.pdf> [Accessed February 2025].

SNCB. (2022). Joint SNCB Interim Displacement Advice Note. Available online at: <https://hub.jncc.gov.uk/assets/9aecb87c-80c5-4cfb-9102-39f0228dcc9a> [Accessed February 2025].

Woodward, I.D., Franks, S.E., Bowgen, K., Davies, J.G., Green, R.W.M., Griffin, L.R., Mitchell, C., O'Hanlon, N., Pollock, C., Rees, E.C., Tremlett, C., Wright L., and Cook, A.S.CP. (2023). Strategic study of collision risk for birds on migration and further development of the stochastic collision risk modelling tool. Available online at: <https://www.gov.scot/publications/strategic-study-collision-risk-birds-migration-further-development-stochastic-collision-risk-modelling-tool-work-package-1-strategic-review-birds-migration-scottish-waters/documents/> [Accessed February 2025].

6. Response to Public and Non-governmental Submissions on the Proposed Development

Table 6.1.1 below summaries the issues and observations raised in the submissions made by members of the public and non-governmental organisations and provides references to the sections in the report where issues are addressed. Prescribed body, coastal authorities and responses to transboundary consultees and other bodies are included as standalone sections in Section 4 and Section 5.

Table 6.1.1 Response to public and non-government submissions

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
01	Eugene McKeown	Offshore Noise Seeks to obtain clarification on the maximum sound power levels of the wind turbine generators (WTGs), the cut-in wind speeds, and cut-out wind speeds of the WTGs	Offshore Noise See Section 3.7.3 for information on airborne noise from offshore infrastructure
02	Donal McCarthy	Onshore Cable Route - Design basis of onshore cable route with a focus on Malahide and the surrounding environs Traffic and Transportation - Diversion routes, road closures and disruption during construction with a focus on Malahide - Social and economic impacts of road closures with a focus on Malahide	Onshore Cable Route - See Sections 3.2.5 regarding design basis and onshore cable route in Malahide Traffic and Transportation - See Sections 3.2.5 for information on road closures and disruption during construction and for information on diversion routes. Information on the potential impacts of the onshore cable route on local communities is also provided in Section 3.2.5.
03	Brendan and Teresa Stack	Seascape, Landscape and Visual Impact Assessment (SLVIA) - Visual impact to coast due to the WTG size and proximity to the coastline and nighttime light pollution with a focus on Meath Health and Wellbeing - The visual impacts will negatively affect the wellbeing of those who see the coast views Tourism and Recreation & Amenity - Visual impact on tourism, recreation and residential amenity with a focus on Meath	SLVIA - See Sections 3.4.3 for information on the visual impacts to the coast due to turbine proximity and for information on night-time light pollution Health and Wellbeing - See Section 3.4.3 for information on the visual effects of the WTGs and associated health and wellbeing of residents Tourism and Recreation & Amenity - See Section 3.5.3 for potential visual impact on tourism and amenity in the region, and recreational impacts from WTGs

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		Designated Sites - There is little to no mention of the Boyne/Blackwater SAC and SPA or the Nanny SPA - Modern technology including 'oscillating poles' do not create such havoc to migratory birds or marine life in general Offshore Ornithology - Disruption to fauna and flora Landfall Area - Biodiversity	Designated Sites - See Sections 3.3.3 on designed sites - See Section 3.16.4 for information on the inclusion of effects of the proposed development on specific designated sites Offshore Ornithology - See Section 3.11.3 on disruptions to fauna and flora through the stages of the proposed development Landfall Area - See Section 3.3.3 for information on landfall area biodiversity
04	Malahide Community Forum	Onshore Cable Route - Design basis of onshore cable route with a focus on Malahide and the surrounding environs. - The Submission also proposes an alternative route from Estuary Road to Belcamp Substation in Dublin Traffic and Transportation - Diversion routes, road closures and disruption during construction with a focus on Malahide Proposed Development - Site selection, turbine size and location	Onshore Cable Route - See Sections 3.2.5 regarding design basis, onshore cable route in Malahide and alternatives considered Traffic and Transportation - See Sections 3.2.5 for information on road closures and disruption during construction and for information on diversion routes Proposed Development - See Section 3.7.3 for site selection and location of offshore infrastructure
05	Brendan Fleming	Onshore Cable Route - Design basis of onshore cable route with a focus on Malahide and Balbriggan Traffic and Transportation - Diversion routes, road closures and disruption during construction with a focus on Malahide and Balbriggan - Electromagnetic fields and impacts on communities with a focus on Malahide and Balbriggan	Onshore Cable Route - See Sections 3.2.5 regarding design basis and onshore cable route Traffic and Transportation - See Sections 3.2.5 for information on road closures and disruption during construction and for information on diversion routes. Also see Sections 3.2.5 for information on electromagnetic fields
06	Theresa Kerins	SLVIA - Visual impact to coast due to the WTG size and proximity to the coastline Appropriate Assessment - Lack of consideration for effects on specific designated sites	SLVIA - See Sections 3.4.3 for information on the potential visual impacts Appropriate Assessment - See Section 3.16 for details on Appropriate Assessment and designated sites and Section 3.3.3 for designated sites at the landfall area

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		Offshore Ornithology - Disruption to fauna and flora Proposed Development - Site selection and location of offshore infrastructure - Alternative technologies	Offshore Ornithology - See Section 3.11 for offshore ornithology Proposed Development - See Section 3.7.3 for information on site selection, location of offshore infrastructure and alternative technologies evaluated
07	Balbriggan Sustainable Energy Community c/o Sarah Zimmermann	Grid Facility - Impacts on biodiversity and surface water drainage with a focus on Balbriggan Onshore Cable Route - Onshore cable route with a focus on Balbriggan Landfall Area - Suitability of Bells Lane for construction access Offshore Ornithology - Location of the array within the North West Irish Sea SPA - High contrast paint as mitigation Designated Sites - Designated sites with a focus on Balbriggan Appropriate Assessment - Proximity to North West Irish Sea SPA and Rockabill SPA	Grid Facility - See Section 3.1.4 on biodiversity at the grid facility Onshore Cable Route - See Sections 3.2.5 regarding the onshore cable route Landfall Area - See Section 3.3.3 for clarification on the use of “Bells Lane” for construction access Offshore Ornithology - See Section 3.11 for offshore ornithology. See Section 3.11.3 for response on the North West Irish Sea SPA and high contrast paint as mitigation Designated Sites - See Section 3.3.3 for designated sites at the landfall area Appropriate Assessment - See Section 3.11 for offshore ornithology. See Section 3.16 for details on Appropriate Assessment
08	Joe O’Brien TD	Designated Sites - Lack of consideration for effects on specific designated sites Offshore Ornithology - Impacts on North-west Irish Sea SPA - Rockabill SPA – Roseate Tern	Designated Sites - See Section 3.16 for details on designated sites Offshore Ornithology - See Section 3.11 for offshore ornithology. See Section 3.11.3 for response on the North West Irish Sea SPA
09	Shamsa Doyle	Onshore Cable Route - Biodiversity along onshore cable route with a focus on Meath Landfall Area - Biodiversity on landfall area with a focus on Meath SLVIA - Visual impact to coast due to turbine proximity with as focus on Meath	Onshore Cable Route - See Sections 3.2.5 regarding design basis and onshore cable route Landfall Area - See Section 3.3.3 for information on landfall area biodiversity SLVIA - See Section 3.4.3 on potential visual effects and associated health and wellbeing of residents. See 4.1.3 (Meath County Council submission response) for SLVIA

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		- Visual effects and associated health of residents with a focus on Meath - Nighttime light pollution with a focus on Meath Tourism and Recreation & Amenity - Visual impact on tourism and residential amenity with a focus on Meath Proposed Development - Site selection, turbine size and location, and offshore noise with a focus on Meath Offshore Biodiversity - Effects on marine biodiversity, underwater noise and cumulative and in-combination effects	Tourism and Recreation & Amenity - See Section 3.5.3 for response on tourism and residential amenity. See also 4.1.3 (Meath County Council submission response) for details on tourism Proposed Development - See Section 3.7.3 for site selection, location of offshore infrastructure and offshore noise Offshore Biodiversity - See Sections 3.9.3 for fish and shellfish ecology, 3.10.3 for marine mammal ecology and underwater noise and Section 3.11.3 for offshore ornithology
10	John Smith and Bobby Jones	Grid Facility - Land use zoning and draft Flemington LAP - Landscape and visual impact of the grid facility with a focus on Balbriggan Landfall Area - Proposed development footprint at landfall and alternative landfall locations with a focus on Balbriggan	Grid Facility - See Section 3.1.4 for land use zoning and Flemington LAP, and potential landscape and visual impact of the grid facility Landfall Area - See Sections 3.3.3 for footprint of the proposed development at the landfall site and alternative locations evaluated
11	Jennifer Mahon	Landfall Area - Suitability of Bells Lane for construction access Tourism and Recreation & Amenity - Walking paths at landfall with a focus on Balbriggan Appropriate Assessment - Proximity to Rockabill SPA and designation of site Offshore Ornithology - Onshore migratory species (Curlew)	Landfall Area - See Section 3.3.3 for clarification on the use of “Bells Lane” for construction access Tourism and Recreation & Amenity - See Section 3.5.3 for walking paths at the landfall area Appropriate Assessment - See Section 3.16 for Appropriate Assessment Offshore Ornithology - See Section 3.11 for offshore ornithology
12	Jim and Phyllis Mc Mahon	Landfall Area Biodiversity with a focus on Skerries	Landfall Area See Sections 3.3.3 for biodiversity at the landfall area

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		SLVIA Alternative landfall locations with a focus on Skerries	SLVIA See Sections 3.3.3 for alternative locations evaluated
13	Donnacha Gallagher	SLVIA Visual impact to coast due to turbine proximity with a focus on Skerries	SLVIA See Section 3.4 for SLVIA
14	Brendan Regan	Offshore Ornithology - Offshore Migratory Species and migratory routes - Impact of WTG lighting on birds Shipping and Navigation - Sound and electromagnetic deflection Aviation and Radar - WTG lighting and lightning protection - Flight paths - Doppler effect and blade flash Proposed Development - Alternative technologies Onshore Cable Route - Query on the application mapping	Offshore Ornithology - See Sections 3.11 for offshore ornithology Shipping and Navigation - See Section 3.13.2 for sound and electromagnetic deflection Aviation and Radar - See Sections 3.15.3 for WTG lighting and lightning protection, flight paths and doppler effect and blade flash Proposed Development - See Section 3.7.3 for details on alternative technologies evaluated Onshore Cable Route - See Section 3.2.5 for query on the application mapping
15	Elaine Whelan	Offshore Ornithology - Disruption to avian life Commercial Fisheries - Reduction of fishing grounds Proposed Development - Resource and waste management - Socio-economic considerations Fish and Shellfish Ecology - Effects on marine biodiversity linked to fish and shellfish	Offshore Ornithology - See Sections 3.11 for offshore ornithology Commercial Fisheries - See Section 3.12.4 for details on fishing grounds Proposed Development - See Section 3.7.3 for resource and waste management and socio-economic considerations Fish and Shellfish Ecology - See Section 3.9.3 for fish and shellfish
16	Declan Halligan and Gerry Howley	Grid Facility - Land use zoning and draft Flemington LAP - Landscape and visual impact of the grid facility with a focus on Balbriggan	Grid Facility See Section 3.1.4 for details on land use zoning and Flemington LAP, design, potential noise and landscape and visual impact and fire safety of the grid facility

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		- Design of the grid facility with a focus on Balbriggan - Noise impacts from the grid facility with a focus on Balbriggan - Fire safety with a focus on Balbriggan Landfall Area - Alternative landfall locations with a focus on Balbriggan Public Consultation - Size of turbines has increased throughout consultation	Landfall Area - See Sections 3.3.3 for footprint of the proposed development at the landfall site and alternative locations evaluated Public Consultation - See Section 3.6.3
17	Malachy Quinn	Appropriate Assessment - Impact on Roseate terns Offshore Ornithology - Rockabill SPA – Roseate tern Commercial Fisheries - Reduction of fishing grounds Proposed Development - Socio-economic consideration Fish and Shellfish Ecology - Effects on marine biodiversity linked to fish and shellfish ecology Onshore Cable Route - Onshore cable route in Balbriggan	Appropriate Assessment - See Section 3.16.4 for response to submission on potential impacts on Roseate tern Offshore Ornithology - See Section 3.16.4 and see Section 3.11.3 for response to submission in relation to Rockabill SPA and Roseate tern Commercial Fisheries - See Section 3.12.4 issues raised in relation to reduction of fishing grounds Proposed Development - See Section 3.7.3 for socio-economic considerations Fish and Shellfish Ecology - See Section 3.9.3 for fish and shellfish Onshore Cable Route - See Sections 3.2.5 regarding design basis and onshore cable route
19	Balbriggan Community Council	Onshore Cable Route - Onshore cable route with a focus on Balbriggan Landfall Area - Impacts on Archaeological sites at the landfall site - Suitability of Bells Lane for Temporary and Permanent Access Appropriate Assessment - Impact to birds at the North West Irish Sea SPA - Inadequacy of the assessment with regards to marine mammals Proposed Development - Site selection and location of offshore infrastructure - Carbon sequestration	Onshore Cable Route - See Sections 3.2.5 regarding design basis and onshore cable route Landfall Area - See Section 3.3.3 for potential impacts on archaeology at the landfall site and for clarification on the use of “Bells Lane” for construction access Appropriate Assessment - See Sections 3.16.4 and 3.11.3 for details on North West Irish Sea SPA and Section 3.10 for marine mammal ecology Proposed Development - See Section 3.7.3 for site selection, carbon sequestration and consideration of ARCs

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		- Considerations of Activities Requiring Consent (ARCs) Fish and Shellfish Ecology - Effects from underwater noise Marine Mammal Ecology and Underwater Noise - Underwater noise	Fish and Shellfish Ecology - See Section 3.9.3 for fish and shellfish ecology Marine Mammal Ecology and Underwater Noise - See Section 3.10 for underwater noise
21	Gormanston Community Association CLG	Landfall Area - Biodiversity on landfall area with a focus on Meath SLVIA - Visual impact to coast due to turbine proximity with a focus on Meath Offshore Archaeology and Cultural Heritage - Unknown/undiscovered offshore archaeological and cultural heritage assets	Landfall Area - See Sections 3.3.3 for biodiversity at the landfall area SLVIA - See Section 3.4.3 for SLVIA and Section 4.1.3 (Meath County Council submission response) for SLVIA in relation to Meath Offshore Archaeology and Cultural Heritage - See Section 3.14.3 for offshore archaeological and cultural heritage assets
23	Councillor Aoibhinn Tormey	Onshore Cable Route Design basis of onshore cable route with a focus in Malahide	Onshore Cable Route See Sections 3.2.5 regarding design basis and onshore cable route
25	Peter and Anita Dice	Appropriate Assessment - Proximity to designated sites and impact on ornithology Offshore Ornithology - Rockabill SPA – Roseate Tern Commercial Fisheries - Fishing exclusion zone Shipping and Navigation - Displacement of third-party vessels - Emergency Response Capability - Lighting and Marking of the Array Fish and Shellfish Ecology - Effects from underwater noise Marine Mammal Ecology and Underwater Noise - Underwater noise Grid Facility - Landscape and Visual Impact of the grid facility	Appropriate Assessment - See Section 3.16.4 for response to concerns with regards to designated sites and ornithology Offshore Ornithology - See Section 3.16.4 and Section 3.11.3 for response on submission in relation to Rockabill SPA and Roseate tern Commercial Fisheries - See Section 3.12.4 on fishing exclusions zone Shipping and Navigation - See Sections 3.13.3 for displacement of third-party vessels, emergency response capability and lighting and marking of the array Fish and Shellfish Ecology and Marine Mammal Ecology and Underwater Noise - See Section 3.9.3 for fish and shellfish ecology and Section 3.10 for underwater noise Grid Facility - See Section 3.1.4 for details on potential landscape and visual impact of the grid facility

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
26	Hampton Cove Residents' Association	Onshore Cable Route - Design basis of onshore cable route with a focus in Balbriggan Landfall Area - Alternative landfall locations - Impacts on Archaeological sites at the landfall site Tourism, Recreation and Amenity - Impacts in archaeological/historical sites with a focus on Balbriggan, Drogheda and Skerries Marine Geology, Oceanography and Physical Processes - Coastal erosion Commercial Fisheries - Existing legal fishing rights Proposed Development - Site selection and location of offshore infrastructure - Alternative technologies - Ownership	Onshore Cable Route - See Sections 3.2.5 regarding design basis and onshore cable route Landfall Area - See Section 3.3.3 for potential impacts on archaeology and alternative locations evaluated at the landfall Tourism, Recreation and Amenity - Section 3.3.3 for potential impacts on archaeology at the landfall area, Section 3.5.2 for tourism and historical sites and 4.1.3 (Meath County Council submission response) for archaeological/historical sites Marine Geology, Oceanography and Physical Processes - See Section 3.8.3 for details on coastal erosion Commercial Fisheries - See Section 3.12.4 for details on existing fishing rights Proposed Development - See Section 3.7.3 for site selection and location of offshore infrastructure, alternative technologies and ownership
27	Corduff National School (c/o Anna McKeown)	Onshore Cable Route Phasing of construction around Corduff National School	Onshore Cable Route See Section 3.2.5 for phasing of construction around Corduff National School
28	Patrick Keane	Letter of Support	N/A
29	Councillor David Healy	Onshore Cable Route - Design basis of onshore cable route with a focus on M1 motorway between Balbriggan and Clonsaugh Landfall Area - Alternative landfall locations	Onshore Cable Route - Sections 3.2.5 regarding design basis and onshore cable route Landfall Area - See Section 3.3.3 for alternative locations evaluated at the landfall
30	Bryn Edwards	Appropriate Assessment - Proximity to Rockabill SPA - Suitability of site to inform the ornithology assessment	Appropriate Assessment See Sections 3.16.4 on Proximity to Rockabill SPA and suitability of surveys to inform the ornithology assessments

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		Marine Geology, Oceanography and Physical Processes - Changes in sediment movement Offshore Ornithology - Data gaps - Assessment of impacts on SPAs - Threatened species - Cumulative assessment Proposed Development - Site selection and location of offshore infrastructure - EU Directives and marine spatial planning - Alternative technologies - Carbon sequestration - East Coast Monitoring Group Fish and Shellfish Ecology - Effects from electro-magnetic fields (EMF)	Marine Geology, Oceanography and Physical Processes - See Section 3.8.3 for response to submission on changes in sediment movement Offshore Ornithology - See Section 3.11.3 for data gaps, methods of assessment, threatened species, SPAs and cumulative assessment Proposed Development - See Sections 3.7.3 for site selection and location of offshore infrastructure, EU Directives and marine spatial planning, alternative technologies, carbon sequestration and East Coast Monitoring Group Fish and Shellfish Ecology - See Section 3.9.3 EMF on fish and shellfish species
33	Denis and Rachel O'Leary	Grid Facility - Land use zoning and draft Flemington LAP - Noise impacts from the grid facility with a focus on Balbriggan Landfall Area - Alternative landfall locations with a focus on Balbriggan SLVIA - Photomontages presented at the public consultation meetings and in the EIAR were not an accurate representation of the final design with a focus on Skerries and Balbriggan	Grid Facility - See Section 3.1.4 for details on land use zoning and Flemington LAP and potential noise impact of the grid facility Landfall Area - See Section 3.3.3 for alternative locations evaluated at the landfall SLVIA - See Section 3.4.3 for photomontages and 3.6.3 for details on photomontages used in public consultation
34	Elin Payne	Appropriate Assessment - Location of the proposed development in relation to designated sites Proposed Development - Site selection and location of offshore infrastructure	Appropriate Assessment - See Section 3.16 for response to concerns with regards to designated sites Proposed Development - See Section 3.7.3 for details on site selection and location of offshore infrastructure
36	Sharon Burke	Appropriate Assessment Impact on Roseate terns	Appropriate Assessment See Section 3.16.4 for response to submission on potential impacts on Roseate tern

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
		Offshore Ornithology - Gaps in survey data - Onshore migratory species - Assessment of impacts on SPAs - Rockabill SPA – Roseate Tern Commercial Fisheries - Fishing exclusion zone Shipping and Navigation - Displacement of small craft Offshore Archaeology and Cultural Heritage - Known and unknown offshore and intertidal archaeological and cultural heritage assets - Ireland's Heritage and Broomore Deep Water Port Aviation and Radar - Flight paths for Gormanston Military Aerodrome Proposed Development - Site selection and location of offshore infrastructure - Resource and waste management Marine Mammal Ecology and Underwater Noise - Underwater Noise - Appropriateness of mitigation measures - Uncertainties within the Marine Mammal Mitigation Protocol (MMMP) - Unexploded ordnance (UXO) clearance impacts Onshore Cable Route - Biodiversity along the cable route Landfall Area - Footprint of the proposed development at landfall - Impacts on Archaeological sites at the landfall site - Biodiversity	Offshore Ornithology - See Sections 3.11.3 for details on data gaps, onshore migratory species, assessment of impacts on SPAs and Rockabill SPA – Roseate Tern Commercial Fisheries - See Section 3.12.4 on fishing exclusions zone Shipping and Navigation - See Section 3.13.3 for response to submission on displacement of small crafts Offshore Archaeology and Cultural Heritage - See Sections 3.14.3 for response to submission on known and unknown offshore and intertidal archaeological and cultural heritage assets and Ireland's Heritage and Broomore Deep Water Port Aviation and Radar - See Section 3.15.3 for the response on submission on flight paths for Gormanston Military Aerodrome Proposed Development - See Section 3.7.3 for site selection and location of offshore infrastructure and resource and waste management Marine Mammal Ecology and Underwater Noise - See Sections 3.10.3 for underwater noise, appropriateness of mitigation measures, uncertainties within the MMMP and UXO clearance impacts Onshore Cable Route - See Section 3.2.5 for details on biodiversity assessment on the cable route Landfall Area - See Sections 3.3.3 on landfall area footprint, potential impacts on archaeology and biodiversity at the landfall

Submission No.	Submission Name	Summary of Key Points Raised	Developer's Response
37	Orchid Homes Ltd and Geraldine Sweetman	Grid Facility - Land use zoning and draft Flemington LAP - Landscape and visual impact of the grid facility with a focus on Balbriggan - Noise impacts from the grid facility with a focus on Balbriggan Landfall Area - Proposed development footprint at landfall and alternative landfall locations with a focus on Balbriggan	Grid Facility - See Section 3.1.4 for details on land use zoning and Flemington LAP, design, noise, landscape and visual impact and fire safety of the grid facility Landfall Area - See Sections 3.3.3 for footprint of the proposed development at the landfall site and alternative locations evaluated
38	Niamh Colgan	Appropriate Assessment - Proximity to Rockabill SPA Offshore Ornithology - Rockabill SPA –Roseate Tern “Keep-out” zone	Appropriate Assessment - See Sections 3.16.4 on Proximity to Rockabill SPA Offshore Ornithology - See Sections 3.11.3 for details on Rockabill SPA – Roseate Tern and "keep-out" zone for birds

7. Proposed Conditions

7.1 Responses in respect of proposed conditions

Should An Coimisiún Pleanála be minded to grant approval for the proposed development, the coastal planning authorities and several prescribed bodies proposed, for An Coimisiún Pleanála's consideration, conditions to be attached to the approval. Table 7.1.1 provides a full list of all recommended conditions to which the Developer has made a response.

Table 7.1.1 List of recommended conditions and Developer's response

No.	Condition	Developer's Response
Meath County Council (MCC)		
1	The development shall be carried out and completed in accordance with the plans and particulars lodged with the application to An Bord Pleanála on the xx/xx/2024, except as may otherwise be required to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars. <u>Reason</u> In the interest of clarity and proper planning and sustainable development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	The Developer shall appoint a Community Liaison Officer for all stages of the development and shall be the first point of contact for residents seeking information, making a complaint, etc. and shall be responsible for discharging information in relation to the project to residents <u>Reason</u> In the interests of amenity and orderly development of the site	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer has included a detailed Onshore CEMP in Appendix A9.1 of the EIAR, which sets out the need for a Community Liaison and Stakeholder Liaison Officer (Section 3.9 therein) and the responsibilities of this individual. Section 8 of the Onshore CEMP provides further detail.
3	The period during which the development hereby permitted may be carried out shall be ten years from the date of this permission. <u>Reason</u> In the interest of clarity and having regard to the nature and extent of the proposed development, it is considered appropriate to specify a period of validity of this permission in excess of five years.	As noted in Section 1.3 of Chapter 1 of the EIA: <i>"Having regard to the nature and extent of the relevant development and any other material consideration, the Developer requests An Bord Pleanála to specify a 10-year appropriate period within the meaning of section 40 of the Planning Acts, in respect of the proposed development, as provided for by Section 41(1) of the Planning Acts."</i> As this detail is already included within the plans and particulars of the proposed development (and condition 1 of any consent will require compliance with same), it is respectfully suggested that this condition is not required.
4	The date of decommissioning of the wind turbines and ancillary wind farm infrastructure shall be notified to, and established in writing with, the relevant Planning Authorities. This permission shall be for a period of 35 years from the said date of commissioning of the wind farm. The wind turbines and ancillary infrastructure shall be removed at the end of this period of 35 years unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that a 35-year operational lifespan of the proposed development was the basis of assessment for the EIAR as stated in Section 6.10.1 of Chapter 6 of the EIAR: <i>The operational lifespan of the proposed</i>

No.	Condition	Developer's Response
	<u>Reason</u> In the interest of clarity and proper planning and sustainable development.	development is anticipated to be 35 years. Section 6.11 of Chapter 6 of the EIAR also notes: <i>"The exact approach to decommissioning will meet any statutory requirements or guidance set out in the forthcoming Maritime Area Planning Act secondary legislation. The approach to decommissioning has been documented in the Rehabilitation Schedule (Appendix 6.2 of Volume 8) which will be subject to consultation with the Maritime Area Regulatory Authority and relevant stakeholders as required."</i>
5	This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection <u>Reason</u> In the interest of clarity.	While the Developer fully understands that the consent cannot be construed as any form of consent or agreement to connect to the national grid, the Developer does not believe that this is an appropriate condition to attach to this consent (if granted). The Developer notes Section 7.5.5 of Chapter 7 of the EIAR which states the following: <i>"The connection will be made to either/both of the existing substation or the consented substation extension (a planning application from EirGrid to expand the existing substation at Belcamp was granted in 2023, this includes an expansion of the substation infrastructure into land to the north of the existing substation). The onshore cable route into the substation will follow the existing access road and will connect to a spare 220kV bay within either/both of the existing substation compound and the planned the Belcamp extension. The Developer is engaging separately with ESB/Eirgrid with regard to any such connection agreement."</i>
6	Unless otherwise agreed in writing with the Planning Authority/ An Bord Pleanála, the 35-49 No. wind turbines here permitted shall have an overall ground to blade tip height of between 290m-316m above LAT inclusive, a rotor diameter of 250- 276m above LAT and a hub height ranging from 165m to 178m above LAT inclusive. The maximum output of all wind turbine generators will be 700MW inclusive. <u>Reason</u> In the interest of clarity and to allow for design flexibility	As provided for under the legislation, the Developer has sought and received design flexibility with respect to the proposed development, as set out in Chapter 6.2.2 of Chapter 6 Description of the Proposed Development - Offshore, and set out below: <i>"On 2 February 2024, the Board issued its opinion on design flexibility, signed 30 January 2024 (the "DF Opinion "). This DF Opinion was subsequently clarified by way of letter dated 4 April 2024 and updated by way of decision pursuant to Section 146A of the Planning Acts on 16 April 2024. The DF Opinion was issued pursuant to section 287B of the Planning Acts, following conclusion of the Developer ' s preapplication consultations with the Board.</i> <i>The DF Opinion confirms the details of the proposed development which design flexibility has been accepted and may therefore be confirmed after the Developer ' s proposed application under section 291 has been made. The DF Opinion confirmed flexibility for the following aspects of the proposed development:</i> <i>Turbines – model, number and dimensions (tip height, rotor diameter, rotor swept areas, nacelle height and hub heights).</i> <i>Turbine foundations – type and pile dimensions. #Offshore substation platform – foundation types and dimensions (height above sea level, length and width). Siting of infrastructure – fixed location with limit of deviation (turbines, foundations, export cable and offshore substation platform location); and Offshore cabling – subsea cable size and subsea cable length. "</i> The Developer therefore does not consider that this proposed condition is in compliance with this design

No.	Condition	Developer's Response
		flexibility condition and should not be attached to any consent.
7	The colour and finish of the proposed turbines and associated developments shall be agreed in writing with the Planning Authority/ An Bord Pleanála, prior to the commencement of development. The Developer shall submit drawings illustrating the final structure details (i.e. blade length) to be installed on site. <u>Reason</u> In the interests of visual amenity and the proper planning and sustainable development of the area	The Developer has no objection in principle to a condition requiring provision of final drawing / structure details being attached to any grant of permission by An Coimisiún Pleanála. However, the developer would note that colour and finishes of WTGs are highly standardised within industry.
8	a. The mitigation measures and monitoring identified in the Environmental Impact Assessment Report, Natura Impact Statement, Construction Environment Management Plan and other particulars submitted with the planning application, shall be implemented in full by the developer, except as may otherwise be required in order to comply with the following conditions. b. The developer shall appoint persons with appropriate ecological, hydrological and construction expertise such as Environmental Manager/ Ecological Clerk of Works and Hydrologist to ensure that the mitigation measures identified in the above documents are implemented in full during the pre-construction, construction stage and post construction phases to advise on, oversee and monitor mitigation measures. Monitoring shall be carried out for a minimum of 15 years post construction. c. The Environmental Manager/ ECOW shall be responsible for implementation of the Piling Strategy at all times during the offshore construction, operational or decommissioning phases. d. Onshore mitigation measures should be in line with the NRA Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes and the Guidelines for the Treatment of Bats during the Construction of National Road Schemes and any works relating to bats may only be carried out under a licence issued by the NPWS. <u>Reason</u> In the interest of clarity and the protection of the environment during construction and operational phases of development.	a) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. b) The consent documentation and the EIAR/NIS include a very detailed and comprehensive suite of mitigation and monitoring measures to ensure that any impact on the environment and on Natura sites is minimised through all stages of the development. A detailed Onshore CEMP (Appendix A9.1) and Offshore EMP (Appendix A6.1) of the EIAR, detail the full suite of measures included. This includes the appointment of an Environmental Manager, Ecological Clerks of Works, Marine Mammal Observers, others with specific responsibility for ensuring compliance with these plans and measures. In respect of the post-construction monitoring, any such monitoring requirements identified in the EIAR and NIS will be complied with. The Developer respectfully requests that the previous condition (Condition 8 proposed by Meath County Council) appropriately covers the requirements of this proposed condition. c) Following receipt of the RFI and subsequent stakeholder meetings, careful consideration was given to understanding how a refined design could address specific requests contained within the RFI, whilst also further mitigating potential environmental effects from the proposed development. Following careful consideration by the Developer, there are design refinements proposed to both Project Option 1 and Project Option 2. This includes removal of both driven and drilled monopile and jackets with pin piles as options for the WTG foundations from Project Option 1 and Project Option 2 and a refinement to the WTG foundation installation methodology to jackets with suction buckets for Project Option 1 and Project Option 2 to address key stakeholder concerns in the RFI around underwater noise. Further information on the underwater noise impacts of revised WTG foundations is provided in Chapter 14 of the EIAR and Appendix A14.1. It is respectfully suggested that condition No. 1 (MCC proposed conditions) appropriately covers overall mitigation and monitoring requirement and there is therefore no need for another condition such as that suggested here. d) The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that mitigation measures in relation to onshore bats are provided in Section 23.6.1.8 of Chapter 23 of the EIAR.

No.	Condition	Developer's Response
9	Trees and hedgerows shall not be removed during the nesting season (i.e. March 1st to August 31st in accordance with the Wildlife Act (as amended). Replacement hedgerows shall be of native species. <u>Reason</u> In the interest of avian ecology and visual amenity	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that mitigation measures in relation to the removal of trees is provided in Section 23.6.1.8 of Chapter 23 of the EIAR. Mitigation measures for the removal of hedgerows are outlined in Section 23.6.1.2 of Chapter 23 of the EIAR.
10	The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall: - Notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, - Employ a suitably qualified archaeologist in advance of construction works to complete an archaeological assessment of the project site to determine the location, date, nature and extent of any archaeological sites or features. This work will feed into an Archaeological Mitigation Strategy Document that will determine how any archaeological remains are either preserved in situ or preserved by record. - If the advance works show nothing of archaeological significance, construction works shall be monitored, as stray finds are always a possibility. All finds and reports shall be lodged with the National Monuments Service and the National Museum of Ireland. - The suitably qualified archaeologist shall monitor all site investigations and other excavation works and prepare a report on the results of such monitoring to be submitted to the Planning Authority and to the Department of Arts, Heritage and the Gaeltacht. - Results of the works outlined above shall be published in digital and/ or hard copy. - Provide arrangements, acceptable to the Planning Authority, for the recording and removal of any archaeological material which the authority considers appropriate to remove. <u>Reason</u> To ensure the continued preservation in situ or by record of all archaeological and historical material, features or objects, to conserve the archaeological heritage of the site, it is considered reasonable that the developer should facilitate the preservation and protection or the preservation by record of any archaeological features or materials which may exist within it. In the interest of safety.	- The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. - The Developer also notes that Section 25.4 of Appendix 25.4 of the EIAR notes that the updated draft Cultural Heritage Mitigation Strategy will be "submitted to the NMS of the DoHLGH and local authority bodies." - The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that Section 25.6 of Chapter 25 of the EIAR outlines all the mitigation measures which the Developer has committed to regarding any potential effects to onshore archaeological receptors. - The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that the draft Cultural Heritage and Mitigation Strategy (Appendix 25.4 of the EIAR) outlines the roles of the project archaeologist throughout construction. This appendix also notes that "Following the completion of archaeological testing, a report will be submitted to the NMS and NMI detailing the results of the investigations, which will contain a further impact assessment and additional mitigation measures (where required)." - The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer would also note the commitments in the EIAR outlined in response to conditions 10 a-c. - The Developer has no objection in principle to this condition being attached to any grant of permission by An Bord Pleanála. - The Developer notes that the draft Cultural Heritage and Mitigation Strategy (Appendix 25.4 of the EIAR) outlines the roles of the project archaeologist throughout construction. This appendix also notes that "Following the completion of archaeological testing, a report will be submitted to the NMS and NMI detailing the results of the investigations, which will contain a further impact assessment and additional mitigation measures (where required)."
11	The Developer shall, during the construction stage, maintain a Complaints Register to record any complaints regarding but not limited to noise, odour, dust, traffic or any other	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	environmental nuisance. The Complaint Register shall include details of the complaint and measures taken to address the complaint and prevent repetition of the complaint. <u>Reason</u> In the interest of environmental protection and orderly development.	The Developer notes that a list of Environmental Records to be maintained during construction (including a complaints register) is included in Section 7.3.3 of the Onshore CEMP (Appendix 9.1 of the EIAR).
12	If the proposed development causes interference with telecommunications signals in the area, effective measures shall be implemented to minimise such interference. Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the relevant Planning Authority prior to commissioning of the turbines, and following consultation with the relevant authorities. <u>Reason</u> In the interest of orderly planning and residential amenity.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
13	a. The identification of environmental community projects and works shall be decided upon by a community liaison committee; the composition of the committee shall be based upon equal representation of personnel from the Planning Authorities, the developer, local residents and elected members of Meath, Louth, Fingal and Dublin City Councils; any variation in the composition of the committee shall be subject to the prior agreement of the Planning Authorities. b. The developer shall pay a sum of money to the Planning Authority, either annually or in such manner as may be agreed, towards the cost of the provision of environmental improvement and recreational or community amenities in the locality. The identification of such projects shall be decided by the relevant Planning Authority having consulted with the community liaison committee as provided for under (a) above. The amount of the contribution and the arrangements for payment shall be agreed between the developer and the planning authorities or, in default of such agreement shall be referred to the Board for determination. The amount shall be index linked in the case of phased payment. The developer shall consult with the planning authorities in this regard prior to the commencement of the development. <u>Reason</u> It is considered reasonable that the developer should contribute towards the cost of environmental, recreational or community amenities which would constitute a substantial gain to the local community	As noted in Section 1.11 of Chapter 1 of the EIAR, <i>"the Developer will set up a Community Benefit Fund which will commence once the proposed development is in construction. This will be established and administered in accordance with ORESS 1 Community Benefit Fund Rulebook with an independent Fund Administrator appointed to facilitate and support the local community to maximise the opportunities of the Community Benefit Fund. It is estimated that the funding will be approximately €4 million per annum for 20 years."</i> As such, the Developer notes that it has no control over the community projects that the Community Benefit Fund will support in line with the ORESS 1 terms and conditions. Therefore, this condition is considered inappropriate for the proposed development and it is respectfully suggested that it is not attached to any grant of permission, but that the requirements of the EIAR, as set out above, adequately cover the community benefit fund aspects.
Fingal County Council (FCC)		
1	The development shall be carried out in its entirety in accordance with the plans, particulars and specifications lodged with the application, save as may be required by the other conditions attached hereto. <u>Reason</u> To ensure that the development shall be in accordance with the permission, and that effective control be maintained.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
2	Prior to commencement of development, the developer shall submit for the written agreement of Fingal County Council, revised proposals for external finishes to the compensation and GIS substation buildings. The proposals shall be accompanied by trade brochures and photomontages of the structures incorporating the materials. Sample panels shall be erected on the site (if requested by Fingal County Council). <u>Reason</u> In the interests of the proper planning and development of the area.	The Developer notes that a revised external finish for the grid facility (subject to final agreement with EirGrid and FCC) has been included in the Addendum to the EIAR (see Chapter 29 for further information). Therefore, should such a condition be attached to any planning permission, the Developer confirms that it can comply with same.
3	Prior to commencement of development, the developer shall submit for the written agreement of Fingal County Council, details of the location and height of all lightning rods. <u>Reason</u> In the interest of clarity and development control.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	CCTV cameras shall not be directed outside of the grid facility site boundaries. <u>Reason</u> To protect the amenities of the area.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
5	External lighting in the grid facility shall be cowled and shall not be directed outside of the site boundaries. External lighting shall be switched off during hours of darkness, save where required for emergency repairs. A log shall be maintained by the developer of such instances which shall be made available, if requested, to Fingal County Council. Motion sensor lighting shall be implemented to control lighting at access doors and security gates on the site. <u>Reason</u> To protect the amenities of the area.	As detailed in Section 7.4.3.3 of the EIAR, in respect of external lighting at the grid facility, <i>'Under normal operating conditions, external lighting would be switched off during the hours of darkness, to avoid creating any unnecessary glare in the night sky. The exception would be for emergency repairs to outdoor equipment, where high-level illumination would be switched on. The use of motion sensor technology is likely to be implemented to control lighting at access doors, security gates, etc.'</i> Fingal County Council has further requested that the Applicant be conditioned (should consent be granted) to ensure that the external lighting in the grid facility will be cowled and not directed outside the site boundaries and that a log shall be maintained by the developer of such instances which shall be made available, if requested, to Fingal County Council. The Applicant has no objection to a condition of this nature being attached any grant of permission which An Coimisiún Pleanála might make. However, the Applicant does note that the ownership of the grid facility will be transferred to ESB and EirGrid following construction who shall be responsible for maintaining any logs requested by Fingal County Council.
6	Prior to commencement of development, the developer shall submit for the written agreement of Fingal County Council, elevational drawings of the marker posts for the cable route. <u>Reason</u> In the interest of clarity and development control.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	The following shall be complied with in respect of surface water management: - No surface water/ rainwater shall discharge into the foul water system under any circumstances. - The surface water drainage arrangements shall be in compliance with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0 FCC April 2006.	The Developer has no objection in principle to these conditions being attached to any grant of permission by An Coimisiún Pleanála. It is important to note that the Developer has also committed to a comprehensive suite of mitigation measures to manage surface water and ensure water quality is not impacted throughout the lifecycle of the proposed development. These measures are listed in Section 22.6 of Chapter 22 of the EIAR and in the Onshore CEMP in Appendix 9.1 of the EIAR. Additional embedded

No.	Condition	Developer's Response
	c) All culverts shall be designed in accordance with "Culvert Design Guide" Report 168 by CIRIA, latest revision or its replacement, and shall also comply with the recommendations of the OPW. Design calculations for these shall be submitted for the written agreement of Fingal County Council prior to commencement of development. d) The developer shall apply to the OPW to obtain permission under Section SO, Arterial Drainage Act 1945, for culverting of any watercourse. <u>Reason</u> In the interests of public health.	mitigation measures are outlined in Section 9.5.5.11 of Chapter 9 of the EIAR. Reference (in respect of the drainage at the proposed grid facility) is specifically made to compliance with the Greater Dublin Regional Code of Practice for Drainage Works.
8	a) Prior to commencement of development, a Tree Protection Plan, including tree protection measures and Arboricultural Method Statement in accordance with 855837:2012 Trees in relation to Design, Demolition and Construction Recommendations shall be submitted for the written agreement of Fingal County Council. This plan shall clearly indicate the trees and hedgerows proposed for removal and retention. The plan shall clearly indicate the length and area of hedgerows as well as the number of trees proposed for removal. b) Prior to commencement of development, a detailed Landscape Plan, Planting and Works Specification and Management and Maintenance Plan shall be submitted in writing with Fingal County Council in relation to this development. The Landscape Plan shall clearly indicate the length and area of hedgerows as well as the number of trees which are proposed to be planted. This plan shall clearly indicate that there shall be no net tree canopy cover loss as a result of this development. These documents shall be prepared by a suitably qualified landscape professional. c) A consultant qualified arborist suitably qualified landscape professional shall be engaged for the duration of the development to ensure trees and hedgerows are protected in accordance with the agreed Tree Protection Plan. <u>Reason</u> To ensure the provision of amenity afforded by appropriate landscape design.	The Developer has no objection in principle to these conditions being attached to any grant of permission by An Coimisiún Pleanála.
9	Prior to the commencement of works on site, full details of the defined construction corridor and above and ground infrastructure and landscape proposals in relation to the landfall site indicated on Proposed Cable Route Map Sheet 03 and Sheet 04 of 64 shall be submitted for the written agreement of Fingal County Council. <u>Reason</u> In the interest of visual amenity and orderly development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
10	a) Prior to commencement of development, a revised landscape plan for the Grid Facility shall be submitted for the written agreement of Fingal County Council to include additional screen planting (using a mix of standard trees and whips) along the south-eastern boundary.	In response to potential visual impacts to Flemington LAP in Section 4.2.3.4 of this report, the Developer has issued a revised Landscape Management Plan, Drawing ref: 281240_MCR_ONS_GF_DR_YE_1010. This is included in Appendix A7.1 of the EIAR. This, the Applicant believes, if incorporated in the development to be consented, addresses the issues raised by Fingal County

No.	Condition	Developer's Response
	b) Prior to commencement of development, a cross-section drawing shall be submitted for the written agreement of the Planning Authority which illustrates clearly the proposed boundary treatment, existing hedgerow, additional screen planting and the proposed swale. <u>Reason</u> To ensure the provision of amenity afforded by appropriate landscape design	Council and therefore, a condition of this nature is no longer required.
11	Prior to the commencement of development, the developer shall submit for the written agreement of Fingal County Council a phasing plan for the cabling works proposed in the public road. <u>Reason</u> In the interest of orderly development	Following consultation with FCC in 2025, an alternate proposed condition was agreed with FCC for consideration by An Coimisiún Pleanála. Therefore, the Developer requests that the following text be considered in place of the proposed Condition No. 11: <i>Prior to commencement of development the developer shall engage with and submit for the written agreement of Fingal County Council a phasing plan for the onshore cabling works in the public road. The phasing plan shall be refined into several sectional phasing plans, the details of which shall be agreed in writing with Fingal County Council prior to commencement of development.</i> <i>In preparation of the phasing plan, the developer shall provide Fingal County Council with the following requirements:</i> <i>(a) The layout and depth of the ducting trench cross section.</i> <i>(b) The location/route of the ducting trench within each individual section of road.</i> <i>(c) The details for road reinstatement works for each individual section of road, with all such road reinstatement works as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book').</i> <i>(d) The phasing of the proposed works on the public road for each sectional phasing plan, including the phasing dates and duration of any proposed 'road closures' on the public road. This phasing shall be coordinated so as to avoid, where feasible or otherwise agreed, the proposed development works conflicting with various planned and permitted developments along the proposed cable route corridor.</i> <i>(e) The details of the proposed construction traffic management plan for each individual section, including the details of all proposed road closures and lane closures.</i> <i>(h) The details of temporary construction vehicular access opening onto the public road.</i> <i>(i) The details of new permanent vehicular access onto the public road.</i> <i>Each of these sectional phasing plans shall be submitted for the written agreement of Fingal County Council prior to the commencement of the development of that section of the cable route.</i> <i>REASON: In the interest of orderly development.</i>
12	The developer shall comply with the following requirements:	Following consultation with FCC in 2025, an alternate proposed condition was agreed with FCC for consideration by An Coimisiún Pleanála. Therefore, the Developer

No.	Condition	Developer's Response
	a) The layout and depth of the ducting trench cross section shall be agreed in writing with Fingal County Council prior to commencement of development. b) The exact location/route of the ducting trench within each individual section of road shall be agreed in writing with Fingal County Council prior to commencement of development. c) The exact details for road reinstatement works for each individual section of road shall be as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book'), and the details of which shall be agreed in writing with Fingal County Council prior to commencement of development. d) The phasing of the proposed works on the public road, including the phasing dates and duration of any proposed 'road closures' on the public road, shall be coordinated so as to avoid the proposed development works conflicting with various planned and permitted developments along the proposed cable route corridor. In this regard, a phasing plan shall be agreed in writing with Fingal County Council prior to commencement of development. e) The details of the proposed construction traffic management plan, including the details of all proposed road closures and lane closures shall be agreed in writing with Fingal County Council prior to commencement of development. f) The developer shall agree all proposed public transport diversions due to proposed road closures with all relevant transportation stakeholder's, including the NTA, Dublin Bus, and Bus Eireann, prior to commencement of development. The agreed details shall be submitted for the written agreement of Fingal County Council prior to commencement of development. g) All necessary consents from the Council shall be obtained before works commence, including the necessary road opening licences. h) All details of temporary construction vehicular access opening onto the public road shall be agreed in writing with Fingal County Council prior to commencement of development. i) All details of new permanent vehicular access onto the public road shall be agreed in writing with Fingal County Council prior to commencement of development. j) A photographic pre-condition road survey of the entire proposed route for the ducting trench shall be prepared by the developer submitted for the written agreement of Fingal County Council prior to commencement of development. k) Any damage caused to the pavement on the existing road network arising from the construction works (e.g. damage of the surface wearing course, etc.) shall be rectified in accordance with TII Pavement Standards. Details in this regard shall be agreed with the Road Authority in writing prior to the commencement of any development on site.	requests that the following text be considered in place of the proposed Condition No. 12: <i>The developer shall comply with the following requirements:</i> <i>(a) The developer shall agree all proposed public transport diversions due to proposed road closures with all relevant transportation stakeholder 's, including the NTA, Dublin Bus, and Bus Eireann.</i> <i>(b) All necessary consents from Fingal County Council shall be obtained before works commence, including the necessary road opening licences. Such consents may be submitted on a sectional basis (as per the sectional phasing plans, outlined in Condition 11) as agreed with Fingal County Council</i> <i>(c) A photographic pre-condition road survey of the proposed route for the ducting trench shall be prepared by the developer and submitted prior to commencement of development. This photographic survey may be submitted on a sectional basis (as per the sectional phasing plans, outlined in Condition 11), as agreed with Fingal County Council.</i> <i>(d) Any damage caused to the pavement on the existing road network arising as a direct consequence of the construction works (e.g. damage of the surface wearing course, etc.) shall be rectified in accordance with TII Pavement Standards. Details in this regard shall be agreed with the Road Authority in writing prior to the commencement of development on site. Details in this regard for each cable route section can be submitted in accordance with the geographic sections (as per the sectional phasing plans, outlined in Condition 11), as agreed with Fingal County Council.</i> <i>e) The applicant/ developer shall be responsible for the full cost of rectification in respect of any damage caused to the adjoining public road arising directly from the construction work and shall either make good any damage to the satisfaction of Fingal County Council considering reasonable time for the applicant to remedy the damage or pay the Council the cost of making good any such damage upon issue of such a requirement by the Council.</i> <i>REASON: In the interests of orderly development, traffic safety and proper planning.</i>

No.	Condition	Developer's Response
	<u>Reason</u> In the interests of orderly development, traffic safety and proper planning.	
13	Within the grid facility, no additional development shall take place above roof parapet level, including air handling equipment, storage tanks, ducts or other external plant, telecommunication aerials, antennas or equipment, unless authorised by a further grant of planning permission. <u>Reason</u> To protect the visual amenities of the area.	The Developer notes that the LVIA of the grid facility (see Section 29.14.5 of Chapter 29 of the EIAR), concluded that the significance of impact varied from Moderate to Imperceptible, which is not significant in EIA terms. The Developer does not anticipate that it will be necessary to locate air handling equipment, storage tanks, ducts or other external plant on the rooftop of either of the GIS buildings in the grid facility compounds. The Developer will at most require a small satellite dish or antennae to be placed on the roof of the GIS buildings for communications to offshore. Consequently, the Developer considers it extremely unlikely that such small items will generate any impact on the visual amenities of the area. Therefore, the Developer suggests a rewording of this condition as follows: <i>Within the grid facility, no additional development shall take place above roof parapet level, including air handling equipment, storage tanks, ducts or other external plant, unless authorised by a further grant of planning permission, with the exception of a communication antenna and a communication satellite.</i>
14	The following requirements shall be complied with in full: - The hours of operation on all construction sites shall be restricted to between 0800 hours to 1900 hours Monday to Friday, and between 0800 hours to 1400 hours on Saturdays. - No activities shall take place on site on Sundays or Bank Holidays. - Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from Fingal County Council. Such approval may be given subject to conditions pertaining to the particular circumstances being set by Fingal County Council. - Where revisions are approved in accordance with point (c) above, local residents, business in areas which are likely to be affected by noise from the proposed works shall be notified in advance, for example, by letter/leaflet or advertisement stating the following: - Name, address and telephone number of the company carrying out works. - Nature of and reason for works. - Duration and times of work. <u>Reason</u> In the interest of public health and in the interest of residential amenity.	The Developer has no objection in principle to this proposed condition. However, it is necessary for some cables to remain exposed within the confines of the substation compounds, as is the norm for such facilities. Therefore, the Developer suggests a rewording of this condition as follows: <i>All service cables associated with the proposed development shall be run underground. The only exceptions to this condition are within the boundaries of the substation compounds themselves.</i>
15	All necessary measures shall be taken by the applicant/developer to prevent the spillage or deposit of any materials including clay rubble or other debris on adjoining roads during the course of development. In the event of any such spillage or deposit, immediate steps shall be taken to	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	remove the material from the road surface at the applicant/developers own expense. The applicant/developer shall be responsible for the full cost of repair in respect of any damage caused to the adjoining public road arising from the construction work and shall either make good any damage to the satisfaction of Fingal County Council or pay the Council the cost of making good any such damage upon issue of such a requirement by the Council. <u>Reason</u> To protect the amenities of the area.	
16	The developer shall provide a piece of public art or sculpture or architectural feature, to be designed in consultation with Fingal County Council (Public Art Coordinator, within the Community Culture & Sports Division of Fingal County Council). The piece of art shall have a relationship with the area. <u>Reason</u> In the interest of the proper planning and sustainable development of the area	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
17	Prior to commencement of development the developer shall pay to the planning authority a financial contribution towards expenditure that was and/or that is proposed to be incurred by the planning authority in respect of public infrastructure and facilities benefiting development in the area of the Authority, as provided for in the Contribution Scheme for Fingal County made by the Council. The phasing of payments shall be agreed in writing with the planning authority prior to the commencement of development. <u>Reason</u> It is considered reasonable that the payment of a contribution be required in respect of the public infrastructure and facilities benefiting development in the area of the Planning Authority and which is provided, or which is intended to be provided by, or on behalf of the Local Authority.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
Maritime Area Regulatory Authority (MARA)		
1	In accordance with Section 96 of the MAP Act 2021, the holder of a MAC shall, before expiration (if any) of the MAC, rehabilitate that part of the maritime area subject of the MAC, and any other part of the maritime area adversely affected by the maritime usage the subject of the MAC. An Bord Pleanála should be cognisant, in their assessment of any future decommissioning plan, of the long term implications to the State of leaving structures or materials in situ. The management of the states maritime areas is the responsibility of MARA.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. However, the Developer notes that this condition is already a condition within the MAC granted to the Developer (see Appendix 7.1 of the Planning Application Form Appendices). The full details of decommissioning are included in Section 6.11 of Chapter 6 of the EIAR and Section 7.7 of Chapter 7 of the EIAR. Further information is also provided in the Rehabilitation Schedule in Appendix A6.2 of the EIAR.
2	The MAC specifies the permitted maritime usage as "The construction and operation of an offshore windfarm and associated infrastructure (including decommissioning and other works required on foot of any development permission for such offshore windfarm)." Accordingly, the planning application and approval should only consider such usage.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
3	The MAC specifies the spatial representation (map) of the consent area. Accordingly, the planning application should only consider and consent maritime development within that spatial extent. Any change to the spatial extent can only be done by a material amendment to the MAC by MARA in advance of any planning application	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	In the interest of clarity and in the event of a grant of permission, there is merit in requiring the preparation of a "Mitigation Schedule" and "Monitoring Programme"; which could be agreed with ABP. Copies of this agree "Mitigation Schedule" and "Monitoring Programme" should be copied to MARA, as part of the aforementioned file handover. It would be useful for all monitoring data collected be made publicly available by the developer to support and inform future plans and projects. The monitoring schedule should be mindful of the need for the monitoring to be reactive and adaptive given the nature of the development and the likely advances in ORE knowledge over its lifetime. The monitoring schedule should also clearly distinguish between monitoring required at the construction phase of the project and the operational phase	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Offshore EMP (Appendix A6.1) and the Onshore CEMP (Appendix A9.1) include details of all mitigation and monitoring measures for the proposed development.
Irish Aviation Authority (IAA)		
1	The Applicant should be required to engage with daa Dublin Airport and the air navigation service provider (ANSP) Air Nav Ireland to confirm that the proposed offshore wind farm and the associated cranes that would be utilised during its construction are reviewed for any potential impacts on instrument flight procedures and communication, navigation and surveillance equipment at Dublin Airport.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As outlined in Appendix A1.2 Consultation Report of the EIAR, consultation is ongoing with key aviation stakeholder and the Developer welcomes the opportunity to continue to engage.
2	The Applicant should be required to engage with the Department of Defence, the Irish Coast Guard Service and the Search and Rescue operator to assess any implications on aviation operations within the area.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As outlined in Appendix A1.2 Consultation Report of the EIAR, consultation is ongoing with key aviation stakeholder and the Developer welcomes the opportunity to continue to engage.
3a	In the event of planning consent being granted, the applicant should be conditioned to contact the Irish Aviation Authority to: Collaborate on an aeronautical obstacle warning light and marking scheme for the offshore wind farm development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. A commitment is made in Appendix A6.1: Offshore Environmental Management Plan (Offshore EMP) to comply with marking and lighting requirements of the IAA, "in accordance with relevant industry guidance and as advised by relevant stakeholders including in accordance with IALA Recommendation O-139 (IALA, 2013) and Irish Lights requirements." A comprehensive lighting and marking plan is detailed in Appendix A17.3 of the EIAR. This details the types, placement and intensity of lights, identification systems and protocols to ensure visibility and safety. The Developer will continue to engage and collaborate with the IAA.
3b	Provide as-constructed coordinates in WGS-84 format together with blade tip height elevations above mean sea level at each wind turbine location.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
3c	Notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection in accordance with S.I. 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft In Flight) Order.	The Developer will comply with S.I. 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft In Flight) Order in notifying the IAA with at least 30 days' notice prior to commencing crane operations. All navigational hazards will be indicated through issuing Notices to Mariners (NtMs) and other Marine Notices, as detailed in Section 4 of Appendix A17.3: Lighting and Marking Plan.
Irish Coast Guard		
1.	The wind farm layout should be agreed with Irish Coast Guard prior to starting construction given the possibility of turbine locations changing by up to 500 metres and any other unforeseen circumstances.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
2.	The licensee shall submit an up-to-date Emergency Response Cooperation Plan and Oil/HNS Spill Contingency Plan for review and approval by Irish Coast Guard prior to any construction activities.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála The Developer will liaise with the IRCG in relation to SAR resources including ensuring an ERCoP is in place post consent, with this captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA, and in line with Appendix B of Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025).
3.	The licensee shall engage early with Irish Coast Guard on the contents of the SAR checklist.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála Compliance with the relevant regulator guidance at the time of construction is also captured as an embedded mitigation measure in the NRA with Guidance on Safety of Navigation & Emergency Response: Offshore Renewable Energy Installations (OREI) June 2025 requiring the completion of the SAR Checklist in consultation with the IRCG.
4.	The promulgation and frequency of Navtex and radio broadcast warnings shall be agreed in advance with the Irish Coast Guard for the duration of the license period.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
5.	The licensee should consult Irish Marine Notice 03 of 2002 Explosives Picked Up at Sea. Any ordnance found within Ireland's EEZ should be reported to Irish Coast Guard.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
6.	The uncertainty over who (the developer, contractor or EirGrid) will take primacy on a substation, in the event of an emergency for different scenarios and throughout the lifetime of the development, must be clear prior to construction. The information must be included in the Emergency Response Cooperation Plan.	This will be detailed in the ERCoP put in place post consent, noting the ERCoP is captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA.
7.	Information on the substation communications suite and rescue facilities should be available to IRCG prior to construction.	This will be detailed in the ERCoP. The ERCoP will be in place post consent and is captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA, and in line with Appendix B of Search and Rescue and Emergency Response for OREI (Standard Operating Procedures 07-2025).
8.	Weekly Notice -To maintain situational awareness of a changing maritime domain, developers should ensure that IRCG is promptly advised of any significant changes to the	Promulgation of information is captured as an embedded mitigation measure in Section 20 of Appendix A17.1: NRA.

No.	Condition	Developer's Response
	operation as soon as reasonably practical. A notice template will be provided by IRCG on request.	
9.	Ship-to-ship (STS) transfer operations should normally take place in a port/harbour authority area, where suitable infrastructure and port services are in place and oil spill contingency plans exist to deal with incidents. Transfer of ship's stores, cargo, or oil to or from a ship in a place in the State (not being a harbour), including the EEZ, can only be carried in accordance with a permit granted by the Minister. The Minister may, upon an application being made by the owner, charterer, hirer or master of a ship, grant a permit to the applicant allowing the transfer to or from the ship concerned of ships stores, cargo or oil outside a harbour. This function is carried out by Authorised officers of IRCG.	STS transfers were discussed with the IRCG in June 2025 consultation meeting. IRCG clarified that STS Transfer permits had only been issued in emergency situations other than during the decommissioning of the Kinsale oil field. It was acknowledged that requirements of the Sea Pollution Act would require to be revisited given that numerous cargo STS transfers will likely be required and are standard practice for offshore wind. The Developer will seek further clarity on the definition and approach to permitting of STS transfers through WEI engagement with DoT.
Minister for Housing, Local Government and Heritage: National Monuments Service		
1	All mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 25 of the EIAR (IAC Ltd; date June 2024) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	A Project Archaeologist shall be appointed to oversee and advise on all aspects of the scheme from design, through inception to completion. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	a. The Project Archaeologist shall liaise with the National Monuments Service (NMS) to agree in advance the appropriate scope for all archaeological works required as part of mitigation for the project (as identified in Chapter 25 of the EIAR or by any subsequent investigations associated with the project). Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	b. The Project Archaeologist shall advise on and establish appropriate Exclusion Zones around the external-most elements of vulnerable Heritage Assets that are to be preserved in situ (as identified in Chapter 25 of the EIAR or by any subsequent investigations associated with the project). – Exclusion Zones shall be fenced off or appropriately demarcated for the duration of construction works in the vicinity of the monuments. The location and extent of each Exclusion Zone and the appropriate methodology for fencing off or demarcating at each location shall be agreed in advance with the National Monuments Service and the planning authority. – No groundworks of any kind (including but not limited to advance geotechnical site investigations) and no machinery, storage of materials or any other activity related to construction will be permitted within Exclusion Zones.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	
3	The Construction Environment Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed development as set out in Chapter 25 of the EIAR (IAC Ltd; date June 2024) and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
4	The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of all archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer. Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
5	All recommendations and mitigation measures in relation to marine archaeology as set out in Volume 3: Offshore Chapters Chapter 18 Offshore Archaeology and Cultural Heritage (Arup and Partners Ltd) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order. Compliance with this condition shall require a formal statement in writing from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála that all mitigation measures have been implemented and approved. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
6	A Project Archaeologist shall be appointed to oversee and advise on all aspects of the Project, including detailed design, construction activities and maintenance. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	An Underwater Archaeological Impact Assessment (UAIA) report shall be forwarded by the Developer to the National Monuments Service of the Department of Housing, Local Government and Heritage for review and approval prior to all geotechnical investigation works taking place. The UAIA shall augment previous archaeological assessments and shall include the following:	Further geotechnical surveys are licensed under the Maritime Usage Licence (MUL) (LIC230001) for the proposed development and hence are not included in the scope of the planning application. While the Developer fully understands the proposed condition, it does note that there are no geotechnical investigation works proposed under this consent application. All geotechnical works are the subject of a separate Marine Usage Licence (MUL) and these works are subject to an Underwater Archaeologist Impact

No.	Condition	Developer's Response
		Assessment (UAIA) which will be provided under the relevant MUL. As such, the Developer respectfully suggests that An Coimisiún Pleanála consider whether this condition is relevant to this consent application.
7	a. Results of geophysical survey data sets assessment and archaeological interpretation by a suitably qualified and experienced maritime archaeologist, to ensure that any proposed geotechnical works do not negatively impact on locations where there is known or potential underwater cultural heritage, including historic wrecks, archaeological objects, submerged palaeolandscapes, sites and features, and to ensure no samples or cores are taken from an area where a wreck site is located. The archaeologist shall also be suitably experienced, with a track record in dealing with and the interpretation of marine geophysical data for archaeological purposes, including ensuring it is of sufficient specification for the identification of underwater cultural heritage.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála The Developer does note that there is a separate Marine Usage Licence (MUL) for all pre-construction geotechnical works, with associated conditions attached.
7	b. The geophysical surveys shall be licenced under the National Monuments Acts 1930-2014. A Dive Survey Licence (Section 3 1987 National Monuments Act) and Detection Device consent (Section 2 1987 National Monuments Act) shall be required. Licence applications, accompanied by Method Statements, shall be sent for approval to the National Monuments Service of the Department of Housing, Local Government and Heritage. Any dive surveys required in connection with proposed geophysical surveys or other works shall also be licenced (Section 3 1987 National Monuments Act). Any dive survey shall be accompanied by a handheld metal detection survey which shall also be licenced (Section 2 1987 National Monuments Act). All archaeological diving shall comply with the Health and Safety Authority's Safety, Health and Welfare at Work (Diving) Regulations 2018/2019.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	c. Once all geophysical surveys and archaeological interpretations have been completed, the full information shall be compiled into a final UAIA report and submitted to the National Monuments Service for review and approval, prior to undertaking any geotechnical works. The UAIA Report shall contain a detailed Archaeological Impact Assessment that addresses all identified or potential impacts on underwater cultural heritage, including on historic wrecks, archaeological objects, submerged palaeolandscapes, sites and features, and shall also make recommendations on measures to avoid (through the institution of Archaeological Exclusion Zones) or, where necessary, mitigate (by archaeological dive surveys/archaeological test excavations/archaeological geophysical surveys/archaeological monitoring/preservation by record or any other means as recommended by the National Monuments Service) all potential/identified impacts and effects on underwater cultural heritage. The Developer shall be prepared to be advised by the National Monuments Service in this regard or in regard to any subsequent recommendations that may issue. No geotechnical works shall be undertaken until approval in writing from the National Monuments Service has been received by the	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. However, as noted above, the Developer notes that any assessments undertaken to inform geotechnical investigations are consented through a separate MUL and as such the Developer would respectfully request ABP to consider whether this is relevant for the proposed development.

No.	Condition	Developer's Response
	Developer. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the UAIA report. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
8	Following the completion of all geotechnical works, the Developer shall furnish the Project Archaeologist with the results of all site investigation works and shall provide access to site investigation cores and physical samples for archaeological and geoarchaeological review by a qualified geoarchaeologist. Where potential submerged palaeolandscape deposits or other anthropogenic materials are identified, they shall be subject to geoarchaeological and palaeoenvironmental analysis and scientific dating, in agreement with the National Monuments Service and subject to approval of Licences to Alter and Export from the National Museum of Ireland. Following the completion of all geotechnical and archaeological works and any necessary post-excavation specialist analysis, the National Monuments Service shall be furnished with a final archaeological report describing the results of the works. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the geoarchaeological report. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	As noted above, any assessments undertaken to inform geotechnical investigations and the management of the findings thereafter are subject to a separate MUL with associated conditions. Therefore, the Developer respectfully suggests that An Coimisiún Pleanála consider whether this condition is of relevance to the proposed development application, or rather to the separately consented geotechnical investigations themselves. Notwithstanding, the Developer notes that as outlined in the MAMP, the Developer is committed to the following mitigation: Geotechnical cores and core logs from previous project-specific geotechnical will be made available for geoarchaeological assessment by a suitably qualified archaeological contractor. The scope of any geoarchaeological assessment will be set out in a separate archaeological method statement, prepared by the Project Archaeologist and methodology reviewed by the NMS.
9	The Final Design for the offshore windfarm shall be the subject of an Underwater Archaeological Impact Assessment (UAIA), to be submitted to the National Monuments Service for review and approval, prior to the commencement of any seabed preparation or construction works. The UAIA report shall contain a synthesis of the archaeological outcomes of all prior geophysical, geotechnical, intertidal archaeological investigations and any other relevant investigations. The UAIA report shall contain a detailed Archaeological Impact Assessment that addresses all identified or potential impacts on underwater cultural heritage, including on historic wrecks, archaeological objects, submerged palaeolandscapes, sites and features, and shall also make recommendations on measures to avoid (through the institution of Archaeological Exclusion Zones) or, where necessary, mitigate (by archaeological dive surveys/archaeological test excavations/archaeological geophysical surveys/archaeological monitoring/preservation by record or any other means as recommended by the National Monuments Service) all potential/identified impacts and effects on underwater cultural heritage. The Developer shall be prepared to be advised by the National Monuments Service in this regard or in regard to any subsequent recommendations that may issue. No seabed preparation or construction works shall be undertaken until formal approval in writing from the National Monuments Service has been received by the Developer.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála The Developer does request a minor amendment to the condition wording that the NMS provide approval within a reasonable timescale (3 months) to ensure effective and efficient project development.

No.	Condition	Developer's Response
	Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the UAIA report. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
10	Archaeological monitoring shall be undertaken as follows: a. The services of a suitably qualified and experienced, to the satisfaction of the National Monuments Service, maritime archaeologist shall be engaged to carry out full-time onboard archaeological monitoring of all construction activities that impact on the intertidal/foreshore, seabed and/or on underwater cultural heritage and any works where material of archaeological importance may be uncovered. Archaeological monitoring shall include works for seabed preparation, foundation installation and scour protection installation, offshore export cable — landfall installation punch out, offshore export cable — offshore installation, inter-array and interconnector cable installation. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála but would respectfully request a slight amendment as detailed herein. The requirement for a maritime archaeologist to be engaged full-time, 24 hours a day is not practicable. As detailed in the EIAR and MAMP, the main mitigation for the protection of known archaeological receptors is avoidance, in line with EPA guidance (EPA 2022). The implementation and monitoring of Archaeological Exclusion Zones (AEZs) achieve this for the identified high value offshore archaeology and cultural heritage receptors. the mitigation applies to direct and indirect physical disturbance of archaeological receptors. Further, in terms of any unexpected archaeological discoveries, as noted in Section 18.6 of the EIAR and the MAMP, a Protocol for Archaeological Discoveries (PAD) will be maintained throughout the lifecycle of the proposed development. It is the Developer's view that the above protocol is sufficient and mitigates the requirement for an archaeologist to be present throughout the duration of construction and operation of the proposed development. Therefore, the amendment to the condition proposed by the NMS is as follows: The services of a suitably qualified and experienced, to the satisfaction of the NMS, maritime archaeologist shall be retained by the Developer for consultation and as required, for onboard Archaeological monitoring to be conducted during construction works with potential for the discovery of archaeological material on the seabed and/or recovery of archaeological material to the surface.
10	b. The archaeological monitoring shall be carried out by a suitably qualified and experienced, to the satisfaction of the National Monuments Service, maritime archaeologist, under a Section 26 (National Monuments Act 1930) excavation licence and in accordance with an approved method statement. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
10	c. A Finds Retrieval Strategy shall be implemented and agreed with the National Monuments Service, as part of the archaeological licence application. This shall include for metal detection for finds retrieval, which shall be undertaken by a suitably qualified and experienced archaeologist working under a Detection Device consent (Section 2 1987 National Monuments Act). All monitoring works that have the potential to uncover human skeletal remains shall be undertaken	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála A Finds Retrieval Strategy is presented in the MAMP.

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	in conjunction with a suitably qualified and experienced osteoarchaeologist. Secure finds storage that ensures the protection and conservation of wet and dry finds, including human skeletal remains, shall be provided onboard and within the construction site compound. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
10	d. Sufficient, suitably experienced and qualified, to the satisfaction of the National Monuments Service, maritime archaeologists shall be in place to ensure continuous archaeological monitoring works, including 24-hour onboard archaeological monitoring of construction activities. An archaeological team shall be on standby to deal with any rescue excavation and may be augmented as required. An archaeological dive team shall be on standby in the event that underwater archaeological inspection is required by means of archaeological diving. All dive surveys shall be licenced (Section 3 1987 National Monuments Act) and shall include handheld metal detection survey, which shall also be licenced (Section 2 1987 National Monuments Act). All archaeological diving shall comply with the Health and Safety Authority's Safety, Health and Welfare at Work (Diving) Regulations 2018/2019. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála but would respectfully request a slight amendment as detailed herein. The requirement for a maritime archaeologist to be engaged full-time, 24 hours a day is not practicable. As detailed in the EIAR and MAMP, the main mitigation for the protection of known archaeological receptors is avoidance, in line with EPA guidance (EPA 2022). The implementation and monitoring of Archaeological Exclusion Zones (AEZs) achieves this for the identified high value offshore archaeology and cultural heritage receptors. the mitigation applies to direct and indirect physical disturbance of archaeological receptors. Further, in terms of any unexpected archaeological discoveries, as noted in Section 18.6 of the EIAR and the MAMP, a Protocol for Archaeological Discoveries (PAD) will be maintained throughout the lifecycle of the proposed development. It is the Developer's view that the above protocol is sufficient and mitigates the requirement for an archaeologist to be present throughout the duration of construction and operation of the proposed development. Therefore, the amendment to the condition proposed by the NMS is as follows: <i>The services of a suitably qualified and experienced, to the satisfaction of the NMS, maritime archaeologist shall be retained by the Developer for consultation and, as required, for onboard Archaeological monitoring to be conducted during construction works with potential for the discovery of archaeological material on the seabed and/or recovery of archaeological material to the surface.</i> <i>Sufficient, suitably experienced and qualified, to the satisfaction of the NMS, maritime archaeologists shall be in place to ensure archaeological monitoring works as required for construction activities. An archaeological dive team shall be on standby as required in the event that underwater archaeological inspection is required by means of archaeological diving.</i>
10	e. In order to ensure full communication is in place between the monitoring archaeologist(s) and the works contractor(s) at all times, a communication strategy shall be implemented that facilitates onboard direct archaeological monitoring of all construction activities that impact on the seabed/intertidal zone and/or on underwater cultural heritage, and provides the former with adequate notice (minimum eight weeks) of all forthcoming works that require their attendance. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

No.	Condition	Developer's Response
	heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
10	f. Should suspected/verified underwater cultural heritage materials, including wrecks, palaeolandscapes materials, archaeological features or sites and/or archaeological objects be identified during the course of the archaeological monitoring activities, the monitoring archaeologist shall be authorised by the Developer to suspend all construction activities on the affected area (as defined by the monitoring archaeologist). The Developer shall immediately institute a Temporary Exclusion Zone (TEZ) to the proposed find location and its environs (as defined by the monitoring archaeologist) and all construction activities shall immediately cease within the TEZ in order to facilitate investigative assessment, protection and prompt notification to the NMS and other statutory authorities, as required. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála but would request the Board to consider a minor amendment to the wording.
10	g. The Developer shall undertake any ensuing mitigating action as is required by the National Monuments Service. Mitigation shall prioritise redesign or partial redesign to facilitate full or partial preservation in situ by the institution of permanent Archaeological Exclusion Zones. Mitigation may also include underwater archaeological inspection by means of archaeological diving, underwater archaeological surveys (geophysical, ROV), underwater archaeological test- excavations, underwater archaeological excavations ('preservation by record'), stabilisation works and/or archaeological monitoring, or any combination of the above or any other mitigation measures as may be recommended by the National Monuments Service. No construction activities shall recommence within the Archaeological Exclusion Zone until formally agreed in writing with the National Monuments Service. Where ensuing mitigation is required, no archaeological works shall be undertaken until after an amended method statement that describes the mitigation strategy has been submitted, reviewed and agreed in writing by the National Monuments Service. All resulting and associated archaeological costs shall be borne by the Developer. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Bord Pleanála but would request the Board to consider a minor amendment to the wording. The proposed amendment requests that the NMS provide approval within a reasonable timescale to ensure effective and efficient continuation of construction activities. The proposed amendment to this condition is as follows: <i>(g) The Developer shall undertake any ensuing mitigating action as is required by the NMS. Mitigation shall prioritise redesign or partial redesign to facilitate full or partial preservation in situ by the institution of permanent Archaeological Exclusion Zones. Mitigation may also include underwater archaeological inspection by means of archaeological diving, underwater archaeological surveys (geophysical, ROV), underwater archaeological test-excavations, underwater archaeological excavations ("preservation by record"), stabilisation works and/or archaeological monitoring, or any combination of the above or any other mitigation measures as may be recommended by the NMS. Where ensuing mitigation is required, no archaeological works shall be undertaken until after an amended method statement that describes the mitigation strategy has been submitted, reviewed and agreed in writing by the NMS within a reasonable timeframe. All resulting and associated archaeological costs shall be borne by the Developer.</i>
10	h. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of all archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological works and any post-excavation analysis, scientific dating programmes, palaeoenvironmental analysis, geoarchaeological	The Developer has no objection in principle to this condition being attached to any grant of permission by An Bord Pleanála.

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	analysis and conservation of archaeological objects, as required by the National Monuments Service and the National Museum of Ireland, with all resulting and associated archaeological costs to be borne by the Developer. Compliance with this condition requires a formal statement in writing, from the National Monuments Service to the Marine Area Regulatory Authority/An Bord Pleanála, approving the final report submission. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	
11	The Construction Environment Management Plan (CEMP) shall be updated to include the location of any and all archaeological or underwater cultural heritage constraints relevant to the proposed development as set out in the Final Design UAIA and EIAR. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or underwater cultural heritage environment during all phases of site preparation and construction activity. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
12	An Archaeological Management Plan (AMP) shall be forwarded by the Developer to the National Monuments Service of the Department of Housing, Local Government and Heritage for review and approval prior to all confirmatory investigation and/or construction works taking place. The AMP shall set out the commitments made by the Developer in the EIAR, regarding archaeological procedures and protocols for the archaeological monitoring of construction activities and the recording, reporting of any and all archaeological materials discovered during the construction phase. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As part of the updates to the 2024 EIAR to satisfy that RFI, further consultation with the National Monuments Service, (NMS) was undertaken and a Marine Archaeology Management Plan was requested. The MAMP is for the proposed offshore works within the array area, the Export Cable Corridor (ECC) and any temporary works related to the construction, operation and maintenance, and decommissioning of the proposed development, seaward side of the High Water Mark (HWM) (Appendix A18.3: Marine Archaeology Management Plan).
13	In default of agreement on any requirements of the National Monuments Service, the matter shall be referred to the Marine Area Regulatory Authority/An Bord Pleanála for determination. Reason: To ensure the Developers can meet the State's statutory obligations to protect our underwater cultural heritage, throughout the lifecycle of the offshore wind farm project, and to ensure there is consistency in the curation of underwater cultural heritage by all offshore wind farm developers.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
Minister for Housing, Local Government and Heritage: National Parks and Wildlife Service (NPWS)		
1	It is recommended that any proposal for post-consent agreement of method statements, Construction Environmental Management Plan or similar documentation with NPWS is not adopted by An Bord Pleanála.	The Developer notes this recommendation and confirms that the relevant plans will be agreed with the competent authority/authorities and adhered to.

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2	It is recommended that the applicant develop and implement more appropriate methodologies to gather detailed empirical data so that the level of (water)bird migration through the proposed development area, and the potential impact of the proposed development, can be robustly assessed, e.g. considering technologies such as radar. Furthermore, the applicant should consider how such survey methods can be used for further monitoring and to support actions to mitigate any potential negative impacts on migratory (water)bird species that move through the proposed development area, for use during operation (at least), should the development proceed.	The Developer agrees that there are uncertainties with the assessment impacts on migratory waterbird species however, these have been addressed within the assessment process by taking a precautionary approach and by using the most up-to-date guidance and assessment tools. The Developer does not consider that further data collection is required to assess collision risk to migratory birds. Collision risk was assessed using the most up-to-date Marine Directorate migratory Collision Risk Modelling (mCRM) tool, applied as a cumulative, Irish Sea-specific model covering all Irish East Coast Phase One projects. The survey and assessment approach adopted is consistent with current best practice for offshore ornithology, combining site-specific survey data with recognised modelling techniques (mCRM). This aligns with UK and Irish guidance, which recognises that radar and similar techniques are not routinely relied upon for quantitative assessment of collision risk for migratory species. The resulting evidence base is therefore robust and proportionate. A full response to this recommendation is provided in Section 4.10.3.2.2 Migratory waterbird species.
3	In regards to assessment of impacts on land-based birds, the applicant should have not only considered but implemented appropriate survey methodologies in order to detect and assess the level of bird migration through the proposed development area, working collaboratively with other ORE applicants, to determine more fully the potential impact and cumulative impacts of the proposed development/s across the territorial waters in the Irish Sea. It is recommended that the applicant is requested to respond to these observations by provision of clarifications or further information as the Board deems appropriate.	The Developer does not consider that further data collection is required to assess collision risk to land-based migratory birds. A full response to this recommendation is provided in Section 4.10.3.2.3 Terrestrial Bird Species.
4	The Department requests that further information be provided to inform a revision of the assessment of impacts of the marine birds of the North-west Irish Sea SPA in relation to this proposed development. Specifically, that the survey data from HiDef (2019) be integrated into the displacement analyses; and secondly the findings of the following papers indicating displacement impacts of greater than 4km for Red-throated Diver: Webb et al. 2017; APEM 2021; Heinänen et al. 2016; Zydalis et al. 2016; Mendel et al. 2019; Heinänen et al. 2020; and Vilela et al. 2020 be taken into account as part of the revision of the assessment.	While the HiDef (2019) dataset provides useful wider contextual information, it offers more limited spatial coverage of the key ZOIs used within the assessment and is based on data that are now superseded by the targeted, site-specific 12-month DAS programme across the NWIS cSPA. In light of the NWIS DAS, the assessments have been reviewed and updated for all species (including red-throated diver) to ensure that the baseline characterisation and subsequent impact assessments reflect this evidence. The Developer has reviewed the available evidence on RTD disturbance, including that cited in the NPWS recommendation and has adopted the following operational-phase displacement rates: • Array area PFI+ 4 km buffer: 100% displacement. • 4 km to 10 km buffer: 52% displacement. These rates are considered precautionary and represent the upper end of displacement responses reported in the literature.
5	It is regarded that the evaluation of impacts of specific SCI birds (e.g. Kittiwake) associated with the North-west Irish Sea SPA; Lambay Island SPA; Ireland's Eye SPA; and Howth Head SPA in relation to this proposed development cannot currently support the making of a determination as to the impact on the relevant conservation objectives.	Based on the scientific evidence on kittiwake displacement set out in Appendix A15.5 Offshore Ornithology Displacement Analysis of the EIAR, it is not considered appropriate to assess kittiwake for displacement effects.
	It is recommended that the applicant re-analyse the impact of displacement of such marine birds by the proposed development in relation to specific relevant conservation objectives' attributes such as population size; spatial	The Developer position aligns with the UK Joint SNCB Interim Displacement Advice Note (SNCBs, 2022) within which kittiwake are not identified as a priority species for displacement assessment. Based on the evidence provided it is not considered appropriate to assess kittiwake for displacement effects,

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	distribution; and forage spatial distribution, extent, abundance and availability.	however, for completeness the Developer has provided an additional assessment, including both displacement and collision mortalities for kittiwake for a range of impact scenarios within Section 15.5 of Chapter 15 of the EIAR and Section 5.4 of the NIS. A full response to this recommendation is provided in Section 4.10.3.2.5 Kittiwake – displacement.
6	It is recommended that clarification be sought as to the sources of the precise parameters for roseate tern flight behaviour used in the CRM as well as a statement regarding the robustness of such data.	The Developer strongly supports the use of the flight height data from Johnston et al. (2014) in Collision Risk Modelling (CRM), as it is derived from an extensive dataset collected across various locations, making it the most comprehensive and robust dataset available. This dataset is widely utilised in other jurisdictions and is preferred over site-specific flight height data gathered from boat-based surveys or estimates derived from digital aerial survey telemetry. Common tern flight height distribution from Johnston et al. (2014) has been used as a proxy for roseate tern. This approach was adopted as common tern most closely reflects the flight ecology and behaviour of roseate tern and is the most precautionary of the small tern species considered (common and Arctic), due to its higher flight height distribution. A full response to this recommendation is provided in Section 4.10.3.2.4 Predicting mortalities of seabirds resulting from collision events.
7	It is recommended that the applicant is requested to reevaluate the CRM in the context of the limitations that have been identified in this section (see 2.3.3 in this submission), through the collection of additional information or re-analysis of existing data and to reassess the implications of these on the conservation objectives of the listed species for the relevant SPAs.	The Developer does not consider it necessary to re-evaluate the assessment based on the tracking data from Perrow et al. (2019). DAS is the best data to inform the baseline and for use in a CRM assessment, as it provides the most extensive and consistent dataset available, ensuring high-quality, consistent data over multiple seasons. Baseline data for the array and its 4km buffer zone was collected over 29 months, plus a further 12 months of the entire NWIS cSPA since the submission of the planning application in 2024 (thus 41 months in total for the array area plus 4km buffer). The data collection methodology and the analysis align with industry guidance, and the data collection period exceeds the recommended duration to ensure appropriateness and reliability. While minor datasets or isolated evidence may indicate slight variations (such as a different bird density in a specific month), these do not undermine the adequacy or robustness of the data for conducting a reliable assessment. Additional data collection or incorporation of alternative sources is highly unlikely to alter the assessment's outcomes or conclusions in any significant way. A full response to this recommendation is provided in Section 4.10.3.2.4 Predicting mortalities of seabirds resulting from collision events.
8	The Board are advised that the applicant's approach to defining bespoke reference populations for this SPA relies upon larger population estimates pertaining to a wider region (as opposed to the smaller defined footprint of the SPA) as the basis for the impact assessment. It is the Department's view that this approach does not permit a full understanding of the implications of the proposed development on the conservation objectives of the relevant SPAs.	The Developer confirms that population-level effects have been assessed across multiple, ecologically relevant population contexts. These include: • breeding populations of adjacent SPAs. • the NWIS cSPA citation population. • the relevant regional population. • maximum abundance estimated from the recent site-specific NWIS DAS collected between September 2024 and August 2025.

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		This approach reflects the strong seasonal variability and wide dispersal of species outside the breeding season, avoids over-reliance on highly precautionary snapshot values, and it is considered that it provides a more robust, evidence-based assessment than assessing against the stated NWIS citation populations. A full response to this recommendation is provided in Section 4.10.3.2.7 – Migratory movements by seabird in the array area.
9	The Board are advised that the Department does not agree with the applicant's determination that the Irish east coast Guillemot breeding season ends at the end of June. It is recommended that the applicant is requested to re-evaluate the data in this context and to re-interpret the consequences for the impacts on the conservation objectives of the SPA.	The Developer has provided clear explanation and methodology for the reference population size within the NIS. It is standard practice within other jurisdictions to adjust the bio-seasons where robust site-specific data/evidence strongly suggests a slightly different definition a more appropriate. A full response to this recommendation is provided in Section 4.10.3.2.9 Displacement effects.
10	It is recommended that further information should be provided by means of specific surveys of the site for pinnipeds and that this should also be set in the context of seasonal changes in distribution of these species.	Seal vantage point (VP) surveys have been undertaken at the landfall site at Balbriggan, County (Co.) Dublin in November 2024 and between June 2025 and May 2026, using VPs within the landfall site and a surrounding 500 metre (m) survey buffer, and following guidance from the following source: NPWS and Department of Communications Climate Action and Environment (NPWS, 2010; DCCAE, 2018) there were no seals observed hauled out on the shore or along the landfall site. No grey or harbour seal pups were observed across any of the months, indicating that the area is not used as a pupping or breeding site by these species. The Developer confirms that the recommendation made by the Department has been met. A full response to this recommendation is provided in Section 4.10.3.3.1 - Pinniped species.
11	It is recommended that further acoustic information to fully characterise the site is requested from the applicant to understand the implications of the proposed development. Acoustic surveys to allow for monitoring of baleen whales, such as minke whale, should also be considered.	The Developer considers that the data analysed within the assessment of impacts within the EIAR and NIS to be sufficient to determine the significance of impacts from the project and does not propose to undertake acoustic surveys at this stage. A full response to this recommendation is provided in Section 4.10.3.3.2 - Cetaceans.
12	It is recommended that further information is requested regarding the proposed use of ADD as a potential mitigation tool. Such information should include a consideration of any in-combination effects with surrounding anthropogenic source and estimation of individuals of each species that are likely to be affected. Consideration as to whether such deliberate disturbance will require derogation under Article 16 of the Habitats Directive should also be provided.	The Developer notes that the MMMP is a live document and will be subject to revisions once the final design and installation methods are finalised. The final MMMP will take into consideration the relevant technologies and methodologies that emerged in the interim, along with any relevant updated guidance. A full response to this recommendation is provided in Section 4.10.3.3.2 - Cetaceans.
13	It is recommended further data should be acquired or more data analysed to allow further consideration of the implications of the proposed development on offshore bat activity. These analyses should include use of the data collected during vessel and headland surveys in 2024 as well as further surveys of the buildings at Rockabill Island to determine if a bat roost is present and should address the potential for any interaction between bats on Rockabill and the offshore development area. Consideration as to whether there is need for mitigation of significant impacts on bats and secondly a risk a potential for deliberate disturbance	Survey has been undertaken at headlands, on boats and at Rockabill, the latter of which confirmed that there is no permanent roost on the island and no risk of deliberate disturbance. The Developer confirms that the recommendation made by the Department has been met. A full response to this recommendation is provided in Section 4.10.3.4 - Bats (offshore and migratory).

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	which will require derogation under Article 16 of the Habitats Directive should also be addressed.	
14	It is recommended that if any permission is granted in response to the current application, that in order to preserve local floral biodiversity, it should be a condition of the permission that the landscaping plan for the grid facility site in Bremore should be amended to remove proposals to use wildflower seeds and replace with management of the existing seedbank to encourage natural germination and recolonisation. It is recommended that the modified HSMP shall be submitted to the Fingal County Council for their written agreement. The modified HSMP should include either a strategy for sourcing wildflower seeds of local origin to utilise in establishing areas of species rich grasslands proposed for the grid facility and Blake's Cross North sites or a methodology to promote wildflowers establishing themselves on these sites by germinating from the existing soil seed banks and by natural dispersal. The modified HSMP shall also include proposals for sourcing, subject to the permission of the relevant landowners, aquatic plants and their seeds from local sites where such plants grow abundantly to use in planting up the attenuation basin area at the grid facility.	The Developer agrees that landscape plan for the grid facility and the Habitat and Species Management Plan (HSMP), EIAR Appendix 23.10, should be amended to remove proposals to use wildflower seeds, albeit that any seed mix proposed was to be sourced locally, and replace with management of the existing seedbank to encourage natural germination and recolonisation. These amendments will be recognised in all relevant documentation (EIAR Chapter 23 and Appendix A23.9) in agreement with Fingal County Council. A full response to this recommendation is provided in Section 4.10.3.5 Onshore Biodiversity.
Commissioners of Irish Lights		
1	The Developer shall during the whole period from the commencement of construction of the authorised project to the completion of decommissioning, exhibit such lights, marks, sounds, signals and other marine aids to navigation (AtoN), and take such other steps for the prevention of danger to navigation as Irish lights may from time to time direct.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that the Lighting and Marking Plan (Appendix A17.3 of the EIAR) follows IAA guidance, specifically: - IAA Guidance Material on Off-Shore Wind Farms (IAA, 2015) - Statutory Instrument (S.I.) No. 215/2005 - IAA (Obstacles to Aircraft in Flight) Order, 2005 (IAA, 2005). It is important to ensure that the requirements of the Commissioners of Irish Lights do not conflict with the requirements of IAA guidance.
2	The Developer must during the whole period from the commencement of construction of the authorised project to the completion of decommissioning keep Irish Lights informed of progress of the authorised project including: notice of commencement of construction of the authorised project within 24 hours of commencement having occurred. notice within 24 hours of any aids to navigation being established by the developer; and. notice within 5 days of completion of construction of the authorised project.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
3	The Developer must submit a close out report to Irish Lights within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following details: The final number of installed wind turbine generators (WTG) As-built plans Latitude and longitude coordinates of the centre point of the location for each WTG and offshore platform (OSP), substation, and meteorological mast; provided as Geographical Information System data referenced to WGS84 datum.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

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4	The Developer must provide reports to Irish Lights on the availability of marine aids to navigation (AtoN) in accordance with Irish Lights guidance and using the online portal reporting system provided. Irish Lights works closely with Local Lighthouse Authorities and Developers to ensure that AtoN standards in offshore developments meet International Association of Marine Aids to Navigation & Lighthouse Authorities (IALA) standards. To ensure these criteria are met each developer provides access to records and information concerning the aids to navigation under their management to Irish Lights. Irish Lights conduct inspections and audits on a regular basis to assist the developer in maintaining records and policies/procedures for the operation of AtoN. The Developer must agree to such inspections and audits by Irish Lights.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
5	The Developer must during the whole period from the commencement of construction of the authorised project to the completion of decommissioning notify Irish Lights of any failure of the aids to navigation and the timescales and plans for remedying such failures, as soon as possible and no later than 24 hours following the developer becoming aware of any such failure. During the construction and decommissioning phase, it is recommended that working areas be established and marked as appropriate. As construction areas become larger the spacing between marine aids to navigation and ranges of lights, need to be assessed so that it is readily apparent to the mariner that the AtoN are marking a zone.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
6	In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, the Developer must as soon as reasonably practicable and no later than 24 hours following their becoming aware of any such damage, destruction, or decay, notify Irish Lights. In the event of this occurrence the developer must lay down such buoys, exhibit such lights and take such other steps for preventing danger to navigation as directed by Irish Lights.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	In case of exposure of cables on or above the seabed, the developer must, within three days following identification of a potential cable exposure, notify mariners, DOT and Irish Lights of the location and extent of exposure.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
8	The Developer must submit an application for statutory consent on each occasion to Irish Lights prior to the establishment, alteration, or disestablishment of any required aid to navigation associated with the Project. Such a consent must be sought in good time and cannot be granted in retrospect.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
9	The Developer must, no later than 6 months prior to the Commencement of the Development, agree a Lighting and Marking Plan (LMP) with Irish Lights. The LMP must make provision for amending the marking and lighting of the OSPs, as required by Irish Lights, in the event that any OSPs are constructed prior to the construction of WTGs within the Site, to ensure the marking and lighting of any OSP suits the layout of any surrounding WTGs that form part of any wind farm development located within the Site.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes that the Lighting and Marking Plan (Appendix A17.3 of the EIAR) follows IAA guidance, specifically: - IAA Guidance Material on Off-Shore Wind Farms (IAA, 2015) - Statutory Instrument (S.I.) No. 215/2005 - IAA (Obstacles to Aircraft in Flight) Order, 2005 (IAA, 2005). It is important to ensure that the requirements of the Commissioners of Irish Lights do not conflict with the requirements of IAA guidance.

No.	Condition	Developer's Response
10	All marine aids to navigation must be published on nautical charts, in relevant publications and by promulgation of Maritime Safety Information.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála, although would note that this is the responsibility of Commissioner of Irish Lights and/or the UK Hydrographic Office rather than the Developer.
National Transport Authority		
1	Given the proximity of the two projects, it is the NTA's view that coordination will be required in terms of construction methodologies and traffic management. In this regard, it is recommended that the applicant is conditioned to engage with the NTA as part of any grant of permission and that their detailed design and pre-construction stages are coordinated with that of the Metrolink project design, to ensure that it does not prejudice the delivery of the Metrolink project.	Throughout the EIAR, the Developer has committed to ongoing engagement with stakeholders as required. Pre-application consultation was undertaken with the NTA as outlined in Appendix 1.2 of the EIAR. Specific engagement was undertaken with the Metrolink project and potential cumulative impacts with this project are assessed in Chapter 38 of the EIAR. The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer would respectfully request a minor amendment to the wording of the condition. The proposed amendment is as follows: <i>It is recommended that the applicant is conditioned to engage with the NTA as part of any grant of permission and that their detailed design and pre-construction stages are coordinated with that of the Metrolink project design.</i>
2	In the context of the Clongriffin to City Centre Bus Corridor Scheme, it is also recommended that the applicant is conditioned to engage with the NTA as part of any grant of permission, as the applicant's proposed primary route shares a scheme footprint with the Bus Corridor scheme, with the shared space extending along the R107 Malahide Road from the R107/R139 junction at Clarehall, north, for approximately 170 metres.	Throughout the EIAR, the Developer has committed to ongoing engagement with stakeholders as required. Pre-application consultation was undertaken with the NTA as outlined in Appendix 1.2 of the EIAR. Assessment of potential effects with the Clongriffin to City Centre Bus Corridor is included in Chapter 38 of the EIAR. The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála subject to a minor amendment in the wording of the condition. The proposed amendment is as follows: <i>In the context of the Clongriffin to City Centre Bus Corridor Scheme, it is also recommended that the applicant is conditioned to engage with the NTA as part of any grants of permission.</i>
Louth County Council		
1	The Board is recommended to take on board any comments received from the Commissioner of Irish Lights so as to ensure there is a coherent network of visual and electronic aids to navigation in the subject waters. Safe navigation for all sea users is key in particular for fishing vessels.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	A Dumping at Sea permit is required for the disposal of a substance or material at sea under the Foreshore and Dumping at Sea (Amendment) Act 2009. The soil and rock arising from the drilling for the installation of the foundations for the Project will be returned to the area adjacent to the foundation location. It is important that the dispersion of the drill arisings are minimised. This should also be considered in the context of short-term impacts on the navigational routes for other vessels as well as appropriate assessment issues that may arise.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
3	A condition requiring a bio-security action plan including monitoring of potential opportunities for the introduction and avoidance of non-native species should be attached to any grant of permission. Vessel traffic to offshore platforms should also be minimised.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.

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4	The Board should ensure that there are adequate water quality mitigation measures put in place to ensure there is no deterioration in water quality status.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
5	It is recommended that the Board grant permission for the offshore windfarm subject to conditions that ensure that the proposal is in accordance with the plans and particulars submitted and does not give rise in conflicts in terms of mitigation measures across the various reports submitted. As noted in the report a design flexibility condition should be attached with details to be submitted for the written agreement of the planning authority prior to the commencement of those elements of the development.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála
Dublin City Council		
1	Insofar as the Planning & Development Act 2000 (as amended) and the Regulations made thereunder are concerned the development shall be carried out in accordance with the plans, particulars and specifications lodged with the application, save as may be required by the conditions attached hereto. For the avoidance of doubt, this permission shall not be construed as approving any development shown on the plans, particulars and specifications, the nature and extent of which has not been adequately stated in the statutory public notices <u>Reason:</u> To comply with permission regulations	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
2	Prior to commencement of development, the applicant shall engage with Dublin City Council regarding the methodology and programme for agreement of precommencement works including those required to prove the route and inform the detailed design and layout of infrastructure. In this regard, the applicant is advised to incorporate sufficient time into their overall programme to agree such works.	The Developer notes that road opening licences and road closure notices will be required prior to the commencement of development, the conditions of which will require to be agreed with the relevant local authority. Notwithstanding, the Developer has no objection in principle to further engagement with Dublin City Council to agree the methodology and programme as suggested by this proposed condition, but would respectfully request that any such condition be amended as follows: Prior to the commencement of development, the Developer shall engage with Dublin City Council regarding the methodology and programme for agreement of precommencement works including those required to prove the route and inform the detailed design and layout of infrastructure. Dublin City Council shall provide a dedicated liaison to ensure that agreement on such methodology and programme is provided within a period of 3 months .
3	Prior to commencement of development, the applicant shall agree in writing with Dublin City Council: a. The exact location/route of the ducting trench within each individual section of road b. The layout and depth of the ducting trench cross sections c. Location and construction detail of Joint Bays including purpose built joint bay lids Details for road reinstatement works for each individual section of road. Reinstatement works shall be at a minimum as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book') but may additional reinstatement works as required on a case-by-case basis having regard to the specific location and environment.	Section 7.2.2 of Chapter 7 of the EIAR states that the Developer has " <i>defined a proposed development boundary which provides some necessary local flexibility regarding the placement of project infrastructure. Whilst in some locations this means that the proposed development boundary is larger than the likely final construction footprint, this approach provides confidence that the proposed development will be constructable entirely within the proposed development boundary. The proposed cable infrastructure centreline is shown on Figure 7.3 and on the planning drawings (Appendix 7.1) but remains subject to the final permitted location of other infrastructure and to the tolerance for immaterial deviation from the location shown. Thus, the location for cable infrastructure indicated may change within the proposed development boundary.</i> " The Developer acknowledges the importance of working closely with DCC to agree the routing location of the

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		onshore cable route. To this effect, the Developer requests this condition to be amended slightly to include the provision of a dedicated liaison from DCC while works on the road are ongoing. The Developer would also request the word 'exact' be removed from this condition due to the necessary flexibility required (as noted in the excerpt from the EIAR above) for the routing of the onshore cable.
4	Prior to commencement of development, a phasing plan for the overall proposed works on the public road shall be agreed with Dublin City Council. Reason To protect the amenities of the area.	The Developer notes that road opening licences and road closure notices will be required prior to the commencement of development, the conditions of which will require to be agreed with the relevant local authority. Notwithstanding, the Developer has no objection in principle to further engagement with Dublin City Council to agree a phasing plan as suggested by this proposed condition, but would respectfully request that any such condition be amended as follows: Prior to the commencement of development, the developer shall engage with Dublin City Council to agree a phasing plan for the cabling works proposed in the public road. Following this engagement, Dublin City Council shall provide agreement within a period of 3 months.
5	Prior to commencement of development, a Construction Management Plan to include traffic management and road closure proposals, for the overall works within Dublin City shall be submitted for the written agreement of Dublin City Council. This shall take cognisance of planned and permitted developments and infrastructure projects. The plan shall also align with the phasing plan requested at item 3 above. <u>Reason</u> To protect the amenities of the area.	The Developer has no objection in principle to this condition but request that the condition be amended such that agreement from DCC needs to be forthcoming within a period of 3 months.
6	All necessary consents from Dublin City Council shall be obtained before works commence, including the necessary road opening licences	The Developer fully understands the need to obtain any necessary consents from Dublin City Council in advance of the commencement of works and has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
7	As soon as may be subsequent to permission granted, if An Bord Pleanála is so minded, the applicant shall submit to the Planning Authority a communication plan for the overall project from pre-commencement through construction to operational stages. This shall include liaison details for engagement with the Local Authorities as well as the general public. All costs associated with the communication plan shall be borne by the applicant.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer notes the detail provided in the Onshore CEMP (Appendix 9.1 of the EIAR) which sets out in Section 8 its approach to communications and complaints for the duration of the construction phase, which includes a communications management plan, detailing proactive consultation and public communications activities required during construction, the available communication channels/points of contact for members of the public, requirements in respect of advance notice of works, complaints procedures, etc.
8	Prior to commencement of development, the applicant shall submit for written agreement to the Planning Authority a photographic pre-condition road survey of the entire proposed route for the ducting trench.	The Developer fully understands its obligation in this regard and has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Onshore CEMP, Section 3.8 notes that: <i>'Where requested by the local authorities prior to the commencement of construction operations, pavement condition surveys will also be carried out along roads forming part of the offline haul routes.</i> <i>These will record the baseline structural condition of the road being surveyed immediately prior to construction'.</i>

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9	Any damage caused to the pavement on the existing road network arising from the construction works (e.g. damage of the surface wearing course, etc.) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority in writing prior to the commencement of any development on site.	The Developer fully understands its obligations in this regard and has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
Specific Requirements of Technical Divisions		
10	The applicant shall comply with the requirements of Roads Maintenance Services throughout pre-commencement, construction and reinstatement stages of development: - Proper assessment of the route is required at pre-commencement stage. Green space, road verge or footpath preferable. Joint bays location 'Purple Book' (Guidelines for Managing Openings in Public Roads) standards are the basic requirements for permanent reinstatement. Site specific conditions also required, otherwise Dublin City Council may end up with a patchwork quilt of reinstatement. - The joint bays require purpose built lids to prevent reflective cracking in the road surface. Site investigation (SI) required to prove route under the public road. - Marker plates on public road are not desirable. Reference in the NISA planning application documents but no details given. - Straight runs of proposed service preferable, otherwise sterilisation of additional underground space will happen. - Technical Acceptance Report (TAR) process required for joint bays. - Operations and Maintenance (O & M) manuals required. - Stakeholder engagement and communications plan required. - Developer to fund site supervision on behalf of Dublin City Council. Reasonable time is required for planning compliance prior to construction, to enable Dublin City Council teams to process/ approve documentation.	The Developer notes the following regarding these condition being attached to any grant of permission by An Coimisiún Pleanála: 3f - it is noted that proposed Condition 3d from Dublin City Council is very similar to proposed condition 3f. 3j - following construction, the joint bays will be an ESB Networks/EirGrid asset and will be maintained by them throughout the operational phase of the proposed development. The Developer therefore respectfully suggests that this condition is not appropriate as there will be no handover of assets to the local authority. 3h - The Developer notes the detail provided in the Onshore CEMP (Appendix 9.1 of the EIAR) which sets out in Section 8 its approach to communications and complaints for the duration of the construction phase, which includes a communications management plan, detailing proactive consultation and public communications activities required during construction, the available communication channels/points of contact for members of the public, requirements in respect of advance notice of works, complaints procedures, etc. 3l - The Developer has no objection in principle to this proposed condition but respectfully requests a reasonable timeline be included for the planning compliance process, within this condition. This will ensure that the construction programme is maintained and delivery of offshore wind energy by 2030 is achievable.
11	The following requirements of the Traffic Divisions shall be complied with: - Prior to the commencement of development, the developer shall submit for the written agreement of Dublin City Council a phasing plan for the cabling works proposed. The following details should be provided as part of this agreement: - The exact location/route of the ducting trench within each individual section of roadway, particular care should be taken to ensure that the ducting route impacts existing services as little as possible along the route. - The layout and depth of the ducting trench cross section. - The developer should map all existing DCC ITS equipment in the area and will be responsible for the replacement of any equipment which is damaged during the works. - The exact details for road reinstatement works for each individual section of road shall be as per the 'Guidelines for Managing Openings in Public Roads' (often referred to as 'the purple book').	(i) Section 7.2.2 of Chapter 7 of the EIAR states that the Developer has "defined a proposed development boundary which provides some necessary local flexibility regarding the placement of project infrastructure. Whilst in some locations this means that the proposed development boundary is larger than the likely final construction footprint, this approach provides confidence that the proposed development will be constructable entirely within the proposed development boundary. The proposed cable infrastructure centreline is shown on Figure 7.3 and on the planning drawings (Appendix 7.1) but remains subject to the final permitted location of other infrastructure and to the tolerance for immaterial deviation from the location shown. Thus, the location for cable infrastructure indicated may change within the proposed development boundary." The Developer acknowledges the importance of working closely with DCC to agree the routing location of the onshore cable route. To this effect, the Developer requests this condition to be amended to include the provision of a dedicated liaison from DCC while works on the road are ongoing, to agree such details on an ongoing basis to avoid unnecessary delays. The Developer would also request the

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	(ii) The phasing of the proposed works on the public road shall be agreed with Dublin City Council prior to the start of the works, including the phasing dates and duration of any proposed 'road closures' on the public road. (iii) Road closures should be kept to an absolute minimum and shall only be granted as a last resort and for a short duration once all other alternatives have been fully explored as potential road closures in the Dublin City Council areas in particular would likely result in significant local disruption to traffic in both the Dublin City Council and Fingal County Council areas. The developer will have to ensure that they works are coordinated so as to avoid the proposed development works conflicting with various planned and permitted developments along the proposed cable route. For any roadworks or closures that affect bus routes, agreement with the National Transport Authority and notification of the bus operators must be confirmed prior to the works commencing.	word 'exact' be removed from this condition due to the necessary flexibility required (as noted in the excerpt from the EIAR above) for the routing of the onshore cable. (ii) The Developer notes that road opening licences and road closure notices will be required prior to the commencement of development. To this effect, the Developer is willing to engage with DCC to agree a phasing plan to limit disruption to the public and suggests alternative wording for this condition as follows: <i>Prior to the commencement of development, the developer shall engage with Dublin City Council to agree a phasing plan for the cabling works proposed in the public road. Following this engagement, Dublin City Council shall provide agreement within a period of 3 months.</i> (iii) The Developer notes that Section 9.3.3 of Chapter 9 of the EIAR highlights the requirement for full road closures on certain roads by stating "<i>Due to the narrow widths of certain roads, temporary full road closures with associated traffic diversions are likely to be necessary at some sections of the onshore cable route.</i>" Section 24.4.2.3 of Chapter 24 of the EIAR also notes that "<i>The full road closures have been identified along narrower roads where the construction width is limited and where it would not be possible to lay the cable while safely maintaining partial traffic flows. In the case of full road closures local property access will still be maintained for car, active travel (pedestrians and cyclists) and service/emergency vehicles throughout, through the contractor's implementation of safe traffic management measures.</i>" The Developer acknowledges the significance of disruption local road closures would have on the public in both DCC and FCC jurisdictions. These are fully assessed in Chapter 24 of the EIAR. It is important to note that the reliance on full road closures is only used in exceptional circumstances, and as a last resort. Section 24.6.1.3 of Chapter 24 of the EIAR outlines the Developer's commitment to minimising road closures as far as possible: "<i>Due to the potential negative, significant, temporary impact of the full road closures on local diversion route operations, strategic diversion route operations and bus services it is proposed to limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route, as an additional mitigation measure</i>". (iv) The Developer is willing to engage with both DCC and FCC to organise the road closures to ensure disruption is reduced as far as feasible. The Developer is committed to establishing a Communications Management Plan which specifies the approach and protocol in relation to community and stakeholder engagement (see Section 8.1.2 of Appendix 9.1 of the EIAR). This includes consultation with DCC and the National Transport Authority to notify any roadworks or closures which may impact on bus routes. Additional commitments are outlined in Section 24.6.1.3 of Chapter 24 of the EIAR which states "<i>Bus services will be prioritised at stop/go lane closures along partial road closures, however, could potentially still incur significant delays along heavily trafficked routes. Due to the potential negative, significant, temporary impact of the partial road closures on bus services it is proposed to reduce the likelihood of bus services incurring delays by diverting bus services currently operating along proposed partial road closures towards local diversion routes, as an additional</i>

No.	Condition	Developer's Response
		<i>mitigation measure. The appropriate bus route or local diversion route is to be determined the operator."</i> The Developer respectfully suggests that given the above, and the need for compliance with these requirements under Condition 1 of any consent (as these requirements form part of the plans and particulars of the proposed development), this condition is not required.
12	The following requirements of the Drainage Planning, Policy and Development Control Division shall be complied with: (i) The Drainage Planning, Policy and Development Control (DPPDC) section has no objection to this development, subject to the developer complying with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0. In particular, the required separation distances between new utilities/cables and existing public surface water sewers, as specified in Section 3.13 Utilities, shall be adhered to. (ii) There are a number of locations where the proposed cable routes cross or run alongside existing public surface water infrastructure. Prior to the commencement of construction, the developer shall agree detailed plans for these interface locations with the Drainage Planning, Policy and Development Control (DPPDC) section. (iii) There are a number of locations where the proposed cable routes are shown to cross under the River Mayne. Prior to the commencement of construction, full details of the proposed crossings, including method of construction and flood risk management, shall be submitted for agreement to the DPPDC section. Records of public surface water sewers are indicative and must be verified on site. The developer must carry out a comprehensive site survey to establish all public surface water sewers that may be on the site. If surface water infrastructure is found that is not on public records the developer must immediately contact the DPPDC section to ascertain their requirements. Any damage to existing public surface water sewers shall be rectified at the developer's expense.	(i) The Developer has engaged with statutory bodies and other relevant stakeholders including Uisce Éireann as outlined in Section 6.2 and 6.5 of Appendix 1.2 of the EIAR. The Developer is committed to further engagement with DCC, Uisce Éireann and other stakeholders as required throughout the construction phase. However, the Developer notes that in specific locations, a deviation from the minimum separation distances is required. This is specifically necessary in areas where services are congested and the required separation distances in Section 3.13 of the Dublin Regional Code of Practice are relaxed, subject to a full asset protection design being agreed with the Local Authority. Therefore, the Developer proposes a slight amendment to this condition to note: <i>The developer shall generally comply with the Greater Dublin Regional Code of Practice for Drainage Works Version 6.0. In particular, the required separation distances between new utilities/cables and existing public surface water sewers, as specified in Section 3.13 Utilities, shall be adhered to except in situations required by the Developer and agreed with the Local Authority and other relevant stakeholders.</i>
13	The following requirements of the Air Quality Monitoring & Noise Control Unit shall be complied with: (i) The assessment methodology, mitigation and monitoring measures as detailed in Chapter 27 of the EIA assessment report on Air Quality shall be adhered to in full. The cumulative effects of all activities on site shall be considered at all times. Should exceedances be recorded, the Air Quality assessment methodologies/mitigation measures shall be adapted to ensure limits are complied with. The assessment methodology, mitigation and monitoring measures as detailed in Chapter 30 of the EIA assessment report on Noise and Vibration shall be adhered to in full. The cumulative effects of all activities on site shall be considered at all times. Should exceedances be recorded, the Noise and Vibration methodologies/mitigation measures shall be adapted to ensure limits are complied with.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.
14	The following requirement of the District Heating Project Team shall be complied with:	The Developer notes that as described in Section 7.6.2 of Chapter 7 of the EIAR "<i>both substations will be unmanned and operated remotely</i>". Further, the outcomes of the

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	(i) Dublin City Council encourages the future integration of the North Irish Sea Array Wind Farm with future potential district heating networks in the North Fringe area of the city, should they be developed. A future connection point that allows for integration to a district heating network would be mutually beneficial to both developments and if feasible, should be identified and included in the project. In this regard, the applicant shall engage with Dublin City Council's District Heating Project team with a view to agreeing, where feasible, a connection point for district heating.	ORESS 1 auctions stipulate that the energy produced by the proposed development shall be connected directly to the national grid. As a result, no such future connection point as suggested by this condition has been included in the consent application. To that end, it is not considered that such a condition is feasible, nor is it appropriate, for this proposed development.
15	The following requirement of the Active Travel Programme Office (AcTPRO) shall be complied with: (i) Prior to commencement of development, the applicant shall contact the Active Travel Programme Office on activetraveloffice@dublincity.ie regarding Active Travel Projects within the development area. The outcome of the discussions shall be submitted to the Planning Authority prior to commencement of development for consideration and placement on the public planning file.	A comprehensive cumulative impact assessment has been undertaken and is presented in the EIAR which accompanied the consent application (Chapter 38). This considers and assesses the potential for cumulative and in combination effects with other projects in the vicinity, including any relevant active travel projects. Other proposed conditions herein, by both FCC and DCC require consultation and agreement on the methodology, phasing and programming of the proposed construction works prior to commencement. The Developer would respectfully suggest that these conditions are appropriate to ensure that any interactions with proposed active travel projects in the jurisdiction of both local authorities. Further, in respect of the operational phase of the project, as noted in the Developer's response to Condition No. 14 recommended by DCC, both substations will be unmanned and operated remotely. Section 7.6.3 of Chapter 7 of the EIAR notes that "<i>maintenance of the cables will comprise an inspection, approximately once every two years or ad-hoc whenever needed in response to a cable fault or issue, by means of the link box and communication chambers, which will be located at every joint bay.</i>" Therefore, there will be no impact on any active travel infrastructure once the proposed development is operational. Given the above, the Developer respectfully suggests that this condition is not required and is appropriately covered by other proposed conditions of DCC herein.
Transport Infrastructure Ireland (TII)		
1	Prior to commencement of development, the developer shall engage with the planning authority, in collaboration with Transport Infrastructure Ireland, to agree plans and details of works, construction traffic, and the management of assets thereafter, on, or in the vicinity of the national road network and associated managed areas. All detailed designs and works which interact with TII assets shall be in accordance with the requirements of TII Publications. <u>Reason</u> In the interests of protecting the capacity, safety, and efficiency of national roads network.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. As noted in Section 5.1.3.4 of this report, the Developer welcomes the opportunity to engage further with TII to discuss any interactions between the proposed development and the national road network.
2	Prior to the commencement of development, the developer shall submit to the satisfaction and agreement of the planning authority, in collaboration with TII Structures, an appropriate technical report which shall demonstrate action to be undertaken to ensure the structural integrity of the M1 Broadmeadows Estuary Bridge. All detailed designs and works which interact with TII assets shall be in accordance with requirements of TII Publications. <u>Reason</u>	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála. The Developer also notes that a technical note has been prepared to provide assurance that any cabling works in the vicinity of the M1 Broadmeadows Estuary Bridge will not impact on the bridge's zone of influence or the overall resiliency of the bridge. This is included in Appendix 5.1.1. The Developer is very happy to engage with TII further to agree any outstanding matters prior to construction.

No.	Condition	Developer's Response
	In the interests of protecting the capacity, safety and efficiency of national roads network.	
3	Prior to commencement of development, a revised Construction Traffic Management Plan shall be submitted for the written agreement of Fingal County Council and Dublin City Council, in collaboration with TII and An Garda Síochána, which shall include the following information in relation to the national road network: j. Full details of the transportation of all Abnormal Loads and any 'Exceptional Abnormal Loads' associated with the subject development shall be agreed with all planning and road authorities including TII along all proposed haul routes. k. Details demonstrating compliance of any proposed works to the national road network, to facilitate construction traffic with TII Publications. l. Demonstration of consultation with TII Bridge Management Section to ensure that national road structures m. are not adversely affected and to ensure adherence to required standards and procedures. n. Demonstration of consultation with all relevant PPP Companies, MMarC Contractors and road authorities over which the haul route traverses to ascertain any operational requirements such as delivery timetabling, etc. to ensure that the strategic function of the national road network is maintained. o. Demonstration of consultation with thirdpartyworks@tii.ie where temporary works within national road network maintenance boundaries are required to facilitate construction traffic to site, as a works specific Deed of Indemnity may be required by TII before the works can take place. p. Mitigation measures of the Construction Traffic Management Plan shall include that any damage caused to the pavement of the existing national road due to construction traffic shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development. <u>Reason</u> In the interests of safeguarding levels of safety and the strategic function of the national road network in accordance with National Strategic Outcome Number 2 of the National Planning Framework.	The Developer has no objection in principle to this condition being attached to any grant of permission by An Coimisiún Pleanála.