

Volume 6: Summary Chapters

# Chapter 37

## Transboundary Effects

Contents

---

37.	Transboundary Effects	37.1
37.1	Introduction	37.1
37.2	Transboundary Effects	37.2
37.3	Conclusion	37.6
37.4	References	37.6

## 37. Transboundary Effects

### 37.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) presents a summary of the likely significant transboundary effects from the North Irish Sea Array (NISA) Offshore Wind Farm (hereafter referred to as the ‘proposed development’) presented throughout the EIAR.

Transboundary effects are considered in relation to the likely significant effects that a proposed development in one international state may have on the environment or interests of another. The EIAR has considered and assessed transboundary effects on Member States of the European Union and other states that are party to the Convention on Environmental Impact Assessment in a Transboundary Context 1991 (the “Espoo Convention”) arising from the construction, operation and decommissioning of the proposed development.

The Espoo Convention sets out the obligations of parties to assess the environmental impact of certain activities at an early stage of planning and outlines general obligations of States to notify and consult each other on all major projects under consideration that are likely to have a significant environmental effect across boundaries.

Part 5 of Annex IV of the Environmental Impact Assessment (EIA) Directive (2011/92/EU as amended by 2014/52/EU) states the following.

*“The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.”*

Additionally, Section 174 of the Planning and Development Act, 2000 (as amended) (the “Planning Acts”) and Article 124 of the Planning and Development Regulations, 2001 (as amended) (the “Planning Regulations”) set out the procedures to be followed in relation to applications for development where the development is likely to have significant effects on the environment in another Member State of the European Communities or a state which is a party to the Espoo Convention. As noted in Volume 2, Chapter 2: EIA and Methodology for the Preparation of an EIAR, the transboundary assessments prepared throughout this EIAR are in accordance with the Espoo Convention Guidance on the Practical Application of the Espoo Convention (2006).

An Bord Pleanála, upon conclusion of the pre-application consultation stage with North Irish Sea Array Windfarm Ltd (the ‘Developer’), directed that the United Kingdom, Northern Ireland, Wales, Scotland and Isle of Man should be notified of the planning application for the proposed development. Formal notification upon the submission of the application of the proposed development has been provided to the following relevant authorities:

Transboundary Consultee
Isle of Man – Chief Officer, Department of Infrastructure
Northern Ireland – Department for Infrastructure Planning
Scotland – Head of Marine Directorate Licensing Operations Team
United Kingdom – Department for Levelling Up, Housing and Communities - Environmental Assessment, Planning Reform and Housing Quality
Wales – Energy Division, Welsh Government

The likely significant transboundary effects (if any) are detailed in the assessment topic chapters of the EIAR (Chapters 10-35 of Volumes 3-5) and summarised in Section 37.2 below.

## 37.2 Transboundary Effects

Chapter	Summary of Transboundary Effects
<b>Volume 3: Offshore Chapters</b>	
Chapter 10 - Marine Geology, Oceanography and Physical Processes	<p>There is the potential for some sediment plumes to advect in a net northerly direction and move into UK waters. However, the concentration of suspended sediments will diminish over time due to settling out of material and spreading due to tidal advection and dispersion. This will ensure that suspended sediment plume concentrations reaching UK waters will be imperceptible against background levels. No other potential transboundary effects were identified. Refer to section 10.8 of Volume 3, Chapter 10: Marine Geology, Oceanography and Physical Processes for further information.</p> <p>Therefore, there are no likely significant transboundary effects on marine geology, oceanography and physical processes predicted.</p>
Chapter 11 - Marine Water and Sediment Quality	<p>No transboundary effects have been identified in terms of Marine Water and Sediment Quality receptors. Predicted changes to the physical process pathways (i.e. tides, waves, and sediment transport) are not anticipated to be sufficient to influence identified marine water and sediment quality receptors in international jurisdictions. Refer to section 11.8 of Volume 3, Chapter 11: Marine Water and Sediment Quality for further information.</p> <p>Therefore, there are no likely significant transboundary effects on marine water and sediment quality predicted.</p>
Chapter 12 - Benthic and Intertidal Ecology	<p>No transboundary effects have been identified in terms of benthic and intertidal receptors. Predicted changes to the physical process pathways (i.e. tides, waves, and sediment transport) are not anticipated to influence identified benthic receptors beyond the Ireland-UK border which lies 13.6km north and 36.5km east of the array area which is beyond the ZoI in relation to benthic subtidal and intertidal ecology. Refer to Section 12.8 of Volume 3, Chapter 12: Benthic Subtidal and Intertidal Ecology for further information.</p> <p>Therefore, there are no likely significant transboundary effects on benthic and intertidal ecology predicted.</p>
Chapter 13 - Fish and Shellfish Ecology	<p>There is the potential for temporary threshold shifts (TTS) or behavioural reactions as a result of piling during construction to occur in UK waters. The magnitude of impact is greatest on spawning herring which has been assessed as medium with a low sensitivity. The significance of transboundary TTS and behavioural disturbance in spawning herring is considered to be slight, which is not significant in EIA terms. The effect on all other species deemed to be a Valued Ecological Receptor (as identified in Table 13.9 within Volume 3, Chapter 13: Fish and Shellfish Ecology) is also considered to be slight, which is not significant in EIA terms. There is no potential for any transboundary effects arising from any other Impact assessed in Volume 3, Chapter 13: Fish and Shellfish Ecology. Refer to Section 13.8 of Volume 3, Chapter 13: Fish and Shellfish Ecology for further information.</p> <p>Therefore, there are no likely significant transboundary effects on fish and shellfish ecology predicted.</p>
Chapter 14 – Marine Mammal Ecology	<p>Auditory injuries to marine mammals are not anticipated to occur in European Economic Area (EEA) states or the UK as the impact ranges are not anticipated to extend beyond the Irish Exclusive Economic Zone (EEZ). However, there may be behavioural disturbance or displacement of marine mammals as a result of underwater noise as behavioural disturbance could occur over large ranges (tens of kilometres). Additional transboundary effects may arise due to disturbance to prey species. A screening exercise is presented in Volume 3, Chapter 14: Marine Mammal Ecology which considered the following potential impacts:</p> <ul style="list-style-type: none"> <li>• Auditory injury (permanent threshold shifts (PTS)) from geophysical surveys, unexploded ordnance (UXO) clearance, pile driving, other activities (e.g., drilling).</li> <li>• Disturbance from UXO clearance;</li> <li>• Disturbance from pile driving and/or pile removal;</li> <li>• Disturbance from vessel activity and other construction activities (i.e., geophysical surveys);</li> <li>• Disturbance to prey species;</li> <li>• Collision risk; and</li> <li>• Increased concentrations of suspended sediments</li> </ul>

Chapter	Summary of Transboundary Effects
	As noted in Section 14.8 of Volume 3, Chapter 14: Marine Mammal Ecology, no likely significant effects are predicted to arise from any of these transboundary impacts. Therefore, there are no likely significant transboundary effects on marine mammal ecology predicted.
Chapter 15 - Offshore Ornithology	<p>During the breeding season, connectivity with other sites is determined based on mean-maximum foraging ranges presented in Woodward et al., (2019), representing a standard approach to determining connectivity across Irish and UK projects and as agreed among Phase One projects. Even for species which have particularly large mean-maximum foraging ranges (e.g., Manx shearwater) it is unlikely that these receptors will travel beyond the Irish and Celtic Seas. Within the EIAR, regional populations are based on birds in both Irish and the west coast of the UK waters, and therefore potential impacts on relevant UK birds are accounted for within the assessment. Therefore, during the breeding season there is limited potential for any impacts from the proposed development on receptors outside of this region.</p> <p>During the non-breeding season, ornithological receptors are able to travel more widely and therefore receptors that disperse widely or undertake migrations have the potential to be impacted by the proposed development even if they originate from SPAs or colonies outside of Ireland and the UK. Impacts on these individuals are considered within the assessments presented in Volume 3, Chapter 15: Offshore Ornithology by incorporating the impacts assessed at the larger biogeographic scale, which incorporates all individuals that may have connectivity to the North-East Atlantic. Any likely significant effects would be considered in relation to much larger populations due to the inclusion of more colonies from a wider area.</p> <p>The assessment presented in Volume 3, Chapter 15: Offshore and Intertidal Ornithology includes regional populations which incorporates a regional population comprised of UK and Irish birds derived from those presented in Furness, (2015) . Therefore, the likely significant effects of the proposed development on birds outside of Irish waters is assessed. Potential transboundary effects considered included:</p> <ul style="list-style-type: none"> <li>• Disturbance and displacement (including barrier effects);</li> <li>• Indirect impacts due to impacts on prey;</li> <li>• Collision risk; and</li> <li>• Migratory collision risk.</li> </ul> <p>Further information on the transboundary assessment carried out for offshore ornithology is presented in Section 15.8 of Volume 3, Chapter 15: Offshore Ornithology. No significant effects are predicted to arise from any of these transboundary impacts. Therefore, there are no likely significant transboundary effects on offshore and intertidal ornithology predicted.</p>
Chapter 16 - Commercial Fisheries	<p>Based on the slight significance of effect of disruption to commercial species during all phases of the proposed development, it is expected that any slight impact on stocks within the Irish EEZ, would become negligible in the context of the UK and Isle of Man EEZ, due to the distance of the proposed development from these EEZs and the dissipation of any stock effect over this distance.</p> <p>Effects on commercial fishing fleets could occur over a range of 100s of kilometres from the offshore development area (i.e. affecting fleets from other states that operate in the vicinity of the proposed development, including inside and outside of the territorial waters) and could therefore interact with non-Irish fishing fleets. Effects on these foreign commercial fishing fleets, in terms of reduction in access to fishing grounds and displacement into alternative grounds including other EEZs, have therefore been intrinsically considered throughout the commercial fisheries impact assessment process. No significant effects have been identified on foreign commercial fishing fleets in terms of reduction in access to fishing grounds and displacement into alternative grounds, including other EEZs. Refer to Section 16.8 of Volume 3, Chapter 16: Commercial Fisheries for further information.</p> <p>Therefore, there are no likely significant transboundary effects on commercial fisheries predicted.</p>
Chapter 17 - Shipping and Navigation	<p>Vessel traffic movements are transboundary in nature, including vessel routing within the Irish Sea. There is therefore potential for vessel routing to be displaced by the presence of the offshore development area. However, given the international use of Automatic Identification System (AIS) transceivers on commercial vessels (the primary data source for characterisation of commercial vessel movements in the assessment), the baseline characterisation of vessel traffic movements suitably captures both the receptors and the nature of this transboundary effect.</p> <p>The assessment presented in Volume 3, Chapter 17: Shipping and Navigation concluded no significant residual effects on shipping and navigation. Therefore, there are no likely significant transboundary effects on shipping and navigation predicted.</p>

Chapter	Summary of Transboundary Effects
Chapter 18 - Offshore Archaeology and Cultural Heritage	There will be no direct impact on offshore archaeology and cultural heritage receptors beyond the offshore development area which is entirely within Irish waters. The indirect impacts identified in Volume 3, Chapter 18: Offshore Archaeology and Cultural Heritage have all been evaluated as having insignificant effects which is not significant in EIA terms. There therefore will be no transboundary impacts with regard to offshore archaeology and cultural heritage and not considered further.
Chapter 19 - Aviation and Radar	<p>The airspace around the offshore development area is used by international civil aviation; however, the potential impacts of wind turbine generators (WTGs) as obstacles to aviation are localised and confined to within the array area. Within a 60 nautical mile range (111km), only Isle of Man Airport Primary Surveillance Radar (PSR) would have Radar Line of Sight of WTGs within the offshore development area. Although the proposed development is visible on the Isle of Man Airport, the Head of ATS at Isle of Man Airport has stated that the airspace above the offshore development area is not operationally significant to Isle of Man Airport for the safe provision of ATS.</p> <p>Therefore, it is considered that the residual transboundary effects of the proposed development in terms of aviation and radar are not significant in EIA terms. Refer to Section 19.8 of Volume 3, Chapter 19: Aviation and Radar for further information.</p>
Chapter 20 - Infrastructure and Other Users	Considering the nature of the proposed development, the distance to the nearest international boundary, and no significant effect on infrastructure and other users receptors predicted within 12km of the proposed development, there are no likely significant transboundary effects on infrastructure and other users predicted.
<b>Volume 4: Onshore Chapters</b>	
Chapter 21 - Land and Soils (includes soils, geology and hydrogeology)	Considering the nature of the proposed development, and the distance to the nearest international boundary, no transboundary effects on land, soils, geology and hydrogeology are predicted.
Chapter 22 - Water (includes hydrology, surface water quality and flooding)	Considering the nature of the proposed development and the distance to the nearest international boundary, no transboundary effects on water, hydrology, surface water quality and flooding are predicted.
Chapter 23 - Biodiversity	Considering the nature of the proposed development and the distance to the nearest international boundary and the nature of the ecology assessed occurring landward of the High Water Mark (HWM), no transboundary effects on biodiversity are predicted.
Chapter 24 - Traffic and Transportation	<p>All equipment and components that must be transported from an overseas supplier's plant to a port for shipment to the proposed development in Ireland will be transported on the national road network / TEN-T network of that country, which has been designed to accommodate such loads. Given this, and the fact that the likely increase in traffic volumes due to the transport of equipment and components for the proposed development is expected to be low or negligible, the significance of the effect of this construction traffic impact on traffic operations will be negative, slight, and temporary.</p> <p>Therefore, there are no likely significant transboundary effects on Traffic and Transportation.</p>
Chapter 25 - Onshore Archaeology, Architectural and Cultural Heritage	<p>There is a potential for transboundary effects arising from visual impacts on the setting of archaeological, architectural, and cultural heritage sites within County Down in Northern Ireland. This will occur where the proposed offshore turbines are visible from the County Down coastline within the overall 60km study area (Figure 25.15a/b of Volume 7A). Ten sites or structures (as detailed in Table 25.13 of Volume 4, Chapter 25: Onshore Archaeology, Architectural and Cultural Heritage ) have been assessed but in all cases the predicted significance of effect is imperceptible or not significant (Table 25.17).</p> <p>Therefore, there are no likely significant transboundary effects on onshore archaeology, architectural and cultural heritage predicted.</p>
Chapter 26 - Material Assets	<p>Considering the nature of the proposed development, and the distance to the nearest international boundary, no transboundary effects on material assets are predicted.</p> <p>Further information on the assessments carried out on material assets landward of the HWM is presented in Volume 4, Chapter 26: Material Assets. Information on the assessments carried out on</p>

Chapter	Summary of Transboundary Effects
	material assets seaward of the HWM is presented in Volume 3, Chapter 20: Infrastructure and Other Users.
<b>Volume 5: Wider Scheme Chapters</b>	
Chapter 27 - Air Quality	Considering the nature of the proposed development, and the distance to the nearest international boundary, no transboundary effects on air quality are predicted.
Chapter 28 - Climate	<p>The climate assessment concluded that a significant beneficial impact on climate will occur during the lifecycle of the proposed development relative to Ireland's carbon budgets.</p> <p>Although the beneficial effects on climate as a result of the proposed development can be deemed as significant in national terms, at an EU level the effects are considered not significant. Therefore, transboundary effects due to the proposed development are predicted to be not significant from a climate perspective.</p>
Chapter 29 - Seascape, Landscape and Visual	<p>There is the potential for visual impacts in County Down in Northern Ireland as the wind turbine generators are likely to be visible from there in clear viewing conditions. Four standard viewpoint (VPs 1-4) and one cumulative viewpoint (VP36) were selected within Northern Ireland for assessment (Refer to Volume 7B1 to view the offshore photomontages). In all cases the viewing distances were upwards of 35km away and the resulting significant of effect was deemed slight-imperceptible or lower, which is not significant in EIA terms. Further information is presented in Section 29.8 of Volume 5, Chapter 29: Seascape, Landscape and Visual.</p> <p>There is no potential for transboundary effects arising from the onshore elements of the proposed development.</p> <p>Therefore, there are no likely significant transboundary effects predicted from the proposed development on seascape, landscape and visual.</p>
Chapter 30 - Noise and Vibration (including underwater)	<p>Considering the nature of the proposed development, and the distance to the nearest international boundary, no transboundary effects on noise and vibration are predicted.</p> <p>Effects due to underwater noise are assessed in Volume 3, Chapter 13: Fish and Shellfish Ecology and Volume 3, Chapter 14: Marine Mammal Ecology, based on data contained in Volume 9, Appendix 14.1 Underwater Noise Modelling Report. Neither chapter concluded any likely significant transboundary effects.</p>
Chapter 31 - Resource and Waste Management	<p>No likely significant effects are predicted from the onshore and offshore construction, operation and decommissioning phases of the proposed development. Whilst offshore waste generated during the construction of the proposed development will be managed at the appropriate port facility before being sent for recycling, recovery or disposal, these quantities are not predicted to be significant.</p> <p>Minimum quantities of hazardous waste are predicted to be generated from the proposed development. Given the low quantities and the improving treatment of hazardous waste domestically in Ireland, no significant transboundary effects are anticipated for the overseas management of hazardous waste.</p> <p>Therefore, there are no negative significant transboundary effects on resource and waste management predicted.</p>
Chapter 32 - Population and Human Health	Considering the nature of the proposed development, and the distance to the nearest international boundary, no significant transboundary effects on population and human health are predicted.
Chapter 33 - Socio-Economic, Tourism and Recreation	<p>The assessment process undertaken for Volume 5, Chapter 33: Socioeconomic, Tourism and Recreation has confirmed that no negative transboundary effects are anticipated from the proposed development on socioeconomics, tourism or recreation. It is noted that the manufacturing of the components for the proposed development will be undertaken overseas, which will support existing, or create new employment in the production facilities. However, the scale of such employment is unlikely to be significant relative to the total employment in the countries, in which they are located.</p> <p>Therefore, there are no negative significant transboundary effects on socio-economic, tourism and recreation predicted.</p>
Chapter 34 - Major Accidents and Disasters	No transboundary effects in relation to risks of major accidents and/or disasters have been identified, taking into account the information provided in other EIAR Chapters including the Shipping and Navigation Chapter, the Aviation and Radar Chapter and Volume 3, Chapter 20: Infrastructure and Other Users.

Chapter	Summary of Transboundary Effects
Chapter 35 - Offshore Bats	<p>A screening exercise has been carried out for the following transboundary impacts in relation to offshore bats:</p> <ul style="list-style-type: none"> <li>• Direct disturbance and displacement due to anthropogenic noise during the construction, operation and decommissioning phases.</li> <li>• Direct disturbance and displacement due to increased vessel activity and infrastructure presence noise during the construction, operational and maintenance and decommissioning phases.</li> <li>• Disturbance and displacement due to Artificial Lighting at Night during the construction, operational and maintenance and decommissioning phases.</li> <li>• Indirect disturbance and displacement resulting from changes to prey during the construction, operational and maintenance and decommissioning phases.</li> <li>• Collision and Barotrauma during the operational and maintenance phase.</li> </ul> <p>No likely significant effects are predicted to arise from any of these transboundary impacts. Therefore, there are no significant transboundary effects on offshore bats predicted.</p>

### 37.3 Conclusion

Following the transboundary assessments conducted as part of the preparation of this EIAR, no likely significant transboundary effects arising from the proposed development are predicted.

### 37.4 References

Espoo Convention (2004) Decision III/4: Guidance on the Practical Application of the Espoo Convention (2006) <https://unece.org/DAM/env/documents/2006/eia/ece.mp.eia.8.pdf>

Furness, R.W. (2015), 'Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (regional population)', Natural England Commissioned Report Number 164.

Woodward, I., Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019), 'Desk-based revision of seabird foraging ranges used for HRA screening. Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate', BTO Research Report No. 724. The British Trust for Ornithology, Thetford.