ABWP Phase I Decommissioning

Summary of Cumulative Effects

Volume 2, Chapter 10

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Project name ABWP Phase I Decommissioning

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Statement of Authority

Author	Qualifications	Relevant Experience
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Kim Bridge	Master of Oceanography (MOcean), University of Southampton (UK)	Over 13 years' experience in permitting, consenting and environmental assessment for a wide range of coastal and marine projects including offshore wind farms, subsea cables, ports and harbours and coastal development in geographies of UK and Ireland.

Glossary

Term	Meaning
Arklow Bank Wind Park (ABWP) Phase I	Arklow Bank Wind Park (ABWP) Phase I comprises: • Offshore infrastructure seaward of High Water Mark (HWM), including: – Seven Wind Turbine Generators (WTG) with a combined capacity of 25.2 MW; – One meteorological (met) mast; – Inter-array cables connecting the WTGs and met mast; and – One offshore export cable connecting WTG T4 with landfall at HWM; • Onshore infrastructure landward of HWM including: – One onshore cable connecting landfall at HWM with the onshore substation; and – One onshore substation compound, where the onshore substation and ancillary infrastructure are located.
ABWP Phase II	ABWP Phase II comprises: • Offshore Infrastructure, including: – 53 or 47 WTGs and two Offshore Substation Platforms (OSPs) located within the "Array Area"; – Inter-array cables connecting WTGs with the OSPs; and – Two offshore export cables; • Onshore grid connection infrastructure, including a 220 kV substation at Shelton Abbey with an associated connection to the existing National Electricity Transmission Network; • Operations and Maintenance Facility (OMF) at South Dock, Arklow Harbour; and • EirGrid Upgrade Works.
Arklow Energy	Arklow Energy Limited, the entity seeking planning permission for the Proposed Works, i.e. the applicant.
Competent authority	Are those authorities that are entitled to give authorisation or consent to a plan or project. In the planning system, this means planning authorities and An Coimisiún Pleanála. There are, however, a wide range of other competent authorities in respect of other consent regimes e.g. EPA (environmental licencing), Minister for Agriculture, Food and the Marine (forestry, aquaculture and foreshore management), and various state bodies that have authority to undertake development under Part 9 of the Planning and Development Regulations (e.g. An Garda Síochána, defence forces, the courts service). The competent authority for this planning application is An Coimisiún Pleanála (ACP).
Cumulative effect	The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects (EPA, 2022). Cumulative effects within this EIAR comprise those arising from the Proposed Works with other developments, i.e. plans and projects that are 'reasonably foreseeable' (Planning Inspectorate (PINS), 2024).
Cumulative effects assessment	Assessment of potential environmental effects resulting from the Proposed Works cumulatively with other plans, projects or reasonably foreseeable activities.
Decommissioning	The final closing down and putting into a state of safety of a development, project or process when it has come to the end of its useful life (EPA, 2022).
Detailed Offshore Decommissioning Environmental Management Plan (DEMP)	The contractor-developed version of the Outline Offshore DEMP, to be prepared before Proposed Works Offshore commence and maintained as a live document until completion.
Effect	The consequence of an impact on a receptor. For example, in the offshore environment, vessel activity (activity) results in increased levels of underwater noise (impact), with the potential to disturb marine mammals (effect).

Term	Meaning
Environmental Impact Assessment (EIA)	Process of assessment of the effects of a project or development proposal on the environment. In the planning area, it is undertaken by a planning authority or An Coimisiún Pleanála during the consideration of applications for planning permission, taking account of an Environmental Impact Assessment Report (EIAR). The projects which require EIA are listed in Annex I and Annex II of the EIA Directive, as amended (Office of the Planning Regulator, n.d.).
Environmental Impact Assessment Report (EIAR)	A report or statement of the effects, if any, that Proposed Works, if carried out, would have on the environment. It is prepared by the developer to inform the EIA process (Office of the Planning Regulator, n.d.).
High Water Mark (HWM)	Level reached by the sea at high tide, measured as the mean of high tides.
Impact	A change brought about by the Proposed Works.
Landfall	The point where the offshore export cable transitions from the offshore marine environment to the onshore terrestrial environment.
Marine Mammal Mitigation Protocol (MMMP)	A protocol setting out the measures to avoid or minimise the risk of auditory injury and disturbance to marine mammals during underwater sound-generating activities associated with the Proposed Works Offshore.
Mitigation measures	Measures to avoid, prevent or reduce impacts (EPA, 2022), which comprise both embedded and additional mitigation, see separate definitions for these.
Monopile (MP)	Hollow steel cylinder driven into the seabed typically used to anchor an offshore wind turbine generator (WTG). In ABWP Phase I, MPs support the seven WTGs as well as the meteorological (met) mast.
Offshore export cable	Subsea power cable that transports the total generated power from an offshore wind farm to the onshore power grid. In ABWP Phase I, the offshore export cable connects the wind turbine generator (WTG) T4 to landfall with an approximate overall length of 15.6 km. At landfall, the offshore export cable transitions to the onshore cable connecting to the onshore substation.
Offshore Site	Part of the Site where Proposed Works Offshore are proposed to take place. In this application for planning permission, the Offshore Site comprises the Sub Lease Area, where the ABWP Phase I wind turbine generators (WTGs), met mast and inter-array cables are located, and the offshore export cable 10 m corridor connecting WTG T4 to the landfall at high water mark (HWM) near Arklow Harbour.
Pathway	The route by which an effect is conveyed between a source and a receptor (EPA, 2022).
Permanent Threshold Shift (PTS)	A permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level.
Proposed Works	The Proposed Works include decommissioning of ABWP Phase I offshore infrastructure (Proposed Works Offshore) and decommissioning of ABWP Phase I onshore infrastructure (Proposed Works Onshore).
Receptor	Any element in the environment which is subject to impacts (EPA, 2022).
Residual effect	The final predicted effect / impact remaining after mitigation (EPA, 2022).
Significance	The importance of the outcome of the impact (or the consequence of change) for the receiving environment (EPA, 2022).
Source	The activity or place from which an effect originates (EPA, 2022)
Sub Lease Area	Area where the ABWP Phase I WTGs, met mast and inter-array cables are located, as defined in the Sub Lease granted by Sure Partners Limited (SPL) to Arklow Energy Limited (Arklow Energy) to construct and operate ABWP Phase I.
Temporary Threshold Shift (TTS)	A recoverable reversible increase in the threshold of audibility.
Wind Turbine Generator (WTG)	Structure that converts the kinetic energy of ocean winds into electrical energy. ABWP Phase I includes seven GE Energy 3.6s WTGs with a rated capacity of 3.6 megawatts (MW) per WTG.

Acronyms

Acronym	Meaning
ABWP	Arklow Bank Wind Park
ACP	An Coimisiún Pleanála
DEMP	Decommissioning Environmental Management Plan
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
FMMS	Fisheries Management and Mitigation Strategy
HWM	High Water Mark
MMMP	Marine Mammal Mitigation Protocol
MP	Monopile
PINS	UK Planning Inspectorate
SSC	Suspended Sediment Concentrations
TTS	Temporary Threshold Shift
WTG	Wind Turbine Generator

Units

Unit	Meaning
km	Kilometre
km^2	Square Kilometre
kV	Kilovolts
MW	Megawatts
m	metre
nm	Nautical mile

10 SUMMARY OF CUMULATIVE EFFECTS

10.1 Introduction

10.1.1 Overview

10.1.1.1 Arklow Energy Limited (Arklow Energy) is seeking planning permission to decommission Arklow Bank Wind Park (ABWP) Phase I (referred to hereafter as 'the Proposed Works'). The Proposed Works include decommissioning of ABWP Phase I offshore infrastructure (Proposed Works Offshore) and decommissioning of ABWP Phase I onshore infrastructure (Proposed Works Onshore).

10.1.1.2 The Proposed Works Offshore will be undertaken within the Offshore Site (see **Volume 2, Chapter 3: Proposed Works Description**), which includes:

- The Sub Lease Area, located on the long narrow Arklow Bank sand bank, situated approximately 10 km off the coast of Arklow, south-east Ireland, where seven wind turbine generators (WTGs) and foundations, associated scour protection, 7.4 km of inter-array cables and one met mast are located; and
- A 10 m wide cable corridor along the 15.6 km offshore export cable route connecting WTG T4 to the landfall point at High Water Mark (HWM).

10.1.1.3 This chapter of the Environmental Impact Assessment Report (EIAR) presents a summary of potential cumulative effects assessed in **Volume 2, Chapters 4 - 8** of the EIAR. Cumulative effects as defined under the EPA Guidelines result from the addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects (Environmental Protection Agency (EPA), 2022).

10.1.1.4 This chapter should be read alongside the detailed assessments presented in the relevant technical chapters:

- **Volume 2, Chapter 4: Coastal Processes, Water and Sediment Quality**;
- **Volume 2, Chapter 5: Marine Biodiversity**;
- **Volume 2, Chapter 6: Commercial Fisheries and Aquaculture**;
- **Volume 2, Chapter 7: Shipping and Navigation**; and
- **Volume 2, Chapter 8: Marine Archaeology.**

10.1.1.5 The chapter also draws on information contained within the following appendix:

- **Volume 3: Appendix 1.2: Cumulative Screening.**

10.1.2 Legal Context

10.1.2.1 As indicated in **Volume 2, Chapter 1: Introduction**, the need to consider cumulative effects stems from the Environmental Impact Assessment (EIA) Directive (Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (as amended)) and its transposition into Irish law through the Planning and Development Act 2000 ('the 2000 Act').

10.1.2.2 Annex IV of the EIA Directive requires the description of likely significant effects on the environment, including those resulting from "the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources", which is also indicated in EPA guidance (EPA, 2022).

10.1.3 Methodology

10.1.3.1 The assessment of cumulative effects has followed the methodology set out in **Volume 2, Chapter 1: Introduction**, which follows the UK Planning Inspectorate (PINS) guidance (PINS,

2024), where cumulative effects are those arising from the Proposed Works with "other developments", i.e. plans and projects that are 'reasonably foreseeable'.

10.1.3.2 The assessment of cumulative effects has been informed by publicly available information on other developments as of 16 April 2026, and has followed a four-stage process, further described in **Volume 2, Chapter 1**:

- Stage 1: Establish the long list of other developments to consider;
- Stage 2: Establish the short list of other developments to consider;
- Stage 3: Information gathering; and
- Stage 4: Assessment.

10.1.3.3 Stages 1 and 2 are presented in **Volume 3, Appendix 1.2: Cumulative Screening**, and the short list i.e. the other developments screened into the assessment of potential cumulative effects, due to the distance of these to the Offshore Site and cumulative zone of influences defined for each environmental factor, are outlined in **Table 10.1**. The conclusions made at Stage 4, using Stage 3 information, are presented in **Volume 2, Chapters 4 – 8**, and summarised in **Table 10.1**.

Table 10.1: Other developments screened into the assessment of potential cumulative effects

Other developments shortlisted (ID) and status*	Distance from the Offshore Site (km)	Screened into the assessment of potential cumulative effects on:				
		Coastal Processes, Water and Sediment Quality	Marine Biodiversity	Commercial Fisheries and Aquaculture	Shipping and Navigation	Marine Archaeology
Arklow Bank Wind Park Phase II Site Investigations (SI04) Tier 1 Approved	0	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
ABWP Phase II (ORE01) Tier 1 Planning application submitted	0	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Wicklow Sea Wind Ltd - Cable Route Site Investigations. Site investigations for an export cable corridor from a Celtic Sea offshore windfarm (OWF) to the Wicklow coast (SI06) Tier 1 Application submitted	0.11	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Flood relief scheme Arklow (CA04) Tier 1 Approved	0.27	**Yes**	**Yes**	No	No	No
Wicklow Sea Wind Ltd., Site Investigations for the proposed Wicklow Project offshore wind farm, off County Wicklow (SI07) Tier 1 Application submitted	5.53	**Yes**	**Yes**	**Yes**	**Yes**	No
Codling Wind Park site investigations (SI11), Tier 1, Approved, undergoing Judicial Review	19.89	**Yes**	**Yes**	**Yes**	**Yes**	No
Codling Wind Park (ORE02) Tier 1 Application submitted	21.54	No	**Yes**	**Yes**	**Yes**	No

Other developments shortlisted (ID) and status*	Distance from the Offshore Site (km)	Screened into the assessment of potential cumulative effects on:				
		Coastal Processes, Water and Sediment Quality	Marine Biodiversity	Commercial Fisheries and Aquaculture	Shipping and Navigation	Marine Archaeology
Site Investigations for the proposed Dublin Array Offshore Wind Farm (SI08) Tier 1 Approved	22.93	No	**Yes**	**Yes**	**Yes**	No
Dublin Array Offshore Wind Farm (ORE03) Tier 1 Application submitted	36.97	No	**Yes**	**Yes**	**Yes**	No
Site investigation to inform detailed engineering design for the Greater Dublin Drainage Project (SI15) Tier 1 Approved	50	No	**Yes**	No	No	No
Environmental survey and ground investigation works in order to inform the design of proposed Point Bridge and Tom Clarke Widening Project (SI16) Tier 1 Approved	51.4	No	**Yes**	No	No	No
Rosslare Euro Port (Rosslare Offshore Renewable Energy Hub), including rock blasting, capital dredging, reclamation works and piling (SHP04) Tier 1 Planning application submitted	52.5	No	**Yes**	No	No	No
Construction of a new Ro-Ro Jetty, works on berths, and construction of passenger terminal building, including dredging and ancillary site works (CA29) Tier 1 Approved / Operational	55.66	No	**Yes**	No	No	No
Dún Laoghaire Harbour dredging site investigations (SI19), Tier 1, Approved	55.72 km	No	**Yes**	No	No	No
National Watersports Campus site investigations (SI20), Tier 1, Application submitted	55.88 km	No	**Yes**	No	No	No
Dublin Bay electrical cable circuit site investigations (SI21), Tier 1, Approved	56.41 km	No	**Yes**	No	No	No

Other developments shortlisted (ID) and status*	Distance from the Offshore Site (km)	Screened into the assessment of potential cumulative effects on:				
		Coastal Processes, Water and Sediment Quality	Marine Biodiversity	Commercial Fisheries and Aquaculture	Shipping and Navigation	Marine Archaeology
Development at Howth Fishery Harbour Centre (Dredging of harbour, land reclamation and landscaping and coastal works) (CA14) Tier 1 Approved	63.41	No	**Yes**	No	No	No
North Irish Sea Array Offshore Wind Farm (ORE04) Tier 1 Application submitted	65.1	No	**Yes**	No	No	No
Codling Wind Park Ltd. Site Investigations for proposed Offshore Wind Farm, off Counties Wicklow and Dublin (SI25) Tier 1 Approved	67.1	No	**Yes**	No	No	No
Mares Connect Electricity Interconnector, part of ENTSO-E Ten-Year Development Plan 2024 (CAB02) Tier 3 Project in Plan / Programme	68	No	**Yes**	No	No	No
Site investigation activities to inform the development of the North Irish Sea Array (NISA) offshore windfarm (OWF) and export cable, off the coasts of counties Dublin, Meath and Louth (SI28) Tier 1 Approved	78.5	No	**Yes**	No	No	No
Mares Connect Electricity Interconnector Site Investigation (SI13) Tier 1 Approved	81.06	No	**Yes**	No	No	No
Geotechnical investigation required to support the design of a proposed 250m Offshore Renewable Energy (ORE) capable quay extension in the River Suir at the Port of Waterford, Belview, Co. Kilkenny (SI33) Tier 1 Application submitted	83.6	No	**Yes**	No	No	No
Geophysical survey and localised site investigation to define a route for a proposed submarine fibre optic cable (SI34) Tier 1 Approved	85.1	No	**Yes**	No	No	No

Other developments shortlisted (ID) and status*	Distance from the Offshore Site (km)	Screened into the assessment of potential cumulative effects on:				
		Coastal Processes, Water and Sediment Quality	Marine Biodiversity	Commercial Fisheries and Aquaculture	Shipping and Navigation	Marine Archaeology
Lir Offshore Array Ltd., Site Investigations for the proposed Lir Offshore Array, off Counties Louth, Meath and Dublin (SI35) Tier 1 Application submitted	87.2	No	**Yes**	No	No	No
East Celtic Offshore Wind Park - RWE Renewables. SI for East Celtic Offshore Wind Park off Wexford & Waterford (geophysical, geotechnical, environmental & metocean) (SI36) Tier 1 Application submitted	87.26	No	**Yes**	No	No	No
Offshore Renewable Energy Capable Terminal (Belview), including reclamation works and piling (SHP05) Tier 1 Planning application submitted	88.8		**Yes**	No	No	No

*During Stage 1, other developments are classified into 'tiers', according to the level of information publicly available about them: Tier 1 (developments under construction; permitted applications but not yet implemented; submitted applications but not yet determined; and all refusals subject to appeal procedures not yet determined); Tier 2 (developments associated with approved programmes where a scoping report has been submitted and is in the public domain); and Tier 3 (developments associated with approved programmes where a scoping report has not been submitted; developments identified in relevant / emerging development plans; and developments identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward).

10.2 Summary of Cumulative Effects

10.2.1 Coastal Processes, Water and Sediment Quality

10.2.1.1 **Volume 2, Chapter 4** provides a full assessment of the potential cumulative effects of the Proposed Works Offshore on coastal processes, water and sediment quality, considering the following impact pathways:

- Impact to water quality from increased suspended sediment concentrations (SSC); and
- Impacts to the Arklow Bank morphology and the coastline due to changes in seabed morphology.

10.2.1.2 In relation to the first cumulative impact pathway, other developments with potential to generate SSC and spatially / temporarily overlap with temporary increases in SSC introduced by the Proposed Works Offshore, include site investigations (SI04, SI06 and SI07 and SI11), which due to their highly localised nature, are anticipated to cumulatively generate a sediment plume and associated SSC extremely minor compared to background conditions that will rapidly settle, and not considered likely to increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.1.3 Similarly, the main activity introduced by the Flood Relief Scheme Arklow (CA04) with potential to generate increased SSC is proposed dredging within the Avoca River, of relatively low scale and anticipated to be short-lived and in line with baseline turbid conditions of the Avoca River,

also considered unlikely to cumulatively increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.1.4 Finally, although construction of ABWP Phase II (ORE01) includes potential dredging within the cumulative ZoI of the Proposed Works Offshore for this environmental factor, in both cases, increased SSC will be temporary, with sediment settling within hours, making temporal overlap highly unlikely, and overall, not anticipated to increase the significance of this impact pathway when considering the Proposed Works Offshore alone, see **Volume 3, Appendix 4.2: Coastal Processes Modelling**. The same conclusion is reached in ABWP Phase II EIAR, which notes that any overlap between ABWP Phase II construction and Proposed Works Offshore is anticipated to be short-lived and within the near-field only (GoBe, 2026).

10.2.1.5 Regarding changes in seabed morphology with potential to affect the Arklow Bank morphology and the coastline, other developments with potential to contribute to the alteration of physical processes and affect seabed morphology are considered to be limited to site investigations (SI04) and construction of ABWP Phase II (ORE01).

10.2.1.6 Due to their nature, site investigations are anticipated to have a very localised impact on the seabed, unlikely to increase the significance of this impact pathway when considering the Proposed Works Offshore alone. However, the construction and operation of ABWP Phase II (ORE01) have potential to introduce changes in seabed morphology, both during construction works and post-construction, with new obstacles (wind turbine generators (WTGs) introduced on the Arklow bank sandbank and its vicinity, which will potentially result in a dynamic re-adjustment of sediment transport. However, given the nature and scale of the Proposed Works Offshore, and high probability for the Proposed Works Offshore to be completed before construction of ABWP Phase II is concluded, it is considered that potential effects associated with changes in seabed morphology will not be additive, but rather a replacement of one disturbance by another, with potential post-decommissioning effects dictated by the presence of ABWP Phase II rather than the presence of residual MPs from ABWP Phase I.

10.2.1.7 Overall, potential cumulative effects on coastal processes, water and sediment quality introduced by the Proposed Works Offshore together with other developments of relevance, are not anticipated to cumulatively increase the significance of potential effects associated with the Proposed Works Offshore, with any potential residual effects remaining as **Minor Adverse** at most, and not significant in EIA terms.

10.2.2 Marine Biodiversity

10.2.2.1 **Volume 2, Chapter 5** provides a full assessment of the potential cumulative impacts of the Proposed Works Offshore on marine biodiversity, considering the following impact pathways:

- Temporary habitat loss / disturbance;
- Increased SSC and deposition; and
- Injury and/or disturbance from underwater noise.

10.2.2.2 Other developments with potential to contribute to temporary habitat loss / disturbance are limited to those that spatially overlap with the footprint of the Offshore Site, which include site investigations (SI04) and construction of ABWP Phase II (ORE01). Cumulative effects have the potential to affect:

- Benthic intertidal habitats and species around the landfall. However, only site investigations (SI04) spatially overlap with the Offshore Site around landfall, and these will be highly localised and any habitat loss / disturbance will be temporary within an area naturally subject to local hydrodynamic conditions and wave action. Overall, potential cumulative effects are not anticipated to increase the significance of this impact pathway when considering the Proposed Works Offshore alone;
- Benthic subtidal habitats and species. Whilst site investigations (SI04) will be highly localised, ABWP Phase II construction (ORE01) is expected to result in the temporary habitat loss / disturbance of 9.929 km^2, an area much larger than the overall footprint of

the Proposed Works Offshore (0.357 km^2). Accordingly, any spatial overlap is anticipated to be highly localised and short-term, within an area characterised by habitats that are widespread across the Irish Sea and considered to have a high rate of recoverability. Overall, potential cumulative effects are not anticipated to increase the significance of this impact pathway when considering the Proposed Works Offshore alone; and

- Fish and shellfish. There is potential for site investigations (SI04), ABWP Phase II construction (ORE01) and Proposed Works Offshore to affect potential fish spawning grounds (associated with fish species other than sandeel and herring), with any potential cumulative overlap anticipated to be highly localised and short-term, within potential spawning grounds considered to be widespread within the Irish Sea and expected to recover rapidly. In addition, any blue mussels removed from ABWP Phase I infrastructure will be added back into the marine environment through the construction of ABWP Phase II. Overall, potential cumulative effects are not anticipated to increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.2.3 Other developments with potential to increased SSC and deposition are limited to those located within 14 km from the Offshore Site, which include site investigations (SI04, SI06, SI07 and SI11). However, any increase in SSC / deposition is anticipated to highly localised and negligible in the context of natural sediment transport. Similarly, dredging works within the Avoca River (CA04) will be of relatively low scale and anticipated to be short-lived and in line with baseline turbid conditions of the Avoca River. Although sediment disturbance works associated with ABWP Phase II construction (ORE01) will be of larger scale, due to their temporary nature and rapid settlement of sediment anticipated, making temporal overlap highly unlikely, no cumulative effects on marine biodiversity receptors are considered likely to become significant.

10.2.2.4 Overall, and in line with cumulative effects considered in **Section 10.2.1**, potential cumulative effects are not anticipated to cumulatively increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.2.5 Finally, there are a number of other developments likely to also introduce injury and/or disturbance from underwater noise. However, pathways for impact depend on specific marine biodiversity receptors:

- Fish and shellfish would only have potential to be affected if cumulative impulsive and/or non-impulsive sources of underwater noise are introduced within the immediate vicinity of the Offshore Site (<10 m), which could be the case if there is a temporal overlap with site investigations (SI04) and/or with ABWP Phase II construction works (ORE01); and
- Marine mammals would have the potential to be affected in different ways at different spatial scales, i.e. auditory injury and/or temporary threshold shifts (TTS) would only occur within 1 km from the Offshore Site, with potential for site investigations (SI04) to particularly contribute to these. Cumulative behavioural disturbance could extend over larger distances (<91 km), with a number of site investigations and offshore / coastal construction works (see **Table 10.1**) potentially contributing to this.

10.2.2.6 However, given the temporal scale of Proposed Works Offshore, a temporal overlap with other developments is considered unlikely, and should this occur, auditory injury, TTS and behavioural disturbance is expected to be temporary, intermittent, and spatially limited to a highly localised area of overlap, particularly considering the implementation of proposed additional mitigation in the form of Marine Mammal Mitigation Protocol (MMMP) adoption during relevant Proposed Works Offshore (see **Volume 3, Appendix 5.3**). Overall, potential cumulative effects on marine biodiversity introduced by the Proposed Works Offshore together with other developments of relevance, are not anticipated to cumulatively increase the significance of potential effects associated with the Proposed Works Offshore, with any potential residual effects remaining as **Minor Adverse** at most, and not significant in EIA terms.

10.2.3 Commercial Fisheries and Aquaculture

10.2.3.1 **Volume 2, Chapter 6** provides a full assessment of the potential cumulative impacts of the Proposed Works Offshore on commercial fisheries and aquaculture, considering the following impact pathways:

- Loss of or restricted access to fishing grounds;
- Displacement of fishing activity into other areas; and
- Effects on commercially exploited species.

10.2.3.2 Other developments that could contribute to the loss of or restricted access to fishing grounds include offshore construction works (ORE01, ORE02, ORE03) and associated site investigation works, particularly along the offshore export cable route. However, given that the Proposed Works Offshore are short-term and spatially limited, and not expected to result in sustained restriction of access to fishing grounds, and managed through a dedicated Fisheries Management and Mitigation Plan (FMMS) (see **Volume 3, Appendix 3.6**), cumulative effects from other developments are not considered likely to cumulatively increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.3.3 Regarding displacement of fishing activity, similarly, the temporary and localised nature of the Proposed Works Offshore combined with the limited spatial overlap with core inshore fishing grounds, it is considered unlikely that the Proposed Works Offshore in combination with other relevant developments will lead to a sustained or widespread redistribution of fishing effort or mussel seed fishery activity. Therefore, it is not considered likely to increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.3.4 Finally, whilst potential cumulative effects on commercially exploited species may arise through temporary seabed disturbance, increases in suspended sediment concentrations, and underwater noise associated with the Proposed Works Offshore in combination with other relevant developments, any effects are anticipated to be localised and short-term, and not result in measurable changes at a scale relevant to commercial fisheries.

10.2.3.5 Overall, potential cumulative effects on commercial fisheries and aquaculture introduced by the Proposed Works Offshore together with other developments of relevance, are not anticipated to cumulatively increase the significance of potential effects associated with the Proposed Works Offshore, with any potential residual effects remaining as **Minor Adverse** at most, and not significant in EIA terms.

10.2.4 Shipping and Navigation

10.2.4.1 **Volume 2, Chapter 7** provides a full assessment of the potential cumulative impacts of the Proposed Works Offshore on shipping and navigation, considering the following impact pathways:

- Increased Collision (Vessel-to-Vessel) Risk; and
- Increased Allision (Vessel-to-Structure) Risk.

10.2.4.2 Increased collision (vessel-to-vessel) risk has potential to be exacerbated by other developments, including offshore construction works (ORE01, ORE02 and ORE03) and associated site investigations, should these overlap in time with the Proposed Works Offshore. However, embedded mitigation includes appropriate marine coordination and other standard management measures are assumed to also be implemented by other developments of relevance, contributing to a safe and effective management of the temporary Proposed Works Offshore coexisting with other developments that generate vessel activity. In addition, vessel traffic increase introduced by other developments are encompassed within future baseline vessel traffic used as a basis in the estimation of frequency of occurrence and given the short-term nature of Proposed Works Offshore and discrete and temporary nature of other developments of relevance, cumulative effects from other developments are not considered

likely to cumulatively increase the significance of this impact pathway when considering the Proposed Works Offshore alone.

10.2.4.3 Increased allision (vessel-to-structure) risk has potential to be exacerbated by other developments of relevance, as these could increase third-party vessel traffic. However, as above, vessel traffic increase introduced by other developments are encompassed within future baseline vessel traffic used as a basis in the estimation of frequency of occurrence and given the short-term nature of the Proposed Works Offshore and discrete and temporary nature of other developments of relevance, cumulative effects from other developments are not considered likely to increase the significance of this impact pathway when considering the Proposed Works Offshore alone. In addition, once ABWP Phase II is operational, existing route separation from the Sub Lease Area will be reinforced, and allision risks with residual MPs (even in the highly unlikely case of these becoming exposed post-decommissioning) will reduce their probability of occurrence.

10.2.4.4 Overall, potential cumulative effects on shipping and navigation introduced by the Proposed Works Offshore together with other developments of relevance, are not anticipated to cumulatively increase the significance of potential effects associated with the Proposed Works Offshore, with any potential residual effects remaining as **Broadly Acceptable** at most, and not significant in EIA terms.

10.2.5 Marine Archaeology

10.2.5.1 **Volume 2, Chapter 8** provides a full assessment of the potential cumulative impacts of the Proposed Works Offshore on marine archaeology, considering the following impact pathways:

- Sediment disturbance and deposition leading to effects on known and unknown heritage assets;
- Direct impact on historic shipwreck sites; and
- Direct impact on unknown heritage assets associated with buried palaeo landscapes.

10.2.5.2 Other developments that could contribute to the above impact pathways include site investigations (SI03 and SI05) and ABWP Phase II construction works (ORE01). However, these other developments are anticipated to implement protocols for marine archaeological discovery similar to that proposed for the Proposed Works Offshore, to be included in the Detailed Offshore Decommissioning Environmental Management Plan (DEMP) (see outline version in **Volume 3, Appendix 3.4**) and have localised and temporary effects that are not considered likely to increase the significance of these impact pathways when considering the Proposed Works Offshore alone.

10.2.5.3 Overall, potential cumulative effects on marine archaeology introduced by the Proposed Works Offshore together with other developments of relevance, are not anticipated to cumulatively increase the significance of potential effects associated with the Proposed Works Offshore, with any potential residual effects remaining as **Minor Adverse** at most, and not significant in EIA terms.

10.3 References

Environmental Protection Agency (EPA), 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports. Available at: https://www.epa.ie (Accessed: February 2026)

GoBe, 2026. Arklow Bank Wind Park 2 Environmental Impact Assessment Report: Volume II, Chapter 6 – Coastal Processes. Sure Partners Limited. Available at: https://www.pleanala.ie (Accessed: July 2026)

Institute of Environmental Management and Assessment (IEMA), 2024. Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction. Available at: https://www.iema.net

MacCabe Durney Barnes (MDB), 2017. Guidance on EIS and NIS preparation for Offshore Renewable Energy Projects. Prepared for the Department of Communications, Climate Action & Environment (DCCAE) and Sustainable Energy Authority of Ireland (SEAI). Available at: https://assets.gov.ie (Accessed: February 2026)

Office of the Planning Regulator, n.d. Planning Library. Environment and Climate Glossary. Available at: https://www.opr.ie (Accessed: June 2026)

PINS, 2024. National Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Available at: https://www.gov.uk (Accessed: February 2026)