Environmental Impact Assessment Report

NISA

North Irish Sea Array

Volume 5: Wider Scheme Aspects

Chapter 29
Seascape, Landscape and Visual

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29.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) presents an assessment of likely significant effects from the North Irish Sea Array (NISA) Offshore Wind Farm (hereafter referred to as the 'proposed development') in relation to seascape, landscape and visual impacts during the construction, operation and decommissioning phases.

Given the considerable difference in the scale and nature of the proposed offshore and onshore elements of the proposed development, this chapter is divided into two separate parts. Part I covers the seascape and visual assessment of the offshore elements and Part II covers the assessment of the onshore elements. Where combined effects from the offshore and onshore elements may occur, this is addressed in both parts.

This chapter sets out the methodology followed (Section 29.2), describes the baseline environment (Section 29.3 for offshore infrastructure and section 29.13 for onshore infrastructure) and summarises the main characteristics of the proposed development which are of relevance to Seascape, Landscape and Visuals (Section 26.4 for offshore infrastructure and section 29.14 for onshore infrastructure).

The likely significant effects of the offshore infrastructure on Seascape, Landscape character and Visual receptors (people) are described in Section 29.5 for offshore infrastructure and section 29.15 for onshore infrastructure. The likely significant effects of the onshore infrastructure on Seascape, Landscape character and Visual receptors (people) are described in Section 29.6 for offshore infrastructure and section 29.16 for onshore infrastructure.

Mitigation and monitoring measures that are embedded in the design of the proposed development in the array area are presented in Section 29.7 for offshore infrastructure and section 29.17 for onshore infrastructure. Mitigation and monitoring measures proposed to mitigate the effects of onshore infrastructure are presented in Section 29.18.

The residual effects of the offshore infrastructure are described in Section 29.9 whilst the residual effects of onshore infrastructure are described in 29.20. Transboundary effects are considered in Section 29.11 for offshore infrastructure only.

The cumulative effects of the proposed development are described in Section 29.12 (offshore infrastructure), Section 29.13 (onshore infrastructure) and Section 29.14 (whole project). The chapter then provides a reference section (Section 29.15 for offshore infrastructure and section 29.25 for onshore infrastructure).

The EIAR also includes the following:

- Detail on the competent experts that have prepared this chapter is provided in Appendix 1.1 in Volume 8;
- Detail on the extensive consultation that has been undertaken with a range of stakeholders during the development of the EIAR is set out in Appendix 1.2; and
- A glossary of terminology, abbreviations and acronyms is provided at the beginning of Volume 2 of the EIAR.

A detailed description of the proposed development including operation and decommissioning is provided in Volume 2, Chapter 6: Description of the Proposed Development – Offshore (hereafter referred to as the 'Offshore Description Chapter') and Chapter 7: Description of the Proposed Development – Onshore (hereafter referred to as the 'Onshore Description Chapter'). The Construction methodology is described in Volume 2, Chapter 8: Construction Strategy – Offshore (hereafter referred to as the 'Offshore Construction Chapter') and Chapter 9: Construction Strategy – Onshore (hereafter referred to as the 'Onshore Construction Chapter').

Although closely linked, seascape and landscape and visual impacts are assessed separately. Collectively, these impacts are referred to throughout as SLVIA.

Seascape Impact Assessment (SIA) relates to the introduction of new offshore elements which may alter the seascape character of the array area itself and the perceived character of the wider seascape through visibility of these changes. This may also include impacts on specific seascape features or identified seascape character areas.

Landscape Impact Assessment (LIA) relates to changes and/or additions to the characteristics and defining elements of areas of landscape, including their visual attributes. This may also include effects on the specific landscape features or identified character areas.

Visual Impact Assessment (VIA) relates to assessing effects on views and visual amenity experienced by people who are resident at particular locations or engaged in particular activities, which influences their sensitivity to visual change. This includes daytime and nighttime visual amenity.

Cumulative seascape, landscape and visual impact assessment is concerned with additional changes to the seascape, landscape or visual amenity caused by the proposed development in conjunction with other permitted and proposed developments. Such projects will include other permitted or proposed offshore and onshore wind energy projects as well as notable scale projects within the relevant study areas for the proposed onshore elements.

29.2 Part I – Seascape and Visual Assessment of Offshore Development Area

The 'offshore development area' is within the proposed development boundary seaward of the high water mark (HWM) and constitutes both the array area, where the WTG's and OSP are located, and the export cable corridor ('ECC') where the export cable is located.

29.2.1 Design Options Assessed

. The height and density balance of the offshore WTG layouts included in the two project options are of importance to the visual impact assessment and thus, both project options will be assessed at all representative viewpoints. The nuances of the height and density balance of the WTG layout for the two project options are of less relevance to the assessment of landscape and seascape character impacts where the simple presence of the WTGs within the array area is the main consideration. Thus, the seascape and landscape impact assessment covers both options in a general manner. Further justification as to why the assessment is relevant to both is provided in Section 29.2.2.8.

29.2.2 Methodology

The methodology employed in this SLVIA is informed by the following Guidelines and Guidance notes.

- 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.

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.

The Seascape, Landscape and Visual Impact Assessment (SLVIA) methodology consists of a desktop baseline study followed by fieldwork and then assessment aided by maps and verifiable photomontage images.

The desktop study comprised of the following:

- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the development is potentially visible in relation to terrain within the study area.
- Review of the Regional Seascape Character Assessment (2020).
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations.
- Review of map resources to identify settlements and transport routes within the study area that may be potential visual receptors.
- Online review of tourism, recreational and heritage features within the study area that may be potential visual receptors.
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.
- Production of wireframe images of the development at each potential viewpoint (illustrating the WTG in a bare-ground context) to aid fieldwork / viewpoint selection.

Fieldwork comprised of the following:

- Examination of the salient landscape/ seascape character of the onshore and offshore areas of the proposed development and its immediate surrounds as well as the wider study area.
- Investigation of potential viewpoint locations identified at the desk study stage and selection / rejection of each.
- Selection of other relevant viewpoints that may not have been apparent from the desk study (local monuments, walkways etc.).
- Capture of high-quality base photography in clear viewing conditions from which to prepare photomontages of the proposed offshore and onshore infrastructure during both daytime and nighttime.
- Examine of the route of the proposed grid connection and the grid facility.
- Viewpoints were presented to the relevant local authorities and no objections to the viewpoints proposed were received.
- Assessment comprised of the following:
- Assessment of landscape / Seascape sensitivity
- Assessment of the magnitude of landscape / seascape impacts
- Assessment of the likely significance of landscape / seascape effects
- Assessment of visual receptor sensitivity
- Assessment of the magnitude of visual impact upon receptors at representative viewpoint locations (supported by verifiable photomontages)

- Assessment of the likely significance of visual effects
- Assessment of cumulative landscape and visual effects
- The sensitivity of Landscape, Seascape and Visual receptors is derived from combining susceptibility to change and professional judgement of the value of the receptor to determine overall sensitivity. Similarly, the magnitude of impacts is derived from combining professional judgements in respect of the size, scale and nature of the impact with considerations of duration and reversibility. Sensitivity and magnitude judgements are then considered together using the significance matrix (Table 29.7) to determine the overall significance of effect (see Image 29.1). Although the terminology differs slightly to that used in the EPA EIAR guidance outlined in Chapter 6, it is consistent with SLVIA best practice and GLVIA3, which requires that those effects deemed to be significant in EIA terms are clearly set out. In this case negative effects of Major or greater are deemed significant in EIA terms. It should also be noted that the EPA guidance allows for topic specific guidance to be used where it exists.

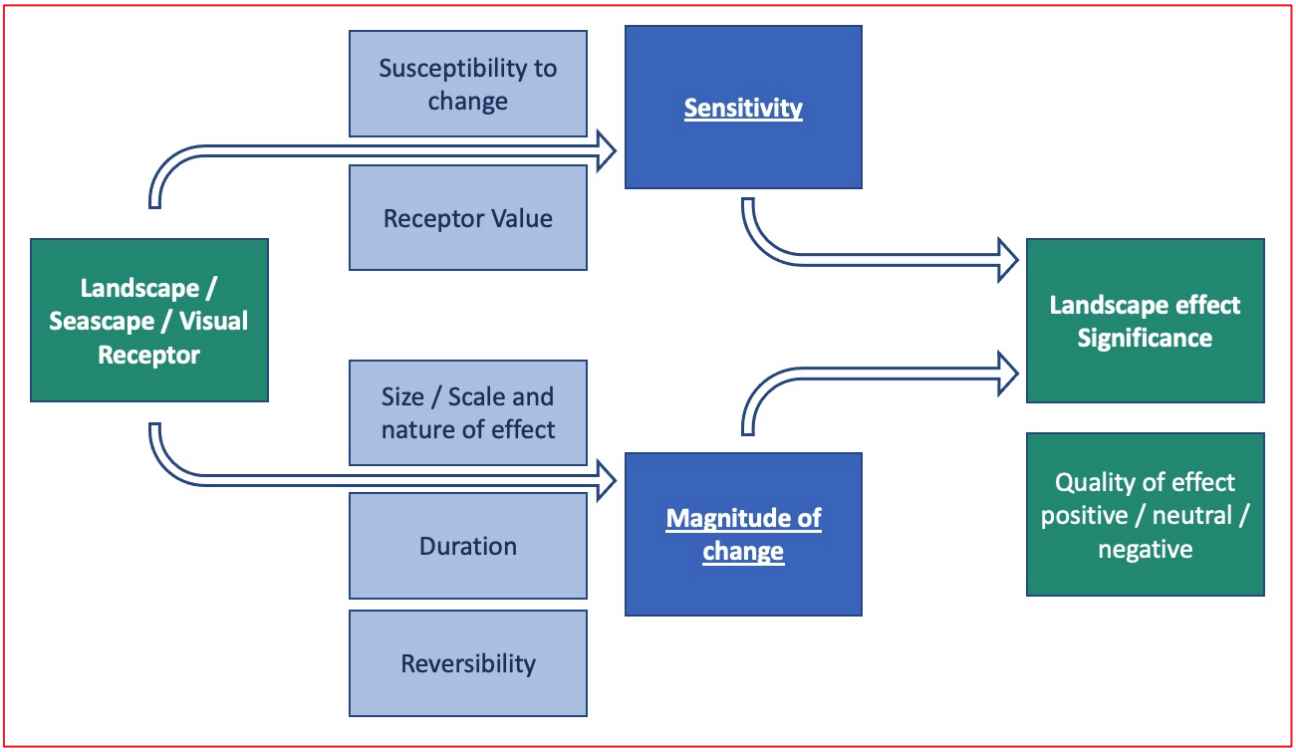

Image 29.1 Overview of Landscape / Seascape and Visual Assessment process derived from GLVIA3

29.2.3 Study Area

On the basis of the Scottish Natural Heritage (now NatureScot) Guidance on Assessing the Impact on Coastal Landscape and Seascape (2012), a 60km radius 'Search Area' is initially used, however, this is in relation to identifying relevant cumulative developments i.e. that might be seen at distances of up to 30km when the proposed development is within 30km. 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 study areas used in the assessment of the infrastructure in the offshore development area consist of the following:

- 'Principal study area' – 40km from the array area, used for the assessment of the offshore infrastructure from the proposed development in isolation.
- 'Cumulative study area' – 60km from the array area, used for the cumulative assessment of the offshore infrastructure of the proposed development.

Bare-ground Zone of Theoretical Visibility (ZTV) mapping based on a Digital Terrain Model (DTM has been prepared to the full extent of each of the relevant study areas identified above. This includes cumulative ZTV mapping to 60km radius from the array area and standard tip height and hub height ZTV mapping for the principal study area to 40km.

In addition, ZTV mapping based on a Digital Surface Model (DSM) data, which accounts for screening by the likes of vegetation and buildings, is provided from the principal study area. ZTV mapping is only provided in relation to the WTGs as the cable route is along the seabed.

The study areas determined above for offshore elements reflects the proportional approach to impact assessment promoted by GLVIA3.

29.2.4 Methodology for Assessment of Effects

The assessment of seascape and landscape effects is separate to that of visual effects and thus, the criteria also differ. Nonetheless, both forms of assessment rely on the weighing of receptor sensitivity against impact magnitude. Although not identical to the sample criteria used in the EPA guidelines (2022), the criteria contained in Tables 29.2, 29.3 and 29.4 is consistent with LVIA best practice in the UK and Ireland and corresponds closely with the EPA criteria.

As identified in the Guidelines for Landscape and Visual Impact Assessment (2013), the critical factor is to clearly identify which judgements equate to significant effects in EIA terms (see Table 29.7 and accompanying note).

29.2.4.1 Seascape and Landscape Sensitivity

The sensitivity of the seascape and landscape to change relates to susceptibility and value, determining the degree to which a particular landscape receptor (Seascape and Landscape Character Area (LCA) or feature) can accommodate changes or new features without unacceptable detrimental effects to its essential characteristics.

Seascape and Landscape Susceptibility relates to the ability of the receptor to accommodate change and this relates to the scale and nature of the type of development in question rather than simply intrinsic susceptibility. Factors to be considered include the naturalistic qualities of the receptor and its quality / condition (pristine or degraded) as well as cultural and social associations to the seascape and landscape. Also considered are perceptual aspects such as remoteness / tranquilly, degree of enclosure / openness, movement, and aesthetic qualities.

Table 29.1 Seascape and Landscape Susceptibility

Higher Susceptibility Criteria	Lower Susceptibility Criteria
Perceptual Qualities: The seascape / landscape has strong scenic qualities associated with naturalness and tranquilly	The seascape / landscape has a high degree of contemporary development associated with settlement, industry, and primary production
Condition: The seascape / landscape has a high degree of integrity and utility indicating care and management.	The seascape / landscape is degraded with unutilised or waste areas apparent and with little sign of care or management
Scale / Simplicity: The seascape / landscape is intricate and complex where large scale development could generate scale conflict	The seascape / landscape is of a broad scale with simple legible elements that can accommodate large development without a sense of scale conflict
Intensity and scale of existing development: The seascape / landscape has high levels of existing development of considerable scale and with associated movement	The seascape / landscape has low levels of existing development and that which exists is of small scale and static in nature
Openness / enclosure: The seascape / landscape is strongly enclosed with limited viewsheds that can be readily influenced by new and large-scale development	The seascape / landscape is broad and open with expansive viewsheds that can readily accommodate new and large-scale development

Seascape and Landscape Value relates to societal recognition of the receptor at a designated or non-designated level. It often relates to the rarity or representativeness of the receptor as well as its quality and condition. Recreational, conservation, tourism and scenic value are also key considerations. Higher order value is likely to be associated with landscapes / seascapes that are designated for protection at a national or international level, whereas lower order value might be associated with rural or coastal productivity.

Table 29.2 Seascape and Landscape Value

Higher Value Criteria	Lower Value Criteria
Designation: The landscape / seascape is protected by National / international level policy in relation to its natural and scenic beauty.	The landscape / seascape does not have a formal designation of protection or cautious management
Rarity: The landscape / seascape is rare or unique at a national or regional level	The landscape / seascape type is commonly found throughout the local, regional, and national context
Cultural Associations: The landscape / seascape is strongly associated with cultural traditions, historic events or myth and legend	The landscape / seascape is not recognised as being associated with cultural traditions, historic events or myth and legend
Scenic / Perceptual: The landscape / seascape has a high degree of scenic value associated with naturalistic, conservation value and tranquillity.	The landscape / seascape has no recognised scenic value and is associated with settlement, cultivation development and production.
Tourism, recreation, and amenity: The landscape / seascape is strongly associated with tourism recreation and amenity and attracts high number of visitors	The landscape / seascape is not associated with tourism recreation and amenity and is not recognised as a draw for visitors

Taking consideration of susceptibility and value attributes, overall Seascape and Landscape Sensitivity is classified using the following criteria (Table 29.3).

Table 29.3 Seascape and Landscape Sensitivity

Sensitivity	Description
Very High	Areas where the seascape and landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value seascapes and iconic sections of the coastline, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the seascape and landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes and iconic sections of the coastline, protected at a national or regional level, where the principal management objectives are likely to be considered conservation of the existing character.
Medium	Areas where the seascape and landscape character exhibits some capacity and scope for development. Examples of which are seascapes and/or landscapes which have a designation of protection at a county level or at non-designated local level where there is evidence of local value.
Low	Areas where the seascape and landscape character exhibits a higher capacity for change from development. Typically, this would include lower value, non-designated seascapes and/or landscapes that may also have some elements or features of recognisable quality but are generally utilitarian in nature.
Negligible	Areas of seascape and landscape character that highly industrialised and utilitarian in nature where there would be a reasonable capacity to embrace change. Management objectives in such areas could be focused on change, creation of seascape and landscape improvements and/or restoration to realise a higher seascape value.

29.2.4.2 Seascape and Landscape Impact Magnitude

The magnitude of a predicted seascape and landscape impact is a product of the size and scale of change as a result of the proposed development in the context of the receptor, as well as the geographical extent across which it is likely to be experienced and to a lesser extent the duration and reversibility of the effect.

The **size and scale** of the impact is the degree of change that will occur as a result of existing elements being lost and/or new ones introduced and is a measure of the degree to which these changes alter the prevailing character of the seascape and/or landscape receptor. Higher order judgements are likely to result from dramatic change to a substantial proportion of the receptor in question. However, this could be in the context of large scale change at a single coastal inlet that would be experienced as a smaller effect for the broader seascape character area it is contained within.

The **Geographical Extent** of the impact is not how large or distinctive the physical development is, but the extent across which its impacts are experienced. Using the same example above, distinct change to a small coastal inlet might be experienced as very localised impacts with a confined geographical extent. The loss or introduction of other elements might have effects experienced across a number seascape and landscape character areas i.e. with a large geographical extent.

Taking consideration of the size and scale of the impact and its geographical extent, overall magnitude of seascape and landscape impacts is determined on the basis of the criteria contained in Table 29.4.

Table 29.4 Magnitude of Seascape and Landscape Impacts

Magnitude of Impact	Description
Very High	Permanent and irreversible change that would be large in size and scale with the loss of critically important seascape and landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to a distinct overall change of the seascape and landscape in terms of character, value and quality. Such impacts will be experienced across a vast geographical extent.
High	Permanent or long term and irreversible change that would be more limited in size and scale with the loss of important seascape and landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that would lead to changes in seascape and landscape character, and quality. Such impacts will be experienced across a broad geographical extent.
Medium	Changes that are modest in extent and scale involving the loss of seascape and landscape characteristics or elements that may also involve the introduction of uncharacteristic new elements or features that would lead to changes in seascape and landscape character, and quality. Such impacts are likely to be experienced across a modest geographical extent and may be of medium-term duration and potentially reversible.
Low	Changes affecting small areas of seascape and landscape character and quality, together with the loss of some less characteristic seascape and landscape elements or the addition of new features or elements. Such impacts are likely be experienced across a small geographical extent and may be of short-term duration and readily reversible.
Negligible	Changes affecting small or very restricted areas of seascape and landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing seascape and landscape or are hardly perceivable. Such impacts are likely be experienced across a very localised geographical extent and may be of temporary duration and readily reversible.

29.2.4.3 Visual Receptor Sensitivity

Unlike landscape and seascape sensitivity, the sensitivity of visual receptors has an anthropocentric basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity they are engaged in and whether this heightens their awareness of the surrounding landscape.

A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below and used in Table 29.5 to establish visual receptor sensitivity at each representative viewpoint:

Susceptibility of Receptors

In accordance with the Institute of Environmental Management and Assessment ("IEMA") Guidelines for Landscape and Visual Assessment (3rd edition 2013) visual receptors most susceptible to changes in views and visual amenity are:

"Residents at home.

People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views.

Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience.

Communities where views contribute to the landscape setting enjoyed by residents in the area; and

Travellers on road, rail, or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened".

Visual receptors that are less susceptible to changes in views and visual amenity include.

"People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape; and

People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life".

Values Associated with Views

1. **Recognised scenic value of the view** (County Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Developments Plans, for example, a public consultation process is required.

2. **Views from within highly sensitive landscape areas**. Again, highly sensitive landscape designations are usually part of a county's Landscape Character Assessment, which is then incorporated within the County Development Plan and is therefore subject to the public consultation process. Viewers i.e. visual receptors, within such areas are likely to be highly attuned to the landscape around them.

3. **Primary views from nearby dwellings**. This category is reserved for those instances in which the design of dwellings or housing estates, has been influenced by the desire to take in a particular view. This might involve the use of a slope or the specific orientation of houses in the locality.

4. **Intensity of use, popularity**. This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at county or regional scale

5. **Provision of elevated panoramic views**. This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas.

6. **Sense of remoteness and/or tranquillity.** Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more aware of / affected by changes in the view than those taking in the view of a busy street scene, for example.

7. **Degree of perceived naturalness**. Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features.

8. **Presence of striking or noteworthy features.** A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a promontory headland, lough or castle.

9. **Historical, cultural and / or spiritual significance.** Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings.

10. **Rarity or uniqueness of the view**. This might include the noteworthy representativeness of a certain landscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country.

11. **Integrity of the landscape character**. This looks at the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components.

12. **Sense of place**. This considers whether there is special sense of wholeness and harmony at the viewing location; and

13. **Sense of awe**. This considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations which are deemed to satisfy many of the above criteria are likely to be of higher sensitivity. No relative importance is inferred by the order of listing. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular. Visual receptor sensitivity is assessed on the bases of the criteria set out in Table 29.5.

Table 29.5 Visual Receptor Sensitivity

Visual Receptor Sensitivity	Viewer Susceptibility	View Value
Very High	Viewers who have sought out a particular view due to its remarkable scenic qualities and who are likely engaged in active or passive recreation. Minimal tolerance for change.	Unique views of remarkable scenic quality involving distinct, naturalistic or historic features that are designated for protection and/or obtained from landscapes / seascapes protected by policy at a national or international level. Minimal tolerance for change.
High	Viewers travelling on designated scenic routes or engaged on active or passive recreation where views of the surrounding landscape / seascape are important to the experience and residents of areas where views contribute to the landscape / seascape setting. Low tolerance for change.	Views of considerable scenic quality involving distinct, naturalistic or historic features that are designated for protection and/or obtained from landscapes / seascapes protected by policy at a Regional / County level. Low tolerance for change.
Medium	Viewers travelling on routes that have some scenic quality or sense of tranquillity. Recreationalists engaged in activities where scenic amenity is appreciated, but not key to the experience and residents of areas where views do not contribute strongly to the landscape / seascape setting. Medium tolerance for change.	Views with some scenic quality that might involve notable, naturalistic or historic features that are not designated for protection and are not obtained from landscapes / seascapes identified for protection. Medium tolerance for change.
Low	Viewers engaged in recreation that does not involve an appreciation of scenic amenity, those travelling on busy roads with little scenic quality within the surrounding landscape / seascape setting. People at their place of work where visual setting in not key to the working experience. High tolerance for change.	Views without recognised scenic quality that are typical in nature and without naturalistic and historic features present, but likely with utilitarian features present. High tolerance for change.
Negligible	Viewers engaged in activities or present at locations where visual amenity is not a consideration or where the visual setting is a detraction. High tolerance for change.	Views without any amenity value where the visual setting may be degraded. High tolerance for change.

29.2.4.4 Visual Impact Magnitude

The criteria used to assess visual impact magnitude are included in Table 29.6 below.

Table 29.6 Magnitude of Visual Impact

Magnitude of Impact	Description
Very High	The proposal obstructs or intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. An extensive degree of visual change will occur within the scene completely altering its character, composition and associated visual amenity
High	The proposal obstructs or intrudes into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual change will occur within the scene substantially altering its character, composition and associated visual amenity
Medium	The proposal represents a moderate intrusion into the available vista and is a readily noticeable element. A noticeable degree of visual change will occur within the scene perceptibly altering its character, composition and associated visual amenity
Low	The proposal intrudes to a minor extent into the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene
Negligible	The proposal would be barely discernible within the available vista and/or it would not influence the visual amenity of the scene

29.2.4.5 Seascape, Landscape and Visual Significance of Effect

The significance of seascape, landscape and visual effect is based on a balance between the sensitivity of the seascape, landscape and visual receptor and the magnitude of the impact.

The significance of seascape, landscape and visual effects is informed by the following matrix (Table 29.7), but ultimately determined by professional judgement:

Table 29.7 Seascape, Landscape and Visual Impact Significance Matrix

Parameter	Sensitivity of Receptor				
Magnitude of Impact	**Very High**	**High**	**Medium**	**Low**	**Negligible**
Very High	Profound	Profound-major	Major	Moderate	Slight
High	Profound- major	Major	Major -moderate	Moderate-slight	Slight-imperceptible
Medium	Major	Major - moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Note: that the shaded cells in Table 29.7 ('Major' and above) are considered to equate with 'significant' effects in EIA terms where that impact is also deemed to be of a 'Negative' quality. Unshaded cells (Major-moderate and below) are not deemed to be significant effects in EIA terms.

Table 29.8 Indicative significance of effect criteria descriptions

Significance of Effect	Landscape and |Seascape	Visual
Profound	There are notable changes in landscape characteristics over an extensive area or a very intensive change over a more limited area.	The view is entirely altered, obscured or affected.
Major	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the landscape. There are notable changes in landscape characteristics over a substantial area or an intensive change over a more limited area.	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the visual environment. The proposal affects a large proportion of the overall visual composition, or views are so affected that they form a new element in the physical landscape.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. There are minor changes over some of the area or moderate changes in a localised area.	An effect that alters the character of the visual environment in a manner that is consistent with existing and emerging trends. The proposal affects an appreciable segment of the overall visual composition, or there is an intrusion in the foreground of a view.
Slight	An effect which causes noticeable changes in the character of the landscape without affecting its sensitivities. There are minor changes over a small proportion of the area or moderate changes in a localised area or changes that are reparable over time.	An effect which causes noticeable changes in the character of the visual environment without affecting its sensitivities. The affected view forms only a small element in the overall visual composition or changes the view in a marginal manner.
Imperceptible	An effect capable of measurement but without noticeable consequences. There are no noticeable changes to landscape context, character or features.	An effect capable of measurement but without noticeable consequences. Although the development may be visible, it would be difficult to discern resulting in minimal change to views.

Representative Viewpoint Selection

The results of the ZTV analysis (see section 29.3.1) provide a basis for the selection of representative viewpoints (VPs), which are the locations used to study the visual impact of the proposed development features.

It is not warranted to include each and every location that provides a potential view of this proposed development as this would result in an unwieldy assessment and make it extremely difficult to draw out the key impacts arising from the proposed development.

Instead, a varied and comprehensive set of visual receptor locations are selected that are likely to provide views of the offshore infrastructure of the proposed development from varying distances, different orientations and different contexts whilst representing a varied range of sensitive visual receptors (viewers/ groups resident at particular locations or engaged in particular activities).

The visual impact of a proposed development is assessed by considering impacts upon visual receptors that occur at up to six different categories of location namely:

- 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.

Where a representative VP might have been initially selected for more than one reason it will be assessed according to the primary criterion for which it was chosen. The characteristics of each receptor type vary as does the way in which the view is experienced. These are described below.

Key Views

These VPs are at features or locations that are significant at the national or even international level, typically in terms of heritage, recreation or tourism. They are locations that attract a significant number of viewers who are likely to be in a reflective or recreational frame of mind, possibly increasing their appreciation of the landscape around them. The location of this receptor type is usually quite specific.

Designated Scenic Routes and Views

Due to their identification in the County Development Plans this type of VP location represents a general policy consensus on locations of high scenic value. These are commonly elevated, long distance, panoramic views and may or may not be mapped from precise locations. They are more likely to be experienced by static viewers who seek out or stop to take in such vistas.

Centres of Population

VPs are selected at centres of population primarily due to the number of viewers that are likely to experience that view. The relevance of the settlement to the assessment is generally based on its scale or its proximity to the site. The VP may be selected from any location within the public domain that provides a clear view either within the settlement or in close proximity to it.

Major Routes

These include national and regional level roads and rail lines and are relevant VP locations due to the number of viewers potentially impacted by the proposed development.

The precise location of this category of VP is not critical as for point receptors and might be chosen anywhere along the route that provides clear views towards the proposed development, but with a preference towards close and/or elevated views. Major routes typically provide views experienced whilst in motion and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings.

Tourism, Recreational and Heritage Features

These views are often one and the same given that heritage locations can be important tourist and visitor destinations and amenity areas or walking routes are commonly designed to incorporate heritage features. Such locations or routes tend to be sensitive to development within the landscape as viewers are likely to be in a receptive frame of mind with respect to the landscape around them. The sensitivity of this type of visual receptor is strongly related to the number of visitors they might attract and, in the case of heritage features, whether these are discerning experts or lay tourists. Sensitivity is also heavily influenced by the experience of the viewer at a heritage site as distinct from simply the view of it.

This is a complex phenomenon that is likely to be different for every site. Experiential considerations might relate to the sequential approach to a castle from the car park or the view from a hilltop monument reached after a demanding climb. It might also relate to the influence of contemporary features within a key view and whether these detract from a sense of past times. It must also be noted that the sensitivity rating attributed to a heritage feature for the purposes of a landscape and visual assessment is not synonymous with its importance to the Archaeological or Architectural Heritage record.

29.2.4.6 Quality and Timescale of Effects

In addition to assessing the significance of landscape effects and visual effects, EPA Guidance for EIARs requires that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial. In the case of new energy / infrastructure developments within rural and semi-rural settings, the landscape and visual change brought about by an increased scale and intensity of built form is seldom considered to be positive / beneficial.

- Landscape and Visual effects are also categorised according to their duration:
- Temporary – Lasting for one year or less
- Short Term – Lasting one to seven years
- Medium Term – Lasting seven to fifteen years
- Long Term – Lasting fifteen years to sixty years; and
- Permanent – Lasting over sixty years

The duration of effect is not used to increase or reduce the significance of effect judgement, but as a supplementary factor to be considered i.e. a significant effect might be considered more acceptable if its duration is temporary rather than permanent.

29.2.4.7 Assessment of Cumulative Effects

The planned, existing and/or approved projects selected through the screening exercise as potentially relevant to the assessment of impacts to seascape / landscape and visual are presented in Table 29.9.

Tier 1 is limited to the proposed Operations and Maintenance Facility (OMF) for the proposed development. The OMF option being considered includes the adaption and leasing part of an existing port facility at Greenore. Further detail on the OMF is provided in Volume 2, Chapter 7: Onshore Project Description Chapter.

Tier 2 is the east coast Phase One Offshore Wind Farms.

Tier 3 is all other projects that have been screened in for this topic.

Given the distance (34km), location and context of the Tier 1 project in relation to the proposed Offshore Infrastructure, no significant negative cumulative effects are predicted, and this project is therefore screened-out from further cumulative assessment. Of the Tier 3 offshore projects, only the Bremore Port Project is potentially relevant for further cumulative assessment in relation to the proposed offshore infrastructure because it is proposed to extend out from the coastline at the mouth of the Delvin River some 16.3km west of the array area. However, the only information that exists in the public realm for this aspirational project is a conceptual flythrough animation. Thus. it is not considered that there is sufficient information available to make an accurate assessment of cumulative effects and it is screened-out of further assessment.

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. Consequently, all onshore Tier 3 cumulative projects are screened-out for further assessment in Part 1 of this chapter (Seascape and Visual Assessment).

Following the scoping process for relevant cumulative projects, Part 1 of this chapter (Seascape and Visual Assessment) will only address cumulative impacts in relation to the screened-in Tier 2 projects, noting that a detailed cumulative assessment in relation to those Tier 2 projects is contained in Appendix 29.2 and summarised in section 29.9 of this chapter.

Note: Cumulative effects in relation to other Tier 3 projects screened-in for assessment in combination with the proposed onshore infrastructure is contained in Chapter 38 following the approach taken for other onshore chapters.

Table 29.9 Projects and plans considered within the cumulative impact assessment

Development type	Project	Status	Data confidence	Distance to the proposed development		Justification for screening into the cumulative effects assessment
				Array area	ECC	
Tier 2						
East Coast Phase One Offshore wind farms	Oriel Wind Park	Pre-consent	High – Proposed WTG details shared between Phase One developers	16.9km	21.6km	Overlap in construction period, Oriel Wind Park due to construct during 2026-2028 and potential for combined visibility of WTGs from common visual receptors
	Dublin Array	Pre-consent	High – Proposed WTG details shared between Phase One developers	32.9km	37.6km	Overlap in construction period, Dublin Array due to construct during 2028-2032 and potential for combined visibility of WTGs from common visual receptors
	Codling Wind Park	Pre-consent	High – Proposed WTG details shared between Phase One developers	50.9km	56.9km	Overlap in construction period, with Codling Wind Park due to construct during 2027-2028 and potential for combined visibility of WTGs from common visual receptors
	Arklow Bank Phase 2	Pre-consent	High – Proposed WTG details shared between Phase One developers	76.4km	80.0km	Screened-out due to location well outside of 60km radius cumulative study area
Tier 3						
Multi-use port facility	Bremore Port Project	Pre-consent	Low – only conceptual flythrough provided via website available to date	16.3km	0.2km	Potential overlap in construction period with Bremore Port and potential for combined visibility of WTGs from common visual receptors. Screened out due to poor data confidence

The NatureScot Offshore Renewables – Guidance on assessing the impact on coastal landscape and seascape, Guidance for Scoping an Environmental Statement (SNH, 2012) identifies that Cumulative Seascape, Landscape and Visual Impact Assessment should be carried out with reference to the GLVIA-2013 and to SNH guidance Cumulative Effect of Windfarms 2005 (now updated to 2012), which set out the background for this aspect of assessment - "*Although initially compiled in response to onshore windfarm developments, the basic assessment methodology is the same".*

A key consideration in the Guidance is the nature of cumulative visibility as described below.

'Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several wind farms are within the observer's arc of vision at the same time) or in succession (where the observer has to turn to see the various wind farms).

Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features appear regularly and with short time lapses between, depending on speed of travel and distance between the viewpoints) to occasionally sequential (long time lapses between appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints.)'

The GLVIA (2013) defines cumulative landscape and visual effects as those that 'result from additional changes to the landscape and visual amenity caused by the proposal in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.' In this instance cumulative effects are assessed in relation to other permitted or planned developments on the basis that, where relevant, any existing developments will present in the baseline of the main assessment.

The principal focus of the cumulative assessment of Tier 2 projects will be the relationship between the array area and other planned East coast Phase One offshore wind energy developments (OWF) for which indicative design details have been shared between the Phase 1 Developers to inform the assessments to ensure a robust approach could be taken and ensuring that projects did not have to rely upon published data only within the cumulative study area (60km radius). Key considerations are:

- The location of the array area relative to other arrays
- The extent of developed sea horizon from the combined arrays
- The number of other visible arrays and their relative distance / scale, viewing angle, lateral extent and layouts configuration.
- Relative Seascape context

29.2.4.8 Assessment of Project Options

In order to retain a degree of design flexibility for the project to be brought forward to construction, the developer proposes two design options for the offshore infrastructure of the proposed development referred to as 'Project Option 1' and 'Project Option 2'. The key design parameters of the two project options is provided in Table 29.10, and the WTG layout of both project options are shown in Figures 29.5a and 29.5b.

Table 29.10 High Level Overview of the two Project Options for the proposed development

Parameter	Project Option 1	Project Option 2
Number of WTG	49	35
WTG tip height (m above LAT)	290	316 outside aviation restricted zone, 311 inside aviation restricted zone*
WTG hub height (m above LAT)	165	178
Rotor Diameter (m)	250	276
Foundation type	Monopiles	Monopiles or jackets
Offshore Substation Platform (OSP)	1 OSP	1 OSP

* An aviation restricted zone (of 312m LAT) has been identified by the Developer due to the partial overlap of the array area with a Dublin Airport controlled airspace meaning 13 turbines will have a 5m reduction in tip height due to being within the aviation restricted zone. This is further detailed in Volume 3, Chapter 19: Aviation and Radar.

In visual impact terms there is a balance between the height and density of turbines within an array. A lesser number of taller turbines may feel slightly larger and closer to the receptor but have a looser and more permeable layout. The converse applies to a greater number of smaller turbines.

In this instance both project options have been assessed and full sets of verifiable photomontages for each option have been produced for the purposes of the visual impact assessment. For the purposes of standard ZTV mapping, both project options are covered, however for cumulative ZTV mapping and Digital Surface Model (DSM) based ZTV mapping, only the taller turbine option (Project Option 2) has been used as it generates the more extensive visibility pattern.

For consistency and to prevent undue figure repetition, Project Option 2 layout has also been used when an indicative array location is required for non-ZTV mapping. When referenced in the context of the seascape character assessment the array area has been considered to cover both project options as the nuances of turbine height and density relationship is of less consequence to this part of the assessment than for the visual impact assessment. It is the presence of comparable height and density of turbines within the array area that is the key consideration of the assessment of effects on seascape character. The consideration of both project options separately for this aspect of the assessment would result in undue repetition and potential confusion.

Representative VPs have been selected for various purposes with some relevant to a number of aspects of the visual impact assessment. Table 29.11 sets out which VPs address each of the aspects of the visual impact assessment.

Table 29.11 Visual Impact Assessment type at selected viewpoints

VP No.	Visual Impact Assessment of WTGs within Array Area (both Project Options within principal study area)	Visual Impact Assessment of Grid Facility	Cumulative Visual Impact Assessment	Night time Visual Impact Assessment
VP1	X		X	
VP2	X		X	
VP3	X		X	
VP4	X		X	
VP5	X		X	
VP6	X		X	
VP7	X		X	
VP8	X		X	
VP9	X		X	
VP10	X		X	
VP11	X		X	
VP12	X		X	
VP13	X		X	X
VP14	X		X	
VP15	X		X	
VP16	X		X	
VP17	X		X	
VP18	X		X	
VP19	X		X	
VP20	X		X	
VP21	X		X	
VP22	X		X	
VP23	X		X	
VP24	X		X	X
VP25	X		X	
VP26	X		X	X
VP27	X		X	
VP28	X		X	
VP29	X		X	

VP No.	Visual Impact Assessment of WTGs within Array Area (both Project Options within principal study area)	Visual Impact Assessment of Grid Facility	Cumulative Visual Impact Assessment	Night time Visual Impact Assessment
VP30	X		X	
VP31	X		X	
VP32	X		X	X
VP33	X		X	
VP34	X		X	
VP35	X		X	
VP36			X	
VP37			X	
VP38			X	
VP39			X	
VP40			X	
VP41			X	
VP42			X	
VP43			X	
VP44			X	
VP45			X	

29.2.5 Data Collection and Collation

Data used in the SLVIA consists of written character assessment and guidance documents, online resources and technical data including:

- The Regional Seascape Character Assessment (2020)
- Northern Ireland Regional Seascape Character Assessment (2014)
- Northern Ireland Regional Landscape Character Assessment (2016)
- Relevant County Development Plans and associated County Landscape Character Assessments
  - Louth County Development Plan (2021-2027)
  - Meath County Development Plan (2021-2027)
  - Fingal County Development Plan (2023-2029)
  - Dublin City Development Plan (2022-2028)
  - Dún Laoghaire Rathdown County Development Plan (2022-2028)
- Online review of tourism, heritage and amenity features
- OSI mapping and aerial imagery including ‘Google Earth’ and ‘Google Street View’.
- Digital Terrain Model (DTM) spatial data for the preparation of ‘Zone of Theoretical Visibility’ (ZTV) mapping
- High resolution photography at selected viewpoints
- Geo-referenced 3D models of the various development elements used in the preparation of photomontages.

29.2.6 Relevant Guidance and Policy

Relevant Guidance and Policy considered in this section starts with overarching framework documents and thereafter, the finer grain of regional and county level guidance and policy documents that are relevant to this SLVIA.

29.2.6.1 National Marine Planning Framework (NMPF - 2021)

The NMPF includes one Seascape and Landscape Policy as set out in Table 29.12 below:

Table 29.12 Key NMPF policies relevant to the assessment

Policy name	Policy description	Where addressed
	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 proceeding. This policy should be included as part of statutory environmental assessments	Sections 29.5 and 29.6

29.2.6.2 Seascape Character Assessments

At the highest level, the European Landscape Convention promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues. The Convention was ratified by Ireland in 2002. As one of the obligations under the convention, a draft National Landscape Strategy was issued for public consultation by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Following consideration of submissions, the 'National Landscape Strategy for Ireland 2015-2025' was published in mid-2015 by the Department of Arts, Heritage and the Gaeltacht. A key objective of this strategy is to prepare a 'National Landscape Character Assessment', and whilst this has not yet occurred, the Department of the Marine issued a comprehensive seascape equivalent, 'The Regional Seascape Character Assessment' in 2020. This assessment along with the Northern Ireland Regional Seascape Character Assessment (2014) is discussed below.

Regional Seascape Character Assessment for Ireland (Department of the Marine – 2020)

A Regional Seascape Character Assessment for Ireland was produced in 2020, which divides the country's seascapes into 13 Seascape Character Types (SCT) – See Figure 29.3.

The 13 SCTS "are distinct types of seascapes that are relatively homogeneous in character…" and which "…may occur in different locations but wherever they occur they share broadly similar combinations of geology, bathymetry, ecology, human influences and perceptual and aesthetic attributes". The majority of the coastline adjacent to the proposed development is identified as being a combination of the following Seascape Character Types (SCT):

- '7 – Broad Estuarine bays and complex low plateau and cliff coastline'; and
- '8 – Low lying & estuarine coastal plain with long, narrow sandy beaches.

These two types occur at evenly spaced intervals along most of the principal study area. The northern and southern periphery of the principal study area feature more variation than other SCTs. The other Seascape Character Types within this study area are:

- '3 – Sea Lough/Fjord with Raised Hinterland' to the north,
- '6 – High Granite/Sandstone Cliffs and Plateau' to the southwest,

- ’10 – Modified Historic Urban Bay’; and
- ‘11 – Large Islands’ also to the south/southwest.

The Seascape Character Types are further subdivided into geographically specific ‘Regional Seascape Character Areas’ (SCA) with the relevant (host) one in this instance being ‘Northeastern Irish Sea Islands and Beaches’. There is also the ‘Dublin Bay’ Seascape Character Area (SCA) in the south of the study area, which is bordered by the ‘Irish Sea Sandbanks and Broad Bays’ Seascape Character Area at the southern periphery of the principal study area. To the north, there is the small Seascape Character Area of ‘Carlingford Lough’.

Key points of these Seascape Character Areas as they relate to the proposed offshore development, are identified below, with focus on the character and visual attributes:

Seascape Character Area (SCA) 16

The largest SCA in the study area, and host to the proposed offshore elements is the ‘North Eastern Irish Sea Islands and Beaches’ (SCA16) area. This SCA “*extends from Ireland’s Eye and the coast north of Howth Head towards Carlingford Lough at Greenore, Co. Louth. It is a large SCA but the nature of the shallow coastline allows for good intervisibility between the southern and northern part of this SCA*”. The SCA is contained (perceptually) by the Mourne Mountains to the north, and Howth and Bray Head to the south. While there are smaller scale areas (Dublin Bay, Carlingford Lough) within these extents (Mourne Mountains to Bray Head), using these as reference points gives a sense of the scale of the SCA. Due to the forementioned intervisibility and the scale of this Seascape Character Area, there are multiple views which focus on both the wider open seascape, and intervisibility across the different landform features. Views from specific locations are from Clogherhead, and views of nearshore islands from Skerries and Rush. The beaches of Portmarnock and Malahide provide views of Irelands Eye. Lambay Island is a focal point when viewed between Rush and Loughshinny. General views offered by this area are sunrises (eastwards views) from “*virtually all beaches and heads*”. With the exception (views of sunsets) being from the south of Cooley Peninsula westwards. Finally, “*views for much of the coast are drawn to the distant hills and mountains north and south; this increases the sense of scale for this area*”.

Seascape Character Area (SCA) 17

The northernmost Seascape Character Area across the study area, north of the above, is Carlingford Lough (SCA17 - Border SCA), which is a “*very distinctive and fine example of a glacial fjord (sea lough)*”. In terms of relationship to the wider seascape and the site, “*Long views are possible from the headlands at the lough mouth, south and east across the Irish Sea*”, with “*The undeveloped headlands provide a more tranquil character*”. More specifically, the views and vistas which are key features of this SCA include “*Long views across the Irish Sea particularly pronounced at the headlands of the lough are a key visual characteristic*”. Indicating that while the SCA itself is relatively enclosed (enclosed by land on three sides), the relationship with the wider seascape remains important to the qualities of the SCA.

Seascape Character Area (SCA) 15

At the southern boundary of the ‘Northeastern Irish Sea Islands and Beaches’ seascape character area, is the Dublin Bay (SCA15) seascape character area. This area “*comprises the distinctive horseshoe bay of Dublin, framed by the elevated quartzite headland of Howth Head, to the north, and Killiney Hill, an elevated granite head to the south*”.

This SCA adjoins the most densely populated portion of the study area, and “The character of this seascape is that of a busy and active area, with the busiest port in the country and the capital city. Day and night there is shipping activity in the bay”. This is both commercial and recreational, with a higher concentration of the latter at the periphery of the SCA, “Howth Head and Killiney Hill, that frame the bay, are less developed and offer more tranquil space within this urbanised area. Recreational use of the coast and sea is popular”. These locations are also key viewing points, and “allow long views along the coast north and south, into Dublin Bay and out to the Irish Sea”. From the northern of these, views across the majority of the study area can be experienced “Long views northwards are possible under clear conditions from Howth Head and can extend to the Mourne Mountains at the horizon, a range of almost 70km as the crow flies”. Panoramic views from Killiney hill are equally valued.

The following three views and prospects are relevant to this assessment:

- Closer to the sea the promenades associated with places such as Clontarf and Sandymount, as well as the east and west pier at Dún Laoghaire and the South Wall offer closer views at sea level. The opening up of the East Pier Lighthouse during summer months allows for a contrast in views and experience between the more sheltered harbour proper and the seaward view from the eastern pier.
- The DART (the Dublin Area Rapid Transit) trainline runs along the edge of the bay on the south side of the city from Booterstown to Killiney (and onto Greystones) offering commuters views across the water. From the headlands, notably Howth Head and Killiney Hill, panoramic views across the bay, along the coast and across the sea are dominant.
- Key vistas and landmarks associated with this SCA include the Poolbeg Chimneys, Howth Head, Killiney and Bray Head in the distance.

Seascape Character Area (SCA) 14

The northern periphery of the Irish Sea, Sandbanks and Broad bays (SCA14) seascape character area is marginally within the study area, and is partially within the ZTV pattern. The key points of this seascape character area, as it relates to this assessment, are the views and vistas to the wider Irish Sea and northwards. These include views to and from Killiney Bay, Sugarloaf, and towards Bray Head. Long views across the Irish Sea, with a network of roads, rail, and walkways across the elevated heads or points. Sea level views, in particular for "*spectacular*" sunrises are possible from the variety of shingle beaches. Dalkey Island is referenced as both the subject of views and providing a viewpoint to the wider area.

Northern Ireland Regional Seascape Character Assessment (NIRSCA) – Final Report 2014

As above, the assessment was undertaken to "provide a strategic understanding of different areas of regional seascape character along the entire Northern Ireland coast, complementing similar assessments undertaken". This divides the Seascape into 24 distinct SCA. Three of these are relevant to the study area, identified below (see Figure 29.3).

SCA 19 Mourne Coast

SCA 19 is summarised as "The Mourne Coast SCA extends from St John's point, across the outer reaches of Dundrum Bay to Ballagh Bridge, and along the coast to Cranfield Point… The Mourne Mountains provide a stunning backdrop to the SCA and the imposing summit of Slieve Donard (850 m) is prominent in views from across the entire seascape. There are distant views across the Irish Sea SCA towards the Isle of Man and the north-west coast of England beyond and further south, the Cooley Mountains located above the southern side of Carlingford Lough". Other comments and key characteristics include "An open, exposed and windswept appearance with panoramic views of the Irish Sea", which is "exposed to the east and south-east to waves crashing against rocky platforms".

The entire SCA is bordered by the Mourne Area of Outstanding Natural Beauty (AONB), the coastline itself is within the AONB boundary. Perceptual influences identified which relate to the principal study area are:

- "Whilst views along the coast are contained by small headlands, there are expansive views across open sea with commercial shipping lanes, towards the Isle of Man and the north-west coast of England in the distance.
- Outside of coastal settlements, the coastline has an undeveloped appearance.
- Along the open coast road, a strong sense of exposure to the expansive Irish Sea is experienced."

The SCA also identified forces for change for each SCA and in this instance potential offshore wind energy development is one of the identified forces for change in this SCA.

SCA 20 Carlingford Lough

To the south of SCA 19, is SCA 20 - Carlingford Lough. This area is characterised in both the Ireland Seascape Character Assessment and the Northern Ireland Seascape Character Assessment, as the head of the Lough is the border between Ireland and Northern Ireland.

In terms of features which relate to the proposed development, the Northern Ireland Regional Seascape Character Assessment (NIRSCA) lists similar key points as the description within the 'Regional Seascape Character Assessment for Ireland' previously analysed. These include the following comments "*Contained by headlands at the Lough mouth, there are long distance views across the Irish Sea*" and "*Undeveloped headlands provide pockets of remoteness and tranquillity*". The northern shore of the Lough is within the Mourne Area of Outstanding Natural Beauty (AONB), and the many commercial, recreational and cultural aspects of the Lough emphasise the importance of this SCA. Within the perceptual influences, views are again mentioned, specifically *"long distance views across the expansive and Irish Sea, contained by headlands at the Lough mouth".* However often the views are of the features within the lough, due to the enclosure of vegetation, development, and upland areas surrounding the seascape.

SCA 24 Irish Sea (South Down)

The largest and nearest SCA to the array area within the NIRSCA is SCA 24. Irish Sea (South Down). This is located off the south-east coast and adjoins the outer marine extents of several SCAs located along the coast, including SCA 19 and 20 identified above.

Key Characteristics, relating to this assessment are the number of different traffic and industry types across the study area (container ships, passenger ferries, cruise ships, prawn grounds and fisheries, sailing).

In terms of relationship to the wider landscapes, due to the distance, features along the low-lying coastline would be hardly discernible although the dramatic outline of the Mourne Mountains and the Cooley Mountains form a distinctive skyline. To the east, there are distant views the Rhins of Galloway, the Isle of Man and the north-west coast of England beyond. The perceptual influences of this SCA are views of these, and sunsets over the Mourne Mountains. Potential offshore wind energy development is one of the identified forces for change.

29.2.6.3 County Development Plans

The following landscape and seascape classifications and policy context are derived from the County Development Plans of Counties which intersect the principal study area. Whilst scenic designations (scenic routes and views) from the County Development Plans (CDP) are also relevant to the landscape and seascape baseline context, to avoid repetition they will be identified as part of the consideration of Visual Receptors in section 29.3.3. That section will also identify which of the representative VPs selected for the visual impact assessment are relevant to each scenic designation, or whether they are scoped-out of further assessment.

Louth County Development Plan 2021-2027

Chapter 10 of the Louth County Development Plan 'Infrastructure & Public Utilities' has a series of eight policy objectives, which relate to the locating of wind farms and wind energy infrastructure in respect of the landscape preservation objectives, landscape sensitivity classifications, and Areas Suitable for Wind Development. Map 10.1 relates generally to onshore development, with one overlay of 'No Go Areas' within the nearshore areas, but does not apply any zoning in the seascape surrounding the site. Chapter 11 - Environment, Natural Resources & The Coast, relates to land-based development, erosion management and the integration of the 'National Maritime Spatial Plan'. This information will be addressed within the wider policy assessment for this project.

Louth County Development Plan Policies relating to Landscape and Seascape as relevant to this assessment, are quoted in Table 29.13:

Table 29.13 Relevant Policy Objectives by section. Source: Louth 2021-2027 County Development Plan, Chapter 8. – Natural Heritage, Green Infrastructure and Biodiversity.

Section	Relevant Policy Objective	Where addressed
8.10 Landscape	NBG 23 To ensure the preservation of the uniqueness of a landscape character type by having regard to its character, value and objectives in accordance with national policy and guidelines and the Louth Landscape Character Assessment and by ensuring that new development meets high standards of siting and design and does not unduly damage or detract from the character of a landscape or natural environment. NBG 24 To ensure development reflects and, where possible, reinforces the distinctiveness and sense of place of the landscape character types including the retention of important features or characteristics, taking into account the various elements, which contribute to their distinctiveness such as scenic quality habitats, settlement pattern, historic heritage and land use. NBG 25 Where appropriate, require that landscape and visual impact assessments prepared by suitably qualified professionals be submitted with development applications, which may have significant impact on landscape character areas, especially in highly sensitive areas. NBG 26 To explore the designation of Landscape Conservation Areas as appropriate, in conjunction with the relevant Government Department and stakeholders to protect specific important landscapes and particularly in respect of Carlingford Mountain SAC. NBG 28 To co-operate with adjoining local authorities, both north and south of the border, to ensure that the environment is maintained in a sustainable manner and to support the coordinated designation of sensitive landscapes and policy approaches with adjoining areas and on all aspects of environmental protection, particularly where transboundary environmental vulnerabilities are identified.	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape and landscape impacts
8.12 Environment and Amenities	NBG 36 To protect the unspoiled natural environment of the Areas of Outstanding Natural Beauty (AONB) from inappropriate development and reinforce their character, distinctiveness and sense of place, for the benefit and enjoyment of current and future generations. NBG 37 To protect the unspoiled rural landscapes of the Areas of High Scenic Quality (AHSQ) from inappropriate development for the benefit and enjoyment of current and future generations. NBG 38 Protect and sustain the established appearance and character of views and prospects listed in Tables 8.14 – 8.18 of this Plan that contribute to the distinctive quality of the landscape, from inappropriate development. NBG 39 To improve, where necessary, public access to viewing points, subject to availability of resources.	
8.3 Scenic Routes	NBG 40 To prohibit inappropriate development which would interfere with or adversely affect the Scenic Routes as identified in Table 8.19 and illustrated on Map 8.20.	

The relevant Landscape Character Areas (LCAs) within Co. Louth are those for which character is tied to the coastal and seascape features within and visible from them (in such a way that they define the landscape). Additionally, within Chapter 11 - Environment, Natural Resources & The Coast of the County Development Plan, '*The Coastal Zone is generally defined as the area between Mean High-Water Mark and the nearest continuous road*'. This statement is therefore used as a secondary overlay for identifying relevant areas.

Within Louth, the relevant coastal landscape character areas are Cooley Lowlands and Coastal Area, Dundalk Bay Coast, Dunany to Boyne Estuary Coast, as well as the eastern (Coastal) periphery of the Lower Faughart Castletown & Flurry River Basins, and Carlingford Lough and Mountains including West Feede Uplands (See Figure 29.4). The classification/importance of these are summarised below in Table 29.14 and Table 29.15:

Table 29.14 Landscape Character Area Classification. Source: Louth 2021 – 2027 County Development Plan, Appendix 8, Green Infrastructure.

Classification/Importance	Landscape Character Area
International	Carlingford Lough and Mountains including West Feede Uplands
National	None relevant
Regional	Dundalk Bay Coast, Dunany to Boyne Estuary Coast.
Local	Cooley Lowlands and Coastal Area. Lower Faughart. Castletown and Flurry River Basins.

Table 29.15 Coastal Landscape Character Area Key Characteristics. Source: Louth 2021 – 2027 County Development Plan, Landscape Character Assessment (Dec 2002)

LCA and Importance	Key Characteristics
International: Carlingford Lough and Mountains including West Feede Uplands	• A dramatic mountainous area where the visual impact is increased, by its location on a peninsula. • The valley of Glenmore, tapering off to its enclosure at the higher level which allows for a full appreciation of the landform in the area. • The open moorland of the higher areas with its variety of bracken, gorse and heathers. • The imposing geological feature of the Lough itself between the Cooley and Mourne mountains. • The intimate road network in the area which offers a great variety of landscapes in such a small area. • The sense of isolation of tranquillity in the Moneycrockroe area. • Large pockets of coniferous forests throughout the area, a few of which area poorly defined. • Area is rich in archaeological items and renowned in legend folklore. • Pressures for isolated housing in the scenic areas, which tend to be quite large in their mass. This area forms the greater part of the Carlingford peninsula and Feede mountain. Slieve Gullion to the north in Armagh is also part of this complex. Slieve Foye (588m O.D.) and Black Mountain (508 m O.D.) are separated by steeply sloping valleys. It has two very well-defined ridges at Aghnameen and Windy Gap which present a dramatic change in landscape as one approaches from both the south and north. Some pastureland is evident at the 170 m contour. Above that height there is little evidence of modern field boundaries where the land is taken over with bracken, gorse and heather which bring variety to the landscape with their changing colours at different seasons. There is a small but notable water area enclosed by marsh and peat land close to the Windy Gap. Rock scree is also evident at the lower slopes of Slieve Foye in Glenmore. The road between Carlingford and Omeath (R173) offers panoramic views across the lough to the Mournes. Expansive views are also available when travelling north between Windy Gap and Omeath and South from Aghameen to Jenkinstown. The Ravensdale Park valley between the Feede and Blacks Mountain with its narrow steep sloping wooded landscape is very enclosed and was once considered for the construction of a large water reservoir to supply Dundalk. Almost all the County Roads west of Feede Mountain have come under development pressure for housing due to the availability of scenic views southwards across the Muirhevna Plain. In contrast to the rest of the coastline, Slieve Foye slopes steeply to the coast where there is a sharp precipitous edge.
Regional: Dundalk Bay Coast,	• Land is relatively flat and not higher than 20m O.D. • Seashore is mainly of marsh at the northern end, which gives way to sandy beaches in the south. Coastal erosion is evident. • Well-defined hedge rows with larger fields. Some examples of old Country house estates with broadleaf planting. • Main settlements are Blackrock, Dromiskin, Castlebellingham/Kilsaran and Annagassan. • Motorway to the west has reduced the traffic along the old N1 • The area is rich in archaeological features. • Dundalk Bay is a designated Special Protection Area (SPA).

LCA and Importance	Key Characteristics
	• Isolated housing is very evident. The area extends from the marshes in Dundalk to Dunany Point and varies from 1⁄2 km to 2 1⁄2 kms in width, inland from the coastline. The landscape is quite flat and seldom rises above the 20m O.D. contour. The predominant land uses are non-irrigated arable land and pastures. Due to the shallowness of Dundalk Bay the intertidal area presents an expansive landscape at low tide of salt marshes and sand and has the potential for increased recreational use. The old N1 (Dublin – Belfast) has been downgraded to regional route status following the opening of the new motorway to the west, which adds to the landscape quality of the Castlebellingham/Kilsaran area. Two of the rivers that drain the Muirhevna plain pass through this area before discharging to the sea; viz. The Fane at Blackrock, and the confluence of the Glyde and Dee at Annagassan.
Regional: Dunany to Boyne Estuary Coast.	• Landscape is flat and undulating with the exception of the Head at Clogherhead and Castlecoo Hill. • Clogher Head is a dominant promontory when viewed from the west, south and east (part of which is a proposed NHA). • Area has an extensive sand beach for practically its entire coastline with some dune formations, which are subject to tidal, wind and traffic erosion. • Area has one SAC viz. the Boyne Coast and Estuary (1957) of which the Estuary is also an SPA • Field patterns vary from being reasonably large on the flat landscape to being smaller around the raised ground of the Almondstown/Glaspistol area. The area extends from the cliffs at Dunany Point to the estuary at the Boyne. The topography of the land is predominantly flat at the northern end and rises up to Castlecoo Hill near Clogherhead only to descend back down into the Termonfeckin Valley. The head at Clogherhead is a dominant feature in the landscape when viewed from the north, west and south. With the exception of the promontory at Clogherhead the coastline has a continuous stretch of sandy beaches with dune formations between Clogherhead and Baltray. These dunes have been utilised to develop two of the leading golf links courses in the country. Within its fine coastline the area is very popular for day-trippers from Monaghan, Cavan, and east Meath.
Local: Cooley Lowlands and Coastal Area	• A dramatic gentle sloping landform from the base of the Carlingford and Slieve na Gloch mountains to the sea. • Predominantly agricultural land with well defined hedgerows and small field patterns, which sustain the biodiversity of the area. • Main settlements at Greenore and Gyles Quay, with a number of very small centres. Isolated housing is scattered throughout the many narrow country roads. • Regional route 173 links Dundalk with the peninsula with Greenore, Carlingford, Omeath and further on to Newry. • Rich in archaeological items • Extensive views of both Cooley and Mourne Mountains and across Dundalk Bay. • Prominence of quarrying in the area. The Cooley Lowlands and Coastal area forms part of the eastern tip of the Carlingford peninsula, which has a southern and eastern aspect. The area is relatively flat and slopes gradually to the sea to the north, east and south, in contrast to the Carlingford Mountains, which rise steeply to the rear. At Cooley Point there are some sheer faces onto the shore. The major route through the area is regional route R173 which offers panoramic views of the Carlingford and Mourne Mountains with its rugged coastline, when travelling towards Greenore. Oyster farming on the intertidal mudflats is a significant economic activity in the area. In the County Development Plan 1997 a part of the area has been listed as an area of High Scenic Quality. Two scenic routes are identified viz. Muchgrange to Carlingford and Grange to Greenore.
Local: Lower Faughart. Castletown and Flurry River Basins.	• Variety of landscape types within the area, dictated by the landform and drainage areas • Some fine examples of mature broadleaf roadside trees at Bellurgan and Aghnaskeagh. • Prominence of Trumpet Hill in the landscape and its importance in terms of biodiversity giving reason for its proposed NHA status. • The flat marshes along the Flurry estuary (Designated SPA). • Early Christian associations with St. Bridget, along with many other archaeological features.

LCA and Importance	Key Characteristics
	• Scenic roads around the wooded Ravensdale area and from the R174 at Ballymakellet and Jenkinstown. This area borders on Co. Armagh which has an adjacent designated Landscape Area called the Crossmaglen Drumlins and Loughs. This area, along with the Slieve Gullion Complex and part of the Carlingford mountain areas drain into Lower Faughart by means of the Castletown and Flurry rivers via the southern ground slopes. Trumpet Hill, of igneous origin, and over 200 m O.D. is a striking landmark but its dominance is lost against the backdrop of the mountains behind. When viewed from the Jenkinstown Ravensdale route (R174) its prominence becomes very pronounced. The area at Marshes North, Aghaboys and Bellurgan is very flat and subject to flooding. Fields tend to be small and are divided by traditional hedgerows, which are poorly kept. Rush infestation is evident. Bellurgan Point, which once was a station along the old, dismantled railway line, went into decline when the line was closed almost 50 years ago. There are extensive views when looking northwards towards Slieve Gullion, Feede and Carlingford Mountains.

The following text is also derived from Chapter 8 of the Louth CDP – Green Infrastructure Strategy and summarises the intended application of the Landscape Character Areas and the additional overlay relating to the value of landscape within Co. Louth, which is the identification and designation of Areas of Outstanding Beauty and Areas of High Scenic Amenity. There are two of each within the study area. Refer to Table 29.16 below.

"The Louth Landscape Character Assessment (2002) identified 9 distinct character areas. These areas have been illustrated and detailed in Table 2 and Map 3. Applying the Landscape Character Assessment to the Green Infrastructure Strategy is advantageous in relation to proposed large scale development in areas of high scenic quality. These landscape character areas have been transcribed in the development plan through the designation of two distinctive areas. These areas have been afforded local protection through the policies of the Development Plan where the character of each of the landscapes should not be unduly damaged. Areas of High Scenic Quality (AHSQ) and Areas of Outstanding Natural Beauty (AONB) have been designated for protection as sensitive areas in the Development Plan based on the Landscape Character Assessment."

Table 29.16 Areas of Outstanding Beauty and Areas of High Scenic Amenity. Source: Louth 2021 – 2027 County Development Plan, Chapter 8, Natural Heritage, Green Infrastructure and Biodiversity.

Ref.	Location	Within ZTV Pattern
AHSQ 1	Feede Mountains and Cooley Area	Partially / relevant
AHSQ 5	Dunany	Yes / relevant
AONB 1	Carlingford and Feede Mountains	Partially / relevant
AONB 2	Clogherhead and Port Oriel	Partially / relevant

While the Carlingford and Feede Mountains are slightly separated from the coast, a key part of its 'Outstanding' quality is tied to scenic quality, in this case "*Spectacular views are available from a number of vantage points over Carlingford Lough to the Mourne Mountains AONB in County Down and the Ring of Gullion AONB in County Armagh and over Dundalk Bay to central and south County Louth*."

Meath County Development Plan 2021-2027

The Meath County Development Plan includes a landscape character assessment, which identifies the landscape character types, areas, and value. As above, the most relevant of these to this assessment are those which relate to the seascape or coastal environment and are most comprehensively contained in ZTV pattern (see Figure 29.4) indicating potential for intervisibility with the Array Area. In terms of landscape value, the scale includes Low, Moderate, High, Very High, and Exceptional. Landscape sensitivity, the second overlay is scaled from High to Moderate and Low. The relevant type is Landscape Character Type 'Coastal Landscape'. The closest, most extensive, and coastal focused Landscape Character Area is 7 – Coastal Plains, which is of 'Moderate' value, 'High' sensitivity, and 'Regional' importance.

Within Appendix A05. Landscape Character Assessment, the Coastal Plains Landscape Character Area is described as below:

"The coastal plain is a large area of east coast lowland divided by, the River Nanny estuary. It is known as the 'Gold Coast.' The area is characterised by scrubby rolling lowland near the coast interspersed with stands of pine. The River Nanny estuary is a steep sided river plain bound by attractive mixed woodland. The main transport routes are the M1 from Balbriggan to Drogheda, which crosses the River Nanny at Julianstown. Built development is concentrated along the coast with a variety of mixed use retail units, hotels and restaurants. The majority of residential development is in the form of ribbon development with concentrations of modern developments adjacent to the main settlements of Bettystown, Laytown, Morningstown and Julianstown.

…

Long distance views are available along the coastline, however due to the flat topography of the landscape and overgrown nature of many hedgerows, views inland from the coast are not readily available."

The nearest other Landscape Character Area, between the two sections of Coastal Plains is LCA 8 – Nanny Valley which is identified as having 'Very High' value, 'High' landscape sensitivity, and 'Regional' importance.

"Enclosed well-wooded river corridor extending from the east coast of Meath at Laytown to Duleek. The main transport routes are the R132 from Balbriggan to Drogheda, which crosses the River Nanny at Julianstown and the R152 to Drogheda, which by passes Duleek. Built development is limited due to enclosed river corridor. The main settlement is the small village of Julianstowna adjacent the river Nanny.

…

The River Nanny corridor is very enclosed with mixed woodland and an extensive stonewall from Julianstown totheR154and R152 junction. At Duleek the river forms an attractive plain of wetland and grassland, moving east it becomes more enclosed with woodland opening out into a wide estuary complete with sand bars and steep wooded banks. The estuary passes underneath the old railway bridge at Laytown, which services the east coastline. The landscape of the River Nanny is attractive with extensive mixed woodland and grassland forming a variety of habitats."

Other Landscape Character Areas within the study area but set back from the coast and therefore secondary to the above in relation to this assessment, are listed in Table 29.17 below and shown on Figure 29.4.

Table 29.17 Meath Landscape Character Areas Summary. Source: Meath 2021-2017 County Development Plan, Appendix A05. Landscape Character Assessment.

Landscape Character Area	Landscape Character Type	Landscape Value	Landscape Sensitivity	Landscape Importance
3. North Navan Lowlands	Lowland Landscapes	Moderate	Medium	Regional
4. Rathkenny Hills	Hills and Upland Areas	Very High	High	Regional
5. Boyne Valley	River Corridors and Estuaries	Exceptional	High	International
6. Central Lowlands	Lowland Landscapes	High	Medium	Regional
9. Bellewstown Hills	Hills and Upland Areas	Very High	Medium	Regional
10. The Ward Lowlands	Lowland Landscapes	Low	High	Regional
11. South East Lowlands	Lowland Landscapes	Very High	Medium	Regional

Landscape Character Area	Landscape Character Type	Landscape Value	Landscape Sensitivity	Landscape Importance
12. Tara Skryne Hills	Hills and Upland Areas	Exceptional	High	National/International

The inland LCAs identified in Table 29.17 are all well beyond 20km from the array area and shown by the ZTV maps on Figures 29.4 and 29.5c to have very limited visibility of the proposed WTGs with a considerable proportion of that inland visibility only relating to WTG blades and blade tips (See Figure 29.6). Coastal views are not an important aspect of landscape character and sensitivity and thus, there is no potential for significant effects on any of these LCA. Consequently, they are scoped-out of further assessment.

Policies relating to Landscape and Seascape, as relevant to this report, are as follows:

Table 29.18 Relevant Policy and Objectives by section. Source: Meath 2021-2017 County Development Plan, Chapter 8. Cultural and Natural Heritage Strategy.

Section	Policy	Objective	Where addressed
8.17.6 Landscape Capacity	HER POL 52 To protect and enhance the quality, character, and distinctiveness of the landscapes of the County in accordance with national policy and guidelines and the recommendations of the Meath Landscape Character Assessment (2007) in Appendix 5, to ensure that new development meets high standards of siting and design. HER POL 53 To discourage proposals necessitating the removal of extensive amount of trees, hedgerows and historic walls or other distinctive boundary treatments.	HER OBJ 49 To ensure that the management of development will have regard to the value of the landscape, its character, importance, sensitivity and capacity to absorb change as outlined in Appendix 5 Meath Landscape Character Assessment and its recommendations. HER OBJ 50 To require landscape and visual impact assessments prepared by suitably qualified professionals be submitted with planning applications for development which may have significant impact on landscape character areas of medium or high sensitivity. HER OBJ 51 To review and update (if required), in the context of a regional approach to landscape assessment, the County Landscape Character Assessment following publication of statutory guidelines for Planning Authorities on local Landscape Character Assessments, as outlined in the National Landscape Strategy 2015-2025.	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape and landscape impacts
8.18 Views and Prospects		HER OBJ 56 To preserve the views and prospects listed in Appendix 10, in Volume 2 and on Map 8.6 and to protect these views from inappropriate development which would interfere unduly with the character and visual amenity of the landscape. HER OBJ 57 To undertake a review of existing protected views and prospects contained in the County Development Plan and to assess and consider additional views and prospects deemed worthy of inclusion/protection	Appendix 29.2 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.5.4 – Construction Stage Visual Impacts Section 29.5.6 – operational Stage Visual impacts

Additionally, while there is no map provided for the seascape, the Coastal Plain Landscape Character area is listed within the landscape character assessment as having *"Medium-low potential capacity to accommodate windfarms and single turbines due to extensive views afforded of the coastline from within Meath and neighbouring counties".* While this specifically addresses the landscape along the coastline, the emphasis of this assessment shall address the impact on the *"extensive views of the coastline"*. oriented towards the array area

Fingal County Development Plan 2023-2029

Within the current Fingal County development plan, a landscape character assessment is provided which divides the county into 6 Landscape Character Types (LCTs). A large proportion of the project-facing (coastal) sections of the county are within the 'Coastal' and 'Estuary' landscape character types. The Estuary LCT is categorised as having exceptional landscape values, and outstanding aesthetic quality. The Coastal LCT is described as forming "the eastern boundary of the County" and "*contains a number of important beaches, islands and headlands that together create a landscape of high amenity and landscape value" ... "Views along the coast are generally contained within headlands, ridgelines and harbours, creating a number of visual compartments".* The Coastal Landscape character type is categorised as having 'exceptional' landscape value and is described as having "magnificent views out to sea". Other notable LCTs within the study area include the 'High Lying Type' which is categorised with a 'High' landscape value and a 'High' landscape sensitivity.

Both the coastal and estuary landscape character areas are identified as having 'High' landscape sensitivity, in addition to the 'Highly Sensitive Landscape' and 'High Amenity Zone' overlays included across the zoning maps. The 'High Lying Landscape Character Type' is also overlaid with the 'High Amenity Zone' Overlay. Much of the coastline encompasses the 'Highly Sensitive Landscape' designation in addition to some inland areas including Naul, Courtlough and Kinsealy. Dublin Bay is recognised by United Nations Educational Scientific and Cultural Organisation UNESCO as a Biosphere. Howth Head and North Bull Island are also designated with a Special Amenity Area Order (SAAO) which protects "*outstanding landscapes, nature and amenities*." All of the islands within Fingal County Council (FCC) "*are zoned as High Amenity Areas and they are all designated nature conservation sites of national or international importance."*

The summary table (Table 29.19) is included below:

Table 29.19 Landscape Character Assessment Summary. Source: Fingal County Development Plan 2023-2029, Chapter 9, Green Infrastructure and Natural Heritage (Table 9.3: Landscape Character Assessment Summary-Character, Value and Sensitivity).

Landscape Character Types	Landscape Character Value	Landscape Character Sensitivity
Rolling Hills Type	Modest	Medium
High Lying Type	High	High
Low Lying Type	Modest	Low
Estuary Type	Exceptional	High
Coastal Type	Exceptional	High
River Valley and Canal Type	High	High

Within the Fingal Development Plan, Sheet No. 14 – 'Green Infrastructure 1' identifies views and prospects 'to be preserved'. As described in section 9.6.15 Views and Prospects, "*the County contains many vantage points from which views and prospects of great natural beauty may be obtained over both seascape and rural landscape.".* A high number of these occur along the coastline throughout and in the surrounds of the settlements of Rush, Skerries, Malahide and most notably around Howth Head.

In terms of policy around these landscape character areas and sensitivity, these focus on the 'Preservation of Landscape Types', with objectives relating to the protection of skylines, visual impacts, landscape features and characteristics, sensitive areas, and development within sensitive areas.

Views and Prospects Policy and Objectives refer to the Preservation and Protection of Views and Prospects, as well as the requirement for Landscape and Visual assessments. Special Amenity Area Policy and Objectives continue along similar lines with relation to protecting and enhancing identified areas. Coastal Policies and Objectives relate to protection of both the coastal character and environment, as well as the safeguarding of any future developments on the coast. The key policy from these with regards to this assessment are GINHP29 – Development and the Coast *'Protect the special character of the coast by preventing inappropriate development along the coast'* and GINHP32 – Protection of the Islands '*Protect and enhance the special landscape character and exceptional landscape value of the islands, including their biodiversity, archaeological and architectural heritage.'*

Table 29.20 Relevant Policy and Objectives by section. Source: Fingal 2023 – 2029 County Development Plan, Chapter 9. Green Infrastructure and Natural Heritage.

Section	Policy	Objective	Where Addressed
9.6.14 Landscape Character Assessment	Policy GINHP25 – Preservation of Landscape Types Ensure the preservation of the uniqueness of a landscape character type by having regard to the character, value and sensitivity of a landscape when determining a planning application.	Objective GINHO55 – Protection of Skylines Protect skylines and ridgelines from development. Objective GINHO56 – Visual Impact Assessments Require any necessary assessments, including visual impact assessments, to be prepared prior to approving development in highly sensitive areas. Objective GINHO57 – Development and Landscape Ensure development reflects and, where possible, reinforces the distinctiveness and sense of place of the landscape character types, including the retention of important features or characteristics, taking into account the various elements which contribute to their distinctiveness such as geology and landform, habitats, scenic quality, settlement pattern, historic heritage, local vernacular heritage, land-use and tranquillity. Objective GINHO58 – Sensitive Areas Resist development such as houses, forestry, masts, extractive operations, landfills, caravan parks, and campsites, and large agricultural/horticulture units which would interfere with the character of highly sensitive areas or with a view or prospect of special amenity value, which it is necessary to preserve. Objective GINHO59 – Development and Sensitive Areas 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. New development in highly sensitive areas shall not be permitted if it: Causes unacceptable visual harm. Introduces incongruous landscape elements. Causes the disturbance or loss of (i) landscape elements that contribute to local distinctiveness, (ii) historic elements that contribute significantly to landscape character and quality such as field or road patterns,	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape and landscape impacts

Section	Policy	Objective	Where Addressed
		(iii) vegetation which is a characteristic of that landscape type and (iv) the visual condition of landscape elements.	
9.6.15 Views and Prospects	Policy GINHP26 – Preservation of Views and Prospects Preserve views and prospects and the amenities of places and features of natural beauty or interest including those located within and outside the County.	Objective GINHO60 – Protection of Views and Prospects Protect views and prospects that contribute to the character of the landscape, particularly those identified in the Development Plan, from inappropriate development. Objective GINHO61 – Landscape/Visual Assessment Require a Landscape/Visual Assessment to accompany all planning applications for significant proposals that are likely to affect views and prospects.	Appendix 29.2 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.5.4 – Construction Stage Visual Impacts Section 29.5.6 – operational Stage Visual impacts
9.6.16 Special Amenity Areas	Policy GINHP27 – Howth and Liffey Valley Amenity Orders Protect and enhance the special amenity value of Howth and the Liffey Valley, including its landscape, visual, recreational, ecological, geological, and built heritage value, as a key element of the County's Green Infrastructure network and implement the provisions of the Howth and Liffey Valley Special Amenity Area Orders (SAAO).	Objective GINHO63 – SAAOs Prioritise Rogerstown, Malahide and Baldoyle Estuaries for Special Amenity Area Orders.	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape Appendix 29.2 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.5.4 – Construction Stage Visual Impacts Section 29.5.6 – operational Stage Visual impacts
9.6.17 High Amenity Zoning	Policy GINHP28 – Protection of High Amenity Areas Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place.	Objective GINHO67 – Development and High Amenity Areas Ensure that development reflects and reinforces the distinctiveness and sense of place of High Amenity areas, including the retention of important features or characteristics, taking into account the various elements which contribute to its distinctiveness such as geology and landform, habitats, scenic quality, settlement pattern, historic heritage, local vernacular heritage, land-use and tranquillity.	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape
9.7.1 New Development in Coastal Areas	Policy GINHP29 – Development and the Coast Protect the special character of the coast by preventing inappropriate development along the coast.	Objective GINHO73 – New Development and the Coast Prevent inappropriate development along the coast, particularly on the seaward side of coastal roads. New development for which a coastal location is required shall, wherever possible, be accommodated within existing developed areas.	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts

Section	Policy	Objective	Where Addressed
		Objective GINHO74 – Pattern of Coastal Development Strictly control the nature and pattern of development within coastal areas and ensure that it is designed and landscaped to the highest standards and sited appropriately so as not to detract from the visual amenity of the area. Development shall be prohibited where the development poses a significant or potential threat to coastal habitats or features, and/or where the development is likely to result in altered patterns of erosion or deposition elsewhere along the coast. Objective GINHO75 – Prohibition of Coastal Development Prohibit development along the coast outside existing urban areas where such development could not be adequately safeguarded over the lifetime of the development without the need to construct additional coastal defences. Objective GINHO76 – Development and Risk of Coastal Erosion Prohibit new development outside urban areas within the areas indicated on Green Infrastructure maps, which are within 100m of coastline at risk from coastal erosion, unless it can be objectively established based on the best scientific information available at the time of the application, that the likelihood of erosion at a specific location is minimal taking into account, inter alia, any impacts of the proposed development on erosion, or deposition. Objective GINHO77 – National Marine Planning Framework Comply with the policies and objectives of the *National Marine Planning Framework* as it relates to the area between the mean high-water mark and the near shore with respect to the planning and resource management of the marine area.	Section 29.5.5 – operational Stage seascape Appendix 29.2 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.5.4 – Construction Stage Visual Impacts Section 29.5.6 – operational Stage Visual impacts
9.7.2 Coastal Tourism and Recreation		Objective GINHO81 – Protection of Beaches Protect beaches, and bathing areas as valuable local amenities and as a tourism resource and support the maintenance, protection and improvement of access to them. Objective GINHO82 – Protection of Bathing Waters Protect bathing waters, including those listed in the Water Framework Directive Register of Protected Areas for the Eastern River Basin District, at Sutton, Portmarnock, Malahide, Donabate, Portrane, Rush, Loughshinny, Skerries and Balbriggan in order that they meet the required bathing water standards and implement the findings and recommendations of the Quality of Bathing Water in Ireland reports as published.	
9.7.3 The Islands	Policy GINHP32 – Protection of the Islands Protect and enhance the special landscape character and		Section 29.5.2 – Seascape and Landscape Sensitivity

Section	Policy	Objective	Where Addressed
	exceptional landscape value of the islands, including their biodiversity, archaeological and architectural heritage.		Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape Appendix 29.2 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.5.4 – Construction Stage Visual Impacts Section 29.5.6 – operational Stage Visual impacts

Dublin City Development Plan 2022-2028

Within the Dublin City Development Plan, the relevant reference is in section 10.5.3 Landscape, where "Within Dublin City, there are outstanding landscapes of national importance including a National Special Amenity Area at North Bull Island k". However generally, given the urban and highly screened environment, the wider seascape has less of a relationship with landscape character and land-based receptors compared to previous locations. The majority of land bordering the sea is zoned Amenity/Open Space Lands/Green Network – Zone Z9 "To preserve, provide and improve recreational amenity, open space and ecosystem services", which indicates some appreciation for the landscape/seascape interface along these areas is anticipated.

Table 29.21 Relevant Policy and Objectives by section. Source: Dublin City Development Plan, Chapter 10, Green Infrastructure and Recreation.

Section	Policy	Objective	Where Addressed
10.5.3 Landscape	GI19 Protect and Enhance Landscapes To continue to protect and enhance the city's landscape and seascape, the amenities of places and features of natural beauty and interest, through sustainable planning and design for both the existing community and for future generations in accordance with the National Landscape Strategy 2015 – 2025 and any updated strategy. GI20 Views and Prospects To protect and enhance views and prospects which contribute to the appreciation of landscape and natural heritage. GI23 European Landscape Convention	GIO17 Views and Prospects Study To undertake a 'Views and Prospects' study to identify and protect the key views and prospects of the city. Additional views and prospects may be identified through the development management process and local area plans. GIO19 North Bull Island National Special Amenity Area (SAA) To update the 2009 SAAO Management Plan for the North Bull Island National Special Amenity Area. To support the protection of the North Bull Island SAA.	Section 29.5.2 – Seascape and Landscape Sensitivity Section 29.5.3 – Construction Stage seascape and landscape Impacts Section 29.5.5 – operational Stage seascape Appendix 29.2 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.5.4 – Construction Stage Visual Impacts Section 29.5.6 – operational Stage Visual impacts

Section	Policy	Objective	Where Addressed
	To continue to protect and enhance landscape, including existing green spaces through sustainable planning and design for both the existing community and for future generations in accordance with the principles of the European Landscape Convention.		

Dún Laoghaire-Rathdown County Development Plan 2022-2028

Chapter 10 of the Dún Laoghaire-Rathdown County Development Plan 'Infrastructure & Public Utilities' has a series of eight policy objectives, but given the distance and partial screening of a portion of Dún Laoghaire-Rathdown within the study area, the emphasis here will be on the key scenic locations through the County, which have potential visibility of the WTGs. As with Co. Fingal, there are locations identified 'to preserve views' over the development plan maps, with no descriptors or other identifying factors. Generally speaking, those relevant to the proposal are those which are oriented towards the array area. These are typically located along the nearest transport corridor to the seafront, or along the coastline itself. Between this County Boundary and the array area is Howth Head, which results in variable visibility along the coastline. Relevant scenic designations are listed in Section 29.3.3.1.

29.2.6.4 Northern Ireland

To the far north of the study area, there is a section of the Newry, Mourne and Down District, within Northern Ireland. The District Council has undertaken a review of the Landscape Character Areas (2020) which occur within the district, to "*make sure that designations, in particular local designations, properly reflect the special landscape qualities and remain relevant to objectives set out in planning policy"*. This document is complimentary to Northern Ireland Regional Landscape Character Assessment (NIRLCA) and the Northern Ireland Regional Seascape Character Assessment (NIRSCA), published in 2016 and 2014.The Landscape Character Area relevant to this assessment identified in the NIRLCA is Area 25 - Mourne and Slieve Croob.

This area is generally characterised by an "open, exposed, wilderness mountain landscape and its distinctive character is reflected by its designation as an Area of Outstanding Natural Beauty", with "panoramic views to sea and land", and "a popular area for tourism, given the scenic views and coastal interest". This NIRLCA LCA is made up of areas 73, 74, and 75 identified within the District Council Review of Landscape Character Areas. These are listed below.

- 73 – Kilkeel Coast, Coastal Plain: relevant key characteristics 'Open, expansive views across Carlingford Lough, and to the 'Kingdom of Mourne' and Mourne Mountains'
- 74 – The Kingdom of Mourne, Inclined Coastal Pasture: relevant key characteristics '*Views to the coast and Mourne Mountains', 'The national importance of this scenic landscape is reflected by its AONB statuses,* however it is defined by being the setting for the Mourne Mountains, as much as for the character of the area itself.
- 75 – The Mourne Mountains, Rugged Uplands: relevant key characteristics 'Panoramic views to sea, across the 'Kingdom of Mourne' and inland across foothills and basins', 'form a stunning backdrop to views throughout south-eastern Northern Ireland'.

The common factor across the above is the views to the coast and sea from the LCAs, however the Mourne Mountains, in the opposite direction, compete for viewer attention, while simultaneously providing an elevated vantage point across the wider landscape and surrounding seascape.

29.2.6.5 UNESCO Dublin Bay Biosphere

The UNESCO designation over Dublin Bay and immediate surrounds was created in 1981 and expanded in 2015. The core area, buffer zone and transitional zone of the Biosphere covers a considerable proportion of the south of the study area. The designated 'Core Zone' includes areas such as the Tolka and Baldoyle Estuaries, Booterstown Marsh, Howth Head, North Bull Island, Dalkey Island and Irelands Eye. 'Buffer' and 'Transitional' zones extend to public and private green areas surrounding and adjoining the core zone of the Biosphere. The significance of this area – beyond the ecological values – to this assessment is the conscious connection of the surrounding communities to the environment and associated landscape/seascape and visual values. The specifics of the ecological and policy implications will be addressed in Chapters 12,13,14,15 and 23 of this report.

29.3 Baseline Environment

Following on and supplementing the description of the seascape and landscape baseline environment that was provided in the context of the Regional Seascape Character Assessment (2020) and the Landscape Character Assessments for each of the relevant Counties within the principal study area in Section 29.2.6, the sections below provide a project specific description of landscape and seascape setting as well as relevant visual receptors.

A key tool for understanding the relevance to the assessment of landscape and seascape receptors as well as visual receptors are Zone of Theoretical Visibility (ZTV) maps. Two forms of ZTV map have been prepared for the purpose of the assessment and these will be described below in terms of process and function.

29.3.1 Zone of Theoretical Visibility (ZTV) Mapping

Computer-generated ZTV maps have been prepared to illustrate where the proposed development is potentially visible from. The initial ZTV maps are based solely on Digital Terrain Model (DTM) data (i.e. bare-ground visibility), which ignore features such as vegetation or buildings, which may screen views. The main value of this form of ZTV mapping is to determine those parts of the landscape and associated visual receptor locations where the proposed development will not be visible, or will be only partially visible, due to terrain screening. This allows certain receptors to be screened-in or screened-out of further assessment, but it should be noted that even where the ZTV pattern illustrates potential for visibility it is likely to be overestimated because screening by the likes of vegetation and buildings is not accounted for and there is no differentiation of viewing distance. ZTV maps have been generated at WTG tip height for both project options (Figures 29.5a and 29.5b). A 'Delta' (Comparative) ZTV map has also been produced, which illustrates the difference in potential visual exposure between Project Option 1 and Project Option 2 (See Figure 29.12).

A Cumulative ZTV map affords an understanding of where the proposed array area may be intervisible with other phase 1 OWF projects within the cumulative study area. This is provided in Figure 29.8.

A finer grain of analysis is also afforded by ZTV maps generated from Digital Surface Model (DSM) data. DSM data has been used within the principal study area to produce a DSM-based ZTV map relating to the taller WTG of Project Option 2.

An overview of the ZTV patterns is provided below and thereafter the ZTV pattern will be referenced specifically in relation to particular receptors in terms of scoping them in or out of further assessment. To aid this refinement exercise, the bare-ground ZTV pattern has also been overlaid on the Landscape Character Area map (Figure 29.4) and the Scenic Designations map (Figure 29.11).

29.3.1.1 Bare-Ground ZTV mapping

The bare-ground ZTV mapping (Figures 29.5a and 29.5b) indicates the following with respect to potential visibility of the proposed WTG:

- In the north of the principal study area from the Mourne mountains and coastline, the Cooley Peninsula and Dundalk Bay to Dunany Point, the ZTV coverage is relatively comprehensive meaning that most landscape and visual receptors have some potential for visibility of the proposed WTGs. One exception is the southern side of Carlingford Lough, which is in the view-shadow of the Cooley Peninsula.

- There is a distinct ‘sand ripple’ pattern to the ZTV in the northwest of the study area indicating the enclosed drumlin landscape of inland areas of County Louth and County Meath.
- Within the arc of coastline that stretches from Dunany Point southwards to Skerries and Rush, which is generally characterised by low coastal features and a gradual transition to low-lying land form, the ZTV pattern typically penetrates between 5-10km inland. This covers land that lies between approximate 13km and 25km from the array area. Beyond these distances, the ZTV pattern indicates that potential for visibility becomes sporadic depending on the elevation of the terrain.
- Beyond 10km inland (approximately 25km from the array area) throughout the central-western portion of the principal study area, the ZTV pattern becomes confined to upper slopes and ridges of higher ground. This includes the likes of the Rathkenny Hills and Red Hills to the west of Drogheda. It also includes the higher lying agricultural areas of Fingal to the west of Malahide.
- The low lying landscape of South Meath / North Fingal is afforded only limited potential for WTG visibility beyond 10km inland, but the north of Dublin City and the northern side of Howth Head indicate higher potential for visibility.

29.3.1.2 Digital Surface Model (DSM) ZTV mapping

In comparison to the bare-ground ZTV mapping, the DSM-based ZTV map (Figure 29.5c) indicates a much reduced inland penetration of actual visibility. This is particularly the case for the low-lying agricultural areas that lie between Dunany Point and Rush, which are those within 25km of the array area. This is due to the low westward incline of the landform coupled with layers of hedgerow and woodland vegetation providing a visual screen towards the seaward horizon where the WTG are a progressively smaller feature with increased distance.

In broad terms the percentage of land covered by ZTV pattern, indicating potential for views of the WTGs, reduces from 62.1% for the bare-ground DTM-based ZTV map, down to only 27.3% for the DSM-based ZTV map once screening by vegetation and buildings is accounted for.

A key consideration is that aside from the coastal properties within settlements, the vast majority of urban areas are shown to have no potential for visibility of the WTGs. This accounts for most of the population that lives within the principal study area. Dublin City has almost no visibility except for along its southern coastal perimeter, representing a fraction of the population of the city. There is virtually no visibility afforded from the M1 motorway, which represents the greatest proportion of those moving through the study area along a major transport route and even the coastal regional road network has a remarkably low degree of visibility. The highly sensitive UNESCO World Heritage site of Brú na Bóinne is shown to have no visibility of the proposed WTGs.

Given that the vast majority of representative VPs used in the visual impact assessment of the WTGs have been selected at receptor locations that afford unimpeded views of the array area, the DSM-based ZTV map reinforces that these VP locations represent areas with the greatest potential for a significant effect in terms of visual exposure within the principal study area.

29.3.2 Seascape and Landscape Baseline

The offshore Infrastructure of the proposed development is located off the east coast of counties Louth, Meath and Dublin, generally aligned with the coastline from Dunany Point and Clogher Head (Co. Louth), south to offshore from Skerries in North County Dublin (see Figure 29.1). The array area lies at distances ranging between approximately 12.3km (southern end) to 17km (northern end) from the nearest sections of the coastline (See Figure 29.1). The northern and southern extents of the study area are framed by variable coastline and upland areas, while the western (central) section is, aside from those coastal features identified above, principally shallow coastal farmland with dunes backed by gently rolling farmed fields interspersed with varying sized coastal settlements and lined by coastal one-off housing. Beyond approximately 10km inland there are a series of low hills and more rolling country in the western extents of the principal study area. In the north-western extents of the study area within County Meath and County Louth there is a distinct pattern of small drumlin hills which are a feature of former glaciation. Such areas tend to be quite enclosed by the combination of landform and vegetation patterns.

The dramatic features to the north are Dundalk Bay, which swoops inland/westwards from Dunany point, Carlingford Lough and associated upland areas which form the northern boundary of Dundalk Bay and the Mourne Mountains, which progress out of the study area to the north. There is a transition between these areas between Dunany Point and Dundalk, where the coastline character is similar to that further south. However, there is a greater sense of enclosure with the change in alignment towards the north, and the far shoreline of Dundalk Bay and Cooley Peninsula.

To the south, the wide, shallow coastline and beaches from Clogher Head southwards are replaced by shorter, rockier stretches from Balbriggan south with a series of smaller but steep bays and outcrops. While there are a number of relatively large bays and beaches south of Balbriggan, compared to the coastline further north, the character changes to a much more varied, and often enclosed nature. The southern half of the study area differs from the northern due to the presence of many islands and peninsulas. The nearest of these to the site and central study area are the Skerries Islands and Rockabill, however further south, there are the larger Lambay Island and Irelands Eye. South of Islands Eye, there is Howth Head/Peninsula, forming the northern extent of Dublin Bay, the most built up and modified seascape of the study area. The highly modified, almost entirely developed coastline continues from Howth Head to the southern extent of the study area, passing through Dublin Harbour, at the mouth of the Liffey River. The Dublin Mountains and Killiney Hill form the backdrop for the southern extent of the study area.

The seascape within the study area, although varied in physical form, has an overriding busy and productive character. It contains commercial shipping lanes into Dublin, Drogheda, Dundalk and Greenore, as well as ferry routes between Dublin and the Isle of Man / Holyhead. It also supports commercial fishing fleets out of these ports and smaller harbours along the coastline at the likes of Port Oriel, Lough Shinny and Skerries. Whilst tidal ranges can be broad, immediately inland of the beaches and sea cliffs the landcover tends to abruptly give way to coastal farmland, settlement and transport routes (road and rail). Other recreational uses such as golf courses and caravan parks are also common features and whilst associated with recreation rather than primary production or settlement, they are still a relatively intensive coastal land use. There are few areas that could be considered of a predominantly naturalistic character along the study area coastline.

The Dublin Bay Biosphere is a UNESCO designation that applies to Dublin Bay, principally in relation to unique ecology rather that distinct seascape character. This occurs at the very southern extents of the principal study area (40km) where it opens onto a south-easterly seascape context that is divided by Howth Head from that containing the proposed development and there is little intervisibility between (See Figures 29.5 a, b and c). The other UNESCO designation within the study area is a the Brú na Bóinne Megalithic complex, which lies a considerable distance inland (c.14km) from the coastline at Drogheda where it contributes to the character and importance of Boyne River Valley rather than the coastal context. There is an Area of Outstanding Natural Beauty (AONB) contained in the Northern Ireland portion of the study area relating to the Mourne Mountains.

Other relevant coastal designations are at a county level and contained within relevant County Development Plans (See section 29.2.4.2 above). Whilst not recognised at a national level in the Republic of Ireland, Louth County Council designates its highest sensitivity landscapes as AONBs and these include the Cooley / Feede mountains as well as Clogherhead and Port Oriel. These designations are considered in the same context as the highest value landscape designations within the other relevant county development plans within the study area.

29.3.3 Visual Receptors

It is important to reiterate that visual receptors are people and groups of people engaged in particular activities or resident at particular locations which can influence their susceptibility to visual change. The sub-headings below relate to locations and linear features from which viewers might be afforded views of the Proposed Development. The following sections establish the viewpoints (VP) that have been selected to represent different visual receptor types. These include designated scenic routes and views from the relevant County Development Plans (CDP) as well as non-designated receptors such as population centres, major transport routes and tourism, amenity and heritage locations. These are all publicly accessible receptor locations in accordance with GLVIA3. The representative nature of a VP allows for one VP to sometimes cover more than one receptor and receptor type, particularly where the view is likely to be similar in terms distance, orientation, context and visual receptor sensitivity.

In such instances, the VP location priority goes to the clearest viewing context and most sensitive receptor and the selected VP will be indicated as being either 'directly representative' or 'generally representative' of the receptors in question.

29.3.3.1 Visual Receptors at Designated Scenic Routes and Views

County Louth

Designated scenic routes and views within County Louth are set out in Table 29.22 along with their relevance and representative viewpoint number in this assessment. Verifiable photomontages are prepared in respect of all relevant views to aid the assessment. Relevance is determined by whether or not they relate to coastal / offshore views and are oriented appropriately. See Figure 29.11 for an overlay of the ZTV pattern with Scenic designations and corresponding VIA views.

Table 29.22 County Louth Scenic Views and Prospects. Source: Louth 2021 – 2027 County Development Plan, Appendix 7, Views and Prospects.

CDP VP	Description	Relevance to assessment	Covered by SLVIA VP (refer to Figure 29.11)
VP5	Carlingford Lough Views north of Carlingford in the middle distance and with the setting of Slieve Foye to the rear. In the foreland across Carlingford Lough, views of the Mourne Mountains in Northern Ireland.	Not relevant – Partial/limited ZTV visibility, oriented away from development.	-Scoped-out
VP6	Slieve Foye View of the setting of Carlingford along the coastline and panoramic views of Lough towards Northern Ireland	Yes relevant – within ZTV and oriented towards the array area	Directly represented by VP7
VP7	Spelickanee 180-degree views of the mountains and valley within the Cooley peninsula.	Yes relevant – within ZTV and oriented towards the array area	Directly represented by VP6
VP8	Glenmore – mountains and valley, Slieve Halpen Panoramic Views down through the valley towards Slieve Foye and, Barnavave and to the south Slieve Halpen	Yes relevant – within ZTV and oriented towards the array area	Directly represented by VP6
VP9	Barnavave and Carlingford Mountain, Ballygoly Middle distance views to the northeast of the back of Slieve Foye and Barnavave and Carlingford Mountain. A dwelling at the crossroads at this causes a certain amount of obstruction to the southeast views.	Not relevant – Generally outside of ZTV pattern and in description 'to northeast'.	Scoped-out
VP10	Jenkinstown Hill Panoramic views south towards Dundalk Bay and across to Dundalk.	Not relevant – Outside of ZTV pattern.	Scoped-out
VP11	Jenkinstown All panoramic views to the south of the site of Dundalk Bay, Views north of the Black Mountain	Yes relevant – Partial visibility in ZTV. Views oriented towards array area	Generally represented by VP6
VP18	Dromiskin Views of sea across to Cooley and Mourne Mountains and including Dundalk Bay.	Limited relevance – Within ZTV, but described views are away from array area (North).	Generally represented by VP10 and VP11
VP19	North of Annagassan Coastal beach strip, approximately 250m long, providing uninterrupted sea view looking north across Dundalk Bay towards the Cooley Mountains and the Mourne Mountains	Limited relevance – Limited visibility and described views are away from array area (North).	Generally represented by VP10 and VP11

CDP VP	Description	Relevance to assessment	Covered by SLVIA VP (refer to Figure 29.11)
VP20	Salterstown Coastal beach strip, providing uninterrupted sea view looking north across Dundalk Bay towards the Cooley and Mourne Mountains.	Limited relevance – Limited visibility and described views are away from array area (north).	Generally represented by VP10 and VP11
VP21	Corstown, Draghanstown Uninterrupted sea view looking north across Dundalk Bay towards the Cooley and Mourne Mountains.	Limited relevance – Limited visibility and described views are away from array area (north).	Generally represented by VP10 and VP11
VP22	Lurganboy Coastal beach strip, providing uninterrupted panoramic sea view. View to north along coast towards Dunany Point. View to the south-east towards Clogherhead Village, Almondstown, Clogher Head and Clogherhead Harbour.	Yes relevant – Full ZTV and oriented towards array area	Directly represented by VP12
VP23	Callystown to Clogherhead/ Garrolagh Extensive panorama towards the coast across large working landscape. Dunany Point visible to the north-east, Lurganboy coastline in the middle distance and Clogherhead Village and Clogher Head to the south-east. Some modern housing and agricultural buildings visible in the middle distance.	Marginal – Limited visibility, described view is oriented towards coast/ array area.	Generally represented by VP14
VP24	Dardisrath/ Clogherhead Partial coastline view across working landscape, interrupted by some modern housing and agricultural buildings. Ganderstown and Port Oriel partially visible to the south-east.	Yes relevant – Within full ZTV, described view oriented towards coast/ array area	Directly represented by VP14
VP25	Brownstown southwards over AHSQ towards Drogheda	Marginal – Within full ZTV, however primary views are oriented away from the array area, resulting in peripheral views only.	Scoped-out
VP26	Newtown Monasterboice towards Monasterboice Tower	Not relevant – No visibility, despite 360 views.	Scoped-out
VP27	Townley Hall Nature Walk view of Battle of the Boyne site	Not relevant – Limited/Partial visibility, and Peripheral to depicted view	Scoped-out
VP28	Drybridge Escarpment view of Battle of the Boyne Site	Not relevant – Not within ZTV	Scoped-out
VP29	Waterunder Plateau overview of Battle of the Boyne Site (Williamite Army)	Not relevant – Not within ZTV	Scoped-out
VP30	Mount Oriel	Not relevant – Not within ZTV	Scoped-out
VP31	N2 Funshog	Not relevant – Limited visibility, array area within 360 FOV	Scoped-out
VP32	Millockstown	Marginal – Within partial ZTV, however very distant inland view	Scoped-out
VP34	Anaglog	Not relevant – No ZTV, directed inland/away from array area	Scoped-out

CDP VP	Description	Relevance to assessment	Covered by SLVIA VP (refer to Figure 29.11)
Views and Prospects, Dundalk (Local Area Plan for settlement - not shown on Figure 29.11)			
VP36	Views northward on the Point Road between the Coe's Road and Soldiers Point	Not relevant - Partial ZTV, depicted/described view directed away from array area (north)	Scoped-out
VP41	Views northeast and south from Soldier's Point and views of the Cooley Mountains	Yes relevant – Within ZTV, array area within periphery of described view (south)	Between VP9 and VP10
VP42	Views of the town, Dundalk Bay and Cooley Mountains from the Navvy Bank – Shore Road	Yes relevant – Within ZTV and depicted FOV.	Represented by VP10
VP44	Views of Dundalk Bay and the Cooley Mountains from the Coast Road between McGuigans Rock and Dundalk Town Councils Boundary	Yes relevant – Within ZTV and depicted FOV, albeit peripheral (south)	Represented by VP10
VP45	Views of Dundalk Bay and Cooley Mountains from the Crescent to Main Street	Yes relevant – Within ZTV and depicted FOV, albeit peripheral (southeast)	Represented by VP10
VP46	Views out to sea from the Cockle Hill Road	Yes relevant – Within ZTV and depicted FOV	Represented by VP10
VP47	Views of the Cooley Mountains from the car park at St. Fursey's Church, Haggardstown	Not relevant - Partial visibility, Peripheral to main focus of view.	Represented by VP10
Views and Prospects, Drogheda (Local Area Plan for settlement - not shown on Figure 29.11)			
VP49	Views of the town from Millmount	Yes relevant – Within ZTV and 360 depicted FOV	Generally represented by VP16
VP 50	Views of the town from Ballsgrove	Not relevant - Partial ZTV, depicted view oriented away from array area (to the north)	Scoped-out
VP 51	Views of Millmount from the West	Marginal - Partial/Limited visibility, likely enclosure by vegetation and built form. View is oriented towards array area.	Generally represented by VP16
VP 52	Views of Millmount looking southward from the Town Centre	Marginal – Within ZTV, within FOV, however likely enclosed by built form.	Scoped-out
VP53	Views of the Boyne and the Loughboy Callows from Loughboy	Not relevant – Partial visibility, array area peripheral to FOV	Scoped-out
VP 54	Views of the Boyne East and West from vehicular and pedestrian bridges	Not relevant - Outside of ZTV	Scoped-out
VP 55	Views of the town from the Rathmullen Road	Marginal – Partial visibility in ZTV, but likely enclosed by buildings vegetation	Scoped-out
VP 56	Views of Millmount and the Presbytery from Donor's Green	Not relevant – Partial visibility, view directed away from array area	Scoped-out

CDP VP	Description	Relevance to assessment	Covered by SLVIA VP (refer to Figure 29.11)
VP 57	Views of the railway viaduct from the town centre, the bridges along the Boyne and the Termonfeckin Road from the west	Not relevant – Outside of ZTV	Scoped-out
	Views and Prospects, Ardee (LAP)		
VP 58	Mulladrillen Hill and Mullaghash from the Town Centre	Not relevant – Outside of ZTV	Scoped-out
VP 59	Ardee Castle	Not relevant – Outside of ZTV	Scoped-out
VP 60	Castleguard Motte	Not relevant – Outside of ZTV	Scoped-out
Level 3 Settlements (Local Area Plans for settlements - not shown on Figure 29.11)			
VP 61	King John's Castle, Carlingford	Marginal – Limited visibility shown in ZTV, not in primary direction of amenity	Scoped-out
VP 62	Taaffe's Castle, Carlingford	Not relevant – Outside of ZTV	Scoped-out
VP 63	Holy Trinity Church, Carlingford Heritage Centre	Not relevant – Outside of ZTV	Scoped-out
VP 64	Dominican Friary, Carlingford	Not relevant – Outside of ZTV	Scoped-out
VP 65	Coast and Harbour, Carlingford	Yes relevant – Partial ZTV	Generally by VP5
VP 66	Clogherhead Harbour	Yes relevant – Partial ZTV, peripheral to primary amenity	Generally represented by VP13
Scenic Routes, County Louth			
SR 2	Ravensdale Road (Rockmarshall to Drumad)	Yes relevant - Partially within study area, within ZTV	Generally represented by VP6 and VP9. Similar context to VP9
SR 7	Jenkinstown (Minor and Hill)	Yes relevant – Partial visibility	Generally represented by VP6 and VP9.
SR 9	Jenkinstown to Piedmont	Yes relevant – Partial visibility, elevated views over coastline	Generally represented by VP6 and VP9.
SR 10	Jenkinstown to Omeath via Windy Gap	Yes relevant – Partial visibility, elevated location	Generally represented by VP6 and VP9.
SR 11	Piedmont-Benagh-Spellickanee	Yes relevant – Full and partial visibility, elevated views over coastline	Generally represented by VP6 and VP9.

CDP VP	Description	Relevance to assessment	Covered by SLVIA VP (refer to Figure 29.11)
SR 12	Bush-Windy Gap-Edentober	Yes relevant – Partial visibility, elevated views over coastline	Generally represented by VP6 and VP9.
SR 13	Bush-Carlingford incl. Commons	Yes relevant – Full and partial visibility, elevated views farmland to coast.	Generally represented by VP7 and VP9.
SR 14	Greenore-Carlingford- Omeath	Marginal – Partial visibility, primary amenity away from site.	Generally represented by VP5 and VP7
SR 18	Castlebellingham-Annagassan-Clogherhead-Termonfeckin	Yes relevant – Long length of coastline with variable visibility	Generally represented by VP11, VP12, VP13, VP15
SR 19	Baltray-Queensborough-Beaulieu	Yes relevant – Within ZTV, facing the coast	Generally represented by VP15 and VP16
SR20	Slane Road, Townley Hall	Marginal – Varied visibility, located inland	Generally represented by VP18
SR 21	King William's Glen	Marginal – Varied visibility, located inland and within woodland (main amenity)	Generally represented by VP18
SR22	Mount Oriel (Collon-Belpatrick)	Marginal – Partial visibility, located inland at border of principle study area	Scoped-out
SR 23	Coastal Road, Blackrock Village	Yes relevant – within ZTV, coastal amenity	Directly represented by VP10

County Meath

Designated scenic routes and views within County Meath are set out in Table 29.23 along with their relevance to the visual impact assessment and representative viewpoint number:

Table 29.23 County Scenic Views and Prospects. Source: Meath 2021 – 2027 County Development Plan, Volume 3 – Book of Maps.

CDP VP	Description	Direction of view	Relevance to assessment	Representative VP
29	Car Park at Hill of Slane	East, South East and South	Oriented towards array area	Generally represented by VP18
30	Hill of Slane	Panorama	Towards array area	Generally representative VP18
31	County road between Boyne Canal and Roughgrange	North	Not oriented towards array area	Scoped-out
32	At cross of county road to north of N51	East, South, and West	Marginal – Partial visibility, described view includes site	Generally represented by VP18
34	On local road L1600-28 between McGruder's Cross and Newtown/Rosnaree	North East	Marginal – Limited visibility, directed marginally towards array area	Generally represented by VP18

CDP VP	Description	Direction of view	Relevance to assessment	Representative VP
35	County Road between Beauparc and Painestown	North West	Not towards array area	Scoped-out
36	County road to north of Brownstown Cross Roads on R153 I	North West	Not towards array area	Scoped-out
37	County road to north of Brownstown Cross Roads on R153 II	South East	Marginal - Peripherally towards array area, partial ZTV	Generally represented by VP18
58	County road between N51 and Knowth	South	Marginal - Peripherally towards array area, partial ZTV	Generally represented by VP18
59	Knowth Tumulus	Panorama	Yes relevant – FOV includes array area, within partial ZTV	Generally represented by VP18
60	Obelisk Bridge at Oldbridge	North West	Not relevant – No ZTV, Peripheral FOV/Not towards array area	Scoped-out
61	Hill at Graveyard at Sheephouse	North, East and West	Marginal – Primary amenity to the north, peripheral inclusion of array area. Within ZTV	Scoped-out
62	County road between Duleek and Boyne Canal I	North and West	Not relevant – Not within ZTV	Scoped-out
63	County road between Donore and Redmountain	North	Not relevant – Marginal ZTV, Peripheral to FOV	Scoped-out
64	County road between Duleek and Boyne Canal II	North West	Not relevant – Not within ZTV	Scoped-out
65	Laytown Strand	North	Yes relevant – Coastal aspect, within ZTV	VP17
66	County road between Duleek and Carnes East	South West, West, North West and North	Not relevant – Outside of ZTV, outside of FOV	Scoped-out
67	County road between Carnes West and Carnes East	South West	Not relevant – Marginal ZTV, outside of FOV	Scoped-out
68	County road between Bellewstown and Carnes East	South	Not relevant – Marginal	Scoped-out
69	County road at Bellewstown	North East	Yes relevant – Within ZTV, within described FOV	Directly represented by VP19
70	R108 between Naul and Mullaghteelin	East	Yes relevant – Within ZTV, within FOV	Generally represented by VP22
71	County road off R108 at Snowtown	South East	Not relevant – Outside of described FOV, despite full ZTV	Generally represented by VP22
72	County road Hawkinstown and Gilliamstown	West and South West	Not relevant – Outside of described FOV, marginal/no ZTV	Scoped-out
73	County road between Robinson's Cross Roads on R108 and Windmill Hill	North East	Not relevant –Marginal/no ZTV, view importance (local) and separation from coast mitigate minor potential visibility	Scoped-out

CDP VP	Description	Direction of view	Relevance to assessment	Representative VP
74	Boyne Valley from Rosnaree House	East	Not relevant – No visibility	Scoped-out
75	Boyne Estuary view from coast road between Mornington and Drogheda (past Grammar School)	North	Yes relevant – Partial ZTV, at periphery of described view	Generally represented by VP15 and VP16
87 a to d	Newgrange Passage Tomb	East, West, North and South	Not relevant – Out of ZTV	Scoped-out
88	Dowth Passage Tomb	Panorama	Yes relevant – Partial ZTV, Panoramic FOV	Directly represented by VP18
89a - 89c	Views towards Brú na Bóinne from N51	South	Yes relevant – Partial ZTV, Peripheral inclusion within FOV	Generally represented by VP18
90	West of crossroads at Monknewtown	South	Yes relevant – Partial ZTV, Peripheral inclusion within FOV	Generally represented by VP18
91	Views from Boyne and Towpath	North and North West	Not relevant – Outside of ZTV and FOV	Scoped-out
92	Corballis	North West	Not relevant – Views away from site	Scoped-out
93a – 93c	Local Road L16002, 1.2km east of Fennor Cross Roads	North East	Not relevant – Outside of ZTV	Scoped-out

Fingal (North County Dublin)

Within the Fingal Development Plan, Sheet No. 14 – 'Green Infrastructure 1' identifies views and prospects 'to be preserved'. A high number of these occur along the coastline throughout and in the surrounds of the settlements of Rush, Skerries, Malahide and most notably around Howth Head (refer to Table 29.24 below).

Table 29.24 County Scenic Views and Prospects. Source: Fingal County Development Plan 2023-2029, Sheet No. 14 – 'Green Infrastructure 1'.

Location	Direction (assumed based of scenic surroundings – not identified in County Development Plan)	Relevance to assessment	Representative VP
Howth Harbour,	Views across open ocean and Irelands Eye	Partial	Directly represented by VP32
Howth Head Peak	Views across open ocean and Irelands Eye	Yes	Generally represented by VP33
Majority of Howth paths	Seaward in all directions	Yes – Partial – No	Directly represented by VP33
R106 at Baldoyle	Estuary Mouth and wider seascape	Yes	Directly represented by VP31
R106 at Portmarnock to Malahide	Wider seascape, Lambay Island, Irelands Eye	Yes	Generally represented by VP29 and VP30
R126 at Portrane Head	Wider seascape, Lambay Island, Rush	Yes	Generally represented by VP27
R128 from Rush North beach to Skerries	Wider seascape, Lambay Island, Skerries Islands	Yes	Generally represented by VP26

Location	Direction (assumed based of scenic surroundings – not identified in County Development Plan)	Relevance to assessment	Representative VP
South Strand Street, Skerries	Wider seascape, Lambay Island, Skerries Islands, Skerries South Beach	Yes	Generally represented by VP24
Harbour Road, Skerries Harbour Pier, Skerries	Wider seascape, northern coastline.	Partial	Generally represented by VP24
R127/Balbriggan Road	Wider seascape	Yes	Generally represented by VP21, and VP23
R127 Barnageeragh Bay	Wider seascape	Yes	Generally represented by VP23
Hampton Cove to Fancourt Road around headland	Wider seascape in all north/southeastern directions	Yes	Generally represented by VP21, and VP23
R132 at Coney Hill	Towards Braymore Point and coastline/ wider seascape	Yes	Generally represented by/ represented by VP20 and VP21

Dublin City

There are no designated scenic routes or views within Dublin City Council's jurisdiction that are deemed relevant to proposed offshore development as they are introspective in terms of the city centre.

Dún Laoghaire-Rathdown (South County Dublin)

As with Co. Fingal, there are locations identified 'to preserve views' on the development plan maps, with no descriptors or other identifying factors. Generally speaking, those relevant to the proposal are those which are oriented towards the array area. These are typically located along the nearest transport corridor to the seafront, or along the coastline itself. A number of key locations are identified below in Table 29.25:

Table 29.25 County Scenic Views and Prospects. Source: Dún Laoghaire-Rathdown 2022 – 2028 County Development Plan, Land use zoning Map 2, 3, 4, 7, 10, 14.

Location	Direction	Relevance	Representative View (Cumulative Only)
R118	Views across Booterstown Marsh and Blackrock Park to sea	Yes relevant – Within ZTV, views oriented to coast (Cumulative Study Area)	Directly represented by VP38
Blackrock, Idrone Terrace	Views towards Howth and across South Dublin Bay Special Area of Conservation.	Yes relevant – Within ZTV, views oriented to coast (Cumulative Study Area)	Generally represented by VP38 and VP39
Marine Road	Northeast, towards Harbour	Yes relevant – Partial ZTV, views oriented to coast, although slightly enclosed (Cumulative Study Area)	Generally represented by VP40
N31/ Crofton Road	Northeast, towards Harbour and West Pier	Yes relevant – Partial ZTV, views oriented to coast. (Cumulative Study Area)	Generally represented by VP40
N31/Seapoint Ave	Northeast towards South Dublin Bay and River Tolka Estuary	Yes relevant – Partial ZTV, views oriented to coast. (Cumulative Study Area)	Generally represented by VP39

Location	Direction	Relevance	Representative View (Cumulative Only)
Coliemore Road	Views out to coast in all directions, from varied elevations	Yes relevant – Partial ZTV, views oriented to coast, although slightly enclosed (Cumulative Study Area)	Generally represented by VP41
Forty Foot to East Pier	Views along esplanade and Marine Parade out across bay.	Yes relevant – Partial ZTV, views oriented to coast. (Cumulative Study Area)	Generally represented by VP41
West Pier	Views towards Dún Laoghaire/Inland	Not relevant – No ZTV, oriented away from array area	Scoped-out
East Pier	Views towards Dún Laoghaire/Inland	Not relevant – No ZTV, oriented away from array area	Scoped-out

29.3.3.2 Visual Receptors at Centres of Population

The relevance of settlements to the visual impact assessment is determined by a combination of their size and proximity to the coastline. Settlement size being related to the number of viewers potentially affected with proximity to the coastline relating to the potential for sea views to be afforded. The emphasis on coastal settlements is also supported by the ZTV map (Figure 29.5), which indicates diminishing visibility further inland even in a bare-ground scenario. Screening by vegetation and buildings will further limit the landward extension of array area visibility.

Largest Population Centres

The three largest centres of population within the principal study area are described below. Dundalk, (40km to the northwest of the array area) is located at the north-eastern periphery of the principal study area, at the head of Dundalk Bay. Directly west of the array area is Drogheda, which is located 27km to the west of the array area (4.5km inland), on the River Boyne. The largest centre of population is Dublin City (40km to city centre, and c. 30km to outskirts), located southwest of the array area, and covering much of the southwestern portion of principal study area. Within Dublin, there is a fairly consistent cover and density of population, aside from the area across Howth Peninsula, which, given the degree to which it is encompassed by ocean, and its closer proximity to the array area (22km south/southwest), bears distinction from the main urban area centre of Dublin City.

Table 29.26 Largest Population Centres

Location	Relevance	Representative View
Dundalk	Marginal relevance - Within ZTV, but set back from coastline where visual amenity does not relate to sea views.	Generally Represented by VP10 at Blackrock
Drogheda	Marginal relevance - Within ZTV, but set back from coastline where visual amenity does not relate to sea views.	Generally Represented by VP17 and VP18
Dublin City	Yes relevant – Partial ZTV, views of Dublin Bay from coastal suburbs	Directly Represented by VP34, VP35, VP37, VP38, VP39, VP40, VP41
Howth	Yes relevant – Partial ZTV, views directed to coast.	Directly Represented by VP32, VP33

Nearest Population Centres

Skerries (13.2km west) and Rush (16.4km west/southwest), are the nearest population centres, located on the coastline where the array area is closest to land. The medium sized settlement of Lusk is located slightly inland, 18km westward of the array area.

Table 29.27 Nearest Population Centres

Location	Relevance	Representative View
Skerries	Yes – within ZTV, located along coast.	Directly Represented by VP24
Rush	Yes – within ZTV, located along coast.	Directly Represented by VP26
Lusk	Marginal - Within partial ZTV, but set back from coastline where visual amenity does not relate to sea views.	Generally Represented by VP25 and VP26 at Rush

Smaller Population Centres

Malahide Village sits on the southern side of the Malahide Estuary at a distance of 26km from the array area, whilst the inland settlement of Ashbourne is located a 35km from the array area and is substantially outside of the ZTV pattern. There is a chain of settlements north along the coast at relatively constant spacings, often located at headlands or estuary's/river mouths. North from Skerries, the nearest is Balbriggan (17.5km west of the array area), followed by the smaller settlements of Laytown (21km west) at the River Nanny mouth, and Bettystown (21.5km west) slightly further north, to the south of the River Boyne. Slightly inland, north of the River Boyne is Termonfeckin, and a network of individual residences which continues inland and north to Clogherhead (23.5km W of the Array Area). The coastline north of clogherhead is relatively clear of built-up areas, with the nearest inland settlement of Dunleer at a distance of 35km W/NW). Further north, where the study area covers a narrow strip between the M1 and Dundalk Bay, is Castlebellingham (36km NW), which aside from Dominskin (38km W/NW), is the last settlement before Dundalk, and the north-western periphery of the principal study area.

There is a narrow band of residences and farmland around the base of the Cooley Peninsula, through Jenkinstown (37km NW), Lordship (36km N/NW), Grenore (32km N/NW), and Carlingford (35km N/NW of the Array Area). On the northern side of Carlingford Lough is the cluster of caravan parks around Cranfield Beach (30km N/NW). Further north, there is the more substantial settlement of Kilkeel (31km N), and at the far northern extent of the principal study area, Annalong (35km N).

Table 29.28 Smaller Population Centres

Location	Relevance	Representative View
Malahide	Yes – within ZTV, located along coast.	Directly Represented by VP29
Ashbourne	Not relevant - Within limited ZTV, but set back from coastline where visual amenity does not relate to sea views.	Scoped-out
Balbriggan	Yes – within ZTV, located along coast.	Directly Represented by VP21
Laytown	Yes – within ZTV, located along coast.	Directly Represented by VP17
Bettystown	Yes – within ZTV, located along coast.	Directly Represented by VP16
Termonfeckin	Yes – within ZTV, located along coast.	Directly Represented by VP15
Clogherhead	Yes – within ZTV, located along coast.	Directly Represented by VP13

Location	Relevance	Representative View
Dunleer	Not relevant - Within minor/partial ZTV, but set back from coastline where visual amenity does not relate to sea views.	Scoped-out
Castlebellingham	Marginal – varied ZTV, but set back from coastline where visual amenity does not relate to sea views.	Generally represented by VP10 & VP11
Dominskin	Marginal – varied ZTV, but set back from coastline where visual amenity does not relate to sea views.	Generally represented by VP10 & VP11
Jenkinstown	Yes – within ZTV, along coastline	Generally represented VP9 & VP10
Lordship	Yes – within ZTV, along coastline	Directly Represented by VP9
Grenore	Yes – within ZTV, along coastline	Directly Represented by VP5
Carlingford	Marginal – varied ZTV, primary amenity northwards	Generally represented by VP5
Annalong	Yes – within ZTV, along coastline	Directly Represented by VP36
Ballymartin	Yes – within ZTV, along coastline	Directly Represented by VP2
Kilkeel	Yes – within ZTV, along coastline	Directly Represented by VP3

Visual Receptors travelling on Major Transport Routes

Road Transport

The main cluster of transport routes through the principal study area surrounds Dublin, where the M50 ring road, connects to the M1 (20km west of the array area at its nearest point), M2 (32km SW at nearest), and N3 (36km SW). Of these, the M1 is the most consistent through the study area, aligned with the coast, but inland to the west of the main population centres of the principal study area. The M1 also coincides with the study area for the Onshore Cable route at Lissenhall. The M2/N2 runs generally aligned with the edge of the principal study area, before exiting it near Drogheda. The N51 connects the N2 and M1 at this point, but terminates at Drogheda. The N33 also enters the study area from the west (30km W of the Array Area), terminating at the M1, in line with Dunany Point.

Regional roads that trace (or are nearest to) the coastline include the R173 (32km NW), around the Cooley Peninsula in combination with the R175 and R176. On the opposite (southern) side of Dundalk, the R172 loops around Blackrock to join the R132 which runs south to Castlebellingham, before veering inland to Dunleer and the M1. From the M1, the R132 passes through Drogheda southwards and runs out to Ballbriggan before returning inland to follow the M1 to the outskirts of Dublin, passing to the inland side of the M1 at Swords. At Castlebellingham, the R166 traces the coastline very closely before veering south to cut off Dunany Point and realign with the coast at Clogherhead. From here it runs along the coast before splitting off the R167 to redirect into Drogheda. From Balbriggan, the R127 runs south-eastwards along the coast to Skerries before it veers inland to Lusk and the R132. The R128 connects Skerries, Rush, and Lusk. The R126 (16km SW of the Array Area), runs from the M1 to the coastline at Portrane. The R106 goes from Swords via Malahide, Portmarnock and Baldoyle to Sutton. The R105 loops around Howth Head from Sutton, before being replaced by the R807 into the centre of Dublin City.

Table 29.29 Road transport

Location	Relevance	Representative View
M50	Not relevant - Partial ZTV, not directly related to eastern coastline.	Generally represented by VP34, VP43
M1	Marginal – varied visibility, offset from coastline.	Generally represented by VP19, VP20
M2	Not relevant - Partial ZTV, not directly related to eastern coastline.	Scoped-out
N2	Not relevant - Partial ZTV, not directly related to eastern coastline.	Generally represented byVP18
N51	Marginal – varied visibility, offset from coastline.	Generally represented byVP18
N33	Not relevant – Minimal visibility, offset from coastline.	Scoped-out
R105	Yes relevant – varied visibility, includes sections along coastline at Howth	Generally represented by VP32
R106	Yes relevant – varied visibility, includes sections along coastline at Baldoyle and Malahide	Generally represented by VP31
R126	Yes relevant – varied visibility, includes sections along coastline at Portrane	Generally represented by VP27
R127	Yes relevant – varied visibility, includes sections along coastline at Skerries	Generally represented by VP21, VP23, VP24
R128	Yes relevant – generally high visibility, includes sections along coastline at Skerries and Rush	Generally represented by VP24, VP25, VP26
R132	Yes relevant – varied visibility, includes sections near coastline at Balbriggan	Generally represented by VP20, VP21
R150	Yes relevant – varied visibility, includes sections near coastline at Laytown	Generally represented by VP17
R151	Yes relevant – varied visibility, includes sections near coastline at Bettystown, Mornington	Generally represented by VP16
R166	Yes relevant – varied visibility, includes sections near coastline at Clogherhead	Generally represented by VP13
R167	Marginal – varied visibility, offset from coastline, but in close proximity to River Boyne mouth	Generally represented by VP15, VP16
R172	Yes relevant – varied visibility, includes sections near coastline at Blackrock	Generally represented by VP10
R173	Yes relevant – varied visibility as the road loops around Slieve Foye, includes sections near coastline at Lordship and Carlingford	Generally represented by VP5 to north, VP9 to the south

Location	Relevance	Representative View
R175	Yes relevant – varied visibility, includes sections near coastline	Generally represented by VP5
R176	Marginal – varied visibility, however primary amenity is to the north, away from site	Generally represented by VP5

Rail Transport

The second form of transport relevant to the assessment is rail, which principally consists of the main Dublin – Belfast section of the national rail network. This is 14km west of the array area at its nearest point and connects the population centres that line the coast, whilst also servicing some of those that lie further inland. The section of national railway line that follows the coastline of Dublin City hosts the DART commuter rail network as well as trains passing north and south along the east coast. The section of DART line runs as far as north as Howth, which is 23km southwest of the array area.

Table 29.30 Rail Transport

Location	Relevance	Representative View
Dublin – Belfast National Rail Network	Yes relevant – Varied visibility, slightly offset from coastline is sections	Closest views at VP17, VP20, VP21, VP23
DART	Yes – Partial to full ZTV, often located along waterfront	VP29, VP31, VP32, VP35, VP38, VP39, VP40, VP44
Heuston Station	Marginal - Partial ZTV, not related to coastline	N/A Closest VP34, VP35
LUAS (Red and Green Line)	Marginal - Partial ZTV, not related to coastline, nearest point to Dublin Bay at North Dock (Red Line) and Brides Glen (Green Line) stops	North Dock nearest VP34 Brides Glen VP42

Marine and Aviation Transport

Other notable transport methods within the principal study area are the passenger ferries and aircraft, with the majority concentrated around Dublin Port and Airport as well as commercial marine traffic in and out of Drogheda port. The main consideration in this regard are the passenger routes as the visual receptor sensitivity of tourists and visitors is generally higher than those working on commercial vessels. Warrenpoint also services connections across the Irish Sea from Carlingford Lough. It should also be noted that there is a ferry that runs across the mouth of Carlingford Lough from Greenore in County Louth to Greencastle in County Down. Given the difficulty in capturing photography from a moving vessel, from which to produce verifiable photomontages, marine transport receptors (and aviation receptors) are represented by ‘wireline images’ prepared from select locations along the marine corridor / flight path.

Table 29.31 Marine and Aviation transport receptors

Location	Relevance	Representative View
Dublin to Douglas (Isle of Man) Ferry	Yes, Relevant. Open visibility leaving Howth Head heading north-eastward and arriving in the opposite direction	Directly represented by WV1 and WV2
Dublin to Hollyhead Ferry	Yes, Relevant. Open visibility leaving Howth Head heading eastward and arriving in the opposite direction	Directly represented by WV3 and WV4
Greenore to Greencastle Ferry	Yes – Full ZTV	VP5, VP4

Location	Relevance	Representative View
Dublin Airport (Easterly Approach	Yes, Relevant. Open visibility from easterly approach flightpath between Howth Head and Ireland's Eye.	WV5 and WV6

Visual Receptors at Tourism Amenity and Heritage Features

In the northern half of the principal study area, the Mourne Mountains dominate the landscape, including the tourism and amenity features provided by the walking routes and scenic driving routes across them. Sliabh Ban in particular features walks which direct views across Carlingford Lough and towards the site, as does Knockshee. The main walking route through this area is The Ulster Way (Mourne Way), within the Mourne Area of Outstanding Natural Beauty (AONB), this is a 59km section of the Ulster Way that passes through the Mourne Mountains from Rostrevor to Newcastle. On the opposite side of the Lough, Slieve Foy and Slievenaglogh provide expansive views out to the Irish Sea.

On the south side of the Lough is the Carlingford Greenway, a 6km trail located on the southern banks of Carlingford Lough linking the settlements of Omeath and Carlingford, and the Táin Way (National Waymarked Way), a 40km walking trail situated in the uplands of the Cooley peninsula located in the Carlingford and Feede Mountains AONB. Along the coastline of the northern section of the study area, the main attractions are the beaches and associated walking routes. Kilkeel, Carlingford and Grenore all have historic attributes and harbours, with Carlingford featuring King John's Castle and Carlingford Priory. The outskirts of Dundalk are not oriented towards the coastline, made up of generic housing development. Blackrock slightly further south features a much stronger connection with the coast, where the promenade and coastline feature walkways and viewing points.

Further along the coast, attractions are generally local, with beaches, Dunany Point, and the piers at Annagassan and Salterstown. Inland attractions include Barmeath Castle, Monasterboice historic site, Mellifont Abbey (both new and old), and most significantly, Brú na Bóinne. Designated as a UNESCO World Heritage Site, the Brú na Bóinne complex is located along the river Boyne valley in County Meath and is one of the world's most important prehistoric landscapes dating from the Neolithic period. The entire complex is included in the study area, including Newgrange, Knowth, Dowth, and Brú na Bóinne Visitor Centre, however, they are at the periphery of the study area, and inland by over c.15km. Also of high importance is the Hill of Tara, but it is 46km west of the array area (nearly 30km inland) and, therefore, well outside of the principal study area and scoped-out of further assessment. Further south are the more local attractions of the Four Knocks Tomb and Lusk Round Tower.

Clogherhead has a dispersed cluster of features with the town set slightly inland, but featuring a cliff walk, beach, and Port Oriel along the coastline. Ardgillan Castle and Demesne and Ladies Stairs is located just north of Skerries, which also features Skerries Harbour, Martello Tower, Skerries Mills and beaches. Further south is Loughshinny Beach and Martello Tower, Rush North Beach, Rush Harbour and South Beach. Offshore from Skerries is Rockabill Lighthouse and further south are Lambay Island and Irelands Eye. Lambay Island is the largest island off the east coast of Ireland comprising of a small 16th Century Fort. The island is a private island but hosts tours and retreats during the summer months. Around Portrane, there is a high number of outdoor amenity areas, with four golf clubs around the Estuary, Newbridge Park, and multiple beaches.

Malahide features more built up amenity features, with the Malahide Castle and Gardens set within the residential areas and town centre and walks along the sea wall and esplanade. Further south is Portmarnock Beach and Irelands Eye, set offshore from Howth. Howth itself is one of the most densely concentrated collection of tourism, amenity and heritage features, in addition to the designations applied to the headland. There is Howth Castle, Howth Harbour, Martello Towers, 'ÉIRE 6' marker, Howth Lighthouse and Baily Lighthouse. Attractions focused on outdoor recreation include a variety of walks, with the Howth Cliff Walk around the outer edges of the landform. There is also Howth Head, Rocks and The Aerials walks, which focus on the elevated sections of the landform.

Dublin City features the greatest concentration of population and therefore a very high number of tourism, amenity and heritage features, however, the majority of these do not have a direct relationship with the seascape.

Therefore, those along the coast and with focused views towards the coast will be prioritised with the remainder scoped out of further assessment. From Sutton, where Howth is connected to the mainland, Dublin Bay is bisected by the infrastructure around Dublin Port and the outlet of the Liffey River. While there are attractions further inland, the outer sections of this corridor are dominated by industry. There are beaches across Bull Island to the north, and Poolbeg Lighthouse divides the main channel from the open shallow beaches to the south. Near Blackrock, the beaches get steeper again, with the coastline featuring more rocky outcrops than mudflats. Within this area and that further south, there is an increase in green beachfront spaces, and swimming locations around Dún Laoghaire and Killiney. Slightly outside of the principal study area, the upland areas of the Dublin Mountains and Bray Head provide expansive views across the seascape and wider context.

Of the above, those of either very high historic value (Brú na Bóinne), or those which the primary focus is in the direction of the site (Clogherhead Cliff Walk/Howth Head Peak) will be given greatest emphasis within this assessment.

In addition to the Ulster Way and Táin Way, mentioned earlier in this section, there is also a selection of other way marked walking routes that are contained within the principal and cumulative study areas. These are outlined in Table 29.32 in terms of their relevance to the SLVIA. UNESCO World Heritage sites and other amenity and heritage features are contained in Table 29.33 and 29.34 respectively, where their relevance to the SLVIA is also determined.

Table 29.32 Long distance walking trails

Location	Relevance	Representative View
National Famine Way	Not relevant - Partial ZTV, not related to coastline, nearest point to Dublin Bay at terminus/North Wall, Dublin	Scoped-out
Royal Canal Way	Not relevant - Limited ZTV, not related to coastline, nearest point to Dublin Bay at terminus/North Wall, Dublin	Scoped-out
Grand Canal Way	Not relevant - Marginal ZTV, not directly related to eastern coastline.	Scoped-out
Wicklow Way	Marginal – Varied ZTV, distant views of coastline, such as at Fairy Castle/Three Rock	Represented by cumulative views VP43 at Three Rock, VP45 at Sugar Loaf (both closer to coast than Wicklow Way)
Dublin Mountains Way	Marginal – Varied visibility, distant views of coastline, such as at Fairy Castle/Three Rock	Represented by cumulative views VP43 at Three Rock
Ulster Way (Mourne Way)	Not relevant – No visibility shown on ZTV	Scoped-out
Táin Way (National Waymarked Way)	Yes – Partial to full ZTV, upland areas provide clear views. Landscape influenced by coastal context	Directly represented by VP6, VP7

Table 29.33 Brú na Bóinne, UNESCO World Heritage Site,

Location	Relevance	Representative View
Newgrange,	Not relevant – No visibility shown on ZTV and no access to top of tomb.	Scoped Out
Knowth,	Yes – Partial DTM based ZTV, but no DSM based ZTV (screened by vegetation). Access allowed to top of tomb.	Generally represented by VP18

Location	Relevance	Representative View
Dowth,	Yes – Partial DTM based ZTV, but no DSM based ZTV (screened by vegetation). Access allowed to top of tomb.	Directly represented by VP18
Brú na Bóinne Visitor Centre,	Not relevant – No visibility shown on ZTV	Scoped out

Table 29.34 Other heritage and amenity receptors

Location	Relevance	Representative View
Knockree, Mourne Park	Yes – Partial to full ZTV, views over coast	Generally represented by VP1
Slieve Binnian, Mourne Mountains	Marginal – Varied ZTV, distant views of coastline	Generally represented by VP1, VP2
Knockshee	Yes – Full to partial visibility, elevated distant views of coastline	Generally represented by VP1, VP4, VP8
Slieve Foy and Slievenaglogh	Yes – partial to full visibility and elevated viewpoint to coastline	Directly / Generally represented by VP6, VP7
Carlingford, King John's Castle	No – Very limited ZTV visibility	Scoped-out
Carlingford Priory	No – Very limited ZTV visibility	Scoped-out
Carlingford Harbour	No – Very limited ZTV visibility	Scoped-out
Carlingford Greenway	No – Very limited ZTV visibility	Scoped-out
Blackrock Beach and Esplanade, Dundalk	Yes – Full visibility and views to sea	Directly represented by VP10
Dunany Point	Yes – Full to partial visibility, views towards site	Directly represented by VP11
Barmeath Castle	Marginal – partial visibility set back from coastline	Generally represented by VP11, VP12
Annagassan and Salterstown.	Marginal – Partial visibility, coastline oriented away from site	Generally represented by VP10, VP11
Monasterboice	No – No potential visibility, set well back from coastline	Scoped-out
Clogherhead Beach	Yes – Full visibility, strong relationship to coast and surrounds	Directly represented by VP13
Clogherhead Cliff Walk	Yes – Partial to full visibility, strong relationship to coast and surrounds	Generally represented by VP13
Clogherhead Port Oriel	Marginal – partial ZTV, oriented away from site	Generally represented by VP13
Seapoint and Baltray Golf Links	Yes – Partial to full visibility, strong relationship to coast and surrounds	Generally represented by VP15
Laytown and Bettystown Golf Links	Yes – Partial to full visibility, strong relationship to coast and surrounds	Generally represented by VP16

Location	Relevance	Representative View
Hill of Tara	Marginal – within partial bare-ground ZTV, but very distant and set well away from coastal influence (30km inland).	Scoped-out
Mellifont Abbey	No – No potential visibility, well away from coast	Scoped-out
Four Knocks Tomb	No – Varied visibility, contextually away from coast.	Scoped-out
Lusk Round Tower	Marginal – partial visibility and inland location	Scoped-out
Ardgillan Castle and Demesne & Ladies Stairs	Yes – partial to full visibility and costal location.	Directly represented by VP23
Skerries Harbour, Martello Tower, Skerries South Beach	Yes – Partial to full visibility and coastal character/location	Directly represented by VP24
Skerries Mills, Skerries Golf Club	Marginal – partial to full visibility and some coastal influence.	Generally represented by VP24
Loughshinny Beach, harbour and Martello Tower,	Yes – Generally full visibility and coastal character	Directly represented by VP25
Rush North Beach, Rush Harbour and South Beach.	Yes – Generally full visibility (except Rush South Beach with limited visibility) and coastal character	Directly represented by VP26
Rockabill Lighthouse	Marginal – High visibility, however no longer occupied.	Contextually represented by VP36 and VP37 (Lambay Island)
Lambay Island	Yes – Partial to full visibility, strong relationship to coast and surrounds	Directly represented by VP36 and VP37
Irelands Eye	Marginal – Partial visibility (Behind Lambay Island, not occupied by residents	Generally represented by VP30, VP33
Malahide Castle	Yes – Full ZTV, although set back from coast	Generally represented by VP29
Malahide Marina, Yacht Club, Esplanade, Martello Tower	Yes – varied visibility, all directed towards coastline	Directly represented by VP29
Portmarnock	Yes – Clear visibility and views towards coast	Directly represented by VP30
Malahide Golf Club, Portmarnock Golf Club, Portmarnock Hotel, Resort and Jameson Golf Links	Yes – Partial to full visibility and relationship with coast	Generally represented by VP30
Donabate Beach	Yes – Partial to full visibility and views with coast, albeit oriented away from site	Directly represented by VP28
Newbridge House and Farm, Donabate	Marginal– Partial to full visibility, set back from coast	Generally represented by VP27, VP28
Beaverstown Golf Club	Marginal– Partial visibility, some views to, and relationship with Rogerstown Estuary, limited to east coast.	Generally represented by VP27

Location	Relevance	Representative View
Donabate Golf Club, Corballis Links Golf Club, Balcarrick Golf Club, The Islands Golf Club	Marginal– Partial visibility, some views to, and relationship with coast, coastline oriented away from site	Generally represented by VP28
Sutton Golf Club, Burrow Beach	Yes – Partial to full visibility and relationship with coast	Generally represented by VP30, VP31, VP32
Howth Castle, Deer Park Golf, Howth Golf Club, Howth Demense	Yes – Partial visibility and relationship with coast, slightly offset by transport corridors and elevation	Generally represented by VP32, VP33
Howth Harbour, surrounds, incl. Martello Tower and yacht club	Yes – Partial visibility and relationship with coast,	Directly represented by VP32
Howth Cliff Walk	Yes – Partial to full visibility and relationship with coast,	Directly represented by VP33
Doldrum Walk, O'Pint Beach, Red Rock, Sutton Martello Tower, Telegraph Cable, Doldrum Beach	No – Screened by terrain, oriented away from array area	Scoped-out
Baily Lighthouse, Howth Head	Marginal – Very limited potential visibility, primary viewing angle from north, directed away from site	Generally represented by VP32, VP33
Bray to Greystones – Cliff Walk	Yes – Partial to full ZTV, located directly above coastline	Generally represented by cumulative viewpoint VP46
Bray Head Loop Walk	Yes – Partial to full ZTV, views over coast	Generally represented by cumulative viewpoint VP46
Belmont Way/ Little Sugar Loaf	Yes – Partial to full ZTV, views over coast	Generally represented by cumulative viewpoint VP46, VP47
Great Sugar Loaf	Yes – Partial to full ZTV, views over coast	Generally represented by cumulative viewpoint VP47
Djouce Woods, Crone Woods	Marginal – Varied ZTV, distant views of coastline	Generally represented by cumulative viewpoint VP47
Kilruddery House, Bray	Marginal – Partial ZTV, set back from coast	Scoped-out
Powerscourt Estate	No – Screened by terrain, set away from coast	Scoped-out
Killiney Strand	No – Killiney Strand generally screened, oriented southeast.	Scoped-out
Killiney Hill	Yes – Partial ZTV. Views of coastline and Dublin Bay are a key part of amenity value	Directly represented by cumulative viewpoint VP44
Dún Laoghaire Harbour and yacht clubs	Yes – Partial ZTV. Views of Dublin Bay are a key part of amenity value	Directly represented by cumulative viewpoint cumulative viewpoint VP42
Sandycove, Forty Foot Swimming beach	Yes – Partial ZTV. Views of Dublin Bay are a key part of amenity value	Directly represented by cumulative viewpoint VP43
Seapoint Beach	Yes – Full ZTV. Views of Dublin Bay are a key part of amenity value	Generally represented by cumulative viewpoint VP41
Sandymount Beach	Yes – Full ZTV. Views of Dublin Bay are a key part of amenity value	Generally represented by VP39

Location	Relevance	Representative View
Blackrock Park, Dublin	Yes – Full ZTV. Views of Dublin Bay are a key part of amenity value	Directly represented by cumulative viewpoint VP40
Poolbeg Lighthouse	Yes – Full ZTV. Views of Dublin Bay are a key part of amenity value	Directly represented by VP34
Bull Island, The Royal Dublin Golf Club, St Annes Golf Club, Dollymount Strand	Marginal – Partial to full ZTV, however views of Dublin Bay to the southeast.	Generally represented by VP34
St Annes Park	Marginal – Partial to full ZTV, however highly vegetated, and views of Dublin Bay to the southeast.	Generally represented by VP34
Mouth of the Liffey, Dublin Port	No – No visibility	Scoped-out
Attractions within North Dublin city centre (3km from O'Connell Bridge north, east, west)	No – No visibility	Scoped-out
Attractions within South Dublin city centre (to Grand Canal)	Marginal – limited visibility, high proportion of built screening, character not directly related to coastline.	Generally represented by VP34, VP35
Guinness Storehouse	No – potential visibility from elevated bar but outside of principle study area and visual focus on surrounding city.	Scoped-out
Phoenix Park	Marginal – Partial ZTV, however highly vegetated, and with no relationship to coastline	Scoped-out

29.4 Characteristics of the Proposed Development

This section outlines the characteristics of the proposed development that are relevant to the identification and assessment of effects on Seascape, Landscape and Visual during each phase of the proposed development. In Section 29.4 of this chapter this is limited to activities and infrastructure occurring in the offshore environment and it considers both Project Options 1 and 2 (the key characteristics of which are provided in Table 29.35 and are detailed in full in the Offshore Description Chapter).

Table 29.35 Key Characteristics of Project Options 1 and 2

Key Offshore Characteristics	Project Option 1	Project Option 2
Array area	88.5km^2	88.5km^2
ECC	36.45km^2	36.45km^2
Landfall	One landfall site, immediately south of Bremore Point, which includes two subtidal exit pits within the ECC	One landfall site, immediately south of Bremore Point, which includes two subtidal exit pits within the ECC
WTG	49 WTGs with a tip height of 290m, hub height of165m and 250m rotor diameter	35 WTGs with a tip height of 316m, hub height of 178m and 276m rotor diameter
WTG Foundations	49 monopiles of 12.5m diameter requiring seabed preparation	35 monopiles of 12.5m diameter or jacket foundations (three or four leg configurations, with 6m diameter pin piles) requiring seabed preparation

Key Offshore Characteristics	Project Option 1	Project Option 2
Offshore Substation Platform (OSP) Foundations (array area)	One OSP, with either a four-legged jacket foundation with pin piles, or one monopile; or two monopiles	One OSP, with either a four-legged jacket foundation with pin piles, or one monopile; or two monopiles
Cables	Installation of 111km of inter array cables within the array area and installation of two 18km subsea export cables within the ECC	Installation of 91km of inter array cables within the array area and installation of two 18km subsea export cables within the ECC

It should be noted that due to the presence of an aviation restriction zone, 13 of the project option 2 WTGs will require a lower tip height of 311m. For the purposes of the assessment the WTGs have all been presented at the full 316m tip height to ensure the greatest magnitude of impacts is assessed. Nonetheless, a 5m difference in tip height is not likely to be discernible in the context of the overall height of the WTGs and the viewing distances involved and would not have a material bearing on the visual impact assessment. Similarly, a 500m limit of deviation is proposed in relation to the exact positioning of the WTGs and it is also considered that WTG movements within that limit of deviation will not result in a material difference in visual impact.

A presentation of the potential impacts in relation to Project Options 1 and 2 is provided, and the magnitude of those impacts in relation to the size and scale of the proposed development parameters. This enables the identification of the project option that will result in the greatest magnitude of impact on receptors and will therefore present the greatest potential for a likely significant effect.

29.5 Potential Effects

As outlined in the methodology section (Section 29.2), Seascape and Landscape effects and Visual effects are assessed separately. Furthermore, given the vastly different scale extent and context, the assessment of effects is also divided between effects relating to the proposed offshore infrastructure and effects relating to onshore infrastructure. Effects will be assessed at Construction Phase, Operational phase and Decommissioning phase.

On the basis that Seascape and Landscape receptor sensitivity is common and consistent to the assessment of the significance of effects at the Construction Phase, Operation Phase and Decommissioning Phase, it is appropriate to establish sensitivity judgements prior to the assessment of impacts for each phase of the proposed development. Seascape Character Areas as identified and described in the Regional Seascape Character Assessment for Ireland (2020) will be used as the framework of the Seascape sensitivity assessment and subsequent assessment of Seascape Impact magnitude. As these seascape units typically penetrate only 1 km inland, it is considered necessary to also include the coastal landscape character unit from each of the relevant County Landscape Character Assessments, which extend further inland. In all instances of overlap (along the coastline), it is considered that the Regional Seascape Character Unit should take precedence over the County-based Landscape Character Unit as the former is more recent, more consistent, more comprehensive and specific to the coastal aspect.

Inland County Landscape Character units, despite being within the principal study area, are very unlikely to have their salient landscape character significantly affected by the WTG in the array area in the absence of direct coastal context and separation distances typically in excess of 20km. This is reinforced by the ZTV maps overlaid on LCAs (see Figures 294a and 29.4b), which shows only limited and sporadic potential visibility in a bare-ground scenario beyond 5km inland from the shoreline and even less visibility once screening by vegetation and buildings is accounted for (Figure 29.5c). Seaward views are not considered to be a critical element of their sensitivity or character and thus, landscape impacts arising from the array area in relation to inland landscape character areas are scoped-out of further assessment. A visual impact assessment will still be undertaken from sensitive visual receptor locations within these inland landscape character units. The one exception to the scoping-out of inland LCAs is the scoping-in of the ‘Carlingford Lough Mountains including West Feede Uplands’ LCA, which is deemed to be of ‘International Importance’ in the Louth CDP. Although this LCA does not include a section of coastline, it begins less than 1km from the shoreline as part of the steeply rising Cooley Peninsula and forms a dramatic coastal backdrop.

Broad and elevated sea views, often framed by enclosing valleys, are a key element of the character of the upland areas of the Cooley Peninsula.

As is normal practice for SLVIA, only the operational phase of the proposed development is depicted in the verifiable photomontages, as construction and decommissioning visual effects relate to an evolving and dynamic scenario that changes considerably even within the short-term duration of these phases. Consequently, the visual assessment of these phases will be presented in a more generalised manner, to avoid undue repetition of assessment text from each selected viewpoint.

Standalone visual impacts arising from the proposed array area beyond the principal study area are scoped-out of the visual impact assessment. Whilst there remains some potential for visibility of WTGs beyond this distance in the clearest of viewing conditions, their relative scale at such distances combined with the effects of atmospheric perspective (fading of distant objects), eye acuity (the ability for the eye to resolve narrow objects at distance) and partial screening from earth curvature, all combine to prevent any potential for significant visual effects to occur. Cumulative impacts in relation to Tier 2, East coast Phase One offshore wind energy developments will be considered for all viewpoints within the cumulative study area (60km). This cumulative assessment is detailed in Appendix 29.2 and summarised in Section 29.9 of this chapter as these cumulative effects are considered to be a key aspect of the SLVIA. Cumulative effects with other Tier 1 and Tier 3 projects are contained in Chapter 38.

29.5.1 Do-Nothing Scenario

In the do-nothing scenario, the area of seabed in question is likely to remain the same. However, there are other proposed / priority offshore wind farms proposed in the wider seascape context of the principal study area, which may soon influence seascape character and views along this stretch of coastline.

29.5.2 Seascape and Landscape Sensitivity

The assessment of seascape sensitivity is structured around each Seascape Character Area from the Regional Seascape Assessment for Ireland (2020) identified in the baseline section. These units are then correlated with the overlapping coastal landscape character units from the various County Development Plans. As previously outlined in the methodology section, the sensitivity judgement is derived from a combination of the susceptibility of the landscape receptor and its value. The judgement of susceptibility is neither an inherent one, nor is it specifically related to the proposed development (as that would be tantamount to double counting the magnitude of impact). Instead, in this instance, susceptibility relates to the potential for seascape change that is of a size / extent to influence seascape character at the scale of the Seascape Character Area.

Table 29.36 Seascape and Landscape Sensitivity (Array Area)

Principle Seascape Character Area	Underlying County LCAs	Sensitivity
SCA15 – Dublin Bay	Fingal Coastal unit (High Sensitivity Landscape designation) Estuary unit (High Sensitivity Landscape designation) Dublin City Council and Dún Laoghaire Rathdown County Council do not include urban landscape character units in their respective development plans	The nearest WTGs within the array area are approximately 30km to the northeast of the nearest portion of this Seascape Character Area, which stretches south from Portmarnock in North County Dublin to Shankhill in South County Dublin. It is by far the most populous section of the Irish coastline combining a diverse array of coastal and seascape value associated with settlement, heritage, biodiversity, recreation and scenic amenity. It also encompasses iconic coastal promontories of Howth Head and Killiney as well as islands that include Ireland's Eye, Bull Island and Dalkey Island. There are popular beaches at Portmarnock, Sutton, Bull Island, Sandymount and Killiney. In terms of iconic man-made features there is Howth Harbour, Dublin Port, the twin ESB Chimneys at Pigeon House and Dún Laoghaire Harbour. The Dublin Bay Biosphere (core and buffer areas) encapsulates Dublin Bay from headland to headland and is an indication of conservation value.

Principle Seascape Character Area	Underlying County LCAs	Sensitivity
		It is a diverse and dynamic seascape that supports fisheries from the smaller ports in the north and south of the SCA as well as a large volume of commercial shipping and passenger ferries to and from Dublin Port. Residential and commercial property affording coastal views is highly south after and reflected in its high monetary value. Broad views across Dublin Bay towards Howth Head are part of the seascape character from the shoreline of the bay and steeper slopes of south Dublin and these incorporate the industrial port facility, the Poolbeg Chimneys and incinerator contributing to a utilitarian character. Broad coastal views are also afforded from the elevated promontory headland at Howth. Unlike many of the other Irish Seascapes, there is a relatively limited sense of the naturalistic and not all of the layers of seascape value add to the susceptibility of this seascape unit to change. Whilst having some natural and scenic amenity, it is a living and working coastline as well as a playground for its many inhabitants and those that live within the wider Dublin area. Thus, much of its value is utilitarian rather than scenic or naturalistic and it is not a seascape that is strongly susceptible to change from new development even of an overt scale. Based on these factors of seascape receptor susceptibility and value, the sensitivity of SCA15 is deemed to be High-medium.
SCA16 – North Eastern Irish Sea Islands and Beaches	Fingal Coastal unit (High Sensitivity Landscape designation) Estuary unit (High Sensitivity Landscape designation)	SCA16 is the closest seascape unit to the site and encompasses most of the relevant coastline within the principal study area. This is a relatively broad and simple SCA in terms of coastal form other than for the estuarine inlets at its southern end, which include Baldoyle and Broadmeadow Estuary. This is also where Lambay Island lies off a coastline comprising of low seacliffs, incised beaches, natural harbours and small promontories. North of Skerries can be found a series of long and gently curving beaches eventually interrupted by the modest, but distinctive promontories of Clogher Head and Dunanny Point, which then gives way to the deeper 'C' shaped indentation of Dundalk Bay. Providing a more dramatic northern bookend to this SCA is Cooley peninsula which rises steeply from the sea to an undulating upland ridge. The 'Carlingford Lough Mountains including West Feede Uplands' LCA is deemed to be of 'International Importance' in the Louth CDP. Although this LCA does not include a section of coastline, it begins less than 1km from the shoreline as part of the steeply rising Cooley Peninsula and forms a dramatic coastal backdrop. Broad and elevated sea views, often framed by enclosing valleys, are a key element of the character of the upland areas of the Cooley Peninsula. SCA 16 encompasses a relatively populous section of coastline, but considerably less so than SCA 15 – Dublin Bay. Centres of population tend to be regular and small except for the two County Louth settlements of Drogheda and Dundalk. The notable North County Dublin settlements of Rush Skerries and Balbriggan are slightly introspective in relation to the coastline with the majority of the urban areas tucked back from the coastline and a relatively small proportion of residential and commercial properties actively seeking open coastal exposure and thereby obtaining open coastal views. The County Meath coastal settlements of Laytown and Bettystown are more associated as seaside towns where caravan parks and golf links provide a stronger sense of seaside recreational amenity. Views from these areas tend to be broad, open and horizontal from the sandy shorelines. They are also characterised by sea traffic in the form of passenger ferries, fishing boats and container ships. Beyond relatively short distances inland from the coast, open sea views are not a key feature of the landscape character units contained between Dundalk and Skerries. This is largely due to the containment by undulating, but relatively low-lying landform and the hedgerow vegetation associated with agricultural land use.
	Meath Coastal Plains unit (Moderate Value / High Sensitivity / Regional Importance) Nanny Valley unit (Very High Value / High Sensitivity / Regional Importance)	
	Louth Dunanny, Boyne Estuary Coast unit (Regional Importance, but localised AONB and AHSQ designations) Dundalk Bay Coast unit (Regional Importance) Cooley Lowlands and Coastal Area unit (Local Importance) Carlingford Lough Mountains Including West Feede Uplands (International Importance)	

Principle Seascape Character Area	Underlying County LCAs	Sensitivity
	Lower Faughart, Castletown & Flurry River Basins (Local Importance)	It is also influenced by the division and perceptual separation from the coast by the busy M1 motorway and Dublin – Belfast railway line. The limited extent of coastal visibility from inland portions of these landscape and seascape character units is highlighted by the ZTV pattern that can be seen in Figure 29.4. There is some scenic and naturalistic amenity, but it tends to be localised rather than synonymous with this section of coastline and is mainly contained at the southern and northern extremities of this SCA. One exception is 'Clogherhead and Port Oriel', which is classified as an Area of outstanding Natural Beauty (AONB) in the Louth Landscape Character Assessment. The coastal area north of Clogherhead to Dunanny Point is also classified as an Area of High Scenic Quality (AHSQ) in the same documents. It is a living and working section of coastline that supports commercial and fishing ports at Drogheda and Dundalk as well as smaller fishing harbours such as Lough Shinny in North County Dublin. Based on these factors of seascape receptor susceptibility and value, the sensitivity of SCA16 is deemed to be High-medium.
SCA17 – Border SCA SCA 20 - Carlingford Lough (NI)	Louth Cooley Lowlands and Coastal Area unit (Local Importance) Carlingford Lough Mountains Including West Feede Uplands (International Importance) Down Kilkeel Coast (Northern Ireland)	SCA17 / SCA20 (NI) are at the northern end of the principal study area between 30km and 40km from the nearest WTGs within the array area. Whilst the portion that includes the south and southeast facing coastline of the Cooley Peninsula affords direct views towards the site, the portion contained within the deeply incised sea lough of Carlingford will be screened from view by the steep terrain of the peninsula which provides a dramatic backdrop to this SCA. The northern side of Carlingford Lough is within Northern Ireland and contains the settlements of Warrenpoint and Rostrevor. The terrain rises steeply from the rocky shoreline towards the iconic Mourne Mountains. The southern shores of the Lough rise equally steeply towards the Cooley Mountains and the principal settlement is the picturesque heritage village of Carlingford, which dates from medieval times and hosts the seaside ruins of Carlingford Castle. The ZTV map Figure 29.5) indicates there will be no visibility of the proposed Array Area from Carlingford and the southwestern side of Carlingford Lough generally. SCA17 is a seascape unit with a high degree of natural and dramatic scenic amenity, albeit partly borrowed from the mountains that provide its immediate backdrop and enclosed sense of place. Both the Mourne Mountains and Cooley Mountains are classified as Areas of outstanding Natural Beauty (AONB) in their own right and the 'Carlingford Lough Mountains including West Feede Uplands' LCA is deemed to be of 'International Importance' in the Louth CDP. There is also a strong sense of heritage and association with historic events as well as myth and legend in this border seascape unit. There is an industrial port at Greenore on the southern side of the mouth of Carlingford Lough and a ferry that runs across the Lough to Greencastle where there is a nearby holiday settlement at Cranfield Beach. There are fishing fleets associated with some of the coastal settlements as well as shellfish harvesting and cultivation. Thus, it is a productive coastline that supports the coastal/ rural economy, but these values tend to be secondary to its scenic and heritage value. In terms of susceptibility, this is not a highly developed seascape unit but it does contain the substantial coastal / port settlements and is subject to commercial sea traffic. Otherwise settlements are small with heritage character and closely wrapped by swiftly ascending, naturalistic uplands. Overall, the sensitivity of SCA 17 is deemed to be High.
SCA19 – Mourne Coast (NI)	Down Kilkeel Coast (Northern Ireland)	SCA19 covers the section of County Down Coastline to the north of the mouth of Carlingford Lough, which defines the border between Northern Ireland and the Republic of Ireland.

Principle Seascape Character Area	Underlying County LCAs	Sensitivity
	Kingdom of Mourne (Northern Ireland	At its nearest point, the coastline within SCA 19 is 33km north of the array area, but it extends a considerable distance offshore such that the southern tip of the SCA is around 18km from the array area. The SCA also extends north, well beyond the principal study area. This is a distinctive and iconic section of coastline dominated by the dramatic backdrop of the Mourne Mountains. The coastal farmland is a picturesque patchwork that sweeps gently at first and then more steeply up to the base of the Mourne Mountains over a short distance. The slopes extend more steeply thereafter as naturalistic moorland. Settlement is charactered by small villages and a dispersed array of farmsteads and rural dwellings. Views from within this SCA are highlighted as being of Slieve Donard (the highest mountain in the Mourne mountains) and across Carlingford Lough to the Cooley Mountains. They also include panoramic views of the Irish Sea. This SCA is contained in the Mourne Area of Outstanding Natural Beauty. In terms of susceptibility, this SCA has some characteristics of primary production and settlement, but it generally has a low degree of development that is part of a legible and long-standing blend of cultural and naturalistic character. It is more valued for its scenic and naturalistic qualities than for productivity and industry. Overall, the sensitivity of SCA 19 is deemed to be High
SCA 24 – Irish Sea (South Down) NI	None	This is an entirely offshore SCA beyond the coastal SCA19 – Mourne Coast, which itself extends a considerable distance offshore. Thus, its character is largely defined by the open sea surrounds with more distant backdrops of the Mourne Mountains. The southern tip of this SCA is approximately 15km north of the array area, but as with SCA 19 it extends well beyond the principal study area. There are distant views of the Rhins of Galloway, the Isle of Man and the north-west coast of England beyond. The perceptual influences of this SCA are views of these, and sunsets over the Mourne Mountains. Other characteristics of this seascape relate to the movement of container ships, passenger ferries, cruise ships, prawn grounds and fisheries as well as sailing. These tend to reduce the susceptibility of this SCA, but in balance with the fact that this is an undeveloped seascape. Overall, SCA 24 is considered to have a High-medium seascape sensitivity.

As can be seen from the results presented in Table 29.36, the sensitivity of seascape receptors (SCAs), and their underlying coastal Landscape Character Areas is **High**, for the combined SCA 17 (Border SCA – Carlingford Lough / SCA 20 (Carlingford Lough - NI) as well as SCA 19 Mourne Coast. Sensitivity is deemed to be **High-medium** for the more utilitarian seascapes of SCA 15 – Dublin Bay and SCA 16 - North Eastern Irish Sea Islands and Beaches. Without direct connection to a particular coastline, the open sea SCA 24 is also considered to have a **High-medium** sensitivity.

29.5.3 Construction Phase Seascape Impacts

The construction phase of the offshore infrastructure of the proposed development consists of installing the WTGs, OSP and laying inter-array cables within the array area as well as the laying of the subsea offshore export able circuit within the ECC from the offshore substation platform (OSP) up to, but not including the landfall site landward of the HWM just south of Bremore Point (see Chapter 8 for full offshore construction details). The exit of the HDD is within the subtidal environment and a cable installation vessel will be required temporarily for the offshore export cable installation. The landfall site will be addressed as part of the onshore infrastructure (see Chapter 9 for full onshore construction details). Refer to Table 29.37 below.

Table 29.37 Construction Phase Seascape Effects – Offshore Elements

Seascape Character Area	Construction Stage Seascape Impact
SCA15 – Dublin Bay	Vessel traffic and activities within the offshore ECC and array area are unlikely to be noticeable from this SCA given the viewing distances involved. The incremental installation of the offshore turbines will be seen in clear viewing conditions, but at considerable remove from this SCA such that there will be no material change to its character. The predicted magnitude of change associated with the incremental construction of the offshore turbines is considered to be Negligible / Neutral.
SCA16 – North Eastern Irish Sea Islands and Beaches	Vessel traffic and activities within the offshore ECC and array area will be noticeable from this SCA particularly in from the stretch of coastline between Clogherhead and Rush where the construction activities and incremental installation of the offshore WTGs is nearest to shore and central to offshore vistas. Platform cranes will be used to access and install the turbine component pieces, otherwise internal ladders and lifts within the WTG towers will allow access to the nacelle for construction personnel. There will be a greater intensity of industrial related sea traffic as well as the emerging presence of large scale, sea-based structures. Undersea offshore export cables and inter array cables will be placed across the seabed with cable mattress protection, but they will not be visible and will not have an impact on the Seascape. The nearest construction stage feature to the shoreline will be the cable installation vessel installing the offshore export cable to the landfall and the HDD rig onshore, 60m inland from the high water mark. The largest scale construction related effects will be associated with the array area and the installation of the WTGs and OSP and these will occur between 13km and 17km from the nearest points of the shoreline to the nearest boundary of the array area – a considerable distance where water surface activity may be screened by earth curvature. There will be clutter and complexity from the partially completed structures draped and surrounded by tower cranes coupled with movement / activity from vessels and machinery. The nearshore cable installation vessel is a much smaller component of the offshore construction stage elements and much of the activity associated with it will be subsurface. However, the minor scale of this element is balanced by its location much closer to the shoreline where it will be a conspicuous feature within the local area of Bremore Beach and Balbriggan. The context of construction stage offshore activities is a coastal environment containing shipping lanes, ferry routes and fishing fleets where productive maritime activity is commonplace and contributes to baseline seascape character. On the basis of the reasons outlined above, the predicted magnitude of change associated with the incremental construction of the offshore turbines is considered to be Medium / Negative.
SCA17 – Border SCA20 – Carlingford Lough	Vessel traffic and activities within the offshore ECC and Array Area are unlikely to be noticeable from this SCA given the viewing distances involved. The incremental installation of the offshore turbines will be seen in clear viewing conditions, but at considerable remove from this SCA such that there will be no material change to its character. The predicted magnitude of change associated with the incremental construction of the offshore turbines is considered to be Negligible / Neutral
SCA19 – Mourne Coast (NI)	Whilst the nearest coastline section of this SCA is 33km to the north of the array area, the southern tip of its open sea extent is 18km away. Vessel traffic and activities within the offshore ECC and Array Area are unlikely to be noticeable from the coastline section of this SCA given the viewing distances involved. The incremental installation of the offshore turbines will be seen in clear viewing conditions, but at considerable remove from this SCA such that there will be little material change to its character – just views afforded from it. The principal views associated with the open sea context of this SCA are shoreward towards the Mourne Mountains / Carlingford Lough. The predicted magnitude of change associated with the incremental construction of the offshore turbines is considered to be Low/negligible / Negative
SCA 24 – Irish Sea (South Down) NI	This SCA does not include a section of coastline and it is around 10km offshore. The southern tip of its open sea extent is 15km north of the array area. Vessel traffic and activities within the offshore ECC and Array Area are will be noticeable from the southern portion of this extensive open sea SCA but at a reasonable separation distance. Likewise, the incremental installation of the offshore turbines will be seen in clear viewing conditions, but at a notable remove from this SCA such that there will be little material change to its character – only views from it. The principal views associated with the open sea context of this SCA are shoreward towards the Mourne Mountains as well as other features much further to the north.

Seascape Character Area	Construction Stage Seascape Impact
	The predicted magnitude of change associated with the incremental construction of the offshore turbines is considered to be Low/negligible / Negative

On the basis of the Seascape Character Area Sensitivity established in Table 29.36 and the magnitude of impact established in Table 29.37, the likely significance of construction stage seascape impacts in SCA15 – Dublin Bay are considered to be **Imperceptible**, of a **Neutral** Quality and a **Short-term** duration, which is not significant in EIA terms.

For SCA16 – North Eastern Irish Sea Islands and Beaches, the likely significance of construction phase seascape impacts is deemed to be **Moderate**, of a **Negative** quality and a **Short-term** duration which is not significant in EIA terms.

For SCA17 – Border SCA – Carlingford Lough, the likely significance of construction phase seascape impacts is deemed to be **Imperceptible**, of a **Neutral** quality and a **Short-term** duration which is not significant in EIA terms.

For SCA19 – Mourne Coast (NI), the likely significance of construction phase seascape impacts is deemed to be **Slight-imperceptible**, of a **Negative** quality and a **Short-term** duration, which is not significant in EIA terms.

For SCA24 – Mourne Coast (NI), the likely significance of construction phase seascape impacts is deemed to be **Slight-imperceptible**, of a **Negative** quality and a **Short-term** duration, which is not significant in EIA terms.

29.5.4 Construction Phase Visual Effects

During the construction phase, operations and machinery movements associated with the array area, and the ECC will be visible with the most noticeable impacts near the end of the construction phase when all WTGs are in place in addition to concentrations of activity in the form of WTG installation vessels and cable laying vessels. The proposed development will introduce a number of offshore lights in the nighttime sea view during the construction phase. At nighttime, WTG navigational and aviation lighting is likely to be visible from the coastline in clear conditions (see Section 29.5.6.4 for full night time lighting assessment and the Lighting and Marking Plan (Appendix 17.4 of Volume 9) for lighting details). The construction vessels also have lights and some of their activity will be visible during the hours of darkness.

Construction related sea-based activity will be most noticeable from the stretch of coastline between Clogherhead and Rush where the construction activities and incremental installation of the WTGs is nearest to shore and central to offshore vistas. It also the section of coastline that is tangential to the offshore cable laying activities. Relevant visual receptors include the settlements of Rush, Skerries, Balbriggan, Laytown, Bettystown and Clogherhead as well as Beltray and Seapoint Golf links and also the beaches along this stretch of coastline. Balbriggan and Gormanstown and the roads and residences between will experience the highest intensity of close marine-based traffic and activity as these are closest to the shore-end and landfall point of the offshore export cable. Whilst cable laying activities are generally transient, there will be a greater intensity and duration of activity just offshore (in the subtidal area where the vessels associated with the exit pit for the HDD will be stationed to initiate the transition from subsea cables to terrestrial cables at the onshore Transition Joint Bay (TJB). This will still be a temporary activity generating only localised visual effects for onshore receptors in the near vicinity of this nearshore construction activity (c. 2km). Whilst this activity it may be discernible from greater distances with clear line of site, visual effects will be very increasingly limited (with distance) due to the relative perceived scale and broader context of this aspect of offshore construction activity.

North and south beyond Clogherhead, construction related sea traffic and activity will be less noticeable due to viewing distances from both the Array Area and export cable area and the effects of earth curvature which begin to screen low objects in the sea beyond approximately 5km. These more peripheral coastal areas within the principal study area will still have visibility of the emerging WTGs in clear viewing conditions.

Visual receptor sensitivity is assessed in relation to the 47 representative VPs used for the visual impact assessment of the two project options. This forms part of the detailed operational phase visual impact assessment at VPs, which is contained in Appendix 29.2 and summarised within this chapter at Section 29.5.6.1. Overall receptor sensitivity ranges between Very high and Medium, but with those VPs between Clogherhead and Rush, being the nearest section of coastline to the array area, rated between High and High-medium. It is these nearer VP locations that are most likely to experience notable construction stage effects, especially from the likes of increased sea traffic and construction phase activity.

The magnitude of visual change during construction is assessed as **Medium** in the central parts of the study area coastline (Clogher Head to Rush) and generally less than 20km from the array area, reducing to **Low** and **Negligible** with longer distances towards the northern and southern areas of the study area coastline, where visible. These effects will be **Short-term** in duration. Based on a worst-case sensitivity of 'High' at the likes of VP23 - Ardgillen Castle Grounds, the likely significance of construction phase visual effects will be **Major-moderate**, but more frequently **Moderate** for receptors in this central portion of the coastline (Clogher Head to Rush). Outside of this area, the significance of construction phase effects will reduce to '**Slight'** or lower with increasing separation distance. These are not considered to be significant effects in EIA terms.

29.5.5 Operational Phase Seascape Effects

During the Operational Phase seascape effects will relate to the long-term presence of the proposed WTGs and OSP within the array area, but no impacts will arise from the offshore export cable or inter-array cables as these will be below the water level and not visible. There will be a low level of vessel traffic associated with maintenance activities, but this will have a Negligible impact on Seascape Character due to its scale, nature and frequency (See Chapter 8). Seascape effects in relation to each of the identified Seascape Character Areas are assessed in Table 29.38.

29.5.5.1 Seascape and Landscape Assessment of Project Options

For the assessment of seascape and landscape impacts, the nuances of the height and density balance of the WTG layout for the two project options is of less relevance than is it is for the visual impact assessment. Instead, it is the simple presence of the WTGs and OSP within the array area that is the main consideration of seascape and landscape impacts. For this reason, the assessment contained in this section applies equally to both project options and when the array area is referenced it applies to both options. The findings of the visual impact assessment of both project options also confirm this.

Table 29.38 Operational Phase Seascape Effects

Seascape Character Area	Operational Stage Seascape Impact
SCA15 – Dublin Bay	Theoretical visibility is limited and sporadic within this seascape area, relating mainly to the low-lying ground to the west of Howth Head, which affords potential, partial visibility of the WTGs from south Dublin Bay at distances beyond 40km. Furthermore, these would only be discernible with scrutiny in the clearest of viewing conditions and in the context of the broad and diverse bay that encapsulates Dublin City and port. In this context, it is not considered that the proposed offshore array results in any material change to seascape character within this seascape unit. The predicted magnitude of change associated with the presence of the offshore turbines is considered to be Low-negligible / Neutral-negative
SCA16 – North Eastern Irish Sea Islands and Beaches	Theoretical visibility is extensive within this seascape area between Skerries and Clogherhead where it consistently extends between 3km and 8km inland. This partly relates to this being a low-lying coastal area with few headlands as well as the fact that it is the section of seascape that lies adjacent / closest to the offshore array. South of Rush, theoretical visibility becomes more sporadic and the array is further distant. Likewise for the seascape north of Clogher Head. In clear conditions the proposed Offshore array will be a distinct, but not dominating, offshore feature in the seascape area between Skerries and Clogherhead. It has a reasonable lateral extent but most often in the context of broad Irish Sea vistas where it remains subordinate to the extent of undeveloped sea horizon. The turbines have a modest vertical envelope given the viewing distances that are generally greater than 15km. The array is perceived to be well offshore and tends not to overlap with any coastal headland features, which might blur that perception.

Seascape Character Area	Operational Stage Seascape Impact
	It will contribute a new and relatively intense form of offshore development in a sea area that does not currently contain much more than small-scale navigational aids (i.e. Rockabill Lighthouse). However, this is a busy shipping corridor and there are also fishing fleets that use this area, so it has a busy working character. The coastline itself is relatively populous and otherwise used for agriculture and some recreational pursuits, which reinforces the utilitarian nature of this seascape unit. In this context the proposed turbine array and OSP will be a seaward background feature that contributes to the utilitarian qualities of this seascape, whilst drawing from the undeveloped open sea context. On balance, the predicted magnitude of change associated with the presence of the WTGs and OSP is considered to be High-medium / Negative and reducing outside of the area contained between Skerries and Clogherhead.
SCA17 – Border SCA – Carlingford Lough	Theoretical visibility is limited and sporadic within this seascape area, relating mainly to the northern shores of Carlingford Lough, which affords potential visibility of the turbines at distances beyond 32km. The turbines would only be discernible as distant background features in clear viewing conditions and in the context of the enclosed fore-to-middle ground setting of Carlingford Lough and its steep surrounds. In this context, it is not considered that the proposed offshore array results in any material change to seascape character within this seascape unit. The predicted magnitude of change associated with the presence of the offshore turbines is considered to be Low-negligible / Neutral-negative
SCA19 – Mourne Coast (NI)	Whilst the nearest coastline section of this SCA is 33km to the north of the array area, the southern tip of its open sea extent is 18km away. The WTGs will be seen in clear viewing conditions, but at considerable remove from this SCA such that there will be little material change to its character – just views afforded from it. The principal views associated with the open sea context of this SCA are shoreward towards the Mourne Mountains / Carlingford Lough. The WTGs represent new, offshore built development in a sea area that is discrete but contiguous with this SCA and is not currently characterised by this scale and nature of development. However, this and the host SCA share busy shipping corridors and there are also fishing fleets that use this area, so it has something of a working character. The predicted magnitude of impact associated with the operational WTGs is considered to be Low / Negative
SCA 24 – Irish Sea (South Down) NI	This SCA does not include a section of coastline and it begins around 10km offshore. The southern tip of its open sea extent is 15km north of the array area. The WTGs will be seen in clear viewing conditions, but at considerable remove from this SCA such that there will be little material change to its character – just views afforded from it. The principal views associated with the open sea context of this SCA are shoreward towards the Mourne Mountains / Carlingford Lough as well as other features much further to the north. The WTGs represent new, offshore built development in a sea area that is discrete but contiguous with this SCA and is not currently characterised by this scale and nature of development. However, this and the host SCA share busy shipping corridors and there are also fishing fleets that use this area, so it has something of a working character. The predicted magnitude of impact associated with the operational WTGs is considered to be Low / Negative

On the basis of the Seascape Character Area Sensitivity established in Table 29.36 and the magnitude of impacts established in Table 29.38, the significance of effects on SCA15 – Dublin Bay is considered to be **Slight-imperceptible**, of a marginally negative i.e. **Neutral-negative** Quality and a **Long-term** duration. This is not considered to be a significant effect in EIA terms.

For SCA16 – North Eastern Irish Sea Islands and Beaches, the significance of operational phase seascape impacts is deemed to be **Major-moderate**, of a **Negative** quality and of a **Long-term** duration. This is not considered to be a significant effect in EIA terms.

For SCA17 – Border SCA – Carlingford Lough, the significance of operational phase seascape impacts is deemed to be **Slight-imperceptible**, of a **Neutral-negative** quality and a **Long-term** duration. This is not considered to be a significant effect in EIA terms.

For SCA19 – Mourne Coast (NI), the likely significance of operational phase seascape impacts is deemed to be **Slight**, of a **Negative** quality and a **Long-term** duration. This is not considered to be a significant effect in EIA terms.

For SCA24 – Mourne Coast (NI), the likely significance of operational phase seascape impacts is deemed to be **Slight**, of a **Negative** quality and a **Long-term** duration. This is not considered to be a significant effect in EIA terms.

29.5.6 Operational Phase Visual Effects

The Operational Phase visual effects of the offshore elements, namely the WTGs and OSP within the array area, is one of the principal considerations of the SLVIA. As identified in section 29.2.4.6, 35 no. of the selected VPs were assessed in terms of visual impacts upon the visual receptors (i.e. people or groups of people) from both Project Option 1 and Project Option 2. The individual assessments at each of these VPs are contained in Appendix 29.1 and the results are summarised in Table 29.39 and discussed thereafter.

29.5.6.1 Visual Assessment of Project Options

The visual effects of both project options are assessed in Appendix 29.1. To avoid undue replication of text and to provide a more detailed consideration of the difference between each project option, a full assessment of Project Option 1 (49 no. 290m tip height WTGs) is first undertaken as a benchmark. This is immediately followed by an assessment of the differences in likely significant effect presented by Project Option 2 (35 no. 316m tip height WTGs) and ultimately whether the noted differences result in a material difference in impact magnitude i.e. a different assessment category. A comparative ZTV map (tip height) has also been prepared (see Figure 29.12) to illustrate the difference in the extent of potential visual exposure between Option 1 and Option 2. This illustrates a fractional difference between the two project options that equates to only 1.7% of the study area (combined) where one of the two project options is visible where the other would not be.

Throughout the assessment of both project options, it was apparent that none of the 35 VPs used for the visual impact assessment of the offshore infrastructure within the array area, was deemed to generate a different magnitude of impact for the two project options. This result is not unexpected in relation to the variation in turbine height, being only 26m and experienced in relation to turbines of approximately 300m in tip height at viewing distances in excess of 13km and typically more than 20km for most receptors. The difference in WTG height (9%) is more noticeable at closer views, within 20km, especially at beach level where the Option 2 WTG appear fractionally closer due to their relative height. However, such differences require scrutiny and are not readily apparent. It is also important to note that the variation in hub height is only 13m between Project Option 1 and Project Option 2 and it is the hub, being the highest fixed point on the WTG and its effective epicentre that is the focus of height comparison.

In relation to number of WTG, despite there being a 26% variation in WTG number between the two project options there was no difference between impact magnitude determined. Visual impact is not governed by numbers, but instead by perception. The greater density and intensity of the Project Option 1 relative to Project Option 2 is always apparent, however both options occupy a very similar vertical and horizontal visual envelope. Option 1 has a marginally greater lateral extent than Option 2 when viewed from almost all VPs, but this is not readily apparent in open sea views without headlands to serve as a gauge. The result being that the greater number of WTGs within Project Option 1 are spread across a slightly broader horizontal envelope allowing the density to more closely match the tighter envelope of Project Option 2. Furthermore, much of the increased density in the Project Option 1 WTGs occurs along the eastern side of the array area (north-eastern and south-eastern corners) where the additional WTGs, that are not within Project Option 2, are furthest from shore based receptors and have less of a visual presence than the WTG that are closer to the shore and within both project option layouts.

As outlined above due to the similarities between the two project options in relation to WTG height and spatial extent the magnitude of impact remains consistent between project options across all VPs.

Visual receptor sensitivity is independent of the magnitude of impact, and therefore remains the same irrespective of project options. Therefore, given the receptor sensitivity and magnitude of impact is the same for both project options, the significance of effect summarised in Table 29.39 can be considered to apply equally to both project options, unless specifically referenced otherwise.

Table 29.39 Operational Phase Visual Effects

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Effect
VP1 Knockree Summit Co. Down (NI)	Very High	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP2 Ballymartin, Co. Down	High-medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP3 Kilkeel, Co. Down	High-medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP4 Greencastle Ferry Terminal	Medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP5 Greenore Ferry Terminal	High-medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP6 Aghameen, Co. Louth	High	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP7 Barnevave Summit, Coolea Mountains	Very High	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP8 Coolea Point	High-medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP9 Gyles Quay	High-medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP10 Blackrock Promenade	High-medium	Low-negligible	Slight-imperceptible/ Neutral-Negative/ Long-term
VP11 Dunany Bay Beach	High-medium	Low	Moderate-slight/ Negative / Long-term
VP12 Lurganboy Beach	High-medium	Low	Moderate-slight/ Negative / Long-term

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Effect
VP13 Clogherhead Beach	High	Medium-low	Moderate / Negative / Long-term
VP14 Local Road at Castlecoe Hill	High-medium	Medium-low	Moderate / Negative / Long-term
VP15 Termonfeckin Beach	High-medium	Medium-low	Moderate / Negative / Long-term
VP16 Bettystown Beach	High-medium	Medium-low	Moderate / Negative / Long-term
VP17 Amenity Area, Laytown	High-medium	Medium-low	Moderate / Negative / Long-term
VP18 Dowth Passage Tomb	Very High	Negligible	Imperceptible/ Neutral/ Long-term
VP19 Kennetstown	High	Low	Moderate-slight/ Negative / Long-term
VP20 Gormanston Beach	High-medium	Medium-low	Moderate / Negative / Long-term
VP21 Balbriggan Beach	High-medium	Medium	Moderate / Negative / Long-term
VP22 R108 at Snowtown	High	Low	Moderate-slight/ Negative / Long-term
VP23 Ardgillen Castle Grounds	High	Medium	Major-moderate / Negative / Long-term
VP24 Amenity Area Skerries	High-medium	Medium	Major-moderate / Negative / Long-term
VP25 Loughshinny	High-medium	Medium	Major-moderate / Negative /

Array Area Viewpoint	Visual Receptor Sensitivity	Magnitude of Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Effect
			Long-term
VP26 Coast Road Rush	High-medium	Medium	Moderate / Negative / Long-term
VP27 Portrane	High-medium	Medium	Moderate / Negative / Long-term
VP28 Donabate Beach	High-medium	Medium-low	Moderate-slight/ Negative / Long-term
VP29 Malahide	High-medium	Low	Slight/ Negative / Long-term
VP30 Portmarnock Beach	High-medium	Medium-low	Moderate-slight/ Negative / Long-term
VP31 Sutton Promenade	High-medium	Medium-low	Moderate-slight/ Negative / Long-term
VP32 Howth Harbour	High-Medium	Medium-low	Moderate-slight/ Negative / Long-term
VP33 Howth Head	High	Medium-low	Moderate-slight/ Negative / Long-term
VP34 Great South Wall at Poolbeg Lighthouse	Medium	Low-negligible	Slight-imperceptible/ Negative / Long-term
VP35 Sandymount Strand	Medium	Negligible	Imperceptible/ Neutral / Long-term
VP36 Lambay Island – Summit, County Dublin (Fingal)	High-medium	Medium	Moderate / Negative / Long-term
VP37 - Lambay Island – Pier, County Dublin (Fingal)	High-medium	Medium	Moderate / Negative / Long-term

It is important to note that, as set out in Section 29.2.4 of the methodology, only effects of 'Major' and above are deemed to be significant in EIA terms. As the highest levels of effect in Table 29.39 above are a hybrid significance judgement of 'Major-moderate', none of the assessed visual effects is deemed to be significant.

What is most apparent from the visual impact assessments in Appendix 29.1 and the summary contained in Table 29.39 is that viewing distance is the key consideration in terms of visual significance of effect particularly from the northern half of the study area where the proposed WTGs are most commonly seen in a simple context of open sea from a section of coastline with little complexity and few headlands / islands.

This changes for the southern half of the principal study area as the coastline becomes more complex as well as more densely populated. This visual effect summary will therefore consider the following viewing contexts separately.

- Views from County Down in Northern Ireland
- Views from Carlingford Lough / Cooley Peninsula
- Views from Dundalk to Skerries
- Views from Skerries to Howth Head
- Views from Dublin Bay

Views from County Down in Northern Ireland are covered by VP1 to VP4 with VP1 being a vast view from the summit of Knockree Mountain and the others being from the coastline at the base of the Mourne Mountains. These locations all have potential open sea views of the proposed WTGs but at considerable distances of between 35km and 50km from the nearest and furthest turbines in the array. At such distances, very clear viewing conditions will be required in order to see the turbines, which will also have a low degree of contrast against the backdrop of sky. Earth curvature also plays a part in screening the lower sections of the turbines for those views close to the shoreline (i.e., not elevated). Even though there is potential to see the array in some instances, it is not considered to materially impact on seascape amenity from this far north and the likely significance of effect was deemed to be Slight-imperceptible / and marginally negative i.e. Neutral-Negative in all cases.

Views from Carlingford Lough / Cooley Peninsula are represented by VP4 to VP9 and range from shoreline views to mountain top views in terms of context. Nonetheless, viewing distance and the vast extent of these views still plays the major part in determining the visual impact of the proposed offshore WTGs. The WTGs are seen in a similar, simple manner from all of these locations contained well offshore in open sea VP8 at Coolea point is the closest of these views to the array area with views of turbines ranging between 30km and 45km for the nearest and furthest turbines. In all other cases the nearest WTGs are between 33 and 40km away where they will be noticeable background features only in very clear viewing conditions and with little consequence for visual amenity due to scale / distant context. Consequently, the significance of visual effects from this part of the study area is also considered to be Slight-imperceptible / Neutral-Negative in all cases.

Views from Dundalk to Skerries are represented by VPs 10 to 24 and typified by Irish Sea views from broad and relatively unenclosed beaches where the proposed WTGs are seen in a simple offshore scenario. Viewing distances to nearest turbines from this section of shoreline range from 36km at VP10 – Blackrock Promenade near Dundalk to the closest views of the array at VP24 – Skerries where the nearest turbines are just over 13km away. Again, the significance of visual impact is strongly related to viewing distance and the consequent lateral and vertical envelope of the WTG array relatively to the sea horizon. Whilst the significance of effect at VP10 was still considered to be Slight-imperceptible / Neutral-Negative, by VP11 at Dunanny Point, which is 14km closer to the array, the significance of effect increases to Moderate-slight / Negative. As the coastal viewpoints get closer to the array, the impact level increases to Moderate / Negative from VP13 at Clogherhead Beach to VP21 – Balbriggan Beach. In these similar contexts the proposed array will be a distinct feature of coastal views in clear viewing conditions, but generally with a low degree of contrast against the sky. The array is perceived to be laterally broad, but still subordinate to the undeveloped section of sea horizon that can be seen in these wide Irish Sea views. The vertical envelope of the WTGs is modest even at the closest of these viewpoints and they will not appear overbearing in terms of scale. Instead, the array reads as a background offshore feature rather than a prominent nearshore feature.

The WTGs will introduce a scale and intensity of offshore development that is not currently characteristic of this section of the Irish Sea, but this is also in the context of busy commercial shipping corridors and fishing areas, which add a productive / working character to this seascape.

Whilst the viewing context is similar to the above for VP24 – Skerries, this is the closest onshore visual receptor to the Array Area at approximately 12.7km from the nearest turbines (Option 2). Consequently, the WTGs are seen at a more prominent scale than for other views and with a broad lateral extent. A Major-moderate / Negative significance of effect is therefore assessed at VP24.

In addition to the coastline views between Dundalk and Skerries, there are also a number of inland views from elevated locations that were considered, which included some designated scenic routes / views and important heritage and amenity features. The most important of these is VP18 from within the UNESCO World heritage site of Brú na Bóinne. VP18 is from the top of Dowth Passage Tomb, which is the nearest of the three Brú na Bóinne passage tombs to the Array Area and the only one that still allows visitors to climb to the top. There is no view of the proposed WTGs afforded from here and the viewpoint was used for illustrative purposes i.e., to illustrate the absence of impact at this important receptor.

At most of the inland viewpoints (VP11, VP19 and VP22) the significance of visual impact is reduced to Moderate-slight. This is on the basis of the generally greater viewing distances and the fore-to-middle ground landscape context, which tends the render the proposed WTG array as perceptually more of a background feature, even when it will be openly visible. The one exception to this is the marginally inland VP23 from the grounds of Ardgillen Castle in the rural hinterland of Skerries. At this location, framed views are afforded down sloping lawns to the sea and the proposed WTGs will fill most of the framed sea horizon at distances from 16km to 24km away (nearest to furthest). At this distance the WTGs have a broad lateral extent, but are not overbearing in terms of vertical scale and it is a clear and simple view of the array. Nonetheless, the proposed development represents the introduction of built elements into a seascape currently only occupied by Rockabill Lighthouse and passing vessels. These factors are considered to balance out at a Medium magnitude of visual impact and when combined with the High sensitivity of the receptor the likely significance of effect is deemed to be Major-moderate / Negative. This is one of three visual receptors to be attributed, what is the highest significance assessed for the proposed offshore visual assessment overall. However, it must be reiterated that Major-moderate effects are not deemed to be significant effects in EIA terms

Views from Skerries to Howth Head are represented by VP24 to VP33 and all consist of coastline views. As highlighted in the Regional Seascape Assessment, this is a more complex section of coastline than that further north and consists of shallow bays, beaches, low sea cliffs, estuaries, and islands. Consequently, the proposed WTGs are seen in a more complex manner often above and/or adjacent to coastal landform features, albeit at considerable distances between c. 15km and 30 km to nearest turbines. They also represent longshore views to the northeast rather than directly offshore views like their more northerly counterparts beyond Skerries. Whilst this can make for more complex views of turbines overlapping within coastal features, it does make the array more peripheral in direct sea vistas to the east.

VP24 at Skerries is discussed above and the nearby coastal harbour settlement of Loughshinny (VP25), although slightly further away from the Array Area, experiences a similar scale and nature of visual impact. Therefore, these views are also assessed as incurring a Major-moderate significance of effect.

The other North Dublin Coastal settlements of Rush and Portrane are both considered to experience Moderate / Negative visual impacts, whilst further south at the settlement beaches of Donabate, Malahide, Portmarnock and Sutton, the significance of visual effect ranges between Moderate-slight and Slight / Negative on the basis of viewing distances between 22k and 30km to nearest turbines. It should be noted that although the sensitivity and magnitude judgements for VP25 at Loughshinny and VP26 at Rush are the same, the significance of effect is marginally lower at the latter because of the nuances of increased viewing distance and peripheral viewing angle relative to the coastline.

It is important to note that the representative viewpoints selected at the settlements that line the Dublin, Meath and Louth coastline are worst-case in terms of potential visual exposure as they are generally from the town beaches or harbours. Streets and residences set back even short distance from the coast, do not tend to have sea views in these low-lying settlements and therefore visual impacts for much of the settlement will be considerably less than at the shoreline.

Lambay Island has a permanent resident family and is also open to visitors during summer months for the likes of artist and writer retreats, so it is considered to be a relevant visual receptor location for the purposes of the assessment. The island is farmed and visitors can walk across it and obtain views from its highest point. VP36 is from that highest point and VP37 is from the pier representing arrival views for visitors. It should be noted that the day on which the Lambay Island views were captured was slightly hazy and the view of the proposed WTGs is not as clear as for the other views in the photomontages set at similar distances. Whilst this provides an example of the view of the turbines in less than optimal viewing conditions (as occurs frequently), it is not factored into the visual impact assessment, which also utilises the wireframe image to ascertain WTG scale, distance and background terrain context. The view of the WTGs from VP36 is clear and legible at distances extending from 17km. There will be some minor overlap with the Mourne Mountains in the far distance in clear viewing conditions, but the WTGs are still perceived to be in clear open water well off the coastline. From the Lambay Island Pier (VP37), the WTGs will span between the northern shores of the island and the Mourne Mountains in the far distance, but again, this does not present a sense of enclose of sea views because the separation distances between the WTGs and landform is clearly apparent. The significance of visual effect is deemed to be Moderate in both instances.

Howth Harbour (VP32) and Howth Head (VP33) are both deemed to be important and sensitive visual receptors as this iconic North Dublin coastal setting draws high numbers of tourists and recreationalists throughout the year. Although the proposed WTGs are nearly 29km away, there is some overlap with the intervening islands of Ireland's Eye and Lambay Island which generates a minor degree of ambiguity and on balance the significance of effect is deemed to be Moderate-slight at both VP32 and VP33.

Views from Dublin Bay are represented by VP34 and VP35, which are dominated by the rich diversity of industrial, port, commercial and residential development that surrounds the mouth of the river Liffey and northern half of Dublin Bay. There is the low sand spit of Bull Island backed by low lying land at Baldoyle and Sutton that lies west of Howth Head and affords potential views of the proposed turbines above this aspect of north Dublin from VP34. These are slightly confusing views of blade sets / tips rotating against the intervening built and vegetation skyline. However, it is important to consider that such views could only occur in the very clearest of viewing conditions at distances beyond 37km and will therefore be rare and available only with scrutiny, especially in the dynamic context of Dublin Bay. The resulting visual impact significance is deemed to be Slight-imperceptible at VP34 and the turbines will be fully screened from view at VP35.

Overall, there are not considered to be any significant visual effects arising from the offshore elements of the proposed development.

29.5.6.2 Views from Ferry Corridor and Flightpaths

The east coast of Ireland is the arrival / departure point for the majority of tourists visiting Ireland, the majority of whom transit through Dublin Airport if the arriving by plane, or Dublin Port if they arrive by ferry. Given the difficulties associated with preparing accurate photomontages from photography captured from the moving deck or the seat of an aircraft, the visual impacts from these receptors will be based on wireline images generated from the nearest ferry corridor between Dublin and the Isle of Man and the flight path into Dublin Airport. Viewer height / angles of view are estimated from available data.

In terms of visual receptor sensitivity, ferry passengers are highly attuned to their viewing context especially when approaching or leaving land for the open sea. They tend to be stationary within the vessel allowing focus on seascape views, which may be first-time views for tourists and infrequent ferry users. Contrastingly, ferries form part of the frequent vessel traffic in this busy maritime area and settled coastal context. Overall, it is considered that ferry passengers have a **High-medium** visual receptor sensitivity.

Dublin to Douglas (Isle of Man) Ferry

For this marine transport receptor, the route from Dublin involves rounding Howth Head and veering in a north-easterly direction towards the Isle of Man. Views towards the Array Area will be afforded initially to the northwest along the north Dublin, Meath and Louth coastlines, then more directly landward to the west before viewing south-westward along the coast back in the direction of Dublin. These aspect changing views will be afforded to passengers for around an hour out of the 2.5 hour journey with the nearest point being just over 20km to the southeast of the array area.

Two wireline views have been prepared to represent the scale and extent of the proposed turbines in the terrain context as they would be seen by ferry passengers entering and leaving Dublin Port around Howth Head (see Photomontage Appendix 29.3). Dublin to Douglas Wireline View 1 (WV1) is from due east of Howth Head and reveals the WTGs at a modest scale in the distance (around 26km away) with just over half of them seen against a very distant backdrop of the Mourne Mountains (over 70km away) and the remainder to the right of the mountains against a backdrop of sky. The lateral extent is reasonably broad, but in the context of open 360 degree views of land and open sea from the ferry. In reality, the WTGs will appear in more of an open sea context than depicted by the wireframe image, which does not account for how distant and faint the Mourne Mountains will appear even in relatively clear viewing conditions. In many instances the mountain backdrop will not be visible at all. The views of offshore turbines from a vessel are likely to be a novel experience for many passengers and not necessarily in a manner that detracts from visual amenity. On balance, the magnitude of visual impact is deemed to be Medium-low and of a Negative quality. Whilst the duration for the potential of the effect is long term in accordance with the lifetime of the project, it is a temporary, transient and likely infrequent effect for ferry passengers. Overall, the significance of visual effect is deemed to be **Moderate-slight** and **Negative**.

Dublin to Douglas WV2 is from just to the southeast of Howth Head representing initial views along the north Dublin to Northern Ireland coastline for passengers leaving Dublin Port. In this instance the western end of the array will appear between Lambay Island, to the fore, and the Mourne Mountains in the far distance beyond. The majority of WTGs will appear against an open sea / sky background in the distance (approximately 35km away). The apparent scale of the WTGs and lateral extent of the array is small from this distance, especially in the context of broad open views in all directions. Overall, the magnitude of visual impact is deemed to be Low. Otherwise the same considerations of viewer experience as described for Dublin to Douglas V1 above, also apply to V2. For these reasons, the magnitude of visual impact is deemed to be Medium and of a Negative Quality. The consequent significance of effect is considered to be **Slight / Negative**.

Dublin to Hollyhead Ferry

For the Dublin to Hollyhead ferry, the route to and from Dublin is more directly west – east and therefore perpendicular to the general coastline orientation. The two representative wireframe views have a very similar context to those representing the Dublin to Douglas ferry (described above). Indeed, Dublin to Hollyhead WV2 is from close to where the two routes diverge / converge and the effect levels are deemed to be the same (**Slight-negative**). For the Dublin to Hollyhead WV1 the angle of view is similar to that of WV1 for the Dublin to Douglas ferry, but the distance is greater (c. 33km from the Array Area). All other aspects being similar, the magnitude of impact is deemed to be Low and the significance of effect **Slight / Negative**.

Approach to Dublin Airport

In terms of aviation transport, passengers on flights approaching Dublin Airport are most likely to obtain views of the Array Area when approaching Dublin Airport from the west on a flight path just north of Howth Head. However, other view orientations and contexts will be obtained from other exits and approaches. In this instance, the flightpath just to the north of Howth Head has been used for representative purposes and two wireline images prepared using the Dublin to Gatwick route.

In terms of receptor sensitivity, aircraft passengers are similar to ferry passengers in that they are stationary within the aircraft and attuned to views of the landscape below, particularly on approach to land or destination runways where the plane is also closer to the ground. The transient nature of views is more rapid and the three dimensional aerial context richer and broader particularly when approaching a major city like Dublin. Aircraft passengers are not specifically identified in GLVIA 2013 as being highly susceptible to visual change and aircraft-based views are not generally identified as being of high value. However, the visual amenity of aircraft passengers is seldom considered in the context of LVIA or planning policy /scenic designations. In this instance the same receptor sensitivity as for ferry passengers will be applied – **High-medium**.

The visual context of both aviation wireline views is similar with Dublin to Gatwick WV1 being from the northwest of Howth Head (25km from the Array Area) and WV2 being from directly north of it (28km from the Array Area). The arrays are seen in a legible manner within these vast elevated vistas with a three-dimensional spread that avoids visual clutter and has a high degree of legibility.

The turbines are seen within an otherwise undeveloped, open sea context that is enveloped throughout the eastern quarters by the coastline and Lambay Island. It is a novel view of an offshore wind project and one that is likely to evoke interest rather than a notable sense of detriment, particularly in the context of a settled and busy coastal context such as this. In the context of the vast and transient overall vista afforded to aircraft passengers likely more focussed on the coastline beneath the plane, the magnitude of visual impact is deemed to be **Low** in both cases. The overall significance of effect is deemed to be **Slight / Negative,** which is not significant in EIA terms.

29.5.6.3 Climate and Visibility Frequency

The visual effects assessed in Appendix 29.1 all relate to clear viewing conditions as the baseline photography was deliberately captured in clear weather conditions (except Lambay Island views – slightly hazy) in order to illustrate the greatest likely significant effects in terms of visual exposure of the proposed WTGs within the Array Area . Scheduling this photography capture fieldwork proved difficult as viewing conditions are frequently sub-optimal. Indeed, the Met Eireann Website identifies, in relation to cloud cover, that "Irish skies are completely covered by cloud for well over fifty percent of the time".

Unlike the UK meteorological service (Met Office), the Irish meteorological Service (Met Eireann) does not measure distance visibility at its weather stations. Whilst visibility has been traditionally measured by human observation, latest automated techniques use Meteorological Terminal Air Report (METAR), which records the distance that a beam of light can travel before its luminous flux is reduced to 5% of its original value, which is considered to correlate to the human eye. The UK Met Office defines visibility distance using the following categories;

- Very Poor Less than 1,000 metres
- Poor Between 1,001 and 4,000 metres
- Medium Between 4,001 and 10,000 metres
- Good Between 10,001 and 20,000 metres
- Very Good Between 20,001 and 40,000 metres
- Excellent Greater than 40,000 metres

Typical figures for a weather station near the Welsh coastline (directly across the Irish Sea from the Array Area) indicate that over a 10 year period the frequency of 'Good', 'Very Good' and 'Excellent' viewing conditions occurred c. 18%, c. 40% and 29% of the time respectively and it is these viewing distances (10km to 40km+) that are most relevant to the visual receptors within the 40km radius WTG Study Area. If climatic conditions are at least similar on this side of the Irish Sea, these figures would suggest that the proposed WTGs will be potentially visible for nearly 90% of the time from those visual receptors between the settlements of Clogherhead and Portrane that are within 20km of the nearest WTGs. For those visual receptors beyond 20km, potential visibility due to climatic conditions reduces to approximately 70% of the time.

Even when potential visibility of turbines is not precluded by climatic conditions, a key visibility consideration is the degree of contrast of WTGs against the backdrop of sky above the horizon. Fieldwork for this and other projects around Ireland over the past 20 years has revealed that the seaward horizon is most frequently cloudy and even on sunshine days often presents with a hazy/ milky appearance. This is also apparent from the project photomontage set (Volume &B1) which uses baseline photography captured across a number of different fieldwork days with slight variations of clear climatic conditions. When presented against such a light tone backdrop, the light tone (off-white) WTGs have a low degree of visual contrast meaning they will be visually recessive and less noticeable.

Given that the proposed WTGs will present against an eastern sea horizon for those visual receptors located between the settlements of Clogherhead and Skerries, there is potential for the turbines to be backlit (presenting with a dark tone) against the brightening eastern sky at dawn. In this circumstance the WTGs will present with a higher degree of contrast against the sky backdrop than would be typical throughout the remainder of the day. The opposite may also occur in evening light if the turbines are front-lit by the sun against the backdrop of a dark or stormy sky.

These situations represent some of the less common, but nonetheless notable, variations in the way in which the WTGs will occasionally be presented to viewers where visual contrast will be greater than that typically experienced.

Although the visual impact assessment of the proposed WTG array is based on clear viewing conditions, when coastal visual amenity is also optimised, it is reasonable to consider that due to the climatic conditions of the Irish Sea, the visual impacts of the proposed WTGs will be eliminated or reduced from those assessed for a reasonable proportion of the year. It is important to note that moderating effects associated with weather / visibility conditions have not been factored into visual impact judgements.

29.5.6.4 Night-Time Visual Effects from WTG Lighting

The WTG study area is not designated in terms of dark skies and given the population density between and including the major settlements of Dublin and Dundalk, the baseline context of night time light pollution is relatively high. The international Light Pollution Map which is available on the 'Dark Skies Ireland' website, and is generated by satellite imagery, indicates that the 'Zenith Sky Brightness' varies along the relevant section of the east coast between scores of 18 (City Sky) and c. 21.5 (Rural) depending on how close the location is to settlements and major roads. The Zenith scale ranges between scores of 17.5 and 22 and there are two categories of darker sky than 'Rural'.

The maritime sky horizon along the section of the sky that contains the array area contains navigational aids in terms of light houses and beacons as well as commercial vessel traffic corridors, fishing grounds and ferry routes. Thus, it is a baseline context of numerous other sources of light – some moving and some static.

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. 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. For the purpose of this study 200 cd lighting has been 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). Even though the current aviation lighting requirements in Ireland specify white flashing lights that are baffled so that light will not be emitted below the horizontal, red lights with no baffle have been used in this instance to represent the greatest potential for magnitude of impact as there is potential for aviation lighting requirements to change in the near future to red lights with no baffle (REF LMP).

Four of the VPs used for day time photomontages were also used for the preparation of night time 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 night time views. The night time 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. The simulated lighting was calibrated using a known 200 cd light source (three Rock Mountain telecommunications mast) at a distance of 11.5km, which is lesser distance than any of the shore based receptor locations. It should also be noted that the baseline photography for the night time photomontages was captured in full darkness, rather than at dusk as recommended by NatureScot Guidance, which is intended to allow for some of the surrounding seascape context to be visible. The use of full darkness night time montages in this instance, is due to the considerable distance offshore of the proposed WTGs, which would limit the potential to see the lighting where other sources of ambient light (including dusk light) reduce visual contrast. Thus, full darkness is considered to have the potential for a greater effect from WTG lighting than dusk. Furthermore, the selected night time views are captured from the same VP locations as their day time counterparts and they are presented in the same sequence, which allows for the seascape setting to be understood.

The results of the night time visual impact assessment are contained in Appendix 29.1 where they immediately follow the day time assessment at each of the relevant VPs. 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.

The WTG lights will indicate the sea horizon line in a portion of the view not currently occupied by fixed light sources other than Rockabill Lighthouse. This serves to enclose the night time view to a minor degree giving a reduced sense of open sea and associated darkness and distance. However, the intensity of the lighting is so minor that it is only a very subtle feature of night time sea views, if it is noticed at all. From VP32, at Howth Harbour the lighting is so far away that it will not be readily discernible.

Night time 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 night time effects emanating from WTG lighting.

29.5.7 Decommissioning

29.5.7.1 Decommissioning Phase Seascape Effects – Offshore Infrastructure

During the decommissioning phase of the offshore WTGs and OSP , seascape effects will be very similar in scale and nature to those described in Section 29.5.3 for the Construction Phase except in reverse. The highest level of impact will occur when decommissioning machinery and vessels are present within the array area and travelling frequently to shore, but with the WTGs still substantially in place. Effects will reduce as the WTGs are incrementally removed. Decommissioning Phase seascape effects are not considered to be significant.

29.5.7.2 Decommissioning Phase Visual Effects

During the decommissioning Phase of the offshore turbine array and offshore infrastructure, visual effects will be very similar in scale and nature to those described in Section 29.5.4 for the Construction Phase except in reverse. The highest level of impact will occur when decommissioning machinery and vessels are present within the array area and travelling frequently to shore, but with the WTGs still substantially in place. Effects will reduce as the WTGs are incrementally removed. Decommissioning Phase visual effects are not considered to be significant.

29.6 Mitigation and Monitoring Measures

29.6.1 Construction Phase

There are no specific SLVIA mitigation measures proposed during the Construction Phase for the offshore infrastructure aspects of the proposed development.

29.6.2 Operational Phase

There are no specific SLVIA mitigation measures proposed during the Operational Phase in relation to the offshore elements of the proposed development.

29.6.3 Decommissioning

There are no specific SLVIA mitigation measures proposed during the Decommissioning Phase for the offshore infrastructure of the proposed development.

29.7 Residual Effects – Offshore Infrastructure

As there is no specific mitigation proposed in respect of offshore infrastructure during the Construction, Operational or Decommissioning Phases of the Proposed Development and thus, the residual effects remain unchanged from the likely significant effects during these phases. Refer to Section 29.5 above. None of the assessed impacts are deemed to be significant in EIA terms.

29.8 Transboundary Effects

There is a potential for Transboundary effects arising in the form of visual impacts and cumulative visual impacts in County Down in Northern Ireland as the proposed WTGs are likely to be visible from there in clear viewing conditions. Baseline studies were undertaken in relation to Northern Ireland Seascape and landscape and visual policy and guidance documents as well as visual receptors.

Sections 29.2.6.4 and 29.3.3 describe the transboundary baseline within Northern Ireland in relation to seascape and landscape characterisation and relevant visual receptors. In terms of assessment, transboundary effects on seascape and landscape character are described in Section 29.5.2, 29.5.3.and 29.5.5, whilst visual impacts are covered in Appendix 29.2 and in Sections 29.5.4 and 29.5.6. Transboundary cumulative effects with Tier 2 projects, the other East Coast Phase One offshore wind developments, are addressed in Appendix 29.2 and in Section 29.9.

Four standard viewpoints (VPs 1-4 – See Figure 29.7) and one cumulative viewpoint (VP38) were selected within Northern Ireland. In all cases the viewing distances were upwards of 35km away and due to the small scale and low contrast of the WTGs at these viewing distances as well as their discrete context, the resulting significance of effect was deemed Slight-imperceptible or lower. Consequently, there are no significant transboundary effects assessed.

29.9 Cumulative Effects

One of the key aspects of this SLVIA is the potential cumulative impact of the proposed WTGs with other developments, including other offshore wind developments, which are identified as the Tier 2 developments. The cumulative assessment of the proposed offshore elements in relation to Tier 1 and Tier 3 projects is screened out of further assessment. The cumulative assessment with other Tier 2 projects is detailed in Appendix 29.2 and focuses on the proposed WTG array during the operational phase. It considers the cumulative visual effects with other East Coast 'Phase 1' offshore wind energy developments contained within the 60km radius cumulative study area of which there are three;

- 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

There is potential that the constructions phases of the Tier 2 projects might overlap and, if this occurred, there would be a greater intensity of vessel movement to and from the respective sites. However, the sites are all separated by considerable distances, which reduces the potential for discernible cumulative seascape and visual effects from the increased vessel traffic due to its dispersal and limited intervisibility. Such effects would also be temporary or short-term in duration and thus, there is not considered to be any potential for significant construction phase cumulative effects to occur other than those relating to the emerging turbines which are covered in the assessment of operational phase cumulative effects.

Operation phase cumulative impacts are assessed from all 47 of the selected viewpoints using the 90 degree wireline images in conjunction with corresponding baseline images, being the first sheet for each viewpoint (in accordance with visual representation guidance). Where necessary due to widely disparate viewing angles between cumulative arrays, a second 90 degree wireline is also provided in order to take in the relevant cumulative development.

The cumulative visual impact assessment included in Appendix 29.2 and summarised below, relates to the contribution of the proposed development array area (Project Option 1 / Project Option 2) to the overall cumulative impact of proposed East coast Phase 1 offshore wind developments within the cumulative study area and resultant cumulative effects. It is not an assessment of the aggregated overall cumulative impact of all developments. The data for the other proposed East coast Phase 1 projects was shared by each of the developers and where WTG layout options are being taken forward, it is the option with the tallest tip height that has been used on the basis that this represents the greatest extent of visibility / intervisibility in terms of the ZTV mapping.

Table 29.40 Cumulative Effect Summary (derived from Appendix 29.2)

VP No.	Sensitivity of VP receptor (from Table 29.39)	Magnitude of Cumulative Impact	Significance of Cumulative Effect
VP1 Knockree Summit Co. Down (NI)	Very High	Low-negligible	Slight
VP2 Ballymartin, Co. Down	High-medium	Low-negligible	Slight-imperceptible

VP No.	Sensitivity of VP receptor (from Table 29.39)	Magnitude of Cumulative Impact	Significance of Cumulative Effect
VP3 Kilkeel, Co. Down	High-medium	Low-negligible	Slight-imperceptible
VP4 Greencastle Ferry Terminal	Medium	Low	Slight-imperceptible
VP5 Greenore Ferry Terminal	Medium	Low-negligible	Slight-imperceptible
VP6 Aghameen, Co. Louth	High	Medium-low	Moderate-slight
VP7 Barnevave Summit, Coolea Mountains	Very High	Low	Moderate-slight
VP8 Coolea Point	High-medium	Low	Slight
VP9 Gyles Quay	High-medium	Low	Slight
VP10 Blackrock Promenade	High-medium	Low	Slight
VP11 Dunany Bay Beach	High-medium	Medium	Moderate
VP12 Lurganboy Beach	High-medium	Medium	Moderate
VP13 Clogherhead Beach	High	Negligible	Imperceptible
VP14 Local Road at Castlecoe Hill	High-medium	Medium	Moderate
VP15 Termonfeckin Beach	High-medium	Medium	Moderate
VP16 Bettystown Beach	High-medium	Medium-low	Moderate-slight
VP17 Amenity Area, Laytown	High-medium	Medium-low	Moderate-slight
VP18 Dowth Passage Tomb	Very High	Negligible	Imperceptible
VP19 Kennetstown	High	Low	Moderate-slight
VP20 Gormanston Beach	High-medium	Low	Slight
VP21 Balbriggan Beach	High-medium	Low	Slight
VP22 R108 at Snowtown	High	Low	Moderate-slight
VP23 Ardgillen Castle Grounds	High	Negligible	Imperceptible
VP24 Amenity Area Skerries	High-medium	Low-negligible	Slight
VP25 Loughshinny	High-medium	Low	Slight
VP26 Coast Road Rush	High-medium	Low-negligible	Slight-imperceptible
VP27 Portrane	High-medium	Negligible	Imperceptible
VP28 Donabate Beach	High-medium	Low-negligible	Slight
VP29 Malahide	High-medium	Negligible	Imperceptible
VP30 Portmarnock Beach	High-medium	Negligible	Imperceptible

VP No.	Sensitivity of VP receptor (from Table 29.39)	Magnitude of Cumulative Impact	Significance of Cumulative Effect
VP31 Sutton Promenade	High-medium	Negligible	Imperceptible
VP32 Howth Harbour	High-Medium	Negligible	Imperceptible
VP33 Howth Head	High	Low-negligible	Slight
VP34 Great South Wall at Poolbeg Lighthouse	Medium	Low-negligible	Slight-imperceptible
VP35 Sandymount Strand	Medium	Negligible	Imperceptible
VP36 Lambay Island – Summit, County Dublin (Fingal)	High-medium	Medium	Moderate
VP37 - Lambay Island – Pier, County Dublin (Fingal)	High-medium	Low-negligible	Slight-imperceptible
VP36 Annalong (NI)	High-medium	Low-negligible	Slight-imperceptible
VP37 Deer Park (Dublin)	Medium	Negligible	Imperceptible
VP38 Blackrock Park (Dublin)	Medium	Low-negligible	Slight-imperceptible
VP39 Coast Road, Monkstown	High-medium	Low-negligible	Slight-imperceptible
VP40 East Pier, Dún Laoghaire	High-medium	Negligible	Imperceptible
VP41 James Joyce Museum, Sandycove	High-medium	Negligible	Imperceptible
VP42 Dalkey Hill	High	Low-negligible	Slight-imperceptible
VP43 Three Rock Mountain	High	Low-negligible	Slight-imperceptible
VP44 Bray Head	High	Low-negligible	Slight-imperceptible
VP45 Sugar Loaf	High	Low-negligible	Slight-imperceptible

A clear pattern of intervisibility between the proposed development and the Tier 2 developments can be seen by working north to south through the representative viewpoints. In the northern aspects of the cumulative study area (between 40km and 60km away from the proposed development array area) the Oriel Array off the coast of Dundalk is the nearest and most prominent array. Indeed, due to relative scale and distance, the proposed WTGs are likely to be visible in conjunction with the Oriel Array only in very clear viewing conditions. Because views in the direction of the two arrays from the Mourne mountains / coastline and Cooley Peninsula are oriented in a southerly direction along the coastline, they are often seen to overlap in perspective or have a close lateral association (VP1 to VP9). However, when this occurs, there will generally still be a strong sense of separation between the two arrays due to the distinct scale differential of the respective turbines with the greatest contribution to the visual effects coming from Oriel. The only exceptions to this are the views from Aghameen (VP6) and the summit of Barnavave (VP7) where the elevation of the viewpoints provides a more seamless sense of diminishing perspective along the two arrays. Nonetheless, the contribution that the proposed development makes to the magnitude of cumulative impact when seen in conjunction with Oriel is deemed to be ‘Low’ in both cases.

Another cumulative viewpoint from the northernmost portion of the study area is VP38 from Annalong in Northern Ireland.

From here the Oriel Array is the most prominent development, albeit at a considerable remove of 20km and there is potential for long range visibility of the proposed development array area in the same southerly vista at a distance of just over 40km. The cumulative effect is deemed to be Low-negligible due to the considerable separation between the two developments and the overall distance to the proposed development.

The cumulative impacts assessed for the remainder of this northern cluster of viewpoints ranges between 'Low-negligible' for the more distant ones where there is a legible separation between the proposed development array area and the Oriel Array (VP1to VP3 and VP5), to 'Low' where there is some clutter or ambiguity associated with overlapping of WTGs between the two developments (VP4, VP8 and VP9).

South of the Cooley Peninsula there is likely to be clearer views of both the proposed development array area and the Oriel Array in combination because the relative viewing distances to particularly the proposed development array area are reduced. The other important consideration is that the viewing angle to both developments and particularly the Oriel Array is more directly offshore, rather than along the coastline. This has the effect of increasing the perceived separation distance between them, which is reinforced along the County Louth section of the coastline by the distinct differential in the scale of the turbines between the nearer Oriel Array and the more distant proposed development array area. Balancing the more apparent lateral separation between the two arrays is the extent of the open sea horizon they now collectively occupy relative to the more northerly views discussed above. Cumulative impacts in this north-central / Louth section of the study area coastline range between 'Low' at VP 10 – Blackrock Promenade to 'Medium' for VP11 and VP12 from Dunany Bay Beach and Lurganboy Beach respectively.

From Clogher Head south to Skerries, which represents the central section of coastline within the study area (south Louth / Meath / North Fingal section of coastline), the proposed development array area and Oriel Array are initially more equidistant from the viewer. Consequently, the comparative scale of turbines is similar, albeit the more numerous and elongated proposed development array area occupies the greater portion of the seaward skyline. There is a broad lateral separation between the two arrays which can only be experienced in 'succession' (by the viewer turning their head). Furthermore, because this is a broad and sweeping section of coastline the open sea horizon is also broad and open such that the collective arrays occupy only a minority of it. From VP13 at Clogherhead Beach, there is no cumulative impact because the headland itself (Clogherhead) precludes visibility of the Oriel Array. However, VP14 from the nearby Castlecoe Hill gives a good impression of the effects that would be also be experienced from the headland. The cumulative impact is deemed to be Medium from VP14 and VP15 at Termonfeckin Beach, which are the equal highest of any of the cumulative impacts assessed for the proposed development. From VP16 and VP17 at Bettystown and Laytown respectively, the Oriel array is peripheral to the north in the offshore view, particularly that southeast towards the proposed development array area. Consequently, the cumulative impact is deemed to be Medium-low.

From Laytown to Skerries (south Meath / north Fingal coastline), the proposed development array area presents directly offshore and is comparatively dominant to the Oriel Array, which by now has become a distant (25km+) tight cluster of turbines viewed along the shoreline to the north. Thus, from VP16 at Bettystown south to VP24 at Skerries the cumulative impacts are not deemed to be greater than 'Low' even though it is the proposed development array area that is considerably more prominent. It should also be noted that there will be no cumulative impacts from Dowth Tomb (VP18) within the highly sensitive Brú na Bóinne megalithic complex.

South of Skerries the cumulative scenario changes from potential for cumulative views of the proposed development array area in conjunction with the more northerly Oriel Array, to potential for cumulative views with the Dublin Array and Codling Array, which are two other priority offshore wind energy projects that lie off the coast of Dublin and north Wicklow respectively. This relates to the fact that Oriel is now more than 33km away to the north and becomes screened by the headland encompassing Rush and Loughshinny. Conversely, the northern end of the Dublin array is c. 33km south of Skerries and begins to come into view between Howth Head and the nearer Lambay Island and Ireland's Eye. There are not considered to be any locations from which combined views of the proposed development array area and both the northern Oriel Array and southern Dublin and Codlings Arrays collectively generate material cumulative impacts. This is due to the relative viewing distances between the northern and southern cumulative development as well as the physical division in seascape context that occurs between the complex Fingal / Dublin coastline and the simple sweeping Meath / Louth coastline.

The first of the viewpoints to capture sight of the northern end of the Dublin Array to the east of Irelands Eye and Howth Head is VP24 at Skerries where a small number of turbines from the Dublin / Codling arrays will be potentially discernible from here between Lambay Island and the headland at Rush in a southerly direction. However, the nearest Dublin Array WTGs are 32km away and Codling, over 50km. Given the greater complexity of this more indented estuarine section of coastline, the southerly arrays will come in and out of view depending on the particular viewpoint location. At VP28 from Donabate Beach where Dublin Array will be just over 22km away to the southeast, only two of the proposed development WTGs will be visible at a similar viewing distance to the north. Howth Head then become a visual impediment to cumulative visibility from the viewpoints between Donabate and Howth Harbour (VP29 to VP32). However, from the tip of Howth Head (VP33) the Dublin and Codling Arrays will be aligned with each other in a dense cluster that stretches southwards from the nearest turbines which are just over 11km away. By contrast the proposed development array area is nearly 30km to the north and although theoretically visible, the Oriel Array is over 55km north.

The highest cumulative impact between Skerries and Howth Head is assessed to be Low-negligible with most viewpoints registering Negligible by default due to an absence of cumulative visibility.

From the top of Lambay Island off the coast of Skerries (VP36), the nearer proposed development WTGs are seen with a considerably larger scale and lateral extent than the distant Oriel Array (beyond 44km away), which will only be visible in clear viewing conditions at the base of the Cooley Peninsula. There is a relatively small lateral separation between the arrays, but a much stronger sense of separation generated by the scale differential between them. However, in the opposite direction to the south, all of the WTGs from the Dublin / Codling arrays will be visible in a dense cluster that is only 20 degrees wide in terms of included angle. The nearest Dublin Array WTGs are 20km away and Codling, around 40km.Whilst the open sea to the west remains unoccupied by WTGs, the coastal context north and south is proposed to be occupied by offshore wind developments, albeit at reasonable distances. On balance the cumulative impact is deemed Medium. There is no view of the southerly East coast Phase 1 developments from the Lambay Island Pier (VP37) and consequently the Cumulative impact is reduced to Low-negligible.

The majority of the southern cluster of viewpoints, within Dublin Bay and the northern Wicklow Mountains, were selected for the purposes of the cumulative impact assessment as they lie between 40km and 60km from the proposed development array area. Where the WTGs within the proposed development array area are theoretically visible from here at distances ranging between 36km (VP36) and 56km (VP47) it is either partially visible as blade tips above the low Bull Island / Sutton section of north Dublin Bay from the coastal receptors surrounding south Dublin Bay, or more comprehensively revealed at distances in excess of 42km (VP44 to VP47). Therefore, it makes only a fractional contribution to the overall cumulative impact with the Dublin Array and Codling Array, which are more openly exposed at much closer distances in the section of the Irish sea to the east and southeast of Dublin. For this southerly cluster of viewpoints, the cumulative impact contribution of the proposed development array area is either Negligible by default (when it will not be visible) or Low-negligible on the basis that it may be discernible on the clearest of days. 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.

Overall, when combining the sensitivity of the visual receptor and the magnitude of cumulative impact, the highest significance of cumulative effect attributed to any of the viewpoints is ‘Moderate’. This occurs where the proposed development makes the substantive contribution to the cumulative effect experienced at VP11, VP12, VP14, VP15 and VP36 and it is confirmed that this level of cumulative effects is not deemed to be significant in EIA terms. However, it is also acknowledged that significant cumulative effects are likely to occur in relation to some visual receptors within South Dublin and North Wicklow seascape context.

The cumulative seascape effect is strongly related to the intervisibility between the proposed developments covered by the assessment of cumulative visual effects described above. In this regard, both Oriel and the proposed development occur within the same broad viewshed between the Cooley Mountains in the north and Howth Head in the south, which corresponds with SCA 16 – North Eastern Irish Sea Islands and Beaches. The two developments are separated by a considerable distance of over 16km so that they are discrete from each other and occupy different aspects of the SCA and portions of the open sea skyline when viewed from the shore. When viewed from between Dunany Point and Laytown they are seen at comparable viewing distances against open sea horizon, albeit at disparate viewing angles.

Any further north or south, the more distant development is seen in a long shore scenario, peripheral to the open sea vista. Together the two developments increase the intensity and proliferation of wind energy developments within SCA16, but only to the extent that wind energy development will become a characteristic feature of this broad seascape, and not a defining one. The proposed development is not considered to give rise to any significant cumulative effects in conjunction with the Oriel array.

Given that the proposed array area is nearly 35km north of the Dublin array and over 50km north of the Codling Wind Park array, they are only ever seen as distant background features of each other within noticeably distinct seascape areas divided by the promontory outcrop of Howth Head. . The contribution of the proposed development to this southerly cumulative scenario 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.

29.10 Summary of Effects

This SLVIA has assessed a broad range of potential impacts from the proposed development, which include seascape and visual impacts of the WTGs and the OSP within the array area during construction, operational and decommissioning phases. This includes impacts upon inland Landscape Character Areas, for which, the assessment might be considered more of a Landscape Impact Assessment, but this distinction has no material consequence for the assessment. The assessment also considered seascape and visual impacts during the construction phase of the inter-array cables, offshore export cables, but as this is a sub-sea aspect of the development it was not assessed during the operational phase.

Of all of the aspects of the assessment described above, the ones with most consequence, in terms of potential for significant effects to arise, are the operational phase seascape impacts and visual impacts from the Proposed WTGs and OSP within the array area. Operational phase cumulative effects for these aspects of the proposed development are also a key consideration. For all other aspects of the development, the only material impacts are temporary / short term within the construction phase, and they will have very limited surface expression during the Operational Phase.

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 that fall within the 40km radius principal study area. Whilst inland LCAs were initially considered in the baseline sections, the vast majority of these were scoped out of the seascape assessment due to the limited potential for significant seascape effects to occur in relation to such distant landscape units with limited or no intervisibility with the offshore infrastructure and a landscape context that is not materially influenced by the coast or sea views. The one exception being the Cooley / Feede Mountains LCA in County Louth, which falls within 1km of the Cooley Peninsula coastline and rises abruptly to form a dramatic coastal backdrop. The operational phase Seascape effects from the proposed WTGs and OSP were highest for SCA16 – ‘North Eastern Irish Sea Islands and Beaches’, which coincides with the coastal Landscape Character Areas of Louth (Dundalk Bay and Dunanny, Boyne Estuary Coast LCAs), Meath (Coastal Plains and Nanny Valley LCAs) and Fingal (Coastal and Estuary LCAs).

For these collective coastal SCA / LCA the significance of Seascape Impact is deemed to be Major-moderate / Negative / Long Term on balance of the proposed WTGs and OSP being a new and distinct feature of the coastal setting, but setback from the shore between 13km and 22km where they will be a background feature in the context of busy shipping lanes and fishing fleets. The onshore seascape context has an equally productive land use mix of predominantly coastal farmland and settlement. It is also reasonable to consider that this highest level of effect occurs for the section of coastline between Clogher Head and Skerries where the array area is closer and more directly offshore than north and south of these coastal features where the array area is more distant and peripheral. For similar reasons of the array area being peripheral and very distant (30km+) in the coastal context, the seascape impacts on SCA15-Dublin Bay and SCA17- Border SCA / Carlingford Lough and their underlying LCAs are deemed Slight-imperceptible. This is not to suggest that the WTGs and OSP will not be visible in clear conditions from within the SCA, but that they will have little influence on the salient character of these Seascapes.

The operational phase visual effects from the WTGs and OSP within the array area were assessed from a series of 37 no. viewpoint locations representing a range of visual receptors types including scenic designations, centres of population, coastal residential receptors, major transport routes and heritage / amenity features within the principal 40km radius study area. A further 10 viewpoints were selected within the 40km – 60km radius cumulative study area to inform the cumulative visual impact assessment.

As with the assessed seascape impacts, the highest visual impacts from the WTGs and OSP were generally deemed to be from coastal receptor locations between Clogherhead and Skerries, which are represented by VPs 13 to 24. These typically consist of Irish Sea views from broad and relatively unenclosed beaches where the proposed WTGs are seen in a simple offshore scenario. Viewing distances to nearest turbines from this section of shoreline range consistently from c. 17-18km for the viewpoints that track the sweeping coastline between Clogherhead to Balbriggan (VP13, VP15, VP16, VP17, VP20 and VP21). The closest views of the array is at VP24 – Skerries where the nearest turbines are just over 13km away. In these simple offshore viewing scenarios, the significance of visual impact is strongly related to viewing distance and the consequent lateral and vertical envelope of the WTG array relatively to the sea horizon. The impact level is deemed Moderate / Negative from most of these viewpoints except for the closest, VP24 at Skerries where the impact increases to Major-moderate. In these similar contexts the proposed WTGs will be a distinct feature of coastal views in clear viewing conditions, but generally with a low degree of contrast against the sky. The array area is perceived to be laterally broad, but still subordinate to the undeveloped section of sea horizon that can be seen in these wide Irish Sea views. The vertical envelope of the WTGs is modest even at the closest of these viewpoints and they will not appear overbearing in terms of scale. Instead, the array reads as a background offshore feature rather than a prominent nearshore feature. The WTGs will introduce a scale and intensity of offshore development that is not currently characteristic of this section of the Irish Sea, but this is also in the context of busy commercial shipping corridors and fishing areas, which add a productive / working character to this seascape. A notable exception to the coastline views described above is the sea view afforded from Argillan Castle (VP23), just inland from the coast near Skerries, which has a foreground apron of sweeping lawn and is framed by mature parkland vegetation. In this case the proposed array area will occupy most of the visible open sea horizon, albeit at a distance of over 16km. Like VP 24, The significance of visual impact is considered to be Major-moderate / Negative at this receptor location. Another Major-moderate effect is assessed at VP25 – Loughshinny, which has very similar view characteristics to VP24 at Skerries and is only a little over a kilometre further away.

Moderate / Negative impacts occur at VP26 – Rush and VP27 – Portrane with Moderate-slight effects assessed at VP28 – Donabate, VP30 - Portmarnock, VP31 – Sutton, VP32 – Howth harbour and VP33 – Howy th Head. These receptors are contained in the more complex section of coastline south of Skerries to Howth Head where the proposed WTGs are seen in a more complex manner often above and/or adjacent coastal landform features, albeit at considerable distances between c. 16km and 30 km to nearest WTGs. They also represent longshore views to the northeast rather than direct offshore views unlike their more northerly counterparts beyond Skerries. Whilst this can make for more complex views of turbines overlapping within coastal features, it does make the WTGs more peripheral in direct sea vistas to the east.

Visual impact significance relating to the operational phase of the Offshore WTGs and OSP from all other viewpoints not otherwise referenced above, are deemed to be Slight or lower. None of the assessed impacts are deemed to be significant in EIA terms.

The cumulative visual impact assessment included in full in Appendix 29.2 and summarised in section 29.12 relates to the contribution of the proposed array area (Project Option 1 / Project Option 2) to the overall cumulative impact of proposed Phase 1 offshore wind developments within the extended 60km radius cumulative study area. It is not an assessment of the aggregated overall cumulative impact of all developments.

Moving north to south along the coast through the cumulative study area, the cumulative scenario changes from one where the nearer Oriel Array is the most dominant with the proposed development array area in the distant background. From Dunany Bay Beach to Skerries the array area takes over as the more dominant of the two, but in a scenario where they combine to occupy a notable portion of the open seaward horizon albeit a subordinate proportion to that left undeveloped. It is along this stretch of the coastline that the proposed development contributes most to cumulative impacts and that contribution is considered to be Moderate / Adverse in terms of cumulative effect. From Skerries southwards, Oriel plays little part in the cumulative, but the northern end of the Dublin array begins to emerge around Howth Head.

Once Dublin Array and Codling Wind Park come more prominently into view in the Dublin Bay viewshed, proposed development has become a distant background feature of the discrete coastal viewshed north of Howth Head and it makes very little contribution to the overall cumulative effect (Low-negligible or Negligible). Overall, the contribution of the proposed development to cumulative effects is not deemed to be significant in EIA terms.

29.11 Part II – Landscape and Visual Assessment of Onshore Development Area

The 'onshore development area' is within the proposed development boundary landward of the high water mark (HWM) and constitutes the landfall which is where the offshore export cables come ashore and the Transition Joint Bay (TJB) is located, the grid facility, which is where the onshore substations are located, and the onshore cable route from the grid facility to the grid connection at Belcamp Substation.

29.11.1 Methodology

Although the scale and nature of the proposed onshore development elements is considerably different to that of the offshore elements, the LVIA assessment methodology is determined by the same guidance (GLVIA3), which is common to both seascape assessment and landscape assessment. Therefore, the methodology set out in section 29.2.2 is the same and does not warrant repeating in full here other than for defining the onshore LVIA study area and highlighting that the onshore cumulative effects assessment will focus on other permitted or planned onshore developments.

29.11.1.1 Study Area

For the grid facility, which is the only overt (above ground) feature of the onshore infrastructure, a 3km radius study area has been applied on the basis of potential visibility and the potential for significant effects being extremely unlikely beyond such distances even in the context of highly sensitive receptors due to factors of scale distance and context. For the landfall and underground onshore cable route, a lesser 500m buffer either side of the alignment defines the study area (Figure 29.2b). The study areas determined for onshore elements reflect the proportional approach to impact assessment promoted by GLVIA3.

Both bare-ground Digital Terrain Model (DTM) ZTV mapping (Figure 29.9) and Digital Surface Model (DSM) based ZTV mapping (Figure 29.10), which accounts for screening by the likes of vegetation and buildings, have been prepared in relation to the proposed Grid Facility study area. The Visual Impact Assessment of the Grid Facility is based on verified photomontages for viewpoints VP48 to VP55 (See Figure 29.7b) in the photomontage volume (Volume 7B of the EIAR).

29.11.2 Relevant Guidance and Policy

Fingal County Development Plan 2023-2029

Most of the grid facility aspect of the onshore study area is contained within the northern-eastern coastal section of Fingal (North County Dublin). Within the current Fingal County development plan, a landscape character assessment is provided which divides the county into 6 Landscape Character Types (LCTs). Most of the grid facility study area is contained within the 'Coastal' landscape character type, but a small section of its western (inland) extent is contained within the High Lying Agricultural' LCT.

The Coastal LCT is described as forming "the eastern boundary of the County" and "contains a number of important beaches, islands and headlands that together create a landscape of high amenity and landscape value" … "Views along the coast are generally contained within headlands, ridgelines and harbours, creating a number of visual compartments". The Coastal Landscape character type is categorised as having 'Exceptional' landscape value, 'High' landscape sensitivity and is described as having "magnificent views out to sea". The 'High Lying Agricultural' LCT is categorised with a 'High' landscape value and a 'High' landscape sensitivity.

The landfall study area is fully contained in the Coastal LCT, whilst the onshore cable route study area runs southwards from the 'Coastal' to the 'High Lying Agricultural' LCT and then through the 'Low Lying Agricultural', 'Rolling Hills with Tree Belts' and 'Estuary' LCT. However, given that the cable route runs underground predominantly along or immediately adjacent to the road network and there will be little surface expression during the operational phase of the proposed development, the LCT are scoped out of further consideration in relation to the onshore cable route on the basis that their salient landscape character will not be materially influenced by it.

Relevant Landscape Policy and Objectives are provided in Table 29.41.

Table 29.41 Relevant Policy and Objectives by section. Source: Fingal 2023 – 2029 County Development Plan, Chapter 9. Green Infrastructure and Natural Heritage.

Section	Policy	Objective	Where Addressed
9.6.14 Landscape Character Assessment	Policy GINHP25 – Preservation of Landscape Types Ensure the preservation of the uniqueness of a landscape character type by having regard to the character, value and sensitivity of a landscape when determining a planning application.	Objective GINHO55 – Protection of Skylines Protect skylines and ridgelines from development. Objective GINHO56 – Visual Impact Assessments Require any necessary assessments, including visual impact assessments, to be prepared prior to approving development in highly sensitive areas. Objective GINHO57 – Development and Landscape Ensure development reflects and, where possible, reinforces the distinctiveness and sense of place of the landscape character types, including the retention of important features or characteristics, taking into account the various elements which contribute to their distinctiveness such as geology and landform, habitats, scenic quality, settlement pattern, historic heritage, local vernacular heritage, land-use and tranquillity. Objective GINHO58 – Sensitive Areas Resist development such as houses, forestry, masts, extractive operations, landfills, caravan parks, and campsites, and large agricultural/horticulture units which would interfere with the character of highly sensitive areas or with a view or prospect of special amenity value, which it is necessary to preserve. Objective GINHO59 – Development and Sensitive Areas	Section 29.15.1 – Landscape Sensitivity Section 29.15.3 – Construction Stage landscape Impacts Section 29.15.5 – operational Stage landscape Impacts

Section	Policy	Objective	Where Addressed
		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. New development in highly sensitive areas shall not be permitted if it: • Causes unacceptable visual harm. • Introduces incongruous landscape elements. • Causes the disturbance or loss of (i) landscape elements that contribute to local distinctiveness, (ii) historic elements that contribute significantly to landscape character and quality such as field or road patterns, (iii) vegetation which is a characteristic of that landscape type and (iv) the visual condition of landscape elements.	
9.6.15 Views and Prospects	Policy GINHP26 – Preservation of Views and Prospects Preserve views and prospects and the amenities of places and features of natural beauty or interest including those located within and outside the County.	Objective GINHO60 – Protection of Views and Prospects Protect views and prospects that contribute to the character of the landscape, particularly those identified in the Development Plan, from inappropriate development. Objective GINHO61 – Landscape/Visual Assessment Require a Landscape/Visual Assessment to accompany all planning applications for significant proposals that are likely to affect views and prospects.	Appendix 29.1 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.15.4 – Construction Stage Visual Impacts Section 29.15.6 – operational Stage Visual impacts
9.6.17 High Amenity Zoning	Policy GINHP28 – Protection of High Amenity Areas Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place.	Objective GINHO67 – Development and High Amenity Areas Ensure that development reflects and reinforces the distinctiveness and sense of place of High Amenity areas, including the retention of important features or characteristics,	Section 29.15.1 – Landscape Sensitivity Section 29.15.3 – Construction Stage landscape Impacts Section 29.15.5 – operational Stage landscape Impacts

Section	Policy	Objective	Where Addressed
		Taking into account the various elements which contribute to its distinctiveness such as geology and landform, habitats, scenic quality, settlement pattern, historic heritage, local vernacular heritage, land-use and tranquillity.	
9.7.1 New Development in Coastal Areas	Policy GINHP29 – Development and the Coast Protect the special character of the coast by preventing inappropriate development along the coast.	Objective GINHO73 – New Development and the Coast Prevent inappropriate development along the coast, particularly on the seaward side of coastal roads. New development for which a coastal location is required shall, wherever possible, be accommodated within existing developed areas. Objective GINHO74 – Pattern of Coastal Development Strictly control the nature and pattern of development within coastal areas and ensure that it is designed and landscaped to the highest standards and sited appropriately so as not to detract from the visual amenity of the area. Development shall be prohibited where the development poses a significant or potential threat to coastal habitats or features, and/or where the development is likely to result in altered patterns of erosion or deposition elsewhere along the coast. Objective GINHO75 – Prohibition of Coastal Development Prohibit development along the coast outside existing urban areas where such development could not be adequately safeguarded over the lifetime of the development without the need to construct additional coastal defences. Objective GINHO76 – Development and Risk of Coastal Erosion	Section 29.15.1 – Landscape Sensitivity Section 29.15.3 – Construction Stage landscape Impacts Section 29.15.5 – operational Stage landscape Impacts Appendix 29.1 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.15.4 – Construction Stage Visual Impacts Section 29.15.6 – operational Stage Visual impacts

Section	Policy	Objective	Where Addressed
		Prohibit new development outside urban areas within the areas indicated on Green Infrastructure maps, which are within 100m of coastline at risk from coastal erosion, unless it can be objectively established based on the best scientific information available at the time of the application, that the likelihood of erosion at a specific location is minimal taking into account, inter alia, any impacts of the proposed development on erosion, or deposition. Objective GINHO77 – National Marine Planning Framework Comply with the policies and objectives of the National Marine Planning Framework as it relates to the area between the mean high-water mark and the near shore with respect to the planning and resource management of the marine area.	

Meath County Development Plan 2021-2027

The south-eastern coastal corner of County Meath is contained within the northern portion of the grid facility study area. The Meath County Development Plan includes a landscape character assessment, which identifies the Landscape Character Types (LCT) and geographically specific Landscape Character Areas (LCA). It assigns 'value', 'sensitivity' and 'importance' judgements to each of the LCA. The relevant LCT in this instance is 'Coastal Landscape' and the relevant LCA is '7 – Coastal Plains'. In terms of landscape value, the scale includes Low, Moderate, High, Very High, and Exceptional. Landscape sensitivity, is scaled between High, Moderate Low. LCA 7 – Coastal Plains, is identified as being of 'Moderate' value, 'High' sensitivity and of 'Regional' importance.

Within Appendix A05. Landscape Character Assessment, the Coastal Plains Landscape Character Area is described in the following manner:

"The coastal plain is a large area of east coast lowland divided by the River Nanny estuary. It is known as the 'Gold Coast. 'The area is characterised by scrubby rolling lowland near the coast interspersed with stands of pine. The River Nanny estuary is a steep sided river plain bound by attractive mixed woodland. The main transport routes are the M1 from Balbriggan to Drogheda, which crosses the River Nanny at Julianstown. Built development is concentrated along the coast with a variety of mixed-use retail units, hotels and restaurants. The majority of residential development is in the form of ribbon development with concentrations of modern developments adjacent to the main settlements of Bettystown, Laytown, Morningstown and Julianstown.

…

Long distance views are available along the coastline, however due to the flat topography of the landscape and overgrown nature of many hedgerows, views inland from the coast are not readily available."

Policies relating to Landscape and Seascape, as relevant to this assessment, are contained in Table 29.42:

Table 29.42 Relevant Policy and Objectives by section. Source: Meath 2021-2017 County Development Plan, Chapter 8. Cultural and Natural Heritage Strategy.

Section	Policy	Objective	Where Addressed
8.17.6 Landscape Capacity	HER POL 52 To protect and enhance the quality, character, and distinctiveness of the landscapes of the County in accordance with national policy and guidelines and the recommendations of the Meath Landscape Character Assessment (2007) in Appendix 5, to ensure that new development meets high standards of siting and design. HER POL 53 To discourage proposals necessitating the removal of extensive amount of trees, hedgerows and historic walls or other distinctive boundary treatments.	HER OBJ 49 To ensure that the management of development will have regard to the value of the landscape, its character, importance, sensitivity and capacity to absorb change as outlined in Appendix 5 Meath Landscape Character Assessment and its recommendations. HER OBJ 50 To require landscape and visual impact assessments prepared by suitably qualified professionals be submitted with planning applications for development which may have significant impact on landscape character areas of medium or high sensitivity. HER OBJ 51 To review and update (if required), in the context of a regional approach to landscape assessment, the County Landscape Character Assessment following publication of statutory guidelines for Planning Authorities on local Landscape Character Assessments, as outlined in the National Landscape Strategy 2015-2025.	Section 29.15.1 – Landscape Sensitivity Section 29.15.3 – Construction Stage landscape Impacts Section 29.15.5 – operational Stage landscape Impacts
8.18 Views and Prospects		HER OBJ 56 To preserve the views and prospects listed in Appendix 10, in Volume 2 and on Map 8.6 and to protect these views from inappropriate development which would interfere unduly with the character and visual amenity of the landscape. HER OBJ 57 To undertake a review of existing protected views and prospects contained in the County Development Plan and to assess and consider additional views and prospects deemed worthy of inclusion/protection	Appendix 29.1 – Visual Receptor sensitivity and Visual Impact assessment at representative viewpoints Section 29.15.4 – Construction Stage Visual Impacts Section 29.15.6 – operational Stage Visual impacts

Regional Seascape Character Assessment for Ireland (Department of the Marine – 2020)
A Regional Seascape Character Assessment for Ireland was produced in 2020, which divides the country's seascapes into 13 Seascape Character Types (SCT) – See Figure 29.3.

The 13 SCTS "are distinct types of seascapes that are relatively homogeneous in character…" and which "…may occur in different locations but wherever they occur they share broadly similar combinations of geology, bathymetry, ecology, human influences and perceptual and aesthetic attributes". The relevant section of coastline within the grid facility portion of the onshore development study area is identified as being a combination of the following Seascape Character Types (SCT):

- '7 – Broad Estuarine bays and complex low plateau and cliff coastline'; and
- '8 – Low lying & estuarine coastal plain with long, narrow sandy beaches'.
- SCT 8 occurs within the north portion of the grid facility study area corresponding with the section contained in County Meath north of the Delvin River, whereas SCT 7 occurs within the Fingal section of the grid facility study area to the south of the Delvin River.

The Seascape Character Types are further subdivided into geographically specific 'Regional Seascape Character Areas' (SCA) with the one adjacent to the coastal aspects of the proposed onshore development being 'Northeastern Irish Sea Islands and Beaches'.

Key points of these Seascape Character Areas as they relate to the grid facility study area, are identified below, with focus on the character and visual attributes:

Seascape Character Area (SCA) 16

The SCA in which the grid facility study area, the Landfall study area and a small part of the onshore cable route study area is contained / adjacent to is the 'North Eastern Irish Sea Islands and Beaches' (SCA16) area (see Figure 29.3). Key considerations of this SCA that relate to the proposed onshore elements include;

"This SCA extends from Ireland's Eye and the coast north of Howth Head towards Carlingford Lough at Greenore, Co. Louth. It is a large SCA but the nature of the shallow coastline allows for good intervisibility between the southern and northern part of this SCA.

"This SCA comprises an interplay of SCT 8 (Low lying estuarine coastal plain with long narrow sandy beaches), SCT 7 (Broad estuarine bays and complex low plateau and cliff coastline) and SCT 12 (Shallow offshore waters) around the south."

"The coast is also interspersed with much smaller scale sheltered harbours and bays, frequently sandy also – these include Loughshinney, Skerries North Beach where the sandy beach extends into the fishing harbour. Other towns and villages retaining a fishing harbour include Skerries, Annagassan and Balbriggan."

"Coastal and inland topography is generally low in elevation in this SCA, except along the Cooley Peninsula, where elevations reach almost 600mOD. The coastal hinterland comprises several historic towns strung along the coast and estuaries, those closer to Dublin having expanded considerably in the past few decades. Coastal land use also includes agriculture including horticulture and tillage."

29.12 Baseline Environment

29.12.1 Landscape Context

The onshore infrastructure of the proposed development is predominantly located within the jurisdiction of Fingal County Council tracking almost the full extent of this local authority area from the landfall site near Bremore in the north to the grid connection at Belcamp substation in the south. There is also a small section of the onshore cable route that runs through the northern extents of Dublin City Council's jurisdiction. (see Figure 29.2 for the relevant study areas).

In terms of onshore infrastructure, the landfall site is within coastal farmland between Bremore Head and the settlement of Balbriggan that descends gently to the east from the R132 coast road.

The grid facility is contained within hinterland farmland on the opposite (western) side of the R132 and immediately north of the Balbriggan, the nearest residential road is Flemington Lane hosting Bremore Cottages, there is also a cluster of rural dwellings just to the northeast that gain access directly from the R132 reginal road.

The grid facility site itself is an 'L' shaped junction of two agricultural fields. These are divided and surrounded by hedgerow field boundaries that range from low and scrubby along the eastern R132 road boundary and southern boundary, to denser and taller hedgerows along the western and north-western boundaries. The larger field contained in the south of the site is generally rectangular in shape and extends from the R132 to the western boundary of the site and has a notch out of its north-eastern where two rural residential dwellings occur. The northern field within the site is essentially square and is surrounded by the densest hedgerows.

The onshore cable route tracks the road network south from the grid facility, through the urban and peri urban areas of Balbriggan before following the R132 as it runs parallel to the M1 motorway through farmland and rural / industrial sites such as the M1 Business Park. It diverts through farmland at Blakes Cross before rejoining the R132 and crossing the M1 Motorway at Lissenhall. It then crosses back under the M1 Motorway to follow Estuary road along the southern side of the Malahide Estuary before passing through the urban environs of east Malahide. It follows the R107 regional road south out of Malahide through rural residential areas that include the settlement of Kinsealy before veering west along the R139, which marks the northern outskirts of Dublin City, in the direction of the grid connection point at Belcamp substation.

There is also an alternative route option towards the southern end of the onshore cable route that diverts east along Chapel Road at Kinsealy and then follows Hole in the Wall Road south to pick up the R139 at Donaghmede. From there it will return west to Northern Cross to rejoin the common cable route section along the R139 to Belcamp Substation.

29.12.2 Visual Receptors (Onshore Infrastructure Study Area)

The main consideration in relation to onshore infrastructure is the grid facility to the north of the settlement of Balbriggan as its substations will be the most overt above-ground features following the temporary / short term construction phase. Whilst the study area around the grid facility is a 3km radius, the study area for the remaining landfall, onshore cable route and grid connection at Belcamp substation is a 500m buffer due to the limited potential for an underground (predominantly under road) cable to generate significant landscape and visual impacts even during the construction phase. (refer to Figure 29.2a). There are some locations that will potentially afford foreground views of the proposed grid facility with the WTGs within the array area potentially visible in the background seaward vista.

29.12.2.1 Visual Receptors at Designated Scenic Routes and Views

There is a short section of designated scenic route that runs along the R132 at Coney Hill just to the north of Balbriggan. This runs between the proposed Landfall and the Grid Facility sites and affords views towards Bremore Point, the north Balbriggan coastline and wider seascape beyond. Thus, the key orientation of visual amenity is in the opposite direction to the Grid Facility, but it remains relevant to the assessment due to its close proximity and is represented by viewpoint VP48 herein.

Approximately 1.5km directly inland from the above scenic route is another short section of scenic route that runs along the Flemington Road. Although it only affords occasional fleeting views towards the coast, this appears to be the main aspect of visual amenity and reason for the designation. It is represented by VP 50 herein.

Although there are other small sections of scenic route encountered by the onshore cable route on its southward journey to Belcamp, any visual effects will be temporary during the construction phase and contained within the immediate road corridor or adjacent to it with no material surface expression. There will be no operational phase visual impacts, so these scenic designations are scoped out of further assessment.

29.12.2.2 Visual Receptors at Centres of Population

The nearest and most relevant settlement in relation to the Landfall and Grid Facility is Balbriggan, which occupies the southern portion of the grid facility study area and, in turn, contains the northern portion of onshore cable route study area (See Figure 29.2a). Residents at its northern outskirts have potential to be afforded views of construction phase works and the operational phase of the landfall and grid facility. These viewers will be described in more detail below in the context of local residential visual receptors as will residential receptors likely to impacted by the construction of the onshore cable route and grid connection at Belcamp.

29.12.2.3 Visual Receptors on Major Routes

In terms of major roads, the R132 regional road will run between the landfall and the grid facility affording potential views to motorists in both directions – east towards the landfall and west towards the grid facility. There will also be close proximity views of the construction phase onshore cable route works along the R132 for both road users and adjacent residential properties. Other major routes encountered by the onshore cable route include the R129, R139, R106 and R107. It will also pass under the M1 motorway affording potential fleeting views of the construction phase to passing motorists.

A section of the main Dublin – Belfast railway line will run through the landfall site potentially affording passengers close views of the construction phase works associated with the landfall site, mid-distance inland views of the construction and operational phases of the Grid Facility as well as distant seaward views of the offshore WTGs and OSP during the construction and operational phases.

29.12.2.4 Local Residential Visual Receptors

The nearest residential road to the proposed grid facility is Flemington Lane, which hosts Bremore Cottages and marks the northern outskirts of Balbriggan to the west of the R132 regional road. This is lined with bungalows and there are frequent rural / residential dwellings that line the rural roads that surround the Grid Facility site at greater distances to the north and west. The three nearest rural / residential residences line the western side of the R132 where the grid facility will be contained within the field immediately to the southwest.

There are a considerable number of residences that line the local and regional roads within which the onshore cable route will traverse. Along with the road and pedestrian / cycle traffic that utilise these roads, there will be potential for close views of the construction stage works required to lay the cable. These include the residents of the settlements of Balbriggan and Malahide. There will also be local residential receptors at the offline cable route sections of Blakes Cross, Kinsealy and the M1 crossing where longer term visual impacts may be experienced through the likes of vegetation loss.

There are few local residential receptors in the immediate vicinity of the grid connection point at Belcamp and none with close or direct visibility into the substation site.

29.12.2.5 Visual Receptors at Tourism Amenity and Heritage Features

In relation to the proposed landfall and grid facility, the beaches north of Balbriggan are a popular recreational amenity, but predominantly for walkers rather than bathers as Balbriggan has an enclosed beach more centrally located within the settlement, which is more utilised for bathing / beach activity. Bremore Head is synonymous with archaeology / heritage value and is the location of the Bremore Passage Tombs. There are community allotments at the junction of the R132 and the Knocknagin Road to the north of the Grid Facility, but these afford little potential for visibility of the Proposed Development due to landform and vegetation screening.

Flemington Cemetery is accessed off the Bridgefoot Road to the northwest of the grid facility and affords potential views in its direction. There is also a new GAA facility that has been recently constructed just to the south of the landfall site and southeast of the grid facility.

Whilst there are occasional amenity and heritage features the onshore cable route study area, there is no potential for visual effects beyond those temporary construction related effects predominantly within the road corridor. These are scoped out of further consideration due to the lack of potential for significant visual effects to occur.

There is recreational sports ground a short distance to the southeast of Belcamp substation. Belcamp Park is also located across the R139 from Belcamp substation.

29.13 Characteristics of the Proposed Development

In terms of the onshore development the, the main elements of the proposed development relevant include the following:

29.13.1 Landfall site

The landfall site is displayed on Figure 7.2 in Volume 7. Made up of arable fields and intersecting hedgerows, the landfall site will accommodate three temporary HDD contractor compounds – one larger compound where the offshore export cables come to shore and two smaller compounds as part of a cable crossing underneath the Dublin to Belfast railway line. Onshore export cables will be laid in trenches from the landfall HDD contractor compound to the railway HDD entry contractor compound and from the railway HDD exit contractor compound to the grid facility, with the cables under the railway being constructed by HDD. The landfall site will also feature the temporary Bremore cable contractor compound adjacent to the R132.

At the landfall site, vegetation clearance and habitat removal during construction will occur under the working footprint of the development activities which includes the landfall site HDD contractor compound (c. 6,000m^2), HDD contractor compounds measuring c. 1,500m^2 either side of the Dublin-Belfast railway crossing, the onshore export cable, and permanent wayleaves. At the landfall site, where the onshore export cable passes through hedgerows or treelines, the width will be narrowed to approximately 17m. In all cases where the corridor intersects a hedgerow or treeline, a proportion will be replanted following the construction phase, and an 8m exclusion zone over the cable itself will be replanted with shallow rooted species only. All other current land uses will be reinstated and current land uses will resume. There will be no vegetation removal at the coastline as the offshore export cables will be brought on land via HDD under the coastline. As described in the Onshore Construction Chapter, it is expected that construction works at the landfall site will take approximately 12-13 months to complete.

Two cable transition joint bays (TJBs) will be located at the landfall site and will be accessed via a manhole cover. There will be no permanent above ground infrastructure at the landfall site. The construction of the TJB will be of relevance during the construction stage but will be reinstated to the original surface with marker posts and an access road being the only permanent above ground infrastructure visible at the landfall site.

29.13.2 Grid facility

The grid facility site is shown on Figure 7.2 in Volume 7 and will be the site of two new substations – the Compensation substation and the Bremore substation - with associated permanent above ground infrastructure (buildings, electrical equipment and associated site infrastructure) covering approximately 3.5 ha (35,000 m^2). Between the R132 and the grid facility there will be permanent access tracks and a temporary contractor compound (the grid facility contractor compound).

At the grid facility, vegetation clearance and habitat removal during construction will occur under the working footprint of the development which includes the grid facility infrastructure measuring 35,000 m^2, a temporary contractor compound, and surrounding landscape and biodiversity planting which will occupy the remainder of the lands available at the grid facility site and provide screen planting around the site.

The construction and commissioning of the grid facility will likely last approximately 24 months with certain activities taking place in parallel.

The operation of the grid facility will be unmanned and it will be operated remotely. It is expected that vehicles and personnel will attend the facility every four weeks for an inspection, as required on an ad-hoc basis, and for annual maintenance.

The lighting plan at the grid facility will align with EirGrid specification.1 LED lighting will be used and will provide sufficient illumination to allow safe pedestrian travel around the grid facility grounds. External artificial lighting will be switched off during the hours of darkness with the exception of that required for emergency repairs to outdoor equipment. Motion sensor technology will be implemented to control lighting at access doors and security gates within the grid facility. Outdoor lighting will not be less than 2 lux of horizontal illumination at ground level within the facility.

29.13.3 Onshore cable route

The onshore cable route will run approximately 33-35km from the grid facility to the existing substation at Belcamp. The route is shown on Figure 7.3 in Volume 7. For the majority of its length the route is within public roads, with seven locations where the route deviates offline from the road to cross watercourses or major roads. At these locations, where conditions require, the cable route will be constructed with HDD to negotiate watercourses or major roads. The offline sections include:

- Wx10 (Aldrumman Stream)
- Blakes Cross North including water crossing Wx11 (Ballough Stream)
- Blakes Cross South including water crossings Wx12 (Deanestown Stream) and Wx13 (Ballyboghill Stream)
- M1 crossing
- Water crossing Wx20 (Gaybrook Stream)
- Water crossing Wx22 (Sluice Stream); and
- The substation at Belcamp

At the offline sections, vegetation removal during construction will occur along the working corridor, at HDD contractor compounds measuring c. 1,500m^2 at the M1 crossing and at offline watercourse crossings where HDD will be used. The working corridor for offline sections of the onshore cable route will be 18m in width – but may be up to 30m in places - to allow for the excavation of the trench, storage of topsoil and subsoil arisings plus a temporary haul road for the movement of the excavation equipment and general installation vehicles for the delivery of materials such as ducting, protective covers and bedding. Where the onshore cable route passes through hedgerows or treelines, the width will be narrowed to approximately 11m. In all cases where the corridor intersects a hedgerow or treeline, the removed vegetation will be replanted with the exclusion of an 8m gap above the cable route itself which will not be replanted. All other vegetation that will be temporarily lost during construction of the onshore cable route will be reinstated and current land uses will resume.

The Blakes Cross cable contractor compound – located alongside the onshore cable route in the Blakes Cross South offline section – will serve the construction of the onshore cable route works in conjunction with the Bremore cable contractor compound at the landfall site.

Connection to the existing substation at Belcamp facility will include construction of a joint bay adjacent to the facility and the connection point, and cables jointed accordingly.

The construction of the onshore cable route from the grid facility and onto the existing grid connection at Belcamp substation will last approximately 24 months, with some activities, at different locations, taking place in parallel.

During the decommissioning of the proposed development, the compensation substation will be decommissioned, along with the onshore export cables connecting the TJB to the grid facility. There will be no changes to the Bremore substation or onshore cable route. See Volume 2, Chapter 7: Description of the Proposed Development – Onshore for full details of onshore infrastructure.

1 EirGrid (2022) Document Reference: OFS-SSS-418-R1: Functional Specification Electrical & Mechanical Services for Transmission System Control Buildings and Compounds

29.14 Potential Effects

As with the assessment of seascape effects for the proposed offshore infrastructure, the assessment of effects for onshore infrastructure begins with the assessment of landscape receptor sensitivity (see Table 29.43). This is structured around the underlying landscape character units identified in each of the relevant county development Plans (See Figure 29.2b).

29.14.1 Landscape Sensitivity

Table 29.43 Landscape Character Unit Sensitivity

County Landscape Character Area	Relevant Seascape Character Area	Sensitivity
Meath **Coastal Plains unit** (Moderate Value / High Sensitivity / Regional Importance)	SCA16 – North Eastern Irish Sea Islands and Beaches	The relevant section of this landscape unit is that small portion which runs north from the Fingal border to just beyond Gormanstown train station incorporating the southern end of Gormanstown Beach. None of the proposed onshore elements is actually contained within it, but it is within the northern portion of the 3km radius of the Grid Facility study area. This portion of the landscape unit falls within SCA16 – 'North Eastern Irish Sea Islands and Beaches', and the value and sensitivity relates to the coastline and coastal views as well as recreational amenity of Gormanstown Beach. Otherwise back from the beach and defined by the Dublin – Belfast railway line is coastal farmland. The sensitivity of the relevant section of this landscape unit is deemed to be **Medium.**
Fingal Coastal unit (High Sensitivity Landscape designation contained within it – 'Coastal')	SCA16 – North Eastern Irish Sea Islands and Beaches	The relevant section of this landscape unit, which otherwise encapsulates the entire Fingal coastal environs up to 3km inland, is its northern end near the Meath Border. This is where the landfall site and grid facility (comprising the compensation substation and the Bremore substation) are proposed immediately north of the coastal settlement of Balbriggan. This portion of the landscape unit falls within SCA16 – 'North Eastern Irish Sea Islands and Beaches', and the landscape / seascape value and sensitivity relates to the coastline and coastal views across sweeping plateau farmland as well as archaeological heritage value associated with Breamore Point and recreational value from several small bay beaches. Notwithstanding that the Coastal LCA stretches 3km inland in this area, the Coastal 'High sensitivity" landscape designation does not follow it and instead stops at the R132 coast road. 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 / seascape to the east of the R312 is deemed to be **High-medium**, but inland to the west of this road the sensitivity 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.
Fingal **Estuary unit** (High Sensitivity Landscape designation contained within it – 'Coastal')	N/A	The relevant portion of this landscape unit is a small section in the southeast of the Malahide Estuary where the onshore cable route passes under the M1 motorway and follows the Estuary Road to the southeast. This is also an area that falls under the High sensitivity designation 'Coastal' designation from the Fingal CDP. Landscape sensitivity in this area relates to coastal visual amenity across the estuary as well as recreational amenity from the Broadmeadow Estuary Walk and the Swords Sailing club. There is also conservation value associated to the biodiversity of the estuary. Overall, the sensitivity of the relevant landscape area is deemed to be **High-medium.**

County Landscape Character Area	Relevant Seascape Character Area	Sensitivity
Fingal **High Lying Agricultural** (High Sensitivity Landscape designation contained within it – 'Naul')	N/A	The relevant portion of this broad landscape unit is a linear section that closely follows the M1 motorway near its junction with the R132. Although there is a 'High sensitivity' landscape designation associated with the Naul to the west of the M1 motorway, this is not considered relevant to this under-road section of the proposed cable route because of the visual and perceptual division provided by the motorway. Other land uses in the immediate area include industrial warehousing and the M1 business park amongst typical agricultural farmland. Overall, the relevant section of this landscape unit is deemed to be of **Low sensitivity.**
Fingal **Low Lying Agricultural** (High Sensitivity Landscape designations contained within it – 'Coastal' & 'Kinsealy')	N/A	The relevant portion of this broad landscape unit is a linear section that runs north-south through its eastern end. It is strongly influenced by anthropogenic land uses and transport infrastructure within a general matrix of agricultural farmland. There is little in the way of landscape value and sensitivity except where the cable route passes through and adjacent to High sensitivity landscape designations. One of these is the 'Coastal' HSL designation encompassing the Broadmeadow River end of the Malahide estuary where value relates to coastal visual amenity across the estuary as well as recreational amenity from the Broadmeadow Estuary Walk. The other relates to an area of landscape heritage value lining the Malahide Road (R107) at 'Kinsealy'. Where the cable route study area passes through / adjacent to the designated 'Coastal' and 'Kinsealy' HSL designations within this landscape unit it is deemed to be of **High-medium** sensitivity. Otherwise, the general (undesignated) areas of this landscape unit are deemed to be of **Medium-low** sensitivity.
Fingal Rolling Hills with Tree Belts (High Sensitivity Landscape designation)	N/A	The relevant portion of this landscape unit is its eastern boundary where the proposed cable route will run through and adjacent to it around junction 4 of the M1 motorway. Aside from major transport infrastructure this part of the cable route study area is contained in agricultural farmland as well as occasional industrial and residential uses. For these reasons the sensitivity of the relevant part of this landscape unit is deemed to be **Low.**
Dublin City No Specific Landscape Character Area identified	N/A	The relevant portion of this jurisdictional area is a small section of the northern suburban area of Dublin City near Clarehall. The landscape sensitivity of this area id deemed to be **Low**.

29.14.2 Construction Phase Landscape Effects

The Construction Phase of the Onshore infrastructure includes for all works landward of the HWM incorporating the landfall site, the grid facility where the Bremore and compensation substations are located, the onshore cable route and grid connection at Belcamp (Table 29.44). This section references the arboricultural (tree) survey that was undertaken in respect of relevant section of the onshore study area where there is potential for tree loss (See Appendix 23.11 – Baseline tree survey report – in Volume 10 of the EIAR) . The tree survey categorises trees in terms of their quality and retention value from Category A (high quality) to Category C (low quality) and also includes Category U for trees that are structurally weak or in decline and therefore unsuitable for retention beyond 10 years.

Table 29.44 Construction Phase Landscape Effects – Onshore Elements

County Landscape Character Area	Relevant Seascape Character Area	Construction Stage Magnitude of Landscape Impact
Meath Coastal Plains unit (Moderate Value / High Sensitivity / Regional Importance)	SCA16 – North Eastern Irish Sea Islands and Beaches	Only the proposed Grid Facility construction will potentially impact on the landscape character of this landscape unit and this will be from partial views of the emerging roofline of the main GIS structures. ZTV mapping suggests such views will be very limited and, in any event, will not have a material impact on the character of this discrete landscape unit. There will be no material impact on landscape character from construction activity and traffic.

County Landscape Character Area	Relevant Seascape Character Area	Construction Stage Magnitude of Landscape Impact
		The predicted magnitude of change associated with the incremental construction of the Grid Facility substations is considered to be Negligible / Neutral
Fingal Coastal unit (High Sensitivity Landscape designation contained within it – 'Coastal')	SCA16 – North Eastern Irish Sea Islands and Beaches	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 then to the Grid Facility. There will also be two temporary construction compounds on either side of the R132 regional road. Once the onshore cables leave the Grid Facility, there will be disruption of the R132 coast road as the onshore cable is laid along the northern section of the onshore cable route. The most noticeable feature within this landscape unit will be the proposed 220kV Compensation and 220kV Bremore substations within the Grid Facility, which will result in direct physical effects to the landform and landcover of its site as well as generating considerable construction activity and traffic. Based on the arboricultural survey undertaken within the Grid Facility site, there will be a loss of one c.170m long section of hedgerow within the internal part of the site. This contains 'Category C' trees (02-0290) that are of limited retention value. External hedgerows around the site, which consist of both 'Category B' and 'Category C' trees, can be protected and retained. There will also be the emerging presence of substantial scale structures (GIS buildings) during the short-term construction stage. The direct physical effects on the landscape will be very localised to each of the onshore infrastructure locations, but they are dispersed across a considerable area whilst remaining intervisible so there will be a sense of collective construction effects. There will also be associated activity and traffic as well as stockpiling of excavated material and building materials, presence of security fencing and welfare facilities will impact more widely, the predominantly rural landscape character in terms of its nature and intensity. The construction stage of the proposed offshore elements may also be noticeable in the form of the emerging WTGs and OSP in the seaward distance beyond the grid facility and landfall. At a separation distance of round 20km to the nearest WTG there is a high degree of physical and contextual separation between these onshore and offshore elements such that the connection between them may not be clear. The predicted magnitude of landscape impact from the construction of the substantial scale Grid Facility is considered to be High-medium / Negative, whereas the more limited scale, dispersed and substantially below ground nature of the other landfall features and construction compound to the east of the R132 is considered to be Medium-low / Negative in terms of Magnitude and Quality of impact.
Fingal Estuary unit (High Sensitivity Landscape designation contained within it – 'Coastal')	SCA16 – North Eastern Irish Sea Islands and Beaches	Only the construction works and activity for road sections of the onshore cable route will be noticeable within this landscape unit. This represents a localised transient / temporary adverse impact that is similar in nature to general road works in terms of its scale and nature. The predicted magnitude of change associated with the cable trenching / laying is deemed to be Low-negligible / Neutral-Negative in terms of magnitude and quality during the construction stage.
Fingal High Lying Agricultural (High Sensitivity Landscape designation contained within it – 'Naul')	Not relevant	The construction works and activity for road sections of the onshore cable route will be noticeable within this landscape unit. This represents a localised transient / temporary adverse impact that is similar in nature to general road works in terms of its scale and nature.

County Landscape Character Area	Relevant Seascape Character Area	Construction Stage Magnitude of Landscape Impact
		There will also be a construction compound located within an enclosed farmed field to the south of industrial / logistics site and to the west of the Top Oil service station at Blakes Cross. The northern end of a HDD compound associated with the Oberstown Stream Crossing is also located further south on the R132 near Balrothery Union Workhouse Graveyard which is partially within this landscape unit. The construction compound will be used for the stockpiling of materials, worker parking and welfare facilities and will be subject of considerable light and HGV traffic. The HDD will also host workers, but will predominantly contain drilling equipment and the excavated reception chambers at either end of the HDD section. The construction and HDD compounds represent a localised, short-term adverse impact. The predicted magnitude of change associated with the cable trenching / laying is deemed to be Low / Negative in terms of magnitude and quality during the construction stage.
Fingal Low Lying Agricultural (High Sensitivity Landscape designations contained within it – 'Coastal' & 'Kinsealy')	Not relevant	The southern end of the HDD compound associated with the Oberstown Stream Crossing is also located further south on the R132 near Balrothery Union Workhouse Graveyard which is partially within this landscape unit. The construction works and activity for road sections of the onshore cable route will be noticeable within this landscape unit. This represents a localised transient / temporary adverse impact that is similar in nature to general road works in terms of its scale and nature. For offline sections / construction compounds either side of Blakes Cross and water crossings localised landscape impacts will be addressed separately in Table 29.45. The predicted magnitude of change associated with the onshore cable route is deemed to be Medium-low / Negative in terms of magnitude and quality during the construction stage.
Fingal Rolling Hills with Tree Belts (High Sensitivity Landscape designation)	Not relevant	The construction works and activity for road sections of the onshore cable route will be noticeable within this landscape unit. This represents a localised transient / temporary adverse impact that is similar in nature to general road works in terms of its scale and nature. There will also be a HDD compounds located in farmland on the eastern and western side of the M1 motorway at junction 4 with the easternmost compound just to the west (rear) of a small residential enclave at Lissenhall Green. The HDD compounds will host workers, but will predominantly contain drilling equipment and the excavated reception chambers at either end of the HDD section. The construction and HDD compounds represent a localised, short-term adverse impact. The predicted magnitude of change associated with the cable trenching / laying is deemed to be Low-negligible / Neutral-Negative in terms of magnitude and quality during the construction stage.
Dublin City No specific Landscape Character Area	Not relevant	A small section of the Dublin City Council jurisdiction is encountered by the onshore cable route near the intersection of the R107 and the R139 at Northern Cross. The Mayne River defines the boundary between Fingal and Dublin and the cable route runs along the R139 within Dublin City in the direction of Belcamp substation. An alternative route option also runs from Kinsealy along Temple Road and Hole in the Wall Road before connecting back to the R139 at Donaghmede. Only the construction works and activity for road sections of the onshore cable route will be noticeable within / adjacent to this peri urban section of Dublin City. This represents a localised transient / temporary adverse impact that is similar in nature to general road works in terms of its scale and nature. The predicted magnitude of change associated with the cable trenching / laying is deemed to be Low-negligible / Neutral- in terms of magnitude and quality during the construction stage.

For the purposes of this assessment, the localised landscape settings of the watercourse crossings are deemed to be of a Medium landscape sensitivity. This is based on a balance between the contained naturalistic character of the watercourses and adjacent narrow strips of riparian vegetation, which are backed by farmed fields and in the immediate context of busy roads (Refer to Table 29.45).

Table 29.45 Localised Construction Phase Landscape Effects – Offline Features (temporary construction compounds/ water crossings/ open ground trenching)

Water Crossing Ref No.	Watercourse Name	Watercourse Crossing Method	Landscape Impacts
WX01	Bremore Stream	In-road Open Cut Trench	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible. Slight-imperceptible / Negative / Temporary
WX02	Bracken River	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible. Slight-imperceptible / Negative / Temporary
WX03	Knock Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible. Slight-imperceptible / Negative / Temporary
WX04	Balrothery Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX05	Balrickard Stream	In-road Open Cut Trench Inline HDD	Excavation contained predominantly within the road bed Subject of recent construction work - No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX06	Rowans Big Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX07	Rowans Little Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX08	Courtlough Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary

Water Crossing Ref No.	Watercourse Name	Watercourse Crossing Method	Landscape Impacts
WX09	Oberstown Stream	Inline HDD In-road Open Cut Trench Offline HDD	Excavation of HDD reception chambers and compaction / disturbance of surrounding working areas inside HDD compounds, which are both contained in open farmed fields. Loss of small section of low hedgerow / ditch vegetation to the east of the R132 to trench from road to northern HDD reception chamber. Similar loss of a small section of roadside / stream side hedgerow vegetation in vicinity of WX10 There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Low. Slight / Negative / Temporary
WX10	Aldrumman Stream	Inline HDD Offline Open Cut Trench	Loss of a small section of roadside / stream side hedgerow vegetation in vicinity of WX10 where offline trench from WX9 crossing re-enters the roadbed. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Low. Slight / Negative / Temporary
WX11	Ballough Stream	Offline HDD	HDD chambers set well back from watercourse within farmed fields. No vegetation loss is likely between HDD compounds. A small section of vegetation between the road and northern HDD compound containing a 'Category B' treeline (04-0233) will be lost to open trenching. Likewise, a small section of Category B treeline (04-0271) may be lost as the offline trenching for the cable route re-enters the R129 road bed. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Low. Slight / Negative / Temporary
WX12	Deanestown Stream	Inline HDD (Combined with Wx13) Offline HDD (Combined with Wx13)	HDD chambers set well back from watercourses within farmed fields. No vegetation loss is likely between HDD compounds. A small section of hedgerow between the R132 road and northern HDD compound containing two 'Category U' trees (05-0172 and 05-0173) may be lost to open trenching. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Low. Slight / Negative / Temporary
WX13	Ballyboghil Stream	Inline HDD (Combined with Wx12) Offline HDD (Combined with Wx12)	HDD chambers set well back from watercourses within farmed fields. No vegetation loss is likely between HDD compounds. A small section of hedgerow between the R132 road and southern HDD compound containing

Water Crossing Ref No.	Watercourse Name	Watercourse Crossing Method	Landscape Impacts
			'Category A' (05-0209) and 'Category B' (02-0210) trees may be lost to open trenching. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Low. Slight / Negative / Temporary
WX14	Turvey Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX15	Staffordstown Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only Slight-imperceptible / Negative / Temporary
WX16	Broadmeadow River	In-road Open Cut Trench Inline HDD (Combined with Wx17)	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX17	Ward River	In-Road Open Cut Trench Inline HDD (Combined with Wx16)	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX18	Seapoint Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX19	Greenfields Stream	In-road Open Cut (Underneath watercourse as culvert is small and not unlike a typical utility crossing) In-road Open Cut Trench (Potential Shallow Depth of Cover)	Excavation contained within / below the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX20	Gaybrook Stream	In-Road open Cut Inline HDD Offline Open Cut Trench	The offline open cut trench would result in the loss of some Category B, Category C and Category U riparian trees to the north of the R106 road. Despite their relatively poor condition, these mature trees contribute to the amenity of this urban stream section and highlight its course through amenity open space. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Medium-low. Moderate-slight / Negative / Temporary

Water Crossing Ref No.	Watercourse Name	Watercourse Crossing Method	Landscape Impacts
WX21	Hazelbrook Stream	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX22	Sluice Stream	Inline open cut-trench Offline Open Cut Trench Offline HDD	HDD chambers set well back from watercourses within farmed fields. No vegetation loss is likely between HDD compounds. A small section of treeline between a local road to the north of the northern HDD compound containing 'Category B' (09-0017 to 09-0023) trees may be lost to open trenching. These are good quality mature trees that contribute to the localised landscape character. Tree loss could be limited to 1-2 of these well-spaced trees. A small section of treeline between the R107 road and southern HDD compound containing Category B, Category C and Category U trees may be lost to open trenching as the onshore cable re-enters the road bed. However, there is considerable space to find a gap between trees and to avoid good quality specimens. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Medium-low. Moderate-slight / Negative / Temporary
WX23A	Cuckoo Stream	Inline open cut-trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX23B	Cuckoo Stream	Inline open cut-trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX23C	Cuckoo Stream	Inline open cut-trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX24A	Mayne River	In-road Open Cut Trench Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX24B	Mayne River	In-road Open Cut Trench	Excavation contained within the road bed

Water Crossing Ref No.	Watercourse Name	Watercourse Crossing Method	Landscape Impacts
		Inline HDD	No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX24C	Mayne River	Inline HDD	Excavation contained within the road bed No tree loss anticipated Construction activity related effects only The magnitude of landscape impact is deemed to be Low-negligible Slight-imperceptible / Negative / Temporary
WX25	Mayne River	Offline Open-Cut In-Road Open Cut trench	An offline open cut trench would result in the loss of some Category B and Category C riparian trees to the north of the R139 road. These form part of a dense band of vegetation that runs along this section of road and serves to screen the Belcamp Substation from road users. There will also be construction activity related effects on localised landscape character. The magnitude of landscape impact is deemed to be Low. Slight / Negative / Temporary

In addition to the Watercourse Crossings identified in Table 29.45, the M1 motorway crossing will also involve an offline section of trenching for the onshore cable route as well as HDD compounds on either side of the M1 at Lissenhall. Whilst there is no potential for vegetation loss within the M1 corridor there will be a small loss of roadside hedgerow on the western side of the R132 as the cable route joins the eastern HDD compound. This contains a dense line of 'Category A' trees (06-0131). There is also a shallow ditch with three Category A trees that is encountered by the onshore cable route on its way to the western HDD compound. On the western side of the M1 motorway, there is similar potential for small sections of tree loss for a Category C hedgerow (06-0157) as well as scrubby roadside vegetation where the cable route re-enters the R132 roadbed to the south of this offline section. There will be temporary localised impacts on landscape character due to the construction activity related to these works and the movement of workers and machinery. The magnitude of landscape impact is deemed to be Low and the landscape setting next to the motorway is deemed to be of Low sensitivity. The overall significance of effect at the M1 motorway crossing is considered to be **Slight / Negative and Temporary**.

On the basis of the assessment contained in section 29.15.2, it is considered that there will not be any significant landscape effects arising from the proposed development.

29.14.3 Construction Phase Visual Effects

The construction phase of the onshore infrastructure is the most impactful phase as many of the elements will be below ground / the road surface during the operational phase and most (not including the landfall and compensation substation cables) are not intended to be removed at the decommissioning phase. This also accounts for the grid facility where the end of the construction phase will include the substantially complete structures in combination with construction related machinery and movement.

The landfall point is just south of Bremore Point and consists of a mixture of sandy and rocky beach with undulating agricultural fields behind beach heads and cliffs. This section of coastline (locally known as Bremore beach) is publicly accessible to beach walkers via Bremore Castle Car Park, but not readily visible from other land-based receptor locations. The cable landfall will require Horizontal Directional Drilling (HDD) underneath the beach to enable the transition from subsea cables to terrestrial cables via the Transition Joint Bay (TJB), which will be a substantially subsurface structure a short distance (c.50m) inland from the shoreline.

There will be an HDD compound and associated access track required on land to where the twin 220kV cables come ashore. 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. These construction works may draw the attention of nearby beach users and adversely impact on their visual amenity in this naturalistic and tranquil setting but will not materially intrude on coastal or offshore views. However, access to the section of the beach above the HDD will be restricted for beach users during construction for safety reasons for approximately 6 months.

There will also be HDD compounds required to bring the cable circuits under the railway line on their journey towards the Grid Facility substations on the western side of the R132. The R132 crossing will be via open cut trench method. There is also a construction compound on the eastern (seaward) side of the R132 regional road that will serve the northern sections of the onshore cable route. The majority of these 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 R312 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 main contribution to construction stage visual impacts will occur in relation to the Grid Facility, which contains the proposed 220kV Gas Insulated Switchgear (GIS) substations (the Compensation Substation and Bremore Substation) and associated infrastructures. This facility is located to the west of the R132 and north of Flemington Lane, which marks the northern periphery of Balbriggan. There will be a dedicated construction compound within the grid facility site - the grid facility contractor compound - which will support the construction of the grid facility. The location of this compound is shown on planning drawing Proposed Cable Route Map Sheet 9 (281240-ARP-ONS-CR-DR-PL-1109, contained in Appendix 7.1). Both substations will be fenced compounds, in which will be located buildings and a range of outdoor equipment. The compensation substation will have two main buildings, the larger of which will be the GIS building, 49m x 18.5m x 17m in height, and the smaller one, the SVC building, will be 23m x 18m x 6.85m in height. There will also be a small pump room and an equipment enclosure. The Bremore substation will have a GIS building, 61m x 18.5m x 17m in height, and a small equipment enclosure. Three metre tall lightning rods will extend above the roof of the GIS building in each substation. The proposed layout of the grid facility is provided in the Onshore Grid Facility Planning Drawings in Appendix 7.1. These GIS substation structures will rise into view during the construction phase along with the associated machinery, cranes, traffic activity and stockpiling of materials that is required for the short-term construction phase of a substantial element of electrical infrastructure. Whilst construction phase photomontages have not been prepared in relation to the Grid Facility substations, eight photomontages have been specifically prepared for it to represent the operational phase. These can be found in Volume 7 of the EIAR as VPs 48 to 55 and the visual impact assessments for these viewpoints are contained in Appendix 29.1b.

Although these photomontages have been prepared to assess the permanent visual impacts of the operational phase, they provide a good understanding of the worst-case construction phase visual impacts which will occur when the substation Structures (220kV substations) are substantially finished but still accompanied by tower cranes and construction phase hoarding, clutter, stockpiling and machinery movement. As can be seen from the substation photomontage set, the upper levels of the proposed onshore substations will be at least partially visible from most of the selected viewpoints at distances ranging from c. 350m up to 1.5km. They are partially screened by a combination of intervening terrain and hedgerow vegetation when viewed from the rural hinterland setting to the northwest of Balbriggan (VP48, V51, VP52, VP53 and VP55). The views obtained are often from open gateways as roadside vegetation does not generally afford visibility much beyond the road corridor in this area. When viewed from the road (Bremore Cottages) at the northern perimeter of Balbriggan (VP49 and VP55) substantial screening is provided by foreground dwellings, albeit those same dwellings will be afforded clearer views from their rear gardens. In the case of the nearer VP55, construction stage visual impacts are considered to be of a **High-medium** magnitude, Negative quality and **Short-term** duration. This combination of receptor sensitivity and impact magnitude will result in a **Major-moderate** significance of impact (not significant).

The clearest view of the proposed substation structures is from VP50 on the R132 regional road directly to the east of the Grid Facility site. This is also a designated scenic route, but the visual amenity associated with this scenic route clearly relates to elevated sea views in the opposite direction (east) to the site. From here the proposed substation structures will rise in silhouette above the subtle plateau farmland that forms a near skyline. The prominent, under construction form of the substation structures and associated construction features and activities will result in a **High-medium** magnitude of **Negative** quality and **Short-term** duration effects at this location. This combination of receptor sensitivity and impact magnitude will result in a Major-moderate significance of effect (not significant).

Aside from VP50 and VP55, construction phase visual impacts relating to the proposed grid facility will range between **Medium-low** and **Low-negligible** magnitude, depending on distance and screening, and are of a **Negative** quality and **Short-term** duration (see Table 29.46).

From the Grid Facility, the cable circuits will run along the onshore cable route, which follows the road network (predominantly the R132, R106, R107 and R139 regional roads) to join the National Electricity Network at Belcamp substation on the northern outskirts of Dublin. As this follows the road network for the vast majority of its length, the construction works associated with the onshore cable route will be placed within the roadbed via an open trenching method and with construction / Joint Bays positioned approximately 600m to 800m apart. During construction, joint bay locations will read as more intensive areas of infrastructure and activity. The construction works associated with the open trench road sections of the onshore cable route will give rise to construction phase visual impacts that are similar in nature to any road works. The works will be relatively intense at each section of open trench with stockpiling of side-cast material, construction activity and traffic. However, these effects will be transient in location, temporary in duration and very localised in terms of scale. Such works tend to be of more concern to road users and local residents in terms of movement convenience and noise rather than temporary visual effects (see Volume 4, Chapter 24: Traffic and Transportation for further information on traffic movements and Volume 5, Chapter 30: Noise and Vibration for further information on noise). Thus, the magnitude of construction stage visual impacts along general road sections of the cable route is considered to be **Low** and of a **Negative** quality. On the basis that the road corridor itself is deemed to be a **Low** sensitivity landscape receptor, the overall significance of effect is considered to be no greater than **Slight-imperceptible**.

Offline areas of the onshore cable route consist of temporary construction compounds, water course crossings and occasional areas where cable trenching is required through private / third party land (rather than under the road). These are predominantly associated with HDD sites where the cables need to access the HDD reception pits within private land adjacent to the road network either side of water course crossings that cannot otherwise be facilitated within bridge structures. There will also be some instances of offline open cut trenching through water courses. These HDD and open cut trench locations include water crossings WX09 - Oberstown Stream, WX10 - Aldrumman Stream, WX11 - Ballough Stream, WX12 - Deanestown Stream, WX13 - Ballyboghil Stream, WX20 – Gaybrook Stream, WX22 - Sluice Stream, WX25 – Mayne River. There will also be open cut trenching through private land required to the HDD sites either side of the M1 motorway crossing. The onshore cable route will require a construction compound to the west of the Top Oil Service Station at Blakes cross.

Table 29.46 Summary of Grid Facility Construction Phase Visual Effects

Landfall Substation Viewpoint	Visual Receptor Sensitivity	Predicted Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Impact
VP48	Medium-low	Low	Slight / Negative / Short-term
VP49	Medium-low	Low	Slight / Negative / Short-term
VP50	Medium (inland)	High-medium	Major-moderate / Negative / Short-term
VP51	Medium-low	Low-negligible	Slight / Negative / Short-term
VP52	Medium-low	Low-negligible	Slight-imperceptible / Negative / Short-term

Landfall Substation Viewpoint	Visual Receptor Sensitivity	Predicted Impact (Pre-Mitigation)	Significance / Quality / Duration of Visual Impact
VP53	Medium-low	Medium-low	Moderate-slight / Negative / Short-term
VP54	Medium	Medium-low	Moderate-slight / Negative / Short-term
VP55	Medium-low	High-medium	Major-moderate / Negative / Short-term

29.14.4 Operational Phase Landscape Effects – Onshore Infrastructure

During the Operational Phase of the Onshore Infrastructure, the only material landscape effects will result from the permanent above-ground presence of the proposed 220kV Grid Facility Substations. 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. The same is true for the onshore cable route, which is predominantly under the road network with occasional joint bays (manholes).

The upper sections of the proposed Compensation and Bremore 220kV GIS substations will be visible within the grid facility study area to varying degrees depending on intervening screening by landform and vegetation as can be seen from the combination of the grid facility photomontage set (VP48 – VP55) and grid facility ZTV maps. This will introduce a wholly industrial feature of noticeable scale into the rural hinterland of Balbriggan. It will be perceptually associated with the built development of the settlement even though the nearest form of urban development is the low-density residential road of Bremore Cottages and rural residential dwellings along the R132. It will be contained on the landward and more robust side of the R132 which is a designated scenic route (coastal views) that divides the sweeping coastal farmland from the more typical and enclosed agricultural and residential areas to the west. It is also the divide between the higher sensitivity portion of the Fingal Coastal landscape unit (to the east) and the lower sensitivity portion to the west (deemed Medium-low sensitivity in Table 29.43). There will be a sense of the built edge of Balbriggan creeping slightly further to the northwest, but in an industrial form that is typical of peri-urban areas and will therefore not read as an ambiguous or out-of-place feature in this context. This northward extension of the settlement is generally consistent with the zoning policies in the latest Fingal County Development Plan (2023-2029), which sees the intervening land between Bremore Cottages and the grid facility zoned for ‘Residential’ development. The grid facility remains within ‘Rural’ zoned lands and there is a road indicated between the rural and residential zoned lands.

Overall, the operation phase magnitude of landscape impact relating to the grid facility is deemed to be **High-medium** within the site itself and Medium within the immediate context of its surrounds (c.500 – 1000m) reducing thereafter to Medium-low and Low with increasing distance and depending on intervisibility as the proposed grid facility becomes a smaller component of the wider landscape fabric. When coupled with the Medium-low sensitivity of the receiving landscape (Table 29.43), the significance of effect is considered to be no greater than **Moderate**, of a **Negative** quality and of a **Permanent** duration. This is not considered to be a significant effect in EIA terms.

29.14.5 Operational Phase Visual Effects

During the Operational Phase of the Onshore infrastructure, the main above ground visual element will be the Grid Facility substations. Eight representative viewpoints were selected within the specific 3km radius study area of the grid facility. Photomontages depicting pre-mitigation and post-mitigation scenarios have been prepared and these are assessed in Appendix 29.1. The results are summarised below.

Table 29.47 Operational Phase Visual Effects Summary – Onshore Elements (Grid Facility Substations) – To be read in conjunction with Appendix 29.1. Refer to Figures 29.7b, 29.9 and 29.10

Grid Facility Substation Viewpoint	Visual Receptor Sensitivity	Predicted Effect (Pre-Mitigation)	Significance / Quality / Duration of Visual Impact
VP48	Medium-low	Low	Slight / Negative / Permanent

Grid Facility Substation Viewpoint	Visual Receptor Sensitivity	Predicted Effect (Pre-Mitigation)	Significance / Quality / Duration of Visual Impact
VP49	Medium-low	Low-negligible	Slight-imperceptible/ Negative / Permanent
VP50	Medium	High-medium	Moderate / Negative / Short-term (Pre-mitigation establishment) Moderate-slight / Negative / Permanent (Post-mitigation establishment)
VP51	Medium-low	Low-negligible	Slight / Negative / Permanent
VP52	Medium-low	Negligible	Imperceptible / Neutral / Permanent
VP53	Medium-low	Low	Slight / Negative / Short-term (Pre-mitigation establishment) Slight-imperceptible / Negative / Permanent (Post-mitigation establishment)
VP54	Medium	Medium-low	Moderate-slight / Negative / Permanent
VP55	Medium-low	High-medium	Moderate / Negative / Permanent

As can be seen from these individual viewpoint assessments (Table 29.47), the upper levels of the proposed onshore substations will be at least partially visible from most of the selected viewpoints at distances ranging from c. 350m up to 1.5km. They are partially screened by a combination of intervening terrain and hedgerow vegetation when viewed from the rural hinterland setting to the northwest of Balbriggan (VP48, VP51, VP52, VP53 and VP54). The hedgerow vegetation will be planted in accordance with the landscape drawings which are included with the Planning Drawings in Appendix 7.1 of Volume 8.

The views obtained were often from open gateways as roadside vegetation does not generally afford visibility much beyond the road corridor in this area. When viewed from the road (Bremore Cottages) at the northern perimeter of Balbriggan (VP49 and VP55) substantial screening is provided by foreground dwellings, albeit those same dwellings will be afforded clearer views from their rear gardens. The highest level of impact from these views is at VP55, where a localised **Moderate / Negative** effect is assessed principally in relation to the nearest dwellings rather than the road itself.

The clearest view of the proposed substation structures is from VP50 on the R132 regional road directly to the east of the Grid Facility site. This is also a designated scenic route, but the visual amenity associated with this scenic route presumably related to elevated sea views in the opposite direction (east) to the site – until the height of the roadside vegetation precluded those views.

From here the proposed substation structures will rise in silhouette above the subtle plateau farmland that forms a near skyline. The prominent industrial form of the substation structures will result in a Moderate / Negative significance of effects at this location prior to the establishment of mitigation screen planting and introduction of a recessive colour scheme.

It should be noted that in the case of four of the viewpoints (VP48, VP52, VP53, and VP54), there is potential for visibility of WTGs within the array area (both project options) in the same visual context as the grid facility. In such instances, the distances to the WTGs will be in excess of 17.5km and they will be perceived as distant background features in the context of the much nearer grid facility. The extent of visibility ranges between filtered views of around half of the WTGs above and between intervening tree tops for VP54, to just blades of seven WTGs above the skyline ridge at VP52. Furthermore, at VP52 the uppermost roof profile of the grid facility sits on the skyline and is unlikely to be noticeable in conjunction with the WTG blades. The clearest combined views of the grid facility with the WTGs beyond are from VP53 and VP54 to the west / southwest of the grid facility.

At VP53 there is a degree of contextual confusion generated by the view of the bulky substation buildings with the fine, moving blade sets of the WTGs overlapping in perspective, albeit c.17km beyond and without the context of the sea within the view.

The contextual relationship and separation distance between the grid facility and the WTGs is more legible from VP54 due to its slightly higher elevation, which revels the plinth of sea in which the WTGs are contained. From VP50 which represents a section of scenic route along the R132, the specific VP location does not afford views of the proposed WTGs due to roadside screening to the east. However, there are some small sections of this route that may afford visibility of both the grid facility at close quarters to the west and the WTGs in the distance to the east where gaps in roadside vegetation allow. Given the opposite viewing direction, considerable separation distances and distinctly different context, such views of the onshore and offshore features would not give rise to significant combined effects. Further downslope from the R132 in the direction of the sea runs the Dublin – Belfast railway line, which will be afforded seaward views of the proposed WTGs. However, given the intervening terrain and vegetation, it is very unlikely that the grid facility will be also discernible from passing trains.

In all instances where combined views of the grid facility and WTGs are afforded, both features are taken into account in the visual impact assessment and no significant effects are assessed.

29.14.6 Decommissioning Phase Landscape Effects

The compensation substation at the Grid Facility will be decommissioned, however, the Bremore substation will remain in place as part of the wider transmission network. All above ground structures (i.e. access track, marker posts, link) between the TJB and the grid facility will be removed, and the sites will be returned to their previous state. It is not proposed to remove any planting. The cabling will be removed between the landfall site and compensation station, but below ground ducting will remain in place. All other cabling from the grid connection point to the Bremore substation will remain in place as part of the wider transmission network. These decommissioning phase impacts will be similar in nature to construction stage impacts, but in reverse with decommissioned structures being incrementally removed. Decommissioning phase landscape effects are not deemed to be significant in EIA terms.

29.14.7 Decommissioning Phase Visual Effects

On the basis of the works already described above in relation to decommissioning phase landscape effects (Section 29.14.6), there will be visual effects relating to the decommissioning of onshore infrastructure. These will generate visual effects for receptors in the immediate vicinity of the works that will be similar in nature to construction stage activities, but with decommissioned structures being removed from view. Decommissioning phase visual effects are not deemed to be significant in EIA terms.

29.15 Mitigation and Monitoring Measures

29.15.1 Construction Phase

There are no specific LVIA mitigation measures proposed during the construction phase for the onshore infrastructure aspects of the proposed development. However, site hoarding around the Grid Facility, which has a number of functions including safety and security, will also serve as a visual screen. It will at least partially screen the movement and clutter associated with the building site including movement of people and vehicles / small machinery as well as stockpiles of excavated material, building material and bare ground. There will also be hoarding placed around other construction compounds throughout the landfall site and onshore cable route. These will have a similar benefit of reducing visibility of ground based activity and materials.

29.15.2 Operational Phase

Mitigation is proposed in relation to the grid facility (see drawing ref. 281240_MCR_ONS_GF_DR_YE_1010), which will consist of perimeter screen planting around the grid facility compound and a recessive colour scheme for the grid facility structures. The proposed planting measures have been designed in conjunction with the ecology experts who prepared the biodiversity chapter in order to maximise the benefit of both visual screening and to biodiversity Refer to Volume 4, Chapter 23: Biodiversity. The planting consists of native woodland and hedgerow species which will be planted as a combination of small whips and advanced nursery stock (3-4m high trees) in order to allow for resilient and dense establishment. Note: Photomontages show planting having established over approximately 5-6 growing seasons from immediately post construction.

The recessive colour scheme consists of a dark olive shade of green at the base of the tallest GIS substation buildings in the form of a flowing band that rises 4-5m to the approximate height of surrounding hedgerows. Above that a flowing mid green band takes over for 3-4m where it reflects the approximate height of surrounding trees and tree lines. Finally, the upper sections of the buildings, being those elements most likely to be viewed against a backdrop of sky, will be given a light grey colour. The proposed mitigation planting and colour scheme have been incorporated into the relevant substation photomontages and before and after mitigation visual impact assessments were undertaken.

The mitigation for the onshore cable route is embedded in its design as it will be run predominantly within the existing roadbed for the majority of its course from the grid facility to the connection at Belcamp. Most watercourse crossings will be by in-road open cut trench or inline HDD. For eight crossings offline HDD and/or offline open cut trench will be considered. Where HDD is employed, it will have less impact on both the watercourses and the riparian vegetation that flanks them. There will be a few instances where trenching techniques will be employed through hedgerows and treelines and where this occurs it will consist of the minimum disturbance necessary and replanting insofar as possible once construction of the cable route is complete (only non-woody species can be replanted directly above the cable route for maintenance reasons).

29.15.3 Decommissioning

There are no specific LVIA mitigation measures proposed during the Decommissioning Phase for the onshore infrastructure of the proposed development.

29.16 Residual Effects

29.16.1 Construction Phase Residual Effects

As there is no specific mitigation proposed in respect of onshore infrastructure during the Construction Phase of the Proposed Development and thus, the residual effects remain unchanged from the likely significant effects during the construction phase (See sections 29.15.3 and 29.15.5). No significant effects were assessed.

29.16.2 Operational Phase Residual Effects

Only in respect of the Operational Phase of the grid facility is mitigation screen planting and a recessive colour scheme proposed. The visual impact assessment of this element of the project is supported by pre-mitigation and post-mitigation establishment photomontages.

Table 29.48 Operational Phase Residual Visual Effects Summary – Onshore Elements (Grid Facility) – To be read in conjunction with Appendix 29.1

Landfall Substation VP numbers	Likely significance of Effect (Pre-Mitigation)	Residual Significance of Effect (Post-Mitigation establishment 5-6 years)
VP48	Slight / Negative / Permanent	Slight / Negative / Permanent
VP49	Slight-imperceptible/ Negative / Permanent	Slight-imperceptible/ Negative / Permanent
VP50	Major-moderate / Negative / Medium-term	Moderate / Negative / Permanent
VP51	Slight / Negative / Permanent	Slight / Negative / Permanent
VP52	Imperceptible / Neutral / Permanent	Imperceptible / Neutral / Permanent
VP53	Slight / Negative / Medium-term	Slight-imperceptible / Negative / Permanent
VP54	Moderate-slight / Negative / Permanent	Moderate-slight / Negative / Permanent
VP55	Moderate / Negative / Permanent	Moderate / Negative / Permanent

Based in the assessment contained in Appendix 29.1 and summarised in Table 29.48, the significance of visual effect only reduces at two of the representative viewpoint locations. This is not to say that the benefit of mitigation is not noticeable at most of the viewpoint's locations – only that the reductive effect was not great enough to reduce the impact assessment by a full category. In nearly all instances where the proposed substation structures are clearly visible, the recessive colour scheme and perimeter screen planting combine to perceptually reduce the scale and massing of the buildings, screen lower-level infrastructure and site activity and anchor the development within its rural surroundings. However, only at VP50 from the R132 scenic route and VP53 at Flemington Cemetery were the mitigation measures deemed successful enough to reduce the pre-mitigation visual impact assessment category.

For VP50, which is the clearest view of the proposed substation from the public realm, the residual significance of visual impact is reduced from Major-moderate / Negative to Moderate / Negative as the mitigation strategy is also revealed to its greatest advantage from here. At VP53, the residual significance of visual impact reduces from Slight / Negative to Slight-imperceptible / Negative.

None of the residual visual impacts is deemed to be significant in EIA terms.

29.16.3 Decommissioning

There are no specific LVIA mitigation measures proposed during the Decommissioning Phase, therefore, the residual effects remain unchanged from the likely significant effects during the decommissioning phase (See sections 29.15.6 and 29.15.7). No significant effects were assessed. Transboundary Effects

There is no potential for Transboundary effects arising from the onshore elements of the proposed development.

29.17 Transboundary Effects

Given the substantial distance to the Northern Ireland border from the onshore study area as well as the limited scale and nature of the proposed onshore elements relative to that separation distance, there is no potential for any transboundary landscape and visual effects to occur.

29.18 Cumulative Effects

A long list of "other projects" landward of the HWM which were deemed to be potentially relevant to be included in the cumulative impact assessment was compiled (refer to the Cumulative Effects Chapter 38). A screening exercise of the "long list" was carried out to determine whether each of those other projects have the potential to give rise to likely significant cumulative effects with the proposed development from a landscape and visual perspective. Many of the other projects were screened out for a few reasons including their location, scale, and nature of the project. Those projects which were "screened in" were carried forward for assessment. The results of the assessment are presented in the Cumulative Effects chapter.

The assessment concluded that there are no likely significant direct or indirect cumulative effects on landscape and visual predicted during the construction, operation, or decommissioning phases of the proposed development.

29.19 Summary of Effects

With regard to the operational phase landscape impacts from the proposed Grid Facility, the receiving landscape, which consists of rural hinterland immediately to the north of Balbriggan and outside the Coastal LCA, is deemed to be of Medium-low sensitivity. Although the presence of the grid facility will increase the scale and intensity of development at this urban rural interface, the magnitude of landscape impact is deemed to be High-medium for the site itself and the resulting significance of effect Moderate-. The level of effect dissipates with distance and wider context across the study area (See section 29.14.4).

The visual impact significance arising from the operational phase of the two Grid Facility 220kV GIS Substations is considered to be higher than the landscape impact significance as there are residential receptors and a designated scenic route in the immediate vicinity. Eight viewpoints were selected specifically to assess the visual impacts from the Grid Facility within its own 3km radius study area.

When viewed from the Flemington Lane at the northern perimeter of Balbriggan (VP49 and VP55), substantial screening is provided by foreground dwellings, albeit those same dwellings will be afforded clearer views from their rear gardens. The highest level of residual effect from these views is at VP55, where a localised Moderate / Negative effect is assessed principally in relation to the nearer dwellings rather than the road itself.

The clearest view of the proposed substation structures is from VP50 on the R132 regional road directly to the east of the Grid Facility site between the nearest residential properties to the site on the western side of the R132. Part of this is also a designated scenic route, but the visual amenity associated with this scenic route clearly relates to elevated sea views in the opposite direction (east) of the Grid Facility site. From here the proposed grid facility structures will rise in silhouette above the subtle plateau farmland that forms a near skyline. The prominent industrial form of the substation structures will result in Moderate / Negative / permanent effects at this location prior to the establishment of mitigation screen planting and introduction of a recessive colour scheme. Thereafter, the significance of impact is deemed to reduce to Moderate-slight.

A Moderate-slight / Negative significance of impact is also assessed for VP54, where the profile of the substation buildings will rise against a distant backdrop of sea to the east, albeit a partial and fleeting view. Otherwise, the remaining five viewpoints register significance of Slight or lower.

None of the landscape and visual effects assessed in relation to the proposed onshore elements are deemed to be significant in EIA terms.

29.20 References

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