ABWP Phase I Decommissioning

EIA Scoping Presentation

Volume 3, Appendix 1.1



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Arklow Bank Wind Park Phase I Decommissioning

Environmental Impact Assessment (EIA) Scoping Presentation

March 2026

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1. Introduction

Overview of Arklow Bank Wind Park Phase I

Ramboll UK Limited ('Ramboll') has been commissioned by Arklow Energy Limited ('Arklow Energy') to prepare an Environmental Impact Assessment (EIA) Scoping Presentation for the proposed decommissioning of Arklow Bank Wind Park (ABWP) Phase I ('the Proposed Works').

ABWP Phase I was constructed between 2003 and 2004 and is owned and operated by Arklow Energy. 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), as illustrated in **Figure 1.1**.

Offshore infrastructure (within the 'Offshore Site', see **Figure 1.1**) is located seaward of the High Water Mark (HWM) of the coast of Arklow, County Wicklow, in southeast Ireland, and comprises:

- Seven Wind Turbine Generators (WTGs) sitting on transition pieces (TPs) and monopile (MP) foundations, with a combined capacity of 25.2 megawatts (MW), scour protection in the form of sandbags;
- One meteorological (met) mast sitting on a TP and MP located south of the southernmost WTG turbine (T1);
- WTGs and the met mast are connected through inter-array cables, and located within the Sub Lease Area, at the crest of Arklow Bank sandbank, within 10 kilometers (km) of the coast; and
- One offshore export cable connecting WTG turbine 4 (T4) to the landfall point at HWM.

Onshore infrastructure (within the 'Onshore Site', see **Figure 1.1**) is located landward of the HWM, in Ferrybank, off N Quay road, within Arklow Harbour, and comprises:

- A fenced compound that hosts the onshore substation and ancillary facilities; and
- One onshore cable connecting the landfall point from HWM to the onshore substation, and the onshore substation to the Electricity Supply Board (ESB) Networks 220/110 kV substation acting as the grid connection point.

Need for an Environmental Impact Assessment

Although there is no class of EIA development within Parts 1 or Part 2 of Schedule 5 of the S.I. No. 600/2001 - Planning and Development Regulations 2001 (as amended) ('the 2001 Regulations') which expressly relates to decommissioning works, the Proposed Works could be compared to demolition works, as defined in Paragraphs 13(c) and 14 of Part 2 of the 2001 Regulations.

Accordingly, Arklow Energy has decided that an Environmental Impact Assessment Report (EIAR) will be submitted in support of the planning application for the Proposed Works to An Coimisiún Pleanála (ACP), competent authority for the approval of the Proposed Works under the Planning and Development Act 2000 (as amended) ('the 2000 Act').

Purpose of this EIA Scoping Presentation

This EIA Scoping Presentation seeks to obtain feedback from relevant stakeholders on the proposed scope of the EIAR, and on the assessment approach to be taken for the 'scoped in' technical assessments to be included in the EIAR.

It should be noted that this EIA Scoping presentation does not constitute a formal scoping request under Article 117 of the 2001 Regulations.

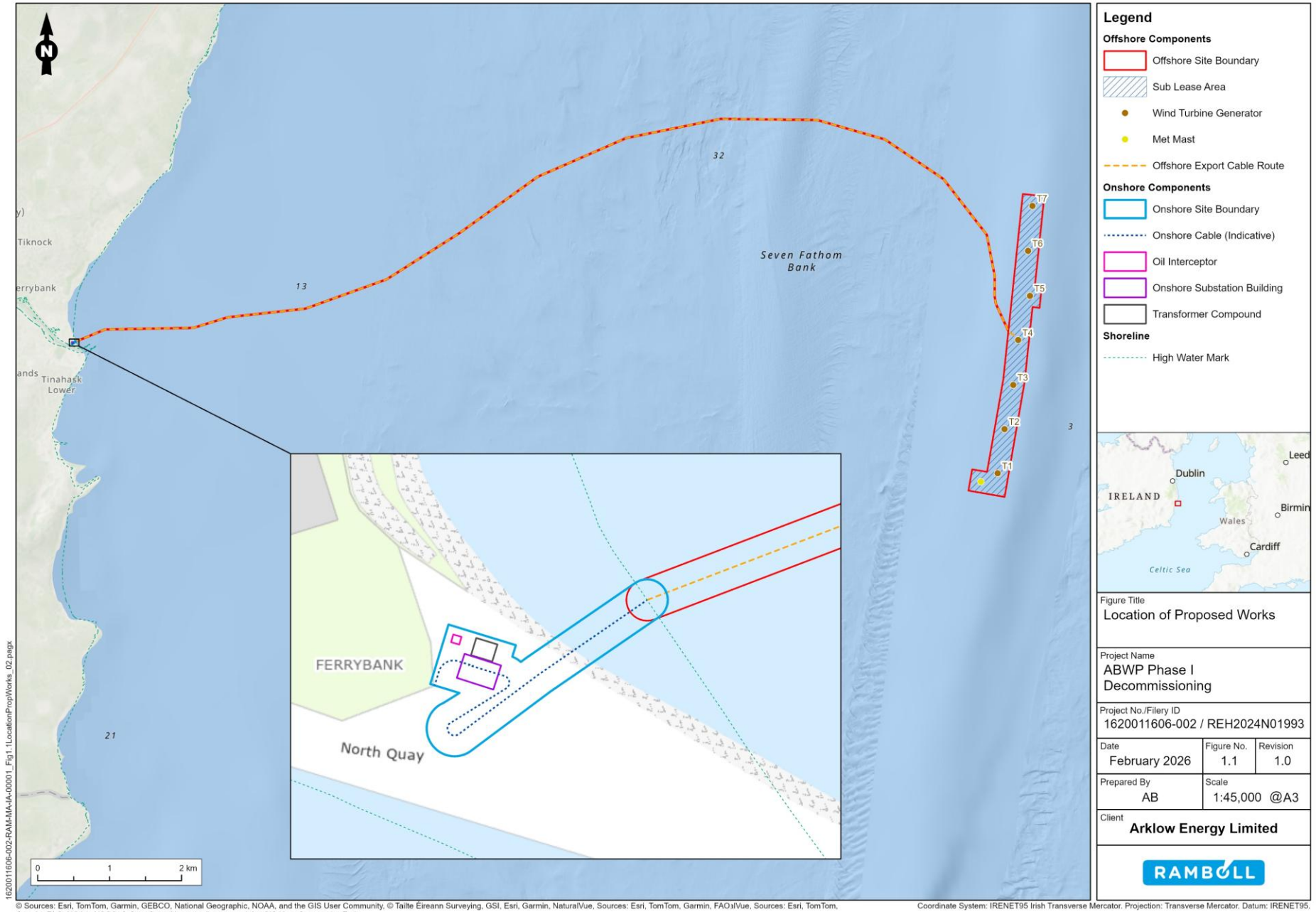


Figure 1.1: Location of Proposed Works

2. Policy and Legislative Context

Foreshore Lease Documentation

Sure Partners Limited ('SPL') was granted a Foreshore Lease by the Minister for Communications, Marine and Natural Resources in 2002 (under section 2(1) of the Foreshore Act 1933, functioning as development consent) to construct, locate and operate a 520 MW wind farm on the area known as Arklow Bank (the 'Leasehold Area').

Arklow Energy was granted a Foreshore Sub Lease by SPL in 2003 for the development of ABWP Phase I to be installed on the Sub Lease Area, within the wider Leasehold Area.

The Minister consented to the granting of the Foreshore Sub Lease on terms and conditions set out in the Tri-partite Deed signed in 2003, regularised in 2023 to correctly reflect the boundaries of ABWP Phase I.

The Tri-partite Deed requires that Arklow Energy makes provision for and to carry out decommissioning works and reinstatement of the Sub Lease Area and, if necessary, any adjacent Foreshore to the satisfaction of the Minister.

Onshore Lease

Arklow Energy was granted planning permission by Arklow Town Council to construct a switch station building and compound at North Quay in 2002. An additional planning permission by Arklow Town Council was granted to install the transformer in 2004.

Arklow Energy was granted a transfer of the lease and sub-lease for the North Quay Switch House and Isolation Transformer (within the Onshore Site fenced compound) from SPL by the Arklow Harbour Commissioners in 2010.

2. Policy and Legislative Context

National Marine Planning Framework (NMPF)

The NMPF includes, among its objectives for the Offshore Renewable Energy (ORE) sector, to *"ensure good regulatory practices in ORE installation and generation, including decommissioning of existing facilities, at end of life, according to international best practice".*

Planning policies that make specific reference to decommissioning are related to ensuring safety at sea (Safety at Sea Policies 1 – 5).

The EIAR will be prepared in line with relevant policies and assessment requirements set out in the NMPF. For instance, **Volume 3, Appendix 1.5: Ecosystem Services Screening** of the EIAR will determine whether any relevant ecosystem services could be affected by the Proposed Works.

In addition, the planning application will be supported by a Planning Report that demonstrates compliance of the Proposed Works with the NMPF.

National Planning Framework 2040 (NPF)

The NPF is the Irish Government's high-level strategic plan for shaping the future growth and development of the country out to the year 2040, and of relevance to the Proposed Works, it sets out the National Policy Objective 76 which states "*Sustainably manage waste generation including construction and demolition waste, invest in different types of waste treatment and support circular economy principles, prioritising prevention, reuse, recycling and recovery, to support a healthy environment, economy and society".*

Volume 3, Appendices 3.3 (Onshore Waste Management Plan (WMP) and **3.9 (Offshore WMP)** of the EIAR will be prepared in line with applicable waste management policies and legislation to the Proposed Works.

Wicklow County Development Plan 2022 – 2028 (WCDP)

The WCDP only refers to new developments and includes no objectives or provisions in relation to end-of-life management of assets for relevant energy/renewable energy projects.

Draft Arklow Local Planning Framework (LPF) 2025

The Draft Arklow LPF (Wicklow County Council (WCC), 2025) forms part of the WCDP 2022-2028 (Variation No. 5). The plan will be adopted into the County Development Plan via the variation procedure set out under Section 13 of the of the Planning & Development Act 2000 (as amended). There is no direct or specific demolishing / decommissioning policy evidence in the draft LPF. However, the following objective is anticipated to apply directly to the LPF for general construction and demolition waste:

'ARK 67: Having regard to the scale, location and characteristics or any proposed development, the Council may require the preparation of a Resource Waste Management (RWMP) as set out in the EPA's 'Best Practice Guidelines for the preparation of Resource and Waste Management Plans for Construction and Demolition Waste' (2021) including demonstration of proposals to adhere to best practice and protocols'.

Volume 3, Appendices 3.3 (Onshore Waste Management Plan (WMP) and **3.9 (Offshore WMP)** of the EIAR will be prepared in line with Environmental Protection Agency (EPA) guidelines.

Arklow and Environs Local Area Plan (LAP) 2018 – 2024

The Arklow and Environs LAP (WCC, 2018) was prepared pursuant to Section 20 of the Planning & Development Act 2000 (as amended). The Arklow and Environs LAP includes no specific objectives or provisions in relation to end-of-life management of assets of relevance to the Proposed Works.

2. Policy and Legislative Context

The Maritime Area Planning Act 2021 (as amended) ('MAP Act')

The MAP Act introduced a requirement to obtain permission to carry out development in the maritime area from ACP under section 286 of the 2000 Act.

Dumping at Sea Act 1996 (as amended) ('DaS Act')

The DaS Act regulates the dumping of material at sea and implements the requirements of international conventions regulating the disposal of dredged materials at sea, including the OSPAR Convention.

Given that Proposed Works Offshore may require dredging and disposal works (see **Section 4**), a DaS permit from the EPA is anticipated to be required.

Waste Management Act 1996 (as amended)

The Waste Management Act 1996 establishes a comprehensive framework for waste management in Ireland, focusing on prevention, management, and control of waste. The framework covers waste produced as part of decommissioning activities, which applies to the Proposed Works.

Water Framework Directive 2000 ('WFD')

The WFD (Directive 2000/60/EC) is part of European Union (EU) legislation that sets out a comprehensive framework for the protection and sustainable management of water resources across the EU. The EU WFD was transposed into Irish law through the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). **Volume 3, Appendix 4.6: Water Framework Directive Assessment** of the EIAR will present an assessment of compliance of Proposed Works with relevant WFD objectives.

Marine Strategy Framework Directive 2008 ('MSFD')

The MSFD (Directive 2008/56/EC) is part of EU legislation aimed at protecting the marine environment across Europe. Adopted in 2008, it establishes a framework for community action in the field of marine environmental policy, promoting sustainable use of marine resources. **Volume 3, Appendix 4.5: Marine Strategy Framework Directive Assessment** of the EIAR will present an assessment of compliance of the Proposed Works with relevant MSFD objectives.

Habitats Directive 1992 and Birds Directive 1979

The Habitats Directive (Council Directive 92/43/EEC), transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 1997, is aimed at conserving natural habitats and species.

The Birds Directive (Directive 2009/147/EC), transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011, is dedicated to the conservation of all wild bird species naturally occurring in the EU and their habitats and complements the Habitats Directive.

The planning application for Proposed Works will be supported by an **Appropriate Assessment Screening Report** and **Natura Impact Statement**, as required.

EIA Directive

The EIA Directive, transposed into national law through the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2021, is aimed at ensuring that environmental considerations are integrated into the decision-making process for projects likely to have significant effects on the environment. The EIAR will comply with the EIA Directive requirements.

2. Policy and Legislative Context

Climate Action Plan (2024) (CAP24)

The CAP24 is the third annual update to Ireland's Climate Action Plan and was prepared by the Department of the Environment, Climate and Communications (DECC) in order to tackle climate breakdown. CAP24 aims to deliver on the roadmap for renewables set out in CAP23, which includes actions to be implemented for offshore renewables including the development of a system-wide plan by the Offshore Wind Delivery Taskforce. Within the Public Sector Climate Action Mandate, CAP24 includes the requirement to '*adhere to the best practice guidelines for the preparation of Resource and Waste Management Plans for construction and demolition projects for directly procured or supported construction projects from 2024.'*

Volume 3, Appendices 3.3 (Onshore Waste Management Plan (WMP) and **3.9 (Offshore WMP)** of the EIAR will consider any relevant provisions of the CAP24.

3. Consultation

This EIA Scoping Presentation is issued to stakeholders to firstly inform them of the Proposed Works and secondly to request their comments and feedback on the scope of the EIAR.

Stakeholders consulted on this EIA Scoping Presentation to include the following:

- The Minister (Development Applications Unit, including NPWS & National Monuments)
- The Minister for the Environment, Climate and Communications
- The Minister for Transport
- The Minister for Defence
- The Minister for Agriculture, Food and the Marine; the Environmental Protection Agency
- The Maritime Area Regulatory Authority
- The Minister for Rural and Community Development
- Marine Institute
- Inland Fisheries Ireland
- Health and Safety Authority
- Commission for Regulation of Utilities
- Failte Ireland
- An Taisce
- Wicklow County Council
- Wexford County Council
- The Midlands and Eastern Regional Assembly
- National Transport Authority
- Irish Aviation Authority
- Sustainable Energy Authority of Ireland
- Eirgrid
- Commissioner of Irish Lights
- Irish Coastguard

4. Proposed Works Description

4.1. Proposed Works Offshore

The Offshore Site is the area where Proposed Works Offshore will take place. It includes the Sub Lease Area where WTGs, inter-array cables and met mast are located, and a 10 m cable corridor along the export cable route connecting T4 to the landfall point at MHW (as per the Foreshore Sub Lease).

The Proposed Works Offshore include the following activities, which will be staged and executed in a minimum of two main campaigns, see **Section 4.4 (Programme)**, further described in the following subsections.

First Campaign

- Pre-decommissioning surveys;
- Dredging for vessel access; and
- Full removal of WTGs and met mast;

Second Campaign

- Pre-decommissioning surveys;
- Dredging for vessel access;
- Full removal of TPs and partial / full removal of foundations (MPs);
- Removal of scour protection;
- Full removal / leave *in situ* of inter-array cables;
- Full removal / leave *in situ* of export cable; and
- Post-decommissioning surveys.

A Comparative Assessment (CA) will inform the final Proposed Works Offshore description that will be subject to EIA. The CA will assess feasible options for decommissioning ABWP Phase I foundations and cables. The CA will also inform **Volume 2, Chapter 2: Description of Alternatives** of the EIAR.

Pre-decommissioning Surveys

Pre-decommissioning surveys will be undertaken prior to the commencement of any stage / campaign in order to obtain updated information on the seabed (e.g. bathymetry) and sediments beneath, and update the decommissioning methodology and programme to be implemented by the appointed decommissioning contractor.

Type of surveys, equipment, location and estimated duration will be further detailed in the EIAR.

Dredging for Vessel Access

Given the strong spatial and temporal variability of seabed levels within the Sub Lease Area (see **Section 6.1 (Coastal Processes, Water and Sediment Quality)**), there is potential for some localised dredging to be required to facilitate safe vessel access during Proposed Works Offshore. The EIAR will include additional detail on maximum dredging volumes, dredging / disposal methods and anticipated areas for dredging and disposal activities within the Sub Lease Area.

4. Proposed Works Description

Decommissioning of WTGs

The decommissioning of WTGs will comprise the reversal of the installation process. **Table 4.1** specifies the WTG components to be decommissioned.

Table 4.1: WTG components and approx. weights

Component	Description	Approx. weight
Nacelle (including hub and generator)	The nacelle sits on top of the tower, housing the yaw system, gearbox, generator, transformer and auxiliary control systems. The hub is made of ductile cast iron and houses the blade pitching mechanisms.	240 tonnes (t)
Blade*	Three blades made of epoxy resin/ glass fibre with a length of 50.5 m and approx. weight of 13 t each per turbine, forming a rotor (104 m diameter).	39 t (three blades)
Tower	There are two tubular steel tower sections connected by a bolted flange, 57 m high. Diameter is 5.4 m at the bottom and 3.4 m at the top.	160 t

Decommissioning of the WTG is anticipated to require the following:

- Preparation works, including inspection, removal / securing loose items, etc;
- Position of jack-up barge (JUB) for pre-load and jack up to working height;
- Completion of safety checks and preparation of the WTG for lifting, accessing the inside where required;
- Fulle-energising of the WTG, routing power supply from JUB if required for dismantling;
- Permanent removal of rotor and blades for subsequent cutting and/or storage at selected port;
- Disconnection of power and signal cables between the nacelle and tower before removing nacelle, fastening components to the JUB or transport barge before transferring these to port; and
- Disconnection of power and signal cables between the tower and the TP / lift system before removing the tower, lifting the tower in sections and fastening components to the JUB or transport barge before transferring these to port.

*It should be noted that blades were removed in summer 2025 for maintenance purposes, including due to damage from a lightning strike and fire that took place in October 2022. However, the permanent removal of blades will be covered in the EIAR.

Decommissioning of Met Mast

The met mast comprises a number of meteorological sensors located at different heights, a lattice tower with an overall length of 60 m and weight of approximately 10 t, and a triangular platform.

The dismantling and removal of the met mast will largely be a reversal of the installation process.

Decommissioning of Transition Pieces

TPs house electrical equipment and serve as a connection point between WTGs / met mast and the foundations (in this case MPs). The interface between TPs and MPs is a grout connection. The TPs are made of steel and have the dimensions and weights specified in **Table 4.2**.

4. Proposed Works Description

Table 4.2: TPs dimensions and approx. weights

TP location	Diameter	Length	Approximate weight
WTGs (T1 – T7)	5.4 m	15.3 m	87.1 t (132 t if attached accessories are considered)
Met mast	2 m	16.5 m	35 t

Decommissioning of TPs will comprise:

- Position of JUB for pre-load and jack up to working height, ensuring secure attachment to relevant structure points. Position of transport barge next to JUB and of gangway next to the TP to provide safe access;
- General inspection of the TP before preparation activities for safety purposes;
- Removal / securing of loose items inside and outside of the TP. Installation and non-destructive testing of new lifting points, if required. Ensure access of internal cutting tool up to cutting elevation;
- Securing of TP to crane for lifting before executing the first cut, which is done 1 m below the grout connection between the TP and MP, as this is where typically there is no interference with the grout, facilitating sea fastening for transport; and
- Lifting of cutting equipment, as well as TP with attached MP, transferred to the JUB and transport barge respectively.

Decommissioning of Foundations

All seven WTGs, as well as the met mast, sit on MP foundations, with dimensions described in **Table 4.3**.

Table 4.3: MPs dimensions and approx. weights

Location	Diameter	Length	Embedment depth (level of toe)	Approximate weight
T1	5.1 m	44 m	-37.95 m	274 t
T2		45 m	-38.95 m	281 t
T3		45 m	-38.95 m	281 t
T4		45 m	-38.95 m	281 t
T5		42 m	-35.9 m	252 t
T6		45 m	-38.95 m	281 t
T7		44 m	-37.95 m	274 t
Met mast	1.8 m	31.4 m	-22 m	47.5 t

Subject to the CA findings, the MPs will either be fully or partially removed. If partial removal is identified as a preferred method, the target cutting depth of MPs will be determined based on seabed modelling in order to minimise post-decommissioning exposure risks and through consultation with potential decommissioning contractors and will be specified in the EIAR.

Partial and full removal methods will require internal dredging of the contents of the MP, and disposal via pipeline within its vicinity, internal cut(s) and use of shaft friction removal equipment to facilitate safe lifting operations.

The EIAR will define in detail the final methodology selected for MP removal.

4. Proposed Works Description

Scour Protection Removal

Originally, scour protection was placed around all MPs using rock armour. However, due to the dynamic conditions of the sandbank, this proved ineffective against scour and rock armour exposed / accessible was removed in 2005. To address and prevent scour issues, underwater remedial works have regularly been required as part of the ABWP Phase I maintenance program. This has mainly involved placing sandbags around the MPs, filled with sediment from around the MPs using divers in accordance with the original MP structural design.

Subject to confirmation of the presence of any residual scour protection bags, the sequence for removal of scour protection is anticipated to comprise:

- Position of support vessel equipped with MBES and grab dredger next to the WTG; and
- Guide the grab dredger to grab the individual sandbags identified and mapped during multibeam echo sounder (MBES) pre-decommissioning surveys, and to lift them from the seabed to the vessel deck.

Decommissioning of Inter-array Cables

The total length of inter-array cables is approx. 7.4 km, originally buried. A cable position and burial depth survey was completed in 2007, noting that inter-array cables were buried in sandwaves of approx. 0.5 m to 1 m depths. Subject to the findings to the CA, inter-array cables will be left *in situ* or be fully removed. Should removal be needed, the following will be undertaken:

- Position of the multicat vessel at the designated location near the WTG where the cable needs to be recovered;
- Unburial of cable with a grapnel run, pulled out using clamps and a cable puller; and
- Cutting of cables underwater or on vessel deck with shears into manageable sections (generally between 7 m and 9 m) and deposited in containers for subsequent transfer to the relevant port.

Decommissioning of Offshore Export Cable

The offshore export cable has an approximate length of 15.6 km, and was originally buried throughout its length. Cable position and burial depth surveys undertaken in 2010, found the export cable buried between 0 m and 0.5 m, with some sections unburied.

At landfall, the offshore export cable was originally routed onshore using horizontal directional drilling (HDD).

The export cable is anticipated to be fully removed as follows:

- Disconnection / cut of the export cable within the vicinity of the landfall;
- Position of the multicat vessel at the designated location near the WTG where the cable needs to be recovered;
- Unburial of cable with a grapnel run, pulled out using clamps and a cable puller; and
- Cables would be cut underwater or on vessel deck with shears into manageable sections (generally between 7 m and 9 m) and deposited in containers for subsequent transfer to a relevant port.

4. Proposed Works Description

Post-decommissioning Survey

It is anticipated that post-decommissioning surveys will be conducted within three months of completion of decommissioning works using MBES equipment and remotely operated vessel (ROV) surveys. These will verify the resulting seabed condition within the Offshore Site and inform the Close Out Report of Proposed Works Offshore.

Vessel Spread and Ports

At this stage, it is anticipated that offshore infrastructure decommissioned will be taken to an available Irish Port (Rosslare, Waterford or Dublin), which shall be confirmed once the decommissioning contractor is appointed. Considering the closest ports (Rosslare and Waterford), transit times to the ports would vary from 9 hours to 22 hours (travelling at 4 – 6 knots). The number of transits will depend on the deck space, layout design and the actual vessel available on the market, however, realistic assumptions will be presented in the EIAR for the purposes of assessment.

The vessel spread outlined in **Table 4.4** is currently anticipated.

Table 4.4: Anticipated vessel spread during Proposed Works Offshore

Proposed Works Offshore - Activities	Anticipated Vessel Type
Pre-decommissioning Surveys	Survey vessel
Dredging for Vessel Access (if required)	Dredging vessel equipped with dredging equipment such as suction pipes, buckets or cutter heads
Decommissioning of WTGs / Met mast	JUB for attachment / lifting operations and transport barge for transfer of components
Decommissioning of TPs	
Decommissioning of Foundations	
Scour Protection Removal	Support vessel equipped with MBES and grab dredger
Decommissioning of inter-array and export cables	Multicat vessel equipped with a grapnel run
Post-decommissioning Surveys	Survey vessel

Upon arrival to the selected port, components will be unloaded using the vessel's main crane, auxiliary cranes/ and land cranes to optimise the programme.

Within the selected port, appointed Components will use available storage / working areas to break down / reduce component sizes to compliant road transport dimensions, who will then transfer these to appropriate waste management facilities for reuse, recycle or disposal operations in accordance with relevant waste regulations.

4. Proposed Works Description

4.2. Proposed Works Onshore

The Onshore Site is the area where Proposed Works Onshore will take place. It includes the fenced compound where the onshore substation and ancillary equipment (including a 38 kilovolt (kV) transformer, and a submerged oil interceptor tank surrounded by a concrete foundation bund) is located; and a 10 m cable corridor along the onshore cable route connecting the landfall point at HWM with the onshore substation (section 1), and the onshore substation with the ESB Networks 220/110 kV substation, grid connection point, (section 2), although only section 2 located within the fenced compound will be decommissioned as part of Proposed Works Onshore.

The Proposed Works Onshore will include the following activities:

Onshore Substation Decommissioning

- In collaboration with ESB, termination and isolation of 38 kV and 400 V electricity supplies;
- Removal of cooling oil from the transformer using an oil tanker and transfer of transformer to suitable waste management facilities for recycling;
- Removal of grey water from submerged oil interceptor tank, to be subsequently excavated and removed;
- Excavation and removal of concrete bund;
- Dismantling and removal of all equipment within the onshore substation building. All cables are anticipated to be processed through a copper granulation plant for optimal environmental outcomes; and
- Dismantling of onshore substation building structure, followed by site clearance and levelling, including reinstatement using hardcore.

Onshore Cable Removal

Onshore cable removal works will commence once the fenced compound area is vacant and reinstated so that it can be used to temporarily store machinery, vehicles and excavated soil during onshore cable removal works, which will comprise:

- Set up of exclusion zones and signage along the onshore cable route (approximately 30 m long);
- Verify the location and depth of the cable using a cable detector;
- Begin excavation at one end of the cable route and cut sections of the cable as necessary, extracting the cable from the trench using mechanical aids, and placing removed cable sections in appropriate containers for transport and disposal; and
- Backfill and compact excavated trench with excavated soil previously stored within the fence compound area for reinstatement.

Reasonable endeavours will be undertaken to fully remove the onshore cable, however, some sections may be left *in situ* if cable pulling becomes unfeasible.

Waste Management

Management of decommissioning waste generated from the Proposed Works Offshore and Onshore will be carried out in accordance with all relevant legislation, having full regard to the 'waste hierarchy'. Appropriate licensed waste facilities will be selected for further processing and disposal.

4. Proposed Works Description

4.3. Embedded Mitigation

Mitigation measures are measures used to avoid, prevent or reduce impacts (EPA, 2022). This EIA Scoping Presentation distinguishes between:

- Embedded mitigation, measures included as part of the definition of Proposed Works, including modifications arising through the iterative design / methodology development process; and standard industry practice that would occur even without input from the EIA process, e.g. actions undertaken to meet other existing legislative requirements, or actions that are standard practices used to manage commonly occurring environmental effects. These are also referred to as primary and tertiary mitigation in IEMA (2024). **Table 4.5** outlines embedded mitigation anticipated at this stage; and
- Additional mitigation, actions that will be required to reduce the significance of environmental effects, which will be dependent on the significance of effects assessed in the EIAR.

Table 4.5: Embedded mitigation identified at scoping stage

Embedded Mitigation	Notes	Relevance to Proposed Works Offshore	Relevance to Proposed Works Onshore
Development and adherence to offshore Decommissioning Environmental Management Plan (DEMP)	An outline offshore DEMP will support the EIAR and present standard industry practice and legal requirements for environmental management and mitigation in the marine environment, as well as any additional mitigation identified in the EIAR, serving as a framework for the future decommissioning contractor(s) to develop in detail before decommissioning works commence.	All offshore environmental aspects	N/A
Development and adherence to Marine Mammal Mitigation Protocol (MMMP) and Ecological Vessel Management Plan (EVMP)	A MMMP and EVMP will support the EIAR and define actions required during Proposed Works Offshore to avoid, minimise, and manage potential impacts on marine mammals and the wider marine environment from vessel activity. - The MMMP will set out clear procedures for pre-works assessment, monitoring, and mitigation in line with standard industry practice and legal requirements; and - The EVMP will define best-practice vessel management measures, including transit routes, speed restrictions, timing of activities, pollution prevention, and crew environmental awareness, to minimise disturbance, collision risk, and ecological harm.	• Coastal processes, water and sediment quality • Marine biodiversity • Commercial fisheries • Shipping and navigation	N/A

4. Proposed Works Description

Table 4.5: Embedded mitigation identified at scoping stage (continued)

Embedded Mitigation	Notes	Relevance to Proposed Works Offshore	Relevance to Proposed Works Onshore
Development and adherence to Fisheries Management and Mitigation Strategy (FMMS)	A FMMS will support the EIAR and set out standard industry practice and legal requirements to mitigate any potential impacts to commercial fisheries and liaison measures with the sector throughout the Proposed Works Offshore programme.	• Commercial fisheries	N/A
Development and adherence to Lighting and Marking Plan	An outline Lighting and Marking Plan will support the EIAR and indicate required lighting and marking throughout the Proposed Works offshore in line with the International Organisation for Marine Aids to Navigation and Lighthouse Authority (IALA) guidelines (IALA, 2021, IALA, 2023) and Irish guidance (e.g. DoT, 2025a) and Irish Standard Operating Procedures (e.g. DoT, 2025b).	• Shipping and navigation • Major accidents and natural disasters	N/A
Development and adherence to offshore Waste Management Plan (WMP)	An outline offshore WMP will support the EIAR and will establish a clear framework for the identification, handling, and management of wastes arising from Proposed Works Offshore, ensuring compliance with standard industry practice and relevant waste legislation, and the principles of the waste hierarchy.	• Waste	N/A
Development and adherence to onshore DEMP	An outline onshore DEMP will support the EIAR and present standard industry practice and legal requirements for environmental management and mitigation during Proposed Works Onshore, serving as a framework for the future decommissioning contractor(s) to develop in detail before decommissioning works commence.	N/A	All onshore environmental aspects
Development and adherence to Traffic Management Plan (TMP)	An outline TMP will support the EIAR and provide a framework to ensure that traffic associated with the Proposed Works Onshore are managed safely and efficiently, while minimising disruption to the local road network and surrounding communities.	N/A	• Traffic and transport
Development and adherence to onshore WMP	An outline onshore WMP will support the EIAR and provide a framework for managing wastes generated during the Proposed Works Onshore, in accordance with standard industry practice and relevant waste legislation, and the principles of the waste hierarchy.	N/A	• Waste

4. Proposed Works Description

4.4. Programme

The planning application for Proposed Works will seek a planning permission valid up to and including 2033 in order to facilitate programming of Proposed Works Offshore, as these are highly vulnerable to weather / sea state and bathymetric conditions.

Proposed Works Offshore will be staged, with indicative timeframes for each activity as follows:

- Pre-decommissioning survey(s): < 1 week
- Dredging to facilitate vessel access (if needed, per vessel access channel): < 2 weeks
- Decommissioning of each WTG: < 3 weeks
- Decommissioning of Metmast: < 2 weeks
- Decommissioning of each TP/MP: < 2 weeks
- Offshore export cable removal: < 5 weeks
- Inter-array cable removal: < 3 weeks
- Scour protection removal: < 3 weeks
- Post-decommissioning survey: <2 weeks

Proposed Works Offshore will be programmed during favourable weather / sea state conditions to minimise risk of downtime and risks to personnel, targeting the months between April and October, and be undertaken 24h, seven days a week to maximise favourable windows of time.

Proposed Works Onshore may be undertaken separately or in parallel to Proposed Works Offshore.

- Proposed Works Onshore anticipated duration: < 5 weeks

The EIAR will include different programme scenarios considering the potential staging / overlapping of different activities considered.

5. EIA Process and Methodology

EIA Scoping Methodology

Scoping is concerned with identifying those aspects of the environment where there is an interaction with a project, and as a consequence where there is potential for likely and significant effects, which need to be further assessed and be contained in an EIAR. Scoping also identifies the methods that should be used to gather and assess potential impacts.

Sections 6, 7 and **8** present the results of scoping for the offshore, onshore and offshore/onshore combined environmental aspects respectively, presenting the following information for each of the environmental aspect considered:

- Summary of baseline conditions, mainly sourced from ABWP Phase II EIAR, given that ABWP Phase II immediately surrounds the Offshore Site (see overleaf), and Arklow Wastewater Treatment Plant (WWTP) EIAR, located within the vicinity of the Onshore Site;
- Potential impacts; and
- Justification for scoping in / out.

An exception is **Section 8.6 (Major Accidents and Disasters)** for which a preliminary assessment is used to identify any major accidents or disasters of relevance to the Proposed Works and the Onshore and Offshore Sites.

For those environmental aspects proposed to be scoped in, the following is presented:

- Proposed study area;
- Proposed baseline data sources;
- Proposed assessment methodology; and
- Proposed embedded mitigation identified at this stage.

EIA Methodology

The EIAR will be undertaken in line with relevant policy (e.g. NMPF) and practice guidance, and will describe:

- Decommissioning Stage Potential Effects;
- Cumulative and Transboundary Potential Effects; and
- Significance of Likely and Residual Effects.

Environmental aspects scoped in will be assessed in technical EIAR chapters including:

- Legislative and policy context specific to that environmental aspect;
- Consultation and engagement undertaken in relation to that environmental aspect;
- Impact assessment methodology specific to that environmental aspect, including details of guidance followed, assessment scope, baseline characterisation method, assessment criteria and key parameters for assessment;
- Baseline characterisation, which will mostly rely on pre- and post-construction surveys undertaken as part of ABWP Phase I, as well as baseline and survey information gathered to inform ABWP Phase II EIAR (see overleaf), including in response to the Request for Information (RFI) issued by ACP; and
- Assessment of impacts, with separate consideration for cumulative impacts, transboundary effects and inter-related effects, including identification of any additional mitigation and monitoring proposed.

Where relevant and appropriate, the impact assessment methodology will be aligned with that followed in ABWP Phase II EIAR, as both EIARs will broadly cover similar areas.

5. EIA Process and Methodology

ABWP Phase II

In 2024, SPL submitted a planning application for the development of ABWP Phase II, a proposed offshore wind farm situated on and around Arklow Bank sandbank, surrounding ABWP Phase I (**Figure 5.1**). In 2025, ACP issued an RFI to SPL requesting clarification and additional information before being able to make a final planning decision. A response to the RFI needs to be provided before the 19th April 2026.

ABWP Phase II comprises:

- Offshore Infrastructure (including 56 or 47 WTGs and two Offshore Substation Platforms (OSP) and two offshore export cables); and
- Onshore Grid Infrastructure, an Operations and Maintenance Facility (OMF), and EirGrid Upgrade Works.

Given that the EIAR will largely cover the same area covered by ABWP Phase II EIAR, where relevant, baseline information collected and reviewed as part of ABWP Phase II EIAR will be consulted.

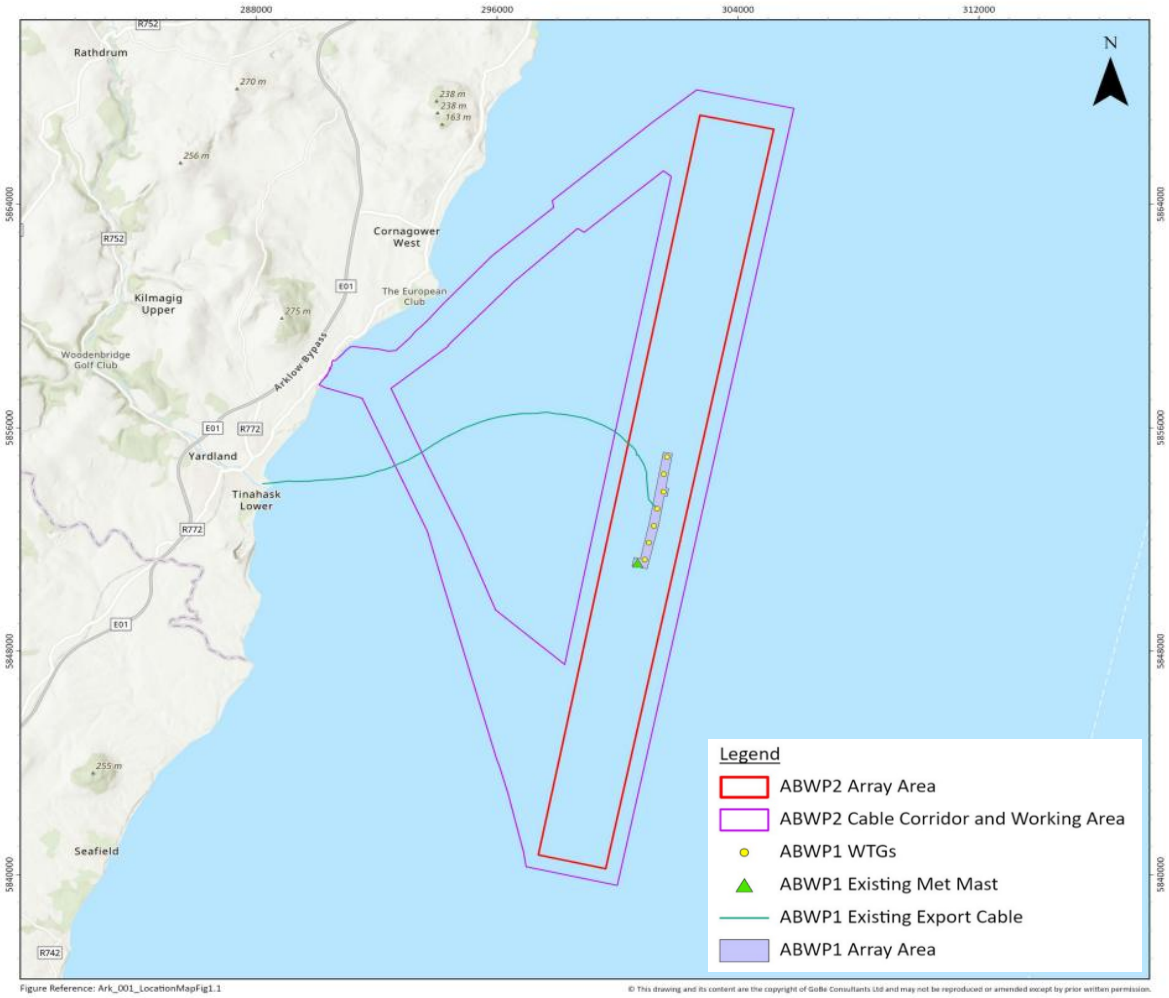


Figure 5.1: ABWP Phase II Location Map. Source: SPL (2024).

5. EIA Process and Methodology

Reasonable alternatives will also be outlined in the EIAR, along with reasons for the selection of the preferred option, including as informed by the CA.

The EIAR will be undertaken in accordance with relevant guidance including:

- *Guidelines on the Assessment of Indirect and Cumulative Impacts as well as Impact interactions* (European Commission, 1999);
- *Best-Practice Guidelines for the Irish Wind Energy Industry* (IWEA, 2012);
- *Guiding Principles for Cumulative Impact Assessment in Offshore Wind Farms* (RenewableUK, 2013);
- *Guidance on EIA and NIS preparation for Offshore Renewable Projects* (DCCAE and SEAI, 2017);
- *Government of Ireland Guidelines on carrying out EIA* (Government of Ireland, 2018);
- *Environmental Protection Agency (EPA) Guidelines on the information to be contained in EIAR* (EPA, 2022);
- *Evidence Review Note on EIA of Offshore Wind Projects* (OWEKH, 2025); and
- *Planning Inspectorate (PINS) Advice on Cumulative Effects Assessment* (PINS, 2024).

A full account of applicable legislation and guidance taken into account within the EIA methodology will be documented within the EIAR.

Cumulative Effects Assessment

The EPA (2022) defines cumulative effects as:

"the addition of many minor or significant effects, including effects of other Projects, to create larger, more significant effects".

This includes the impact of other relevant developments that were not present at the time of baseline data collection or survey.

Given that the planning application is anticipated to be submitted by May / June 2026, the Cumulative Effects Assessment (CEA) will consider the likely cumulative impacts arising from the Proposed Works alongside the likely impacts of other development activities with overlapping Zones of Influence (ZoIs) using publicly available information available up to the **19th April 2026**.

The assessment will also specifically consider the guidance found within the *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (*PINS, 2024), which includes the following stages:

- **Stage 1:** Establishing the project's ZoI and identifying a long list of other developments in the form of planning applications, relevant development plans and any other available and relevant sources, such as consultation response information from a relevant planning authorities. Other existing and, or approved development types that should be established for the assessment are listed in the tiers as follows:

  Tier 1 (most certain)

  - Projects 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

  Other existing and, or approved developments:

  - Projects associated with approved programmes.

5. EIA Process and Methodology

Tier 3

- Projects associated with approved programmes where a scoping report has not been submitted;
- Projects identified in relevant / emerging development plans; and
- Projects 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.

A decreasing level of detail is likely to be available from Tier 1 to Tier 3.

Where other existing and, or approved developments are expected to be completed before construction of the Proposed Works and the effects are fully determined, effects arising from them will be considered as part of the baseline.

- **Stage 2:** applies threshold criteria to the Stage 1 long list to determine which of those developments should be taken forward for more detailed consideration in the cumulative effects assessment/to establish a shortlist of other existing and/or approved developments;
- **Stage 3:** Gathering information on the cumulative effects of the Proposed Works in relation to the identified developments; and
- **Stage 4:** Conducting the cumulative assessment, assuming that the identified developments will implement appropriate mitigation measures as required by legislation, policy, or best practice measures.

Volume 3, Appendix 1.3: Cumulative Screening of the EIAR**,** will present the methodology followed in the selection of relevant cumulative schemes and assessment of cumulative effects.

Transboundary Screening

The need to consider transboundary impacts has been embodied by the United Nations Economic Commission for Europe (UNECE) Convention on EIA in a Transboundary Context (the Espoo Convention).

The Espoo Convention requires that assessments are extended across borders between Parties of the Convention when a planned activity may cause significant adverse transboundary impacts. The Convention has been ratified by the European Union, Ireland and the United Kingdom.

The Convention requires that the Party of origin notifies affected parties about activities likely to cause a significant adverse transboundary impact.

Article 7 of the EIA Directive introduces similar requirements concerning projects carried out in one Member State but likely to have significant effects on the environment of another, imposed by Article 7(4) of the EIA Directive:

> *"The Member States concerned shall enter into consultations regarding, inter alia, the potential transboundary effects of the project and the measures envisaged to reduce or eliminate such effects and shall agree on a reasonable timeframe for the duration of the consultation period."*

The EPA Guidelines (2022) also outline that, in the case of an EIAR, for any project that is likely to cause significant transboundary effects, contact with the relevant authorities in other Member States should be made. This will establish a consultation framework to consider and address these effects.

Volume 3, Appendix 1.4: Transboundary screening of the EIAR will screen transboundary impacts and conclude the probability of these effects to determine the need for transboundary consultation, assessed in each technical EIAR chapter in detail where relevant.

6. Scoping of the EIAR (Offshore)

The following offshore environmental aspects have been subject to scoping, as presented in the following slides:

- Coastal processes, water and sediment quality;
- Marine biodiversity;
- Commercial fisheries;
- Shipping and navigation;
- Airborne noise;
- Marine infrastructure and other users; and
- Marine archaeology and cultural heritage.

6.1 Coastal Processes, Water and Sediment Quality

Baseline Summary	Potential Impact	Scoped In / Out	
The Arklow Bank sandbank is a long, north–south-oriented dynamic offshore sandbank located approximately 10 km off the Wicklow coast. INFOMAR classifies the substrate within the Sub Lease Area as sand, and the offshore export cable route is shown to go through sand, coarse sediment and mud to muddy sand (Infomar, 2026). Mobile sandbanks are generally considered minor, or in some cases, ineffective carbon sinks in comparison to other coastal habitats like muddy seabeds (Robbins *et al.,* 2022). Tidal current is the primary driver of the sandbank morphodynamics, and wind- and wave-induced flows have shown to temporarily alter sediment distribution patterns. The currents in the Offshore Site vary between 0.75 m/s and 2.5 m/s, with governing current directions reported to be NNW-SSE. Southerly waves are reported to be the governing direction for wave propagation. A review of historical bathymetry data recorded within the Offshore Site shows strong variations in seabed levels across the Offshore Site caused by the natural migration of sand waves and global scour (caused by natural processes), with the largest seabed lowering occurring at depths of up to 17 m, and suggests that local scour (observed within the vicinity of MPs) is considered to have limited influence 250 m beyond MP locations. Survey data from ABWP phase I pre- and post-construction monitoring surveys and ABWP Phase II EIAR survey data indicate that sediments are heterogenous, composed of mobile sands, slightly gravelly sands and gravelly sands.	Increased suspended sediment concentrations (SSC) and associated deposition	**IN**	Increased SSC and associated deposition could occur where activities interact with the seabed, including dredging / disposal and cable removal works.
	Changes in physical processes and seabed morphology	**IN**	Changes in physical processes and seabed morphology could occur due to the disturbance of the seafloor and the removal of structures.
	Scour development around MP exposure post-decommissioning	**IN /** OUT	Subject to CA findings, if MPs are partially removed, there is potential for post-decommissioning exposure risks of MPs, which could lead to the development of scour around MPs. If MPs are fully removed, there will be no pathway for scour development, and this potential impact will be scoped out.
	Accidental release of pollutants	OUT	The Offshore DEMP and EVMP will include management measures and controls for accidental spills, minimising the likelihood and magnitude of any potential impacts, considered unlikely to become significant and proposed to be scoped out.
	Release of carbon through sediment disturbance	OUT	Given that mobile sandbanks are generally considered minor, or in some cases, ineffective carbon sink, and that the footprint of Proposed Works Offshore on muddy seabeds and other coastal habitats will be limited in scale, i.e. limited to the offshore export cable corridor (10 m wide), significant release of carbon through sediment disturbance during Proposed Works Offshore is unlikely and proposed to be ruled out. **Volume 3, Appendix 1.5: Ecosystem Services Screening** will further consider the potential of Proposed Works to affect regulating services that mitigate climate change.

6.1 Coastal Processes, Water and Sediment Quality

Proposed Study Area	The study area will be defined based on the ZoI of potential impacts, defined through modelling: • **Sediment plume modelling** will be undertaken to assess the temporal and spatial scale (i.e. ZoI) and magnitude of sediment plumes generated by the Proposed Works Offshore, focusing on cable removal works along the offshore export cable route and dredging (and associated disposal) activity that may be required to facilitate safe vessel access within the Sub Lease Area. Other decommissioning activities interacting with the seabed are anticipated to be of lower magnitude / scale and are proposed to be excluded from modelling.
Proposed Baseline Data Sources	• Existing literature covering coastal processes, water and sediment quality within the Offshore Site and the wider area; • Existing bathymetry, water and sediment quality sampling and analysis undertaken as part of ABWP Phase, and as part of ABWP phase II EIAR, and response to recent RFI from ACP; • Sediment sampling and analysis of soil plug to be dredging (within at least one single MP); and • ABWP Phase II EIAR baseline data that may provide additional contextual / regional information.
Proposed Assessment Methodology	Existing guidance and professional judgement will be used to rate receptor sensitivity, magnitude of change and significance of potential impacts. The assessment will also be informed by modelling work: • **Sediment Mobility Assessment**. The Arklow Bank numerical model developed as part of the ABWP phase II EIAR and in response to the recent RFI from ACP will be used to inform potential impacts of Proposed Works offshore in coastal processes, sediment transportation and seabed morphology at regional scale, as this model covers the Offshore Site. The model consists of a hydrodynamic and sediment transport model, coupled to a wave model. The model and data used to inform this will be used to better understand historic seabed dynamics observed and future trends within the Offshore Site and the wider context of the Arklow Bank sandbank, and implications of the Proposed Works Offshore in seabed dynamics; • **Sediment plume modelling**, which will comprise: - Hydrodynamic and Spectral Wave model set up and tuning using MIKE 21 software, including its particle tracking module; - Modelling scenarios will be developed to cover disposal of material dredged from inside MPs, dredging and disposal activities, cable removal and cumulative effects; - Continuous simulations will be undertaken to cover at least a full spring-neap tidal cycle; and - Outputs will be provided in the form of spatial maps of SSC, time series at sensitive receptors, and compliance checks against EPA thresholds. • **Scour Assessment**. The Arklow Bank numerical model developed as part of the ABWP phase II EIAR and, in response to the recent RFI from ACP, will be used to assess potential scour that could be created around MPs in the unlikely case that these become exposed post-decommissioning, as well as wider implications on seabed dynamics.
Proposed Embedded Mitigation	- Offshore DEMP, which will include standard industry practice and legal requirements for sediment disturbance management and mitigation, accidental spill prevention and controls, etc; and - EVMP, which will define best-practice vessel management measures to minimise seabed disturbance and accidental spillage risks.

6.2.1 Marine biodiversity - Benthic Subtidal and Intertidal

Baseline Summary	Potential Impact	Scoped In / Out	
The Offshore Site is characterised by sediments with little or no fixed hard substrata recorded. Species diversity has been reported to be highest with areas of sandy shell, gravel and cobbles in the northwest, southwest and southeast of the sandbank (outside the Offshore Site) and inshore along the offshore export cable route. In comparison, communities associated with sandy sediments have been reported to have lower biodiversity. The number of taxa recorded pre- and post-construction ABWP Phase I has remained fairly constant according to surveys conducted as part of ABWP Phase I (i.e. pre-construction (2000, 2001) and post-construction (2004 - 2011 and 2021) and as part of ABWP Phase II EIAR surveys. It should also be noted that the Operations and Maintenance (O&M) Manual of ABWP I has required the removal of marine growth on TPs / MPs (based on growth thickness criteria), last time undertaken in 2019. Both *Sabellaria spp.* have been recorded subtidally to the northwest and the east of the sandbank, although with variable distribution and not within the Offshore Site itself. There are no sites of nature conservation importance for benthic subtidal/ intertidal ecology within the Offshore Site, with the closest being Slaney River Valley Special Area of Conservation (SAC), located within 13.9 km north of the Offshore Site and designated for Annex I habitats 'Estuaries' and 'Mudflats and sandflats not covered by seawater at low tide', Wicklow Reef SAC, within 15.5 km north of the Offshore Site, designated for Annex I habitats 'Reefs', and Blackwater Bank SAC located within 29.2 km, designated for Annex I habitats 'Estuaries' and 'Mudflats and sandflats not covered by seawater at low tide' among others. The nearshore and intertidal environment adjacent to the offshore export cable landfall is strongly influenced by the presence of the Arklow Harbour breakwater, which supports typical rocky-shore biota such as algal growth and lichen communities on exposed rock surfaces, as well as adjacent pockets of cobble, pebble and gravel beach material within the estuarine margin (Uisce Éireann, 2018).	Removal of hard substrates	**IN**	Although mussel growth on MPs/TPs has been routinely cleared during O&M, implications of hard substrate removal will be considered in the EIAR in more detail. No other hard susbtrates will be removed, as cables are not covered by cable protection structures and scour protection has been in form of sandbags.
	Temporary habitat loss / disturbance	**IN**	Temporary habitat loss and/or disturbance could occur where activities interact with the seabed, including dredging and cable removal works. Disturbance from underwater noise is considered unlikely due to low sensitivity to this potential impact.
	Increased SSC and deposition	**IN**	Increased SSC and associated deposition could occur where activities interact with the seabed, including dredging / disposal and cable removal works.
	Disturbance /remobilisation of sediment bound contaminants	**IN**	Disturbance and/or remobilisation of sediment bound contaminants could occur where activities interact with the seabed (if contaminated), including dredging / disposal and cable removal works.
	Alteration of seabed habitat from changes in physical processes	**IN**	Changes in physical processes and seabed morphology could occur due to the disturbance of the seafloor and the removal of structures.
	Increased risk of invasive and Non-native Species (INNS) introduction / spread	**IN**	Although the Offshore DEMP and EVMP will include management measures and controls to prevent hull-fouling and transfer of INNS through ballast water, this potential impact is proposed to be further considered to better understand potential INNS that need to be managed.
	Accidental release of pollutants	OUT	The Offshore DEMP and EVMP will include management measures and controls for accidental spills, minimising the likelihood and magnitude of any potential impacts,considered unlikely to become significant and proposed to be scoped out.

6.2.2 Marine biodiversity - Fish, Shellfish and Sea Turtle

Baseline Summary	Potential Impact	Scoped In / Out	
Benthic fish populations have been recorded to be consistently low across within the Offshore Site and wider area in benthic surveys conducted as part of ABWP Phase I (i.e. pre-construction (2000, 2001) and post-construction (2004 - 2011 and 2021) and as part of ABWP Phase II EIAR surveys. The Arklow Bank forms part of the wider Western Irish Sea fish ecology system, supporting a representative mix of pelagic, demersal, elasmobranch, shellfish and diadromous species typical of the region. The Arklow Bank and its flanks host characteristic Irish Sea flatfish and demersal assemblages. There are no spawning grounds for herring or sandeel species (demersal spawners) near the Offshore Site (other species will be further considered in the EIAR). The wider area also supports pelagic and benthopelagic species, many of which use the region for spawning or nursery functions, and there is potential for connectivity with nearby SACs designated for diadromous fish (including Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta*), sea lamprey (*Petromyzon marinus*), river lamprey (*L. fluviatilis*) and twaite shad (*Allosa fallax*), which may occur transiently in the Arklow Bank area during marine migration phases (SPL, 2024). No designated fish SAC overlaps the Offshore Site, with the closest being Slaney River Valley SAC, located within 13.9 km north of the Offshore Site and designated for sea / river lampreys, Twaite shad and salmon. Basking shark (*Cetorhinus maximus*) may be occasionally present. Shellfish communities reflect typical Irish Sea assemblages, with commercially important species present in the wider area; inshore grounds west of the Bank are recognised as important blue mussel seed areas, while the mobile sandy sediments of Arklow Bank itself limit persistent shellfish habitat locally. Leatherback turtle *Dermochelys coriacea*, loggerhead turtle (*Caretta* caretta) and Kemp's Ridley turtle (*Lepidochelys kempii*) are likely to occur in Irish waters but only one leatherback turtle has been recorded within the vicinity of the Offshore Site to date (SPL, 2024).	Removal of hard substrates	**IN**	Although mussel growth on MPs/TPs has been routinely cleared during O&M, implications of hard substrate removal will be considered in the EIAR in more detail, as this could have an impact on prey species that fish, shellfish and sea turtles rely on.
	Temporary habitat loss / disturbance	**IN**	Temporary habitat loss and/or disturbance could occur where activities interact with the seabed, including dredging and cable removal works.
	Collision risk	OUT	Although vessel activity could increase potential for collision risk on larger receptor groups, such as basking shark or sea turtles, the number of occurrences recorded and therefore probability of encounters is very low, and proposed to be scoped out.
	Increased SSC and deposition	**IN**	Increased SSC and associated deposition could occur where activities interact with the seabed, including dredging / disposal and cable removal works.
	Disturbance/ remobilisation of sediment bound contaminants	**IN**	Disturbance and/or remobilisation of sediment bound contaminants could occur where activities interact with the seabed (if contaminated), including dredging / disposal and cable removal works.
	Alteration of seabed habitat from changes in physical processes	**IN**	Changes in physical processes and seabed morphology could occur due to the disturbance of the seafloor and the removal of structures.
	Underwater noise	**IN**	Underwater noise could be generated by Proposed Works offshore, including pre-decommissioning surveys or use of ultra-short baseline (USBL) and dynamic positioning (DP) systems during vessel activity.
	Accidental release of pollutants	OUT	The Offshore DEMP and EVMP will include management measures and controls for accidental spills, minimising the likelihood and magnitude of any potential impacts,considered unlikely to become significant and proposed to be scoped out.

6.2.3 Marine Biodiversity – Marine Mammals

Baseline Summary	Potential Impact	Scoped In / Out	
ABWP Phase I post-construction marine mammal surveys (2004 – 2009) and ABWP Phase II surveys covering marine mammals (2018 – 2020, 2023) suggest that the Arklow Bank area supports a typical assemblage of Irish Sea marine mammals, including harbour porpoise (*Phocoena phocoena*), bottlenose dolphin (*Tursiops truncatus*), Risso's dolphin (*Grampus griseus*), short-beaked common dolphin (*Delphinus delphis*), minke whale (*Balaenoptera acutorostrata*), grey seal (*Halichoerus grypus*) and harbour seal (*Phoca vitulina*) (SPL, 2024). Harbour porpoise was the most frequently recorded species during ABWP Phase II surveys, with density estimates of 0.38 animals/km². Other cetaceans, such as bottlenose or Risso's dolphins, were recorded at lower frequency. Two species of pinniped, harbour seal and grey seal, occur in the Irish Sea, with the harbour seal being more abundant on the west coast of Ireland. Both species have established terrestrial colonies (or haul-outs) along all coastlines of Ireland to rest ashore, breed, moult, and engage in social activity (Cronin *et al*., 2004; Ó Cadhla *et a*l., 2007). Site-specific aerial survey data (0.38 animals/km²) for ABWP Phase II identified both species of seal over the 24-month campaign (SPL, 2024). However, the Arklow area does not appear to be particularly important for either grey or harbour seals, based on Carter *et al.* (2022) at-sea densities. The main haul-out sites appear to be concentrated much further north in Dublin Bay and beyond, and 14 km south in the Slaney River Valley SAC. No designated marine mammal SAC overlaps the Offshore Site, with the closest being Slaney River Valley SAC, located within 13.9 km north of the Offshore Site and designated for harbour seal, Blackwater Bank SAC located within 29.2 km, designated for harbour porpoise, and Rockabill to Dalkey Island SAC within 47.4 km designated for harbour porpoise.	Removal of hard substrates	**IN**	Although mussel growth on MPs/TPs has been routinely cleared during O&M, implications of hard substrate removal will be considered in the EIAR in more detail, as this could have an impact on fish and shellfish that marine mammals rely on.
	Increased SSC and associated deposition	OUT	Increased SSC and associated deposition could occur where activities interact with the seabed, including dredging / disposal and cable removal works. However, marine mammals are known to forage in turbid waters with low visibility and therefore are considered to have low sensitivity to turbidity. Significant impacts from increased SSC and associated deposition are considered unlikely and proposed to be scoped out.
	Disturbance/ remobilisation of sediment bound contaminants	OUT	Disturbance and/or remobilisation of sediment bound contaminants could occur where activities interact with the seabed (if contaminated), including dredging / disposal and cable removal works. However, given the tolerance of marine mammals to turbidity, significant impacts from disturbance/ remobilisation of sediment bound contaminants are considered unlikely and proposed to be scoped out. Changes in fish and shellfish communities are considered separately.
	Injury and/or disturbance from underwater noise	**IN**	Underwater noise could be generated by Proposed Works Offshore, including pre-decommissioning surveys or use of USBL and DP systems during vessel activity.
	Injury and/or disturbance from vessels activity	**IN**	The temporary increase in vessel activity during Proposed Works offshore could result in an increased collision risk with marine mammals.
	Changes in the fish and shellfish community affecting prey resources	**IN**	Proposed Works Offshore have potential to affect fish and shellfish (see **Section 6.2.2**), including key prey species for marine mammals.
	Accidental release of pollutants	OUT	The offshore DEMP and EVMP will include management measures and controls for accidental spills, minimising the likelihood and magnitude of any potential impacts, considered unlikely to become significant and proposed to be scoped out.

6.2.4 Marine Biodiversity – Ornithology and Bats

Baseline Summary	Potential Impact	Scoped In / Out	
The Arklow Bank sandbank and wider area supports a typical Irish Sea seabird assemblage, including red-throated divers (*Gavia stellata*), cormorants (*Phalacrocorax carbo*), gannets (*Morus bassanus*), guillemots (*Uria aalge*), razorbills (*Alca torda*), puffins (*Fratercula arctica*), kittiwakes (*Rissa tridactyla*), little tern (*Sterna albifrons*), and several gull species. ABWP Phase I post-construction bird surveys (2004 – 2009) and ABWP Phase II surveys suggest that seabird presence have a strong seasonal variation, with markedly higher abundance during autumn, winter and spring migration periods, particularly for auks, kittiwakes and divers, while the Offshore Site and the wider area is generally of lower ornithological importance during the breeding season (SPL, 2024). No designated Special Protection Areas (SPAs) overlap the Offshore Site, with the closest being Wicklow Head SPA, located within 15 km north of the Offshore Site and designated for Kittiwake, The Murrough SPA located within 18 km north, designated for many species, such as Red-throated Diver and Little Tern. ABWP Phase II offshore bat surveys (2021 – 2023) suggest that offshore bat activity at Arklow Bank is extremely low and is limited to occasional detections of two migratory specie, Nathusius' pipistrelle (*Pipistrellus nathusii*) and Leisler's bat (*Nyctalus leisleri*), during spring and autumn migration periods, functioning as a broad migratory transit corridor across the Irish Sea. Offshore bat presence within the Offshore Site is expected to be very infrequent, highly seasonal, and restricted to individual bats in transit (SPL, 2024).	Disturbance and/or displacement	**IN**	The Proposed Works offshore will temporarily increase vessel presence and comprise a number of airborne-noise and light generating activities, which may cause some temporary disturbance or displacement to birds and bats.
	Underwater noise	OUT	Although some diving birds are known to be sensitive to underwater noise, given the temporary nature and scale of underwater noise generating activities, significant impacts from underwater noise on birds are considered unlikely and are proposed to be scoped out.
	Changes in the fish and shellfish community affecting prey resources	**IN**	Proposed Works Offshore have potential to affect fish and shellfish (see **Section 6.2.2**), including key prey species for birds.
	Removal of potential offshore bird roosting / resting / nesting site	OUT	Given that Proposed Works offshore may be phased, TPs and MPs may be temporary left *in situ* without operating WTGs, becoming attractive spots for bird roosting, resting and/or nesting. However, the TPs lack shelves, ledges or other features suitable for nesting, and the temporary breaks between campaigns are considered unlikely to lead to the establishment of significant roosting / resting habitat. Accordingly, removal of potential offshore bird roosting / resting / nesting sites is unlikely to become significant and proposed to be scoped out.
	Accidental release of pollutants	OUT	The Offshore DEMP and EVMP will include management measures and controls for accidental spills, minimising the likelihood and magnitude of any potential impacts, considered unlikely to become significant and proposed to be scoped out.

6.2. Marine Biodiversity

Proposed Study Area	The study area will be defined based on the ZoI of potential impacts, anticipated to differ between receptor groups. In some cases, the ZoI will be defined through modelling: • **Sediment plume modelling** will be undertaken to assess the temporal and spatial scale (i.e. ZoI) and magnitude of sediment plumes generated by the Proposed Works Offshore, focusing on cable removal works along the offshore export cable route and dredging (and associated disposal) activity that may be required to facilitate safe vessel access within the Sub Lease Area. Other decommissioning activities interacting with the seabed are anticipated to be of lower magnitude / scale and are proposed to be excluded from modelling (see Section **6.1**); • **Underwater noise modelling** will be undertaken to define the temporal and spatial scale (i.e. ZoI) and magnitude of underwater noise generated by the Proposed Works offshore, focusing on pre-decommissioning sub-bottom profiler (SBP) surveys and the use of USBL and DP systems. Other decommissioning activities generating underwater noise, such as pre-decommissioning MBES / side scan sonar (SSS) surveys, dredging / disposal, internal MP cutting, vibro-lifting, etc are considered to be of lower sound intensity, and are proposed to be characterised using literature and be excluded from modelling.
Proposed Baseline Data Sources	• Existing marine biodiverisity literature covering marine biodiversity receptor groups scoped in (including academic literature and National Parks & Wildlife Service (NPWS) designated sites data / info); • Existing marine biodiversity surveys undertaken as part of ABWP Phase I pre-/post-construction surveys and as part of ABWP phase II EIAR, including additional surveys undertaken in response to the recent RFI from ACP; and • ABWP Phase II EIAR.
Proposed Assessment Methodology	Existing guidance (e.g. Chartered Institute of Ecology and Environmental Management (CIEEM), 2024) and professional judgement will be used to rate receptor sensitivity, magnitude of change and significance of potential impacts. The assessment will also be informed by modelling work: • **Sediment plume modelling**, see **Section 6.1**; • **Underwater noise modelling**, which will comprise: - Definition of underwater noise source levels, spectra and characteristics associated with underwater noise generating decommissioning activities; - Review of site-specific parameters available from previous studies undertaken by the Client (bathymetry, salinity, velocity profile, etc); - Underwater noise model set up and tuning using dBSEA software creating the 3D sound propagation model; - Underwater noise simulations for SBP, USBL and DP systems only, presented in underwater noise maps that identify distances at which impact thresholds for behavioural reaction, temporary hearing loss (TTS), and permanent hearing loss (PTS) and applicable guideline threshold limits for relevant receptors, including cetaceans, seals and marine turtles. - Thresholds used will consider the existing Guidance to Manage Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (Department of Arts, Heritage and the Gaeltacht (DAHG), 2014), as well as the conservative thresholds currently used internationally for all relevant receptor groups, such as Popper *et al.* (2014), National Marine Fisheries Service (NMFS) (2024), etc; and - Consideration of underwater noise associated with cumulative developments.
Proposed Embedded Mitigation	- Offshore DEMP, which will include standard industry practice and legal requirements for marine biodiversity management and mitigation, including in relation to INNS risk management, accidental spill prevention and controls, lighting management, etc; - MMMP, which will set out clear procedures for pre-works marine mammal assessment, monitoring, and mitigation in line with standard industry practice and legal requirement; and - EVMP, which will define best-practice vessel management measures to minimise disturbance, collision risk, and ecological harm.

6.3. Commercial Fisheries and Aquaculture

Baseline Summary	Potential Impact	Scoped In / Out	
Baseline desktop data sources include (among others) Sea Fisheries Protection Agency (SFPA) landings/value datasets, Atlas if Commercial Fisheries around Ireland, Ireland's Marine Atlas, ICES Vessel Monitoring System (VMS) Surface Swept Area Ration fishing intensity and European Maritime Safety Agency Automatic Information System route density for fishing vessels, Marine Institute and Bord Iascaigh Mhara (BIM) shellfish landings/value. Inshore activity can be characterised using the Marine Institute inshore fishing activity dataset (vessels <15 m) which includes multiple methods (e.g., dredging, nets, trawls, potting). The commercial fisheries baseline in the vicinity of the Offshore Site is characterised by Irish potting vessels targeting whelk *Buccinum undatum*, using plastic drums/pots. Vessels operate from the shore out to the Sub Lease Area, with effort highest closer to shore. Potting vessels also use creels/pots to target lobster *Homarus gammarus* and crab species, including brown crab *Cancer pagurus* and velvet crab *Necora puber*. There is also sporadic blue mussel *Mytilus edulis* seed collection from ephemeral beds in the inshore areas. In addition, a highly seasonal herring *Clupea harengus* and sprat *Sprattus sprattus* fishery occurs along the Arklow shoreline. No classified shellfish production areas for bivalve molluscs are identified in or adjacent to the Offshore Site. A mussel aquaculture site, focused on spat collection, is located on the coast, approximately 5 km from the offshore export cable.	Temporary loss of grounds / restricted access within the Sub Lease Area	**IN**	Proposed Works Offshore require offshore work activity and vessel presence; even if short duration, it can create temporary restrictions and/or deterrence to fishing in/near the Sub Lease Area due to the implementation of safety/exclusion zones, and temporary presence of decommissioning vessels.
	Temporary loss of grounds / restricted access within the offshore export cable corridor / nearshore/landfall work area	**IN**	The study area definition explicitly recognises nearshore cable areas (ICES 34E3). Until the Proposed Works offshore relevant to the offshore export cable are confirmed (remove vs leave in situ), this potential impact is proposed to remain in scope.
	Displacement of fishing activity	**IN**	Even a temporary exclusion can drive short-term displacement. The commercial fisheries approach defines a ZoI of 100 km as a reasonable distance for displacement effects to occur.
	Interference with fishing activity / navigational safety risks	**IN**	Navigational safety aspects of fishing activity are explicitly addressed under Shipping and Navigation, but remain relevant to fisheries receptors and will be coordinated.
	Increased risk of gear interaction, snagging and/or gear damage	**IN/** OUT	Decommissioning scenarios can leave subsea elements in place (e.g., cables/cable protection left in situ) which is a recognised pathway for gear interaction risk. Should cables be removed, this potential impact is proposed to be scoped out.
	Effects on commercially important fish and shellfish resources and seafood safety	**IN**	Proposed Works Offshore could have biological effects on fish and shellfish commercial resources, notably increase SSC and noise impacts, see **Section 6.2.2**.

6.3. Commercial Fisheries and Aquaculture

Proposed Study Area	The Study Area is proposed to include ICES rectangles 34E4 (Sub Lease Area and part of the offshore export cable corridor) and 34E3 (nearshore majority of the offshore export cable corridor), which facilitate consistency with ABWP Phase II EIAR. The proposed displacement/cumulative ZoI will adopt up to 100 km ZoI from closest project area (ensuring a proportionate emphasis given Proposed Works offshore, but consistent with established approach).
Proposed Baseline Data Sources	**Fisheries-dependent / activity datasets (desktop):** • SFPA landings and first sales value datasets (including species and port-of-landing queries); • Marine Institute & BIM shellfish landings/value estimates; • Ireland's Marine Atlas; • ICES vessel monitpring system (VMS) Surface Swept Area Ratio (SAR) (proxy for fishing intensity; 2017–2020); • European Maritime Safety Agency (EMSA) automatic identification system (AIS) route density (2019–2022) to help contextualise vessel movements (and fishing activity where AIS carriage applies); and • Marine Institute inshore fishing activity dataset (vessels <15 m; includes potting and other methods) for nearshore context. **Site-specific / local evidence:** • Fisheries activity scouting surveys (2019–2025) documenting active fishing and static gear locations (if available for the Offshore Site). • Historic ABWP Phase I baseline/confirmatory surveys (2000/2001) as contextual evidence, where relevant. • Ongoing stakeholder inputs (e.g., Sea-Fisheries Protection Authority (SFPA) scoping/consultation feedback noting whelk fishery interaction with offshore export cable and local herring/sprat fishery).

6.3. Commercial Fisheries and Aquaculture

Proposed Assessment Methodology	**Baseline characterisation (desk based exercise)** • Collate fisheries activity/value by ICES rectangle (34E3 and 34E4) and relevant ports/species/gear using SFPA/ Marine Institute and supporting datasets. • Map fishing intensity/activity using VMS/SAR and AIS route density (recognising AIS carriage thresholds) and supplement nearshore with the Marine Institute inshore dataset. • Validate/ground-truth with available scouting surveys (static gear / potting presence) and any available Fisheries Liaison Officer communications. **Impact assessment approach** • Assess credible decommissioning-phase pathways (temporary loss of access, displacement, interference/safety, gear snagging, resource disruption). Decommissioning description assumes removal of above-seabed structures (cut below seabed) with some subsea elements potentially remaining *in situ*. • Apply a sensitivity–magnitude significance matrix consistent with the EIA method (professional judgement supported by evidence). • Treat displacement/cumulative effects using a ZoI up to 100 km where relevant and present findings proportionately given ABWP Phase I scale and duration of Proposed Works Offshore. **Topic interaction / cross-referencing:** • Coordinate with Shipping & Navigation assessments for navigational safety aspects of fishing activity and with Marine Biodiversity assessments for biological effects on commercial species.
Proposed Embedded Mitigation	• Offshore DEMP, which will include standard industry practice and legal requirements for management and mitigation of potential impacts to commercial fisheries, including in relation to accidental spill prevention and controls, etc; • FMMS, which will set out standard industry practice and legal requirements to mitigate any potential impacts to commercial fisheries and liaison measures with the sector throughout the Proposed Works Offshore programme, e.g. Appoint Fisheries Liaison Officer (FLO) and use Offshore FLOs (OFLOs) as required; maintain ongoing liaison with fleets; issue Notices to Mariners / navigational warnings, including a targeted distribution list to communicate nature, timing and location of Proposed Works Offshore. • If inter-array / offshore export cables are left *in situ*, implement a gear loss / interaction reporting procedure, including a Gear Loss Claim Form and reimbursement approach where appropriate (as per established fisheries management practice);

6.4. Shipping and Navigation

Baseline Summary	Potential Impact	Scoped In / Out	
Marine traffic data analysed as part of ABWP Phase II EIAR (SPL, 2024) shows that there is a limited amount of vessel traffic movements across the Arklow Bank due to its shallow water depths representing a navigational hazard. The Arklow Bank is marked by a north cardinal buoy equipped with AIS at its northern extent and a south cardinal buoy equipped with AIS and a radar beacon (racon) at its southern extent. These aids to navigation provide clear warning of shallow water and the presence of ABWP Phase I offshore infrastructure. Each turbine is also charted and lit in accordance with navigational requirements. The most common vessels found inshore of Arklow Bank were smaller vessels (e.g. fishing and recreation), with the majority of commercial vessels passing offshore of the Arklow Bank. Cargo vessels were the most common vessel type during summer periods, accounting for 40% of vessel traffic in 2023 and 43% during 2022. Fishing vessels were also commonly recorded (31% in 2023 and 22% in 2022), followed by recreational vessels and tankers. Passenger vessels were less frequent. There are no International Maritime Organization (IMO) designated Traffic Separation Schemes within the vicinity of the Offshore Site. The closest port to the Offshore Site is Arklow, with Wicklow to the northwest and Dublin located further north. From these ports, a significant proportion of vessel traffic is recorded transiting through the region (SPL, 2024). There are local emergency response resources in Arklow and Wicklow.	Displacement of vessel traffic	OUT	The temporary increase in vessel activity during Proposed Works Offshore, may require the temporary implementation of localised exclusion zones, however, considering the location and temporary nature of Proposed Works, significant displacement of vessel traffic is considered unlikely and proposed to be scoped out.
	Port access restrictions	OUT	The Proposed Works Offshore will generate a number of vessel trips to and from the port (selected to support Proposed Works Offshore), and the Offshore Site, however, the number of trips will be relatively limited and with standard operating procedures, such as issuing of advance Notice to Mariners embedded into the Offshore DEMP, and considering the short-term nature of Proposed Works Offshore, significant impacts on port access are considered unlikely and are proposed to be scoped out.
	Increased collision (vessel to vessel encounters) risk	**IN**	The temporary increase in vessel activity during Proposed Works offshore could result in an increased number of vessel-to-vessel encounters and associated collision risk, which will particularly need to consider potential cumulative developments.
	Increased allision (vessel to structure allision) risk	**IN**	The phased programme of Proposed Works Offshore could result in the temporary presence of structures above sea level within the Sub Lease Area. In addition, the partial removal of MPs (if this scenario is selected) will maintain the presence of structures below the seabed post-decommissioning, maintaining / potentially increasing risk of vessel to structure allision.
	Cable interaction risk	**IN /** OUT	Should offshore export / inter-array cables be left *in situ*, the presence of these post-decommissioning will maintain the current risk of snagging / interaction by vessel anchors, and would be further assessed. Should offshore export / inter-array cables be removed as part of the Proposed Works, the existing cable interaction risks would be eliminated, and this potential impact would be scoped out.
	Diminished emergency response capability	OUT	The temporary increase in vessel activity during Proposed Works Offshore could increase the likelihood of an incident requiring an emergency response and consequently could diminish emergency response capability. However, local emergency response stakeholders indicated that no impact on emergency response capability would be anticipated as part of ABWP Phase II development (SPL, 2024), and considering the location, smaller scale and temporary nature of Proposed Works offshore, significant impacts on emergency response capability are considered unlikely and are proposed to be scoped out.

6.4. Shipping and Navigation

Proposed Study Area	The Shipping and Navigation impact assessment conducted as part of ABWP Phase II EIAR shows the limited amount of vessel traffic in the Sub Lease Area, which passes safely around the Arklow Bank sandbank; and that between the coast and ABWP Phase I, vessel traffic is limited to local pleasure crafts and fishing vessels. The study area used as part of ABWP Phase II (10 nautical mile (nm) buffer around ABWP Phase II array area) is proposed to be used to provide contextual information of relevance to the Proposed Works Offshore.
Proposed Baseline Data Sources	• AIS data commercially available or sourced from relevant stakeholders; and • ABWP Phase II EIAR. The baseline information collated and analysed as part of ABWP Phase II EIAR seems stable and relevant, and no additional baseline data collection is proposed to be undertaken, beyond AIS data acquisition to confirm that baseline conditions assessed for ABWP Phase II remain relevant.
Proposed Assessment Methodology	Existing guidance and professional judgement will be used to rate receptor sensitivity, magnitude of change and significance of potential impacts. The assessment will mainly be informed by: • A standalone **Navigation Risk Assessment (NRA)** used to identify hazards and risks affecting vessel navigation that may arise during / after Proposed Works offshore, and determine the need for possible further controls to minimise such risk to a level as low as reasonably practicable. The NRA will be prepared considering relevant guidance (IALA, 2021; Depart of Transport (DoT), 2025a,b), but adapting its methodology to the nature and scale of Proposed Works Offshore, including: - A review of publicly available baseline information to characterize existing navigational features and shipping traffic within the vicinity of the Offshore Site, mainly the NRA prepared as part of ABWP Phase II EIAR, with no additional vessel traffic analysis anticipated to be undertaken. - Definition of scenarios for assessment, including vessel-to-vessel collision risk under different programme options, vessel-to-structure allision risk between phases of Proposed Works offshore, and post-decommissioning. - Semi-quantitative probability analysis of the risk occurrence using empirical factors for ship blackout, human failures, etc. derived from available sources, e.g., the IALA Waterways Risk Assessment Program (IWRAP) - Qualitative assessment of the acceptability of any resulting risk, identifying any controls / mitigation measures to minimise identified risks where considered necessary.
Proposed Embedded Mitigation	- Lighting and Marking Plan (LMP); - Offshore DEMP, which will include standard industry practice and legal requirements for communications and coordination to manage any potential vessel interactions; and - EVMP, which will define best-practice vessel management measures to minimise environmental risks associated with vessel activity.

6.5. Marine Archaeology and Cultural Heritage

Baseline Summary	Potential Impact	Scoped In / Out	
The seabed within Arklow Bank sandbank is dominated by sand and gravel deposited by the abating ice front during the last Glaciation (pre-12,000 Before Present (BP)). The surface sediment is mobile, formed due to reworking following relative sea level rise post-10,000 BP (SPL, 2024). The southeast coast of Ireland is not associated with the potential for prehistoric underwater landscapes but there is potential for earlier horizons to be discovered (SPL, 2024). The ABWP phase II EIAR (SPL, 2024) reported 165 recorded historic shipwreck events associated with the Arklow Bank sandbank and its immediate vicinity, with a high concentration of these in the northern half of the Arklow Bank sandbank. As Arklow Bank is a dynamic sandbank with significant historic shipwreck occurrence, there is potential for new shipwreck exposure and known shipwreck burial. Interaction with the site of a wreck that was exposed during installation of ABWP phase I will need to be managed in line with the expectations of the National Monuments Service. There is also potential for cultural heritage sites located on land to be located within theoretical visibility of Proposed Works Offshore.	Sediment disturbance and deposition leading to effects on known and unknown heritage assets	**IN**	There is potential for sediment disturbance generated by the Proposed Works offshore (including from dredging works (if required) or cable removal works), to affect known and unknown heritage assets within and in the vicinity of the Offshore Site.
	Direct impacts on historic shipwreck sites	**IN**	Given that the exact location of known historic shipwrecks in relation to the Offshore Site boundary is currently unknown, direct impacts cannot be ruled out at this stage.
	Direct impacts on buried palaeolandscapes	**IN**	Whilst there are no known palaeolandscapes located within the Offshore Site, Proposed Works Offshore with potential to disturb the sediment have the potential to expose previously unknown palaeolandscapes.
	Indirect impact on the setting of terrestrial cultural heritage assets	OUT	Although Proposed Works Offshore will take place above the water surface, Proposed Works offshore will be temporary and short-term, and set within the context of vessel activity in the wider area, with vessel traffic slightly increasing within the area between the selected port and the Offshore Site. Once Proposed Works Offshore are completed, any potential impacts on the setting of terrestrial cultural heritage assets would cease. Overall, significant impacts on setting of terrestrial cultural heritage assets are considered unlikely and are proposed to be scoped out.

6.5. Marine Archaeology and Cultural Heritage

Proposed Study Area	The Marine Archaeology Study Area will focus on the footprint of the Offshore Site.
Proposed Baseline Data Sources	• ABWP Phase II EIAR and associated survey work; • Historic Shipwreck Inventory maintained by the National Monuments Service (NMS) at the Department of Housing, Local Government and Heritage (DHLGH); and • Public literature and vailable online databases, including historic mapping resources.
Proposed Assessment Methodology	Existing guidance and professional judgement will be used to rate receptor sensitivity, magnitude of change and significance of potential impacts. The assessment will be undertaken in line with the following guidelines: • Department of Arts, Heritage, Gaeltacht and the Islands (DAHGI) Framework and Principles for the Protection of the Archaeological Heritage (1999); • DAHGI Policy and Guidelines on Archaeological Excavation (1999); • Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy (2007); • International Council on Monuments and Sites (ICOMOS) guidance, non-governmental international organisation dedicated to the conservation of the world's monuments and sites; • United Nations Educational, Scientific and Cultural Organization (UNESCO) guidance. The assessment will be supported by a standalone Marine Archaeology and Cultural Heritage Technical Report, appended to the EIAR chapter, that will present a detailed baseline characterisation and mapping of potential heritage assets. The methods associated with the Proposed Works Offshore will then be reviewed in detail to identify potential pathways for effects and identify the need for additional mitigation beyond standard measures noted under embedded mitigation
Proposed Embedded Mitigation	Offshore DEMP, which will include standard industry practice and legal requirements for the management of potential impacts on marine archaeology, such as the implementation of Archaeological Exclusion Zones (AEZs) around known heritage assets, implementation of a Protocol for Archaeological Discoveries (PAD) or similar, etc.

6.6. Airborne Noise

Baseline Summary	Potential Impact	Scoped In / Out	
The existing airborne noise environment within and around the Offshore Site and the nearest coastline is dominated by routine marine activity. The main offshore noise source is vessel traffic, including commercial, fishing, service and recreational craft using established inshore and offshore routes. The relevant Noise Sensitive Receivers (NSRs) within the vicinity of the Offshore Site include the Arklow Harbour land users and the town of Arklow residential and commercial population. Operational wind turbines may emit two type of noise. Firstly, aerodynamic noise, produced by the movement of the rotating blades. Secondly, mechanical noise from components within the nacelle of a WTG may be generated (AONA, 2024). Although blades were removed from WTGs during summer 2025 (see **Section 4**), when operational, these were noted to be inaudible from the shore during ABWP Phase II surveys (AONA, 2024).	Increase of airborne noise levels at NSRs along the coastline	OUT	Given the distance from the Offshore Site to the coastline and NSRs, the current noise climate characterising the Offshore Site, and the temporary nature and scale of airborne-noise generating activities associated with the Proposed Works Offshore, no significant airborne noise levels are expected to be generated and are proposed to be scoped out.

6.7. Marine Infrastructure and Other Users

Baseline Summary	Potential Impact	Scoped In / Out	
There is a wide range of existing marine users present between the Sub Lease Area and the coastline, with activity concentrated around fishing, sailing, recreational boating and diving, commercial vessel transit, and established marine services. Recreational boating is highly seasonal, with vessel activity increasing during spring and summer months (ICC, 2018). Arklow Sailing Club is an active user of the waters surrounding Arklow Bank sandbank, operating regular sailing and racing events. Several race marks are located in proximity to ABWP Phase I, including the "Turbines Race," a 34-nautical-mile circumnavigation of the ABWP Phase 1 WTGs held annually in May (SPL, 2024). The coastal zone also contains operational marine infrastructure. Arklow Harbour supports commercial activity and recreational vessel access, known for its fishing fleet and marina. Periodic maintenance dredging is required within the harbour and approach channel to ensure adequate navigational draught, and disposal activities are undertaken at licensed offshore dumping grounds (licensed by the EPA) located near the offshore export cable corridor (STL, 2024). The WWTP adjacent to the Onshore Site includes a discharge pipeline that extends offshore and is located within approximately 200 m from the offshore export cable route. A Supervisory Control and Data Acquisition (SCADA) communication system is in place between the ABWP Phase I WTGs and the shore, which is transmitted through the fibre optic cables that lie within the existing offshore export cable corridor to landfall.	Disturbance to other users	OUT	Other users, such as recreational boating and diving, may be affected by restricted access to the Offshore Site, particularly along the offshore export cable corridor and its immediate vicinity. However, this is considered a relatively small area in the context of the wider area used by other users, and Proposed Works offshore will be temporary in nature, overall considered unlikely to become significant and proposed to be scoped out. Potential displacement of vessel activity is separately considered in **Section 6.4**.
	Damage to WWTP outfall pipeline	OUT	The WWTP outfall pipeline is located outside the Offshore Site, within sufficient distance for Proposed Works Offshore to avoid direct interaction with infrastructure. Accordingly, significant impacts are considered unlikely and are proposed to be scoped out.

7. Scoping of the EIAR (Onshore)

The following onshore environmental aspects have been subject to scoping, as presented in the following slides:

- Water quality;
- Land quality;
- Noise and vibration;
- Onshore biodiversity;
- Traffic and transport;
- Onshore infrastructure and utility services; and
- Cultural heritage and archaeology.

7.1 Water Quality

Baseline Summary	Potential Impact	Scoped In / Out	
The Onshore Site is located approximately 15 m from the sea, separated by a breakwater (marine water quality is separately considered in **Section 6.1**). **Surface Water** The Onshore Site is also located 30 m north of the Avoca River (closest surface water onshore), which is currently affected by one major pollution source: acid mine drainage from the historic Avoca mines. The Avoca Estuary classified as 'Transitional Waters' holds a "Moderate" water quality status, according to the 2019 – 2024 monitoring period (EPA, 2026). The Onshore Site is not located within any river or tidal flood areas, and it is protected from coastal flooding risks by an existing breakwater. However, given its location in relation to the Avoca river and the sea, potential flood risks cannot be ruled out. **Groundwater** A bedrock aquifer influenced by the tidal cycle is found beneath the Onshore Site at approximately 20 to 24 m below ground level (Uisce Éireann, 2018). There is one active well located within 2 km of the Onshore Site, in the northern shore of the Avoca Estuary (Well ID: 3217SWW051), which is characterised by bedrock at 20.1 m depths and a yield of 87 m3/day (DCENR, 2026).	Surface runoff contamination of nearby water resources (surface and groundwater)	OUT	The Onshore DEMP will include measures for appropriate storage of waste, secondary containment for hazardous materials, as well as procedures for any required refuelling activities for generators and/or machinery (if needed). Proposed Works onshore will be managed to ensure that any potential run-off will be contained and groundworks appropriately managed, eliminating any potential pathways to surface and groundwaters. The Proposed Works Onshore are not expected to impact local groundwater or the Avoca Estuary, and accordingly proposed to be scoped out.
	Impacts associated with flood risk	OUT	Proposed Works onshore are not expected to increase flood risk, and will be programmed to be undertaken during favourable weather and seastate conditions to minimise exposure to potential flood risks. The Onshore DEMP will incorporate an Emergency and Preparedness Response Procedure which will include an alert system for weather events and an evacuation plan. Any potential impacts associated with flood risk are considered unlikely and proposed to be scoped out.

7.2 Land Quality

Baseline Summary	Potential Impact	Scoped In / Out	
The Onshore Site is located within a geological context characterised by distinctive formations. Primarily, the Onshore Site is situated in the Maulin Formation, which consists of dark blue-grey slate, phyllite, and schist (EPA 2026). The soils within the Onshore Site have been classified by the EPA as "Urban", indicating human influence and modification over time. Urban soils often contain a mix of native soil and human-generated materials, which can include construction debris and compacted layers (EPA 2026). Moreover, the subsoils are classified according to the subsoil layer for Wicklow as "Man-made: created or artificial surfaces." This signifies the presence of artificially modified subsoil, potentially engineered for stability, drainage, or specific construction purposes (EPA 2026). The main current land use for this Onshore Site is dedicated to housing the onshore substation. Since its operation, no accidental pollution events have been recorded.	Mobilisation of contaminated soils/sediments	OUT	The Onshore Site has no history of soil contamination, with no substantial excavation works expected outside of the ones needed for the decommissioning of current infrastructure. The Onshore DEMP and Onshore WMP will include strict measures for the appropriate management of potentially contaminated soils (if present). Given the limited extent of ground disturbance and absence of known contamination sources, significant mobilisation of contaminated soils and sediments is considered unlikely and proposed to be scoped out.
	Loss of topsoil	OUT	The Onshore Site mostly consists of urban/made ground soils and man-made subsoils, with minimal or no natural topsoil layer remaining due to long-term industrial modification. Excavations will be shallow and strictly confined within the Onshore Site boundary. Given the absence of a natural topsoil resource and the limited scale of disturbance, significant loss of topsoil is considered unlikely and proposed to be scoped out.
	Compression of substrata	OUT	The substrata beneath the Onshore Site mainly consist of engineered fill and man-made material designed to support the existing onshore substation infrastructure. Proposed Works Onshore do not involve heavy surcharging, piling or ground-loading activities that could lead to meaningful compaction effects. All Proposed Works onshore will take place within an area already modified for industrial use. As a result, significant compression of substrata is unlikely, and proposed to be scoped out.

7.3 Noise and Vibration

Baseline Summary	Potential Impact	Scoped In / Out	
The existing noise climate within the Onshore Site and immediate surroundings is characterised by the operational transformer within the Onshore Site, and industrial activity in the surroundings, including marine traffic associate with the port of Arklow and the WWTP operation. Noise and vibration sensitive receptors are located approximately 330 to 350 m away from the Onshore Site, including: • To the northwest, a hotel, called Marina Village; and • To the west, on the other shore of the Avoca river, the residential area of Arklow Town. Adjacent to the Onshore Site (in the north bank of the river) and to the south of the Onshore Site, parcels of land mainly comprise industrial uses, including the Arklow WWTP and the Arklow port. The main recreational activities in the vicinity of the Onshore Site are located within approximately 200 to 450 m, and include: • To the south, on the opposite bank of the Avoca river, Arklow South Beach; • To the northwest, Arklow Marina and the Albatross Light Tower; and • To the north, a park complex including running track, calisthenics park, a seaside walkway, skatepark and football court, and other recreational facilities.	Increased noise and vibration emissions	OUT	The Onshore DEMP will include standard noise-management measures (e.g. best-practice equipment use, daytime working, minimising idling, etc), ensuring noise or vibration levels remain within permissible levels. Significant vibration impacts are also considered unlikely, as Proposed Works Onshore do not involve piling, heavy compaction or other high-energy ground-borne vibration sources, ad therefore unlikely to generate perceptible vibration at the nearest sensitive receptors. Considering the existing noise climate, the distance between the Onshore Site and the nearest noise-sensitive receptors (< 200 m), combined with the nature, small scale and short duration of Proposed Works Onshore, means that significant increased noise and vibration emissions are unlikely and are proposed to be scoped out. Once decommissioned, existing noise sources will be removed and baseline conditions overall improved.

7.3 Onshore Biodiversity

Baseline Summary	Potential Impact	Scoped In / Out	
The Onshore Substation compound comprises a small concrete building, hardstanding, and sparse ruderal vegetation on artificial substrates, and is subject to high levels of lighting and disturbance. Evidence of nesting by common urban bird species was recorded around the transformer located within the Onshore Site. Habitats within the wider Onshore Site are entirely urban-modified and include buildings and artificial surfaces, spoil and bare ground, fencing and riprap, which may have potential for use by resting seals, although no evidence of use was observed. No INNS were recorded. Overall, the Onshore Site is considered to be of up to Site Level ecological importance (see **Appendix 1: Onshore Preliminary Ecological Appraisal**). The surrounding environment includes the Avoca River approximately 25 m south, Arklow WWTP to the west and modified coastal structures to the north and east. No statutory designated protected areas are found within 2 km of the Onshore Site, with the closest being Buckroney-Brittas Dunes and Fen SAC, located 5.1 km north. Three proposed Natural Heritage Areas (pNHAs) (Arklow Town Marsh, Arklow Rock-Askintinny, and Arklow Sand Dunes) are located within 2 km but are not hydrologically or physically connected to the Onshore Site other than through the Avoca River.	Disturbance of fauna	OUT	The Proposed Works Onshore will be confined to the Onshore Site boundary and be land-based, with no interaction with the intertidal zone anticipated, and will only temporarily introduce noise (e.g. from traffic, machinery use, etc). Proposed Works Onshore will also be restricted to daylight times, minimising the introduction of additional artificial light sources. Given the highly disturbed harbour setting and absence of recorded seal haul-out behaviour, the likelihood of seal presence during Proposed Works Onshore is considered to be very low. As recommended in **Appendix 1**, the bird breeding season will be avoided, and if not possible, nest checks will be undertaken before any Proposed Works onshore commence to inform the programme. Once decommissioned, existing lighting and noise sources will be removed, eliminating existing sources of noise and light disturbance. Overall, given the scale and temporary nature of Proposed Works Onshore and the low ecological importance of the Onshore Site, significant disturbance from Proposed Works Onshore is considered unlikely and proposed to be scoped out.
	Increased risk of INNS introduction / spread	OUT	The Onshore DEMP will include biosecurity measures to manage and control potential risks of INNS introduction from vehicles and machinery accessing the Onshore Site. In addition, no in-stream works are proposed and no direct hydrological pathway for the spread of INNS will be created. Overall, given the nature of Proposed Works onshore and the absence of INNS within the Onshore Site, significant risk of INNS introduction / spread are considered unlikely and proposed to be scoped out.
	Habitat loss	OUT	Proposed Works Onshore will result in the loss / modification of mostly urban-modified habitats of negligible ecological importance and will also comprise the reinstatement of the Onshore Site using hardcore. Overall, given the low ecological value of the habitats found within the Onshore Site and the scale of Proposed Works onshore, habitat loss is not considered to have a significant ecological impact, and this potential impact is therefore proposed to be scoped out.

7.4 Traffic and Transport

Baseline Summary	Potential Impact	Scoped In / Out	
The Onshore Site is located on the northern side of Arklow Harbour, immediately adjacent to the Arklow WWTP, within a road network characterised by busy urban streets that serve both industrial and commercial land uses. The primary access routes in the immediate vicinity are Ferrybank and North Quay, accessed from the outskirts of Arklow through the M11-Arklow bypass and R772-Dublin Road. Traffic count data in this area indicates moderate to high daily traffic volumes, with Ferrybank carrying 14,726 passenger car units (pcu) per day and North Quay carrying 5,779 pcu per day, representing two of the busiest links on the northern side of the Avoca River (Uisce Éireann, 2018). Arklow Bridge, located just west of the onshore substation also carries significant flows 13,498 pcu per day (Uisce Éireann, 2018). Overall, the local road environment adjoining the onshore substation is characterised by regular vehicular activity, constrained harbour-side geometry, and established pedestrian routes, forming a transport baseline typical of a compact urban-industrial.	Increased traffic congestion / disruption	OUT	The Onshore DEMP and Onshore TMP will provide additional detail on anticipated traffic movements associated with the Proposed Works Onshore, and include traffic management measures and good practices that will be implemented to minimise potential impacts to the local transport network. The Proposed Works onshore will generate some temporary level of traffic to and from the Onshore Site, however, no need for long-term lane closures on the primary links or other traffic disruptions are anticipated to be needed, and significant material congestion / disruption is considered unlikely and proposed to be scoped out. The Proposed Works Offshore will not use Arklow harbour for the receipt of offshore components decommissioned but a larger port, for example Rosslare, Waterford or Dublin. The Offshore DEMP and Offshore WMP will provide additional information about the management of decommissioning waste and anticipated fate, including any associated traffic generated, also anticipated to be limited and manageable through the adoption of appropriate traffic management measures, and also proposed to be scoped out.

7.6 Onshore Infrastructure and Utility Services

Baseline Summary	Potential Impact	Scoped In / Out	
Onshore infrastructure and utility services identified within the vicinity but outside the Onshore Site includes (Uisce Éireann, 2018); • The onshore cable (section 2) that connects the onshore substation with the ESB substation, grid connection point, which continues beyond the Onshore Site boundary; • Underground and overhead electricity transmission lines; • Telecommunication cables; • Gas mains; • Water supply infrastructure; and • Sewer network and drainage infrastructure, including the neighbouring Arklow WWTP. The Arklow WWTP is located directly to the north–northwest of the Onshore Site, and is served by electricity, telecommunications, water supply and drainage networks running along North Quay and Mill Road. It also has an associated sea outfall which lies near the offshore export cable route (see Section 6.7).	Disturbance/interruption of services	OUT	Given the distance between the Onshore Site and known onshore infrastructure and utility services, the Proposed Works onshore are not anticipated to interfere with any onshore infrastructure and utility services. The Onshore DEMP will require the appointed decommissioning contractor(s) to map onshore infrastructure and utility services to identify the need for the implementation of safety zones or any particular management / mitigation measures associated with any infrastructure / utilities unknown at this stage. The Proposed Works Onshore will also be coordinated with ESB, who will be responsible for the termination and isolation of electricity supplies and will also decommission the rest of the onshore cable section 2 located outside the Onshore Site boundary. Accordingly, significant disturbance / interruption of services is considered unlikely and is proposed to be scoped out.

7.7 Cultural Heritage and Archaeology

Baseline Summary	Potential Impact	Scoped In / Out	
The Onshore Site is located in previously disturbed ground, and given the urbanised and previously modified nature of the Onshore Site and wider area, no archaeological or cultural heritage asset remains are expected to be encountered during the Proposed Works onshore. Relevant heritage datasets in the wider area, such as the Record of Monuments and Places (RMP), Sites and Monuments Record (SMR), the National Inventory of Architectural Heritage (NIAH), and mapping resources, including the Historic Environment Viewer, have been reviewed to identify the nearest archaeological or cultural heritage assets, which include: • A navigation beacon (16322030), located approximately 330 m northwest from the Onshore Site; and • A number of houses (beyond 500 m northwest from the Onshore Site) (16322050, 16322051, 16322040, etc.) (NIAH, 2026). Another relevant regional/local feature is Arklow Bridge (16322046, within 850 m northwest from the Onshore Site), which is considered one of the longest post-medieval bridges in Ireland (Uisce Éireann, 2018). It is worth noting that the town of Arklow itself is classified as a Historic Town (WI040-029) with several important National Monuments located within Arklow. These include religious houses such as the Cistercian monks' site (WI040-029004, 850 m northwest) and the Dominican friars' site (WI040-029001, 1 km northwest); a church (WI040-029003, 1.1 km northwest); and the Anglo-Norman masonry castle (WI040-029002, 1.2 km northwest) (SMR, 2026).	Direct / indirect impact on known archaeological or cultural heritage asset	OUT	The nearest recorded cultural heritage features, the closest one being the navigation beacon within Arklow harbour, are all located at sufficient distance from the Onshore Site, and therefore significant direct (e.g. physical interaction) and indirect (e.g. setting impacts) impacts are unlikely and proposed to be scoped out.
	Direct / indirect impact on unknown archaeological or cultural heritage asset	OUT	The Proposed Works Onshore will be limited to the Onshore Site, within previously disturbed and modified ground, and the probability of encountering unknown archaeological or cultural heritage asset is therefore considered very low. The Onshore DEMP will include a PAD to be implemented should any unexpected archaeological or cultural heritage remains, including liaison with the Department of Housing, Local Government and Heritage (DoCHG). Overall, significant impacts on unknown archaeological or cultural heritage assets / remains are unlikely and proposed to be scoped out.

8. Scoping of the EIAR (Offshore/Onshore)

The following environmental aspects common to both offshore and onshore environments have been subject to scoping, as presented in the following slides:

- Air quality and climate;
- Population and human health;
- Seascape, landscape and visual amenity;
- Waste;
- Civil and military aviation; and
- Major accidents and natural disasters.

8.1. Air Quality and Climate

Baseline Summary	Potential Impact	Scoped In / Out	
Air quality within the Onshore and Offshore Sites is influenced by natural atmospheric inputs, such as sea-salt aerosols, and marine traffic, although no significant anthropogenic pollution sources have been identified. Levels of pollutants based on the data from EPA Zone D averages relevant to the Onshore and Offshore Sites are currently below ambient air quality limit values (SPL, 2024). The climate baseline is informed by national greenhouse-gas reporting from the EPA and long-term meteorological summaries from Met Éireann, which together describe prevailing mild maritime conditions and national emission trends influenced primarily by the energy-generation sector and changes in fuel mix. Renewable electricity generation in Ireland capacity is dominated by wind, and it is expected that renewable energy generation increases to approximately 68% of electricity consumption by 2030 (EPA, 2025). Met Éireann climate-change projections identify expected conditions relevant to the east coast and the Irish Sea, including sea-level rise, increase of temperature, greater storm intensity, increased rainfall, and heightened coastal-flooding risk. These projections form part of the contextual climate baseline for assessing long-term climatic influences in the region (Met Éireann, 2021; SPL, 2024).	Changes to air quality	OUT	Proposed Works offshore will involve a number of vessels and machinery that will lead to temporary emissions to the atmosphere, however these will be limited and of short-term nature and any emissions offshore will rapidly disperse over open water and unlikely to reach sensitive receptors located onshore. The Offshore DEMP will include standard industry practice and requirements related to offshore emissions, such as adherence to MARPOL requirements. Significant changes to air quality associated with Proposed Works Offshore are considered unlikely and proposed to be scoped out. Proposed Works onshore will involve localised excavation works and the use of machinery and vehicles that will lead to temporary emissions to the atmosphere, including dust generation. The Onshore DEMP will include standard industry practice to manage emissions to the atmosphere and dust control measures to minimise any potential impacts, which given the scale and temporary nature of Proposed Works Onshore, are considered unlikely to become significant and are also proposed to be scoped out.
	Contribution to climate change	OUT	ABWP Phase I has been operating for over 20 years, generating renewable energy that has contributed to regional and national climate goals. Atmospheric emissions, including greenhouse gas (GHG) emissions that contribute to climate change, generated during Proposed Works, are anticipated to be negligible within the context of regional and national emissions given the scale and temporary nature of Proposed Works (see above). The release of embodied carbon (GHG emissions associated with a material across its lifecycle) associated with components to be decommissioned will be minimised by applying the waste hierarchy as part of the Offshore and Onshore WMPs, which will prioritise reuse and recycling when this is considered technically and economically feasible. Overall a significant contribution to climate change from the Proposed Works is considered unlikely, and proposed to be scoped out. **Volume 3, Appendix 1.5: Ecosystem Services Screening** will further consider whether regulatory services associated with the mitigation of climate change could be affected by the Proposed Works.

8.2. Population and Human Health

Baseline Summary	Potential Impact	Scoped In / Out	
The closest human settlement to the Onshore and Offshore Sites is Arklow, the third largest town in Wicklow County with a population of 13,399 people recorded in 2022, that serves as a commuter town for Dublin. Arklow Harbour supports a range of maritime activities including maritime shipping, vessel construction, and yachting. Employment in Arklow spans sectors such as manufacturing, accommodation, retail, construction, and human health (among others) contributing to local economic activity (Central Statisitcs Office (CSO), 2023). Arklow and its surrounding settlements provide a range of residential amenities, community services, and recreational facilities that support the local population.	Economic impact (employment and expenditure)	OUT	Given the scale and temporary nature of the Proposed Works, only a small workforce will be employed and significant economic impacts associated with job creation, work-force related pressures, or expenditure in the local economy, are considered unlikely and proposed to be scoped out.
	Impact to the tourism / recreational sector	OUT	Proposed Works are not anticipated to interfere with tourism / recreational facilities and/or attractions, and given their small scale and temporary nature, significant impacts to the tourism / creational sector are unlikely and proposed to be ruled out. Potential impacts on other sea users and commercial fisheries are separately covered in **Sections 6.7 and 6.3** respectively.

8.3. Seascape, Landscape and Visual Amenity

Baseline Summary	Potential Impact	Scoped In / Out	
At a regional scale, according to the Regional Seascape Character Assessment for Ireland (Marine Institute, 2020), the Offshore and Onshore sites lie within Seascape Character Area (SCA) 13 - South East Irish Sea. This SCA is characterised by an open, low-lying coastline and a strong maritime identity. The wider seascape is defined by gently curving shorelines, low headlands that frame but do not dominate views, and an established pattern of recreational and commercial fishing activity. Nearby settlements, particularly Arklow, display a distinct maritime character with active harbour functions, including docks, marina facilities, storage areas, fishing vessels, and associated maritime services. ABWP phase I currently forms part of the recognised seascape and represents a familiar element within views from the surrounding coastline (Marine Institute, 2020; SPL, 2024). Regarding the Onshore Site, this is of low laying nature, and framed within former industrial land, historically associated with manufacturing activity. The nearest residential areas to the Onshore Site are located on the north side of the Avoca River is around 350 m away from the Onshore Site, and views are largely screened by existing infrastructure The coastal fringe north of Arklow Harbour is shaped by the presence of a long rock-armour revetment extending from the harbour mouth towards Arklow North Beach. The revetment, generally elevated above the adjoining terrain, incorporates a pedestrian walkway that provides open and expansive views along the shoreline (Uisce Éireann, 2018). Over recent years, part of the former industrial land has been redeveloped to accommodate new utilities infrastructure, including the recently commissioned Arklow WWTP that is adjacent to the Onshore Site.	Changes to seascape character	OUT	Proposed Works Offshore involve removing existing infrastructure using vessels already characteristic of the area. No new permanent or visible offshore elements will be introduced, reverting to pre-construction baseline conditions. Given the scale and temporary nature of Proposed Works offshore, significant changes to the seascape character are considered unlikely and proposed to be scoped out.
	Changes to landscape character	OUT	Proposed Works Onshore involve removing existing infrastructure and will temporarily introduce traffic and machinery activity within the area around the Onshore Site. No new permanent or visible onshore elements will be introduced, reverting to pre-construction baseline conditions. Given the scale and temporary nature of Proposed Works onshore, significant changes to the seascape character are considered unlikely and proposed to be scoped out.
	Visual impacts (Proposed Works Offshore)	OUT	Proposed Works offshore will result in an increased temporary vessel activity offshore, which is considered characteristic of current baseline conditions. No new visible structures will be introduced. Given the scale and temporary nature of Proposed Works offshore, significant visual impacts are considered unlikely and proposed to be scoped out.
	Visual impacts (Proposed Works Onshore)	OUT	Proposed Works onshore will result in increased temporary traffic / machinery activity to and from the Onshore Site. No new visible structures will be introduced. Given the scale and temporary nature of Proposed Works Onshore, significant visual impacts are considered unlikely and proposed to be scoped out.

8.4. Waste

Baseline Summary	Potential Impact	Scoped In / Out	
At national level, waste management in Ireland is guided by a circular-economy framework that places strong emphasis on waste prevention, high-value resource recovery, and adherence to the EU waste hierarchy. Recent national data show increasing quantities of several key waste streams relevant to the Proposed Works. Waste Electrical and Electronic Equipment (WEEE) generation has risen in recent years, with consistently high recovery and recycling rates (generally >85%) (Regional Waste Management Offices (RWMO), 2024). the waste management hierarchy is set out in the EU Waste Framework Directive (Directive 2008/98/EC). Where waste cannot be prevented or reused, it must be managed in accordance with the Waste Management Acts (1996-2024 as amended) and transferred only by authorised collectors to licensed or permitted facilities. At regional and local level, waste management also operates within established statutory requirements that prioritise prevention, reuse and recycling wherever feasible. The Proposed Works located in the Eastern-Midlands Region, but Arklow lies adjacent to the Southern Region (Uisce Éireann, 2018).	Waste generation	OUT	The Onshore and Offshore WMP will detail anticipated quantities of materials present in buildings and structures to be decommissioned using relevant industry guidance, such as the Institution of Civil Engineers (ICE) Demolition Protocol (2008) and determine appropriate waste management options. The Onshore and Offshore WMP will require all materials to be managed by authorised waste collectors and transferred to licensed treatment or recycling facilities, ensuring compliance with applicable waste-management regulations and appropriate disposal routes for each waste type. Considering the effective implementation of Onshore and Offshore WMPs, and given the scale of Proposed Works, significant impacts associated with waste generation are considered unlikely and proposed to be scoped out.

8.5. Civil and Military Aviation

Baseline Summary	Potential Impact	Scoped In / Out	
The Offshore Site lies entirely within Class C controlled airspace, where all aircraft must be in receipt of an Air Traffic Service (ATS) from the appropriate air traffic control (ATC) unit. This classification governs how aircraft operate in the vicinity of the Offshore Site and ensures that any interaction between the development and aviation users is fully managed through established ATC procedures (SPL, 2024). Military aviation activity in the region is associated with the Casement Aerodrome, located approximately 30 nautical miles northwest of the Offshore Site. Casement supports fixed-wing and rotary operations of the Air Corps, including routine training flights and occasional maritime support missions. Civil aviation considerations include the safeguarding requirements of Dublin Airport, which operates a Primary Surveillance Radar (PSR) approximately 33 nautical miles to the northwest Aerodrome activity also includes movements from Newcastle Aerodrome, located roughly 10 nautical miles northwest of the Offshore Site. This aerodrome primarily facilitates general aviation and recreational flying, with aircraft generally operating at relatively low altitudes and within established local routing patterns. Search and Rescue (SAR) activity in the region is undertaken by the Irish Coast Guard, with SAR helicopter bases located at Dublin, Waterford, Shannon, and Sligo. SAR aircraft may transit over the Irish Sea in response to emergency situations, although their operations in this area are infrequent and typically routed to maximise efficiency and safety. Meteorological radar coverage of the east coast is provided by Met Éireann radars at Dublin and Shannon airports. The nearest installation, at Dublin Airport, is situated approximately 30 nautical miles from the Offshore Site. ABWP Phase I currently complies with required marking and aviation relevant to aeronautical safeguards. The Onshore Site is of low lying nature and does not include infrastructure that interferes with civil / military aviation.	Introduction of physical obstacles affecting air traffic	OUT	The LMP will define lighting and marking requirements that ensure compliance of Proposed Works Offshore with civil and military aviation requirements throughout its programme. No new features of aviation relevance will be introduced, with pre-construction baseline conditions being reinstated for civil and military aviation receptors following the completion of Proposed Works offshore. With the implementation of a compliant LMP, and considering the nature and scale of Proposed Works Offshore, significant impacts associated with physical obstacles affecting air traffic are considered unlikely and proposed to be scoped out.
	Interference with civil and military PSR systems	OUT	The Proposed Works offshore will remove existing infrastructure and will not introduce any new above-surface structures that could interact with radars' areas of influence, with pre-construction baseline conditions being reinstated for civil and military aviation receptors following the completion of Proposed Works Offshore. Given the nature and scale of Proposed Works offshore, significant impacts associated with interference with PSR systems are considered unlikely and proposed to be scoped out.

8.6 Major Accidents and Natural Disasters

Major accident / disaster	Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?		Is / will Onshore and Offshore Sites be resilient to the major accident / disaster?		Do the Proposed Works have the potential to create major accident / disaster?		Scoped In / Out	
	Y/N	Description	Y/N	Description	Y/N	Description		
Natural								
Biological Hazards – Epidemics / Animal and Insect Infestation	N	There are no identified biological hazards located on the Onshore/Offshore Sites.	-	Not applicable	Y	Introduction of INNS is a potential risk during the Proposed Works Offshore.	OUT	The Offshore DEMP and EVMP will ensure adherence to environmental regulations and prevent biological disruptions, including INNS management strategies.
Mass movements / land slides / rock falls	Y	The Offshore Site is located within the Arklow Bank sandbank, known for its strong dynamism with frequent sand movements.	Y	ABWP Phase I has effectively managed scour risks associated with the sandbank movements. During Proposed Works offshore, the deployment of appropriate vessels, such as JUBs, will ensure stability and resilience throughout the programme.	Y	The Proposed Works Offshore could alter natural sandbank dynamics, including through sediment disturbance activities and post-decommissioning scour risks.	OUT	**Volume 2, Chapter 4: Coastal Processes, Water and Sediment Quality** will assess these potential impacts (see **Section 6.1**), and accordingly no separate assessment is considered necessary.
Earthquakes	N	Ireland experiences relatively low seismic activity compared to many other regions in Europe, with most occurrences being micro-earthquakes of magnitude less than 2.0 (Lebedev *et al*., 2023)	-	Not applicable	-	Not applicable	OUT	Major earthquakes are an extremely unlikely hazard in Ireland, with no plausible pathway for significant impact on the Proposed Works.
Tsunamis	Y	Historical records and geological evidence suggest that although rare, the Irish coast is vulnerable to tsunamis resulting from distant earthquakes and submarine landslides. The potential worst-case tsunamis in Ireland would resemble coastal flooding from storm surges but would arrive with greater force and allow less time for response (Geological Survey Ireland (GSI), 2026).	Y	Proposed Works will only be undertaken during favourable seastate and weather conditions to minimise downtime risks and risks to personnel.	-	Not applicable	OUT	Proposed Works will only be undertaken during favourable seastate and weather conditions to minimise downtime risks and risks to personnel.
Volcanic eruptions	N	Ireland is not known for volcanic activity in recent history, with several extinct volcanoes. The last eruption occurred approximately 60 million years ago (GSI, 2026).	-	Not applicable	-	Not applicable	OUT	Volcanoes are an extremely unlikely hazard in Ireland, with no plausible pathway for significant impact on the Proposed Works.

8.6 Major Accidents and Natural Disasters

Major accident / disaster	Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?		Is / will Onshore and Offshore Sites be resilient to the major accident / disaster?		Do the Proposed Works have the potential to create major accident / disaster?		Scoped In / Out	
	Y/N	Description	Y/N	Description	Y/N	Description		
Natural								
Severe weather - storms	Y	Ireland sits on the eastern edge of the North Atlantic storm track, the main highway for mid-latitude depressions that form and deepen over the ocean, with an expectation of an average of around eight named storms per season (Met Éireann, 2026).	Y	Proposed Works will only be undertaken during favourable seastate and weather conditions to minimise downtime risks and risks to personnel.	-	Not applicable	OUT	Proposed Works will only be undertaken during favourable seastate and weather conditions to minimise downtime risks and risks to personnel.
Severe weather - droughts	Y	In Ireland, droughts typically occur during spring and summer, when a persistent high-pressure system leads to prolonged warm, dry weather (Met Éireann, 2026). A significant example is the summer drought of 2018 (Noone *et al*. 2025).	Y	The appointed decommissioning contractor(s) will be required to have appropriate health and safety (H&S) plans in place that ensure appropriate management of worker comfort and heat-stress risk that may be attributed to periods of droughts.	-	Not applicable	OUT	The only relevant effect of droughts concerns worker comfort and heat-stress risk, which will be managed through the contractor's standard Health & Safety plans for the Proposed Works.
Severe weather - extreme temperatures	Y	There is the potential for periods of extreme temperature, e.g. heat waves. Effects of climate change may also have the potential to increase incidence of heat waves (Met Éireann, 2020).	Y	The appointed decommissioning contractor(s) will be required to have appropriate H&S plans in place that ensure appropriate management of worker comfort and heat-stress risk that may be attributed to periods of extreme temperatures	-	Not applicable	OUT	The only relevant effect of extreme temperatures concerns worker comfort and heat-stress risk, which will be managed through the contractor's standard Health & Safety plans for the Proposed Works.
Floods	Y	As indicated in **Section 7.1**, the Onshore Site is not located within any river or tidal flood areas, and it is protected from coastal flooding risks by an existing breakwater. However, given its location in relation to the Avoca river and the sea, potential flood risks cannot be ruled out.	Y	Proposed Works will only be undertaken during favourable seastate and weather conditions to minimise flooding risks and risks to personnel.	N	The Proposed Works Onshore do not modify ground levels, drainage patterns, or flood defences, and therefore will not increase flood risk or create any flood-related major accident scenario.	OUT	Proposed Works will only be undertaken during favourable seastate and weather conditions to minimise flooding risks and risks to personnel.
Wildfires	N	Land types most at risk of wildfires include forests, heathland and agricultural crops. None of these are present within the Onshore Site or its vicinity.	-	Not applicable	-	The Proposed Works Onshore will not introduce combustible vegetation, ignition sources in vegetated areas, nor any activity capable of triggering wildfires.	OUT	The Onshore Site and vicinity do not contain the land types typically susceptible to wildfires, and Proposed Works Onshore will not create a pathway to trigger wildfires either.

8.6 Major Accidents and Natural Disasters

Major accident / disaster	Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?		Is / will Onshore and Offshore Sites be resilient to the major accident / disaster?		Do the Proposed Works have the potential to create major accident / disaster?		Scoped In / Out	
	Y/N	Description	Y/N	Description	Y/N	Description		
Human / Man-Made								
Poor air quality events	N	The Onshore and Offshore Sites are not currently considered to be exposed to poor quality events, see **Section 8.1**.	-	Not applicable.	Y	Dust and release of atmospheric pollutants will be temporary and minor in scale, controlled through standard mitigation measures, to be integrated in the Offshore and Onshore DEMPs, see **Section 8.1**.	OUT	Dust and release of atmospheric pollutants will be temporary and minor in scale, controlled through standard mitigation measures, to be integrated in the Offshore and Onshore DEMPs, see **Section 8.1**
Water contamination	N	The Onshore and Offshore Sites are not currently considered to be exposed to poor water quality, see **Sections 6.1** and **7.1.**	-	Not applicable.	Y	Whilst accidental pollution will be controlled through appropriate management measures adopted in the Offshore and Onshore DEMPs, increase in SSC will temporarily increase turbidity and affect water quality during Proposed Works Offshore.	OUT	**Volume 2, Chapter 4: Coastal Processes, Water and Sediment Quality** will assess these potential impacts (see **Section 6.1**), and accordingly no separate assessment is considered necessary.
Transport accidents	N	There are no records of transport accidents recorded within the Onshore / Offshore Sites and/or caused by the onshore / offshore infrastructure of ABWP Phase I.	-	Not applicable.	Y	Proposed Works onshore and offshore will generate road and marine traffic respectively increasing the risk of transport accidents	OUT	**Volume 2, Chapter 7: Shipping and Navigation** will assess these potential impactsin relation to Proposed Works Offshore (see **Section 6.4**), and accordingly no separate assessment is considered necessary. Considering the scale and temporary nature of Proposed Works onshore, and the implementation of an onshore TMP, significant impacts have been scoped out, see **Section 7.4**.
Industrial disruptions / accidents	Y	The nearest Control of Major Accident Hazards (COMAH) site to the Onshore Site is Sigma-Aldrich Ireland Limited, located near the M11 motorway and the Avoca River, located within approximately 2.5 km (HAS, 2023)	N	An incident at this COMAH site is considered extremely unlikely as such an event would "occur only in exceptional circumstances".	N	Given their nature, the Proposed Works will not create interaction pathways leading to industrial disrruptions / accidents.	OUT	The likelihood of an incident associated with neighbouring COMAH sites is considered extremely low, and the Proposed Works will not create pathways for industrial disruptions / accidents.

8.6 Major Accidents and Natural Disasters

Major accident / disaster	Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?		Is / will Onshore and Offshore Sites be resilient to the major accident / disaster?		Do the Proposed Works have the potential to create major accident / disaster?		Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?	
	Y/N	Description	Y/N	Description	Y/N	Description		
Human / Man-Made								
Nuclear accidents	N	There is no nuclear power activity of relevance within the vicinity of the Onshore / Offshore sites or wider Ireland.	-	Not applicable	-	Not applicable	OUT	Any radiological emergency originating abroad would be managed under the National Plan for Nuclear and Radiological Emergency Exposures (NEPNA), rather than at project level.
Electricity, gas, water supply or sewerage failures	N	The Proposed Works will not require short-term connections to electricity, water supply, or sewerage services.	-	Not applicable	N	Proposed Works will be coordinated with ESB to ensure appropriate isolation and disconnection of ABWP Phase I with the grid.	OUT	Proposed Works will be coordinated with ESB to ensure appropriate isolation and disconnection of ABWP Phase I with the grid.
Fire Risks	Y	Both the Onshore and Offshore Sites contain equipment and materials (e.g., electrical components, oils, fuels, temporary storage during decommissioning) that could, under abnormal conditions, pose a fire risk.	Y	The Proposed Works will be managed in line with appropriate industry standards and management measures in relation to fire prevention and management.	N	Although localised fire incidents are theoretically possible, the nature and scale of the Proposed Works, combined with established mitigation measures, mean there is no relevant pathway for a fire to escalate into a major-accident scenario.	OUT	Fire risk during the Proposed Works will be fully addressed through standard industry controls and implementation of emergency response procedures by the appointed decommissioning contractor.
Famine / food insecurity	N	There are no risks of famine / food insecurity currently present in Ireland.	-	Not applicable	-	Not applicable	OUT	Famine or food insecurity is not a recognised risk within Ireland's emergency-management context and has no linkage to the Proposed Works.
Displaced populations	-	Not applicable	-	Not applicable	-	Not applicable	OUT	Displacement of populations is not a relevant hazard for the Onshore and Offshore Sites, which lies within a stable and developed area with no potential for social displacement.

8.6 Major Accidents and Natural Disasters

Major accident / disaster	Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?		Is / will Onshore and Offshore Sites be resilient to the major accident / disaster?		Do the Proposed Works have the potential to create major accident / disaster?		Is / will Onshore and Offshore Sites be exposed to the major accident / disaster?	
	Y/N	Description	Y/N	Description	Y/N	Description		
Human / Man-Made								
Terrorist incidents / Criminal action	Y	There is a potential, though low, risk of targeted attacks (including terrorism, acts of war, sabotage or cyber-attacks) on Proposed Works, particularly offshore.	Y	The appointed decommissioning contractors will adopt appropriate protocols that comply with relevant regulations to deal with unexpected criminal action during Propsoed Works Offshore.	-	Not applicable	OUT	While offshore infrastructure can theoretically be exposed to external malicious acts, Ireland maintains a low threat level, and no credible, site-specific risk exists for the proposed decommissioning works.
Collapse / damage of structures	N	Proposed Works comprise the removal of existing infrastructure. There is no identified external hazard that would reasonably lead to an uncontrolled collapse.	-	Not applicable	N	Proposed Works will be designed and executed to ensure control management of decommissioning works, with no uncontrolled collapse anticipated.	OUT	There are no identified pathways that could lead to uncontrolled collapse of existing infrastructure.

9. Summary of EIA Scoping

This EIA Scoping Presentation has set out the scope of the EIAR along with the proposed approaches that will be used to enable an assessment of the likely significant effects of the Proposed Works. The following table provides a summary of the environmental aspects that are proposed to be scoped in and out of the EIAR.

Table 9.1: Summary of EIAR scoping topics to be assessed and in relation to the decommissioning works

Environmental aspect	Scoped In / Out	Environmental aspect	Scoped In / Out
Offshore		**Onshore / Offshore**	
Coastal processes, water and sediment quality	**IN**	Air quality and climate	OUT
Marine biodiversity	**IN**	Population and human health	OUT
Commercial fisheries	**IN**	Seascape, landscape and visual amenity	OUT
Shipping and navigation	**IN**	Waste	OUT
Marine archaeology and cultural heritage	**IN**	Civil and Military Aviation	OUT
Airborne noise	OUT	Major Accidents and Natural Disasters	OUT
Marine infrastructure and other users	OUT		
Onshore			
Water quality	OUT		
Land quality	OUT		
Noise and vibration	OUT		
Onshore biodiversity	OUT		
Traffic and transport	OUT		
Onshore Infrastructure and utility services	OUT		
Cultural heritage and archaeology	OUT		

10. Preliminary Structure of the EIAR

The EIAR will address the requirements of the EIA Regulations. The preliminary structure and content of the EIAR is anticipated to include:

- **Volume 1: Non-Technical Summary**

- **Volume 2: Main Environmental Impact Assessment Report**

  1. Introduction, including a description of relevant policy and legislation and EIA methodology
  2. Description of Alternatives
  3. Proposed Works Description
  4. Coastal Processes, Water and Sediment Quality
  5. Marine Biodiversity
  6. Commercial Fisheries and Aquaculture
  7. Shipping and Navigation
  8. Marine Archaeology and Cultural Heritage
  9. Summary of Cumulative Effects
  10. Summary of Interaction of Effects
  11. Summary of Mitigation, Residual Effects and Monitoring

- **Volume 3: Appendices**

Appendix 1.1. EIA Scoping Presentation
Appendix 1.2. Cumulative Screening
Appendix 1.3. Transboundary Screening
Appendix 1.4. Ecosystem Services Screening
Appendix 2.1. Comparative Assessment Report
Appendix 3.1. Outline Onshore DEMP
Appendix 3.2. Outline TMP
Appendix 3.3. Outline Onshore WMP
Appendix 3.4. Outline Offshore DEMP
Appendix 3.5. Marine Mammal Mitigation Protocol
Appendix 3.6. Ecological Vessel Management Plan
Appendix 3.7. Fisheries Management and Mitigation Strategy
Appendix 3.8. Lighting and Marking Plan
Appendix 3.9. Outline Offshore WMP

10. Preliminary Structure of the EIAR

Appendix 4.1. Seabed Mobility Assessment
Appendix 4.2. Sediment Plume Modelling
Appendix 4.3. Scour Assessment
Appendix 4.4. Sediment Sampling Results
Appendix 4.5. Marine Strategy Framework Directive Assessment
Appendix 4.6. Water Framework Directive Assessment
Appendix 5.1. Underwater Noise Modelling
Appendix 6.1. Commercial Fisheries and Aquaculture Baseline Report
Appendix 7.1. Navigational Risk Assessment
Appendix 8.1. Marine Archaeology and Cultural Heritage Technical Report
Appendix 11.1. Environmental Monitoring Plan

11. Next Steps

This EIA Scoping Presentation has set out the proposed scope of the EIAR along with the proposed approaches that will be used to enable an assessment of the likely significant effects of the Proposed Works.

Using this EIA Scoping Report as the basis, Arklow Energy is seeking feedback from the stakeholders outlined in **Section 3** on the following:

- The key issues to be addressed in the EIAR;
- The proposed content of the EIAR and the potential impacts that have been scoped in/out;
- The proposed assessment methodologies to assess the potential impacts; and
- Any other data that the environmental assessments should consider and address in the EIAR.

All feedback can be submitted to the following **before the 7th April 2026.**

Arklow Energy will continue to scope the EIAR as further assessment is undertaken on the Proposed Works.

All feedback received will be considered by Arklow Energy, and the EIAR scope will be updated as required.

The EIAR will record all issues raised and how they have been addressed in the EIAR.

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Appendix 1

Onshore Preliminary Ecological Appraisal

ABWP Phase I Decommissioning

Onshore Preliminary Ecological Appraisal

Appendix 1



RAMBOLL Bright ideas. Sustainable change.

Project name ABWP Phase I Decommissioning

Project no. 1620011606-002

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Statement of Authority

Author	Qualifications	Relevant Experience
Lucy Downer	BSc (Hons) Zoology, Qualifying Member of CIEEM	Graduate consultant ecologist since 2024.
James Cunningham	BSc Environmental Science, MSc Environmental Consultancy.	Consultant ecologist since 2022.
Matt Neale	BSc (Hons) Environmental Science, MSC Coastal Conservation and Management, Chartered Ecologist (CEcol), Member of CIEEM	Senior Manager with 20+ years of experience.

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; and – One offshore export cable and inter-array cables connecting the WTGs; • Onshore infrastructure landward of HWM, including: – One onshore cable; and – One onshore substation.
ABWP Phase I Decommissioning EIA Scoping Presentation	Presentation scoping the likely environmental impacts of the Proposed Works.
baseline	A description of the relevant aspects of the current state of the environment (baseline scenario) (EIA Directive 2014/52/EU).
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).
designated sites	Unless otherwise specified, the term 'designated' is used to refer to international sites, European sites and national sites (that are legally designated, or are going through the process of designation (MDB, 2027).
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).
Ecological Impact Assessment	Process of identifying, quantifying and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems (CIEEM, 2024).
Environmental Impact Assessment (EIA)	The process of examining the anticipated environmental effects of the Proposed Works – from consideration of environmental aspects at design stage, through consultation and preparation of an Environmental Impact Assessment Report (EIAR), evaluation of the EIAR by a competent authority, and the subsequent decision as to whether the Proposed Works should be permitted to proceed, encompassing public response to that decision (EPA, 2022).
European site	Candidate Special Areas of Conservation (SACs) and proposed Special Protection Areas (SPAs) and adopted SACs and SPAs. SACs and SPAs are the Natura 2000 European Network designations in Ireland, defined in S.177R of the Planning and Development Act 2000, as amended (MDB, 2017).
Geographic Information System (GIS)	Array of technological tools presented on a spatial basis for the management, analysis and display of geographic data (MDB, 2017).

Term	Meaning
High Water Mark (HWM)	Level reached by the sea level at high tide.
impact	A change brought about by the Proposed Works.
intertidal	The area between the HWM and the Low Water Mark (LWM).
landfall	The point where the offshore export cable transitions from the offshore marine environment to the onshore terrestrial environment.
Low Water Mark (LWM)	Level reached by the sea at low tide.
mitigation measures	Measures to avoid, prevent or reduce impacts (EPA, 2022).
Natura 2000 network	An EU-wide network of important ecological sites. Natura 2000 sites in Ireland are European sites, including candidate SACs and proposed SPAs and adopted SACs and SPAs (MDB, 2017).
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).
Qualifying Interests	Habitats and species of interest, under the Birds and Habitats Directives, which establish the reason(s) for designating a site as an SAC or SPA. The qualifying interests are set out in the site synopsis prepared for the site by the National Parks and Wildlife Service of the Department of Arts, Heritage, Regional Rural and Gaeltacht Affairs (MDB, 2017).
significance	The importance of the outcome of the impact (or the consequence of change) for the receiving environment (EPA, 2022).
Zone Of Influence (ZoI)	The potential geographic area that could be affected by the implementation of the Proposed Works. The ZoI should be regarded as having flexible boundaries which may change during the assessment. The boundaries should be determined having regard to the source-pathway-target risk assessment concept.

Acronyms

Acronym	Meaning
BoCCI	Birds of Conservation Concern Ireland
CDP	County Development Plan
CEA	Cumulative Effect Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
DEMP	Decommissioning Environmental Management Plan
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
ESB	Electricity Supply Board
EU BD	European Union Birds Directive
HWM	High Water Mark
IEMA	Institute of Environmental Management and Assessment
INNS	Invasive Non Native Species
JNCC	Joint Nature Conservation Committee
LED	Light-emitting Diode
LWM	Low Water Mark
NBDC	National Biodiversity Data Centre
NHA	National Heritage Area
NPWS	National Parks and Wildlife Service

Acronym	Meaning
PEA	Preliminary Ecological Appraisal
PLC	Programmable Logic Controller
pNHA	Proposed National Heritage Area
SAC	Special Area of Conservation
SPA	Special Protection Area
UPS	Uninterruptible Power Supply

Units

Unit	Meaning
ha	Hectares
km	Kilometres
kV	Kilovolts
L	Litres
m	Meters
V	Volts

1 Introduction

1.1 Overview

1.1.1.2 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).

1.1.2.2 This Onshore Preliminary Ecological Appraisal (PEA) for the Proposed Works aims to present a rapid assessment of the ecological features present, or potentially present, within the Onshore Site and its zone of influence (ZoI). The ZoI is the area over which ecological features may be affected by the biophysical changes caused by the Proposed Works Onshore and its associated activities.

1.1.3.2 The location of the 'Onshore Site' is shown in **Figure 1** below.

1.1.4.2 The structure and content of the report is based on current ecological report writing guidance (Chartered Institute of Ecology and Environmental Management (CIEEM), 2017a)).

1.1.5.2 This Onshore PEA is intended to support the **EIA Scoping Presentation** and assist in scoping potential significant impacts of Proposed Works Onshore on onshore ecology.

1.1.6.2 The content of this Onshore PEA is based on the findings of:

- A desk study; and
- An extended *Guide to Habitats* habitat survey.

1.1.7.2 The specific objectives of this report are to:

- Identify designated sites located either within the Onshore Site boundary or the ZoI of the Proposed Works Onshore;
- Assess the potential for the Onshore Site and the ZoI of the Proposed Works Onshore to support populations of protected species or species of nature conservation importance;
- Record the main habitats and features of ecological interest on the Onshore Site;
- Assess the overall ecological importance of the Onshore Site;
- Provide recommendations for any additional further surveys (if required); and
- Provide preliminary recommendations for the protection and enhancement of the Onshore Site's ecological features.

1.1.8.2 This Onshore PEA is supported by the following appendix:

- **Appendix A: Onshore Site Photographs**.

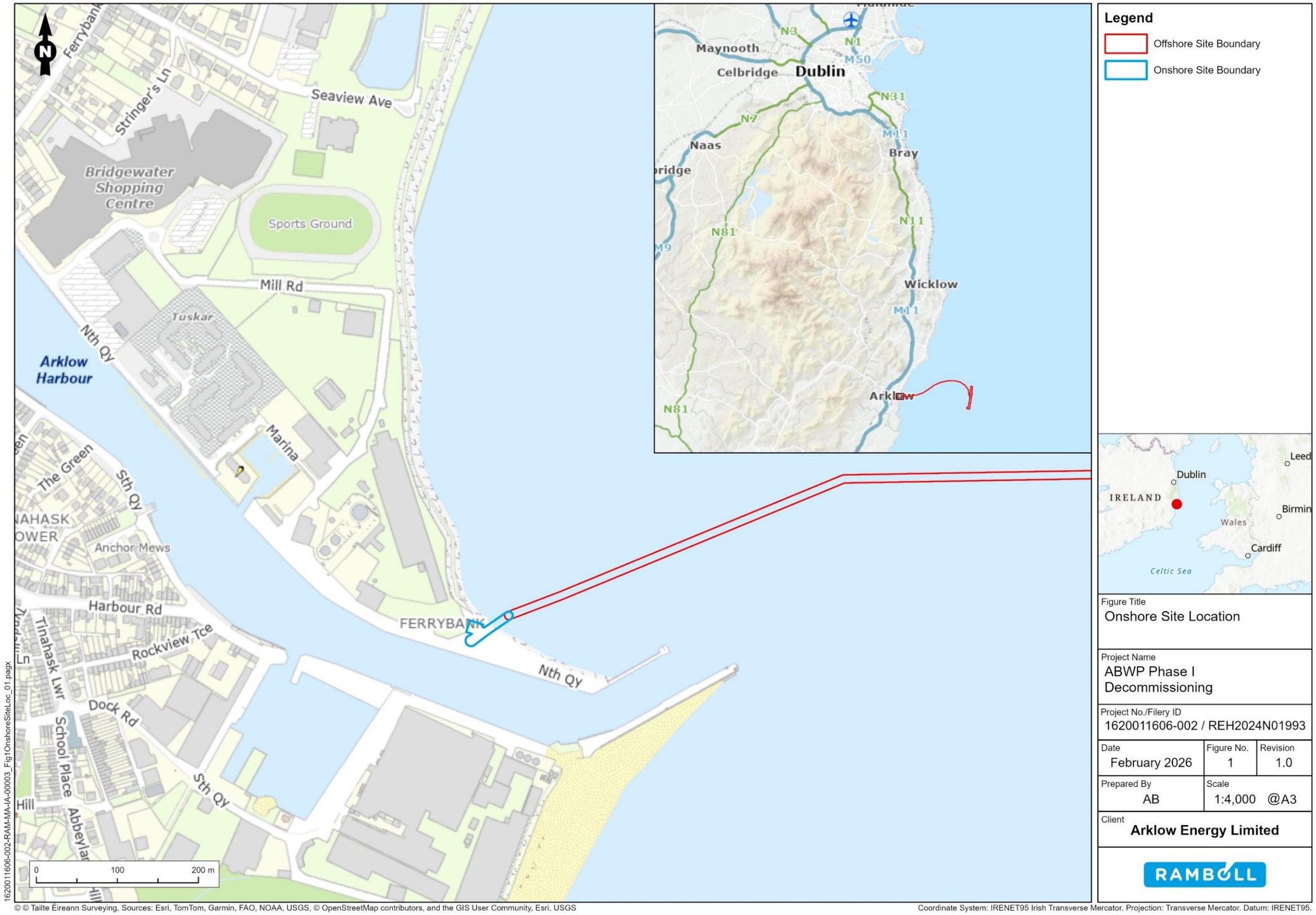


Figure 1: Onshore Site Location

1.2 Proposed Works Onshore

2.1.1.2 The Onshore Site includes a fenced compound where an onshore substation and ancillary equipment are located. There is also a 10 m cable corridor along the onshore cable route connecting the landfall point at High-Water Mark (HWM) with the onshore substation.

2.1.2.2 The Proposed Works Onshore include decommissioning the onshore substation and removing the onshore cable, including:

- In collaboration with Electricity Supply Board (ESB), termination and isolation of the 38 kilovolts (kV) and 400 volts (V) electricity supplies;
- Removal of cooling oil (9000 litres (L)) from the transformer using an oil tanker, and transport to a licensed waste facility for depollution;
- Transportation of transformer to a licensed waste facility for further depollution of residue oils and contaminants prior to metallic recycling / processing;
- Removal of grey water from submerged oil interceptor tank, to be subsequently excavated and removed;
- Excavation and removal of concrete bund;
- Dismantling and removal of all equipment within the onshore substation building, including switchgear, servers, Programmable Logic Controller (PLC), Uninterruptible Power Supply (UPS), communication infrastructure, etc) for the onward recycling/transportation to a licensed waste facility for further processing and disposal. All cables are anticipated to be processed through a copper granulation plant for optimal environmental outcomes; and
- Dismantling of onshore substation building structure, followed by site clearance and levelling, anticipated to include reinstatement using hardcore.

2.1.3.2 Onshore cable removal works would commence once the fence compound area is vacant and reinstated so that it can be used to temporarily store machinery, vehicles and excavated soil during onshore cable removal works, which would comprise:

- Set up of exclusion zones and signage along the onshore cable route;
- Verify the location and depth of the cable;
- Begin excavation at one end of the cable route, extracting the cable from the trench using mechanical aids, and placing removed cable sections in appropriate containers for transport and disposal; and
- Backfill and compact excavated trench with excavated soil previously stored within the fence compound area.

2.1.4.2 Reasonable endeavours would be undertaken to fully remove the onshore cable; however, some sections may be left *in situ* if cable pulling becomes unfeasible.

1.3 Legislation and Policy Framework

3.1.1.2 There are several acts of legislation and planning policies which refer to the protection of wildlife within Ireland. Wildlife is protected at a national level through the Wildlife Act 1976 and Wildlife (Amendment) Acts 2000 and 2010 and their supporting documents.

3.1.2.2 The European Communities (Birds and Natural Habitats) Regulations 2011 transpose the Habitats Directive and the Birds Directive and set out the provisions for the protection and management of species and habitats of European importance. This provides for the creation of a network of protected wildlife areas across the European Union, known as 'Natura 2000'. The Natura 2000 network consists of Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive (Council Directive 79/409/EEC). These sites are part of a pan-European range of measures aimed at conserving important or threatened habitats and species.

3.1.3.2 The European Union (Invasive Alien Species) Regulations 2024 address invasive alien species of national concern in Ireland and make it an offence to introduce, keep, allow to reproduce / grow or release these species into the wild.

1.3.2 Local Policy

Wicklow County Development Plan 2022 - 2028

3.2.1.2 The Wicklow County Development Plan (CDP) 2022-2028 (Wicklow County Council, 2025a) sets out the overall strategy for the proper planning and sustainable development of the County of Wicklow between 2022 and 2028. This includes the Arklow Municipal District, within which the Onshore Site is located.

3.2.2.2 Chapter 17 (as altered with Variation No. 3 (2025)) of the CDP outlines strategies and objectives relevant to the natural heritage and biodiversity in the County. Policies / objectives of relevance to the Proposed Works Onshore include:

- CPO 17.4: To contribute, as appropriate, towards the protection of designated ecological sites including SACs and SPAs; Wildlife Sites (including proposed Natural Heritage Areas); Salmonid Waters; Flora Protection Order sites; Wildfowl Sanctuaries (see S.I. 192 of 1979); Freshwater Pearl Mussel catchments; and Tree Preservation Orders (TPOs).
- CPO 17.6: Ensure that development proposals, contribute as appropriate towards the protection and where possible enhancement of the ecological coherence of the European Site network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the EU Habitats directive.
- CPO 17.7: To maintain the conservation value of all proposed and future Natural Heritage Areas (NHAs) and to protect other designated ecological sites in Wicklow.
- CPO 17.12: To protect non-designated sites from inappropriate development, ensuring that ecological impact assessment is carried out for any proposed development likely to have a significant impact on locally important natural habitats, species or wildlife corridors. Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.
- CPO 17.13: To facilitate, in co-operation with relevant stakeholders, the ongoing identification and recording of locally important biodiversity areas and species in County Wicklow, not otherwise protected by legislation and ensure that consideration is given to these in the development management process.
- CPO 17.14: Ensure that development proposals support the protection and enhancement of biodiversity and ecological connectivity within the plan area in accordance with Article 10 of the Habitats Directive, including linear landscape features like watercourses (rivers, streams, canals, ponds, drainage channels, etc), woodlands, trees, hedgerows, road and railway margins, semi-natural grasslands, natural springs, wetlands, stonewalls, geological and geo-morphological systems, features which act as stepping stones, such as marshes and woodlands, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones that taken as a whole help to improve the coherence of the European network in Wicklow.
- CPO 17.17: Work with statutory authorities to prevent and control the spread of invasive plant and animal species and require, where appropriate Invasive Species Management Plans to be prepared as part of the development management process where necessary.
- CPO 17.26: Protect rivers, streams and other water courses by avoiding interference with river / stream beds, banks and channels and maintaining a core riparian buffer zone of generally 25m along watercourses (or other width, as determined by the Planning Authority having particular regard to 'Planning for Watercourses in the Urban Environment' by Inland Fisheries Ireland for urban locations) free from inappropriate development, with undeveloped riparian vegetation strips, wetlands and floodplains generally being retained in as natural a state as possible. Structures such as bridges should be clear span and designed and built in accordance with Inland Fisheries Ireland guidance.

2 Methodology

2.1 Desk Study

1.1.1.2 The purpose of the desk study was to collect existing baseline data about the Onshore Site and the ZoI such as the location of designated sites or other natural features of potential ecological value such as woodland and ponds. The following ZoI has been considered:

- Statutory designated sites up to 2 kilometres (km) from the Onshore Site, including SACs, SPAs, Ramsar sites, NHA, Nature Reserves, National Parks and Wildfowl Sanctuaries;
- Non-statutory designated sites, including potential National Heritage Areas (pNHA) up to 2 km from the Onshore Site;
- Records of protected species up to 2 km from the Onshore Site; and
- International and national statutory designated sites with bats or birds as a qualifying interest for designation, up to 10 km from the Onshore Site.

1.1.2.2 The National Biodiversity Data Centre (NBDC) Biodiversity Maps website (National Biodiversity Data Centre, 2026), the National Parks and Wildlife Service (NPWS) Designations Viewer (NPWS, 2024) and the Ramsar Sites Information Service (Ramsar, 2026) were used to identify designated sites and protected and notable species within the ZoI.

1.1.3.2 The Draft Arklow Local Planning Framework 2025 – 2031 (Wicklow County Council, 2025b) was used to identify key green corridors within the ZoI.

1.1.4.2 Supplementary information on the Onshore Site and its surroundings were obtained from aerial images available from Google™ Earth.

2.2 Extended Habitat Survey

2.1.1.2 An extended *Guide to Habitats* survey of the Onshore Site was undertaken by consultant ecologist James Cunningham on 23 February 2026. James holds a BSc in Environmental Science and an MSc in Environmental Consultancy and has worked professionally as a consultant ecologist since 2022.

2.1.2.2 The weather during the survey period was overcast, with drizzle and temperatures of 12°C.

2.1.3.2 The survey involved a walkover and preliminary assessment of key habitats, land use and ecological features.

2.1.4.2 The main habitats present were classified using the standard *Guide to Habitats* survey methodology and definitions described in A Guide to Habitats in Ireland (Fossit, J.A., 2000). In addition to general habitat classification, a list was compiled of observed plant species (using the nomenclature of Stace (2010), with common and Latin names referred to in the first instance after which only the common names are used). The abundance of each species was estimated for each habitat respectively using standard 'DAFOR' codes:

- D = Dominant;
- A = Abundant;
- F = Frequent;
- O = Occasional; and
- R = Rare.

2.1.5.2 The Onshore Site was assessed for its potential to support protected and notable species such as bats and birds and was inspected for signs of any invasive plant species subject to legal controls. This was to identify potential ecological constraints and to guide recommendations for further survey requirements for these species (if any). This 'extended' element of the survey allows identification of potential ecological constraints (and to guide recommendations for further survey requirements for these species) and opportunities for enhancement.

2.1.6.2 This included an internal and external inspection of the building found within the Onshore Site to assess its suitability to support roosting / nesting bats and birds.

2.1.7.2 In line with Bat Conservation Trust (BCT) Guidelines (Collins, 2023) the following building types and features are considered to be of particular suitability to support roosting bats:

- Buildings of pre-20th or early 20th century construction;
- Agricultural buildings of brick, stone, or timber construction;

- Large and complicated roof void(s) with unobstructed flying spaces;
- Large (>20 cm) roof timbers with mortise joints, cracks, and holes;
- Entrances into buildings for bats to fly through;
- Poorly maintained buildings such that they provide access points for bats into roofs, walls, bridges, but at the same time not being too cool and draughty;
- Roof warmed by the sun e.g. south facing;
- Weatherboarding and/or hanging tiles with gaps;
- Undisturbed building roofs and structures;
- Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year; and
- Buildings and built structures close to good foraging habitat e.g. mature trees, parkland, woodland, or wetland.

2.1.8.2 **Table 2.1** outlines the criteria for each of the bat roosting potential categories, in line with BCT Guidelines (Collins, 2023).

Table 2.1: Bat Roost Potential Categories in Built Structures

Roost Potential	Description
Confirmed	A structure that is confirmed to support a bat roost.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. These structures have the potential to support high conservation status roosts (e.g., maternity, or classic cool / stable hibernation site).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, and / or suitable surrounding habitat to be used on a regular basis or by a large number of bats (i.e., unlikely to be suitable for maternity and not cool / stable hibernation site but could be used by individual hibernating bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices / suitable shelter at all ground / underground levels)

2.1.9.2 The extended *Guide to Habitats* survey also included an assessment of the suitability of foraging and commuting habitats for bats on the Onshore Site. **Table 2.2** outlines the suitability levels of foraging and commuting habitats, in line with BCT Guidelines (Collins, 2023).

Table 2.2: Bat Foraging and Commuting Habitat Suitability Categories

Suitability	Description
High	Continuous high-quality foraging or commuting habitat, well-connected to the wider landscape, located close to known roosts.
Moderate	Habitat connected to the wider landscape with suitability for a number of foraging or commuting bats.
Low	Habitats suitable for small numbers of foraging or commuting bats but isolated.
Negligible	No obvious flight lines or foraging habitats, however an element of uncertainty remains.
None	No features on site likely to be used by foraging or commuting bats.

2.3 Importance Criteria

3.1.1.2 Where a detailed enough assessment has been conducted to make it possible, the importance of ecological features, i.e. designated sites, habitats and species, identified within the ZoI has been assessed using a scale that classifies ecological features within a defined geographic context in accordance with CIEEM guidelines (CIEEM, 2018). The following frame of reference has been used for the Onshore Site, adapted to suit local circumstances:

- International and European Importance;
- National Importance (Republic of Ireland);
- Regional/Metropolitan Importance;
- County/Borough Importance (Wicklow);
- Local Importance;
- Site-scale Importance (limited to the Onshore Site boundary or ZoI); and
- Negligible Importance.

3.1.2.2 Various characteristics contribute to the importance of ecological features. These include recognised and published criteria (e.g. Reason and Wray, 2023) where the ecological features are assessed in relation to their size, diversity, naturalness, rarity, fragility, typicalness, connectivity with surroundings, intrinsic value, recorded history and potential importance.

3.1.3.2 A wide range of sources can be used to assign importance to ecological features, including legislation and policy. In the case of designated sites, their importance reflects the geographic context of the designation. For example, sites designated as SACs are recognised as being of importance at an international scale. Ecological features not included in legislation and policy may also be assigned importance, due to, for example, local rarity or decline, or provision of a functional role for other ecological features. Professional judgement is used to assign such importance.

2.4 Limitations

4.1.1.2 The PEA of the Onshore Site has been undertaken based on CIEEM's 2017 Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017), with elements of CIEEM's Ecological Impact Assessment Guidelines (CIEEM, 2018), taking a proportional approach to the level of survey effort and reporting required due to the small size and industrial nature of the Onshore Site.

4.1.2.2 It should be noted that availability and quality of the data obtained during desk studies is reliant on third party responses. This varies from region to region and for different species groups. Furthermore, the comprehensiveness of data often depends on the level of coverage, the expertise and experience of the recorder and the submission of records to the local recorder. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

4.1.3.2 The *Guide to Habitats* survey provides a snapshot of ecological conditions and does not record plants or animals that may be present at the Onshore Site at different times of the year. The survey was undertaken outside of the optimum April to September habitat survey period when plants are generally visible and identifiable, however, this was considered acceptable due to the lack of significant vegetated habitats present within the Onshore Site.

4.1.4.2 This PEA considers terrestrial receptors only and not intertidal or marine receptors which may be impacted by the Proposed Works.

4.1.5.2 This PEA does not constitute an Ecological Impact Assessment (EcIA) that is usually required to accompany the planning application. However, in this instance, no further surveys are considered necessary to inform the assessment of the Proposed Works. Due to the very low ecological importance of the Onshore Site and the ZoI, along with the minimal potential impacts predicted, a full EcIA is not recommended, and this PEA report is expected to contain sufficient information on which the application can be determined.

4.1.6.2 Ramboll is satisfied that this report represents a robust appraisal of the Onshore Site. If any action or development has not taken place on this land within twelve months of the date of this report, the findings of this survey should be reviewed by a suitably qualified ecologist and may need to be updated in line with CIEEM's 'Advice Note on the Lifespan of Ecological Reports and Surveys' (2019).

3 Baseline Conditions

3.1 Desk Study

3.1.1 Landscape Context

1.1.1.2 The Onshore Site is located on the northern pier within Arklow Marina, on the eastern coast of Ireland. It is bound to the:

- North by the Arklow Wastewater Treatment Plant, Marina Village and Arklow Shipping, beyond which is an athletic track and areas of green space including Arklow Duckpond and Kynoch Park;
- East by the northern pier, beyond which is the Irish Sea;
- South by the Avoca River and Arklow South Pier, beyond which is Arklow Golf Club and arable fields; and
- West by the Avoca River, beyond which is the centre of Arklow, including residential housing and commercial / industrial buildings.

3.1.2 Designated Sites

Statutory Sites

1.2.1.2 No SPAs, SACs, NHAs, National Parks, designated Nature Reserves, or Wildfowl Sanctuaries are found within 2 km of the Onshore Site, and no SACs designated for bats are present within 10 km.

1.2.2.2 One SAC of significance for birds is found within 10 km of the Onshore Site:

- Buckroney-Brittas Dunes and Fen SAC, located 5.1 km north, supports a breeding population of little tern *Sternula albifrons* (listed on Annex I of the Birds Directive), and other notable bird species including lapwing *Vanellus vanellus*, curlew *Numenius arquata* and teal *Anas crecca*.

Non-Statutory Sites

1.2.3.2 Three pNHAs are found within 2 km of the Onshore Site, as detailed in **Table 3.1**.

Table 3.1: Non-statutory Designated Sites within 2 km of the Onshore Site

Name	Type	Location and Distance from the Onshore Site	Area (ha)	Reason for Designation
Arklow Town Marsh	pNHA	0.8 km northwest	83.9	Low-lying wetland area, which supports a variety of plant and animal life, including birds.
Arklow Rock-Askintinny	pNHA	1.8 km south	61.1	Sand dune habitats.
Arklow Sand Dunes	pNHA	1.9 km north	19.3	Sand dune habitats, which support notable plant and animal communities.

Ancient Woodland

1.2.4.2 There is no ancient woodland present on, or directly adjacent, to the Onshore Site. The closest area of ancient woodland is found approximately 2.5 km west (Glenart Wood).

Wildlife Corridors

1.2.5.2 The Avoca River runs approximately 25 meters (m) south of the Onshore Site, connecting the Irish Sea and eastern coastline to Arklow Town Marsh pNHA and the Avoca River Valley pNHA further inland.

1.2.6.2 Other green corridors include Arklow Duckpond, approximately 675 m north, and Arklow North Beach, which extends to within approximately 400 m north of the Onshore Site.

3.2 Habitats

3.2.1 General Site Description

2.1.1.2 The Onshore Site habitat area covers approximately 0.075 hectares (ha) (onshore only) and comprises a small substation building and surrounding urban modified land, located on the Northern Arklow Pier. The following descriptions of habitats should be read in conjunction with **Figure 2** below.

3.2.2 Buildings and Artificial Surfaces (BL3) - Buildings

2.2.1.2 One building is found within the Onshore Site boundary, comprising a small substation of concrete construction, built in the early 2000s. This has a pitched, tiled roof, although the roof space appeared to be completely sealed, with no loft hatch or access available. Some lifting and missing tiles were observed on roof exterior (Target Note (TN)4 and TN5, **Figure 2**; Plates 5 and 6, **Appendix A**) and one of the eaves on the east-facing aspect was observed to have a cracked surface at the top (TN6, **Figure 2**; Plate 7, **Appendix A**), although this did not appear to offer access into the roof void. No other possible access points into the roof space were observed.

2.2.2.2 An external 10 Watt LED light was noted on the south-facing aspect (TN3, **Figure 2**), which was noted to be kept on permanently from dusk until dawn.

2.2.3.2 This habitat is considered to be of **Negligible** ecological importance.

3.2.3 Buildings and Artificial Surfaces (BL3) - Hardstanding

2.3.1.2 An area of hardstanding is found surrounding the substation building. An oil tank is found within the southwestern corner of this area (TN1, **Figure 2**), and a noisy 1:1 transformer is found to the north of the substation (TN2, **Figure 2**). Old bird nests were identified in two locations on / around this structure, which were considered likely to be feral pigeon *Columbia livia domestica* nests (Plates 10 and 11, **Appendix A**).

2.3.2.2 A small amount of ruderal vegetation is found growing in cracks in hardstanding and within gravel found beneath the transformer (see Plate 8, **Appendix A**), with species identified including scurvygrass *Cochlearia* sp. (R), mosses (R), sea mayweed *Tripleurospermum maritimum* (R), buck's-horn plantain *Plantago coronopus* (R), gorse *Ulex* sp. (R), and an unidentified creeping / stoloniferous grass species (O).

2.3.3.2 This habitat is considered to be of **Negligible** ecological importance.

3.2.4 Buildings and Artificial Surfaces (BL3) - Fence

2.4.1.2 A fence is found around the perimeter of the substation compound. This has metal plates on the northern side to limit seawater hitting the transformer during storms (see Plate 12, **Appendix A**) and is connected to an underground earthing network.

2.4.2.2 A second fence is found off-site to the west of the substation compound, which surrounds the perimeter of the Arklow Wastewater Treatment Plant.

2.4.3.2 This habitat is considered to be of **Negligible** ecological importance.

3.2.5 Spoil and Bare Ground (ED2)

2.5.1.2 Sparsely vegetated unsealed bare ground is found around the substation compound, with a patchy distribution of ruderal and ephemeral species (approximately 20-30% coverage) and lots of leaf litter present.

2.5.2.2 Species identified include kidney vetch *Anthyllis vulneraria* (R), sea mayweed (O), sedge *Carex* sp. (R), buck's-horn plantain (R), broad-leaved dock *Rumex obtusifolius* (R), Yorkshire fog *Holcus lanatus* (R), red fescue *Festuca rubra* (R), rose *Rosa* sp. (R), gorse *Ulex* sp. (R), scurvygrass *Cochlearia* sp. (R), ribwort plantain *Plantago lanceolata* (R), black medick *Medicago lupulina* (R), curled dock *Rumex crispus* (R), ragwort *Jacobaea vulgaris* (R) and spear thistle *Cirsium vulgare* (R).

2.5.3.2 This habitat is considered to be of up to **Site Level** ecological importance.

3.2.6 Sea walls, Piers and Jetties (CC1) – Riprap

2.6.1.2 A band of large rocks used for coastal protection (riprap) is found in the north of the Onshore Site in the intertidal zone. No significant vegetation or seaweed was observed in this area.

2.6.2.2 This habitat is considered to be of **Negligible** ecological importance.

3.2.7 Invasive Species

2.7.1.2 No invasive non native species (INNS) were identified during the extended habitat survey within the Onshore Site.

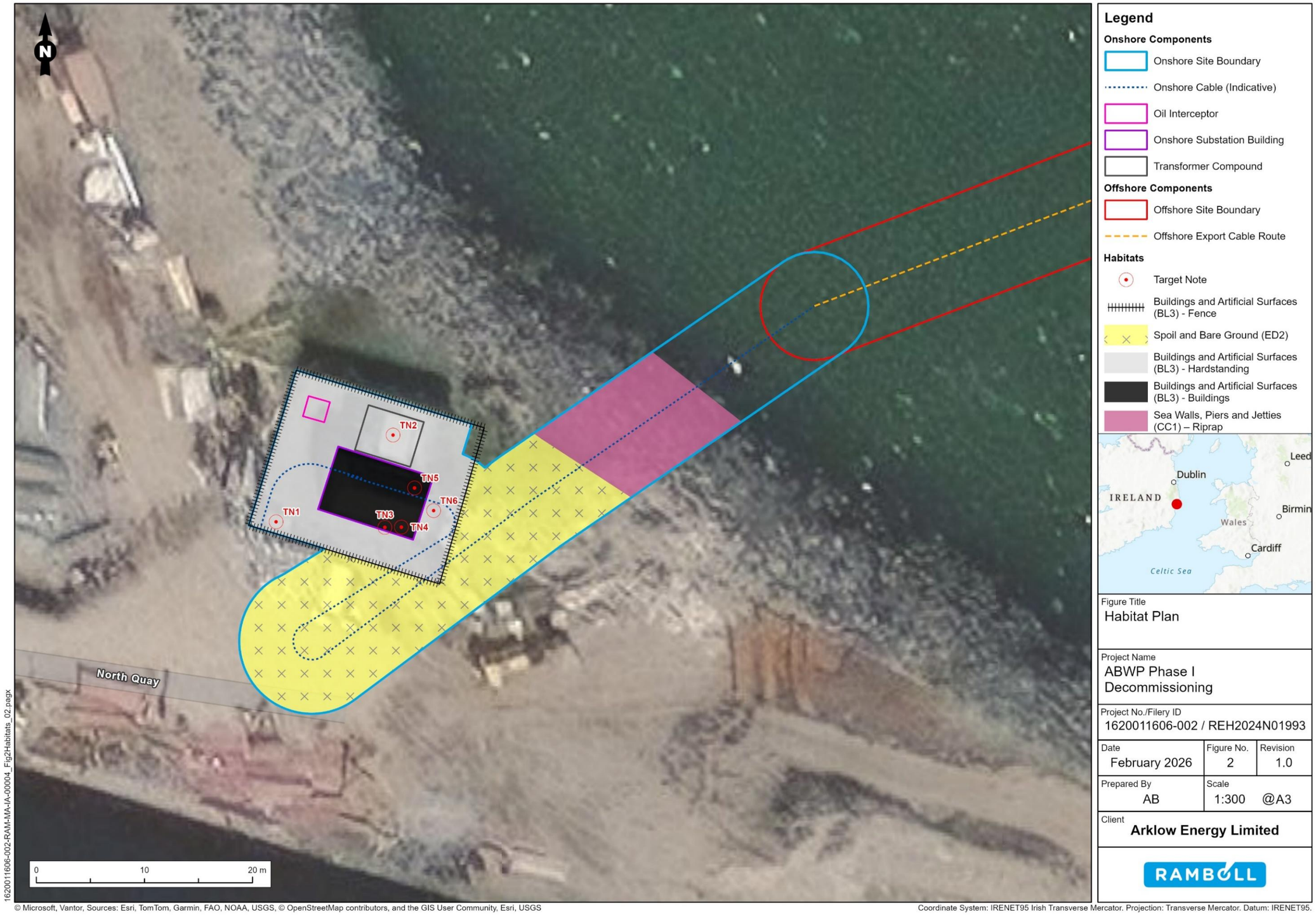


Figure 2: Habitat Plan

3.3 Species

3.3.1 Invertebrates

3.1.1.2 The sparse vegetation found within the Onshore Site provides only a limited nectar resource and habitat for invertebrates. The Onshore Site is therefore considered unlikely to support a significant population of invertebrates.

3.1.2.2 The Onshore Site is considered to be of **Negligible** importance for invertebrates.

3.3.2 Amphibians

3.2.1.2 No records of amphibians were identified on NBDC Biodiversity Maps within 2 km of the Onshore Site, with the closest record (common frog *Rana temporaria*) associated with Glenart Wood, approximately 2.7 km west.

3.2.2.2 No suitable habitat for amphibians is found within the Onshore Site, and no ponds are found within 500 m.

3.2.3.2 The Onshore Site is considered to be of **Negligible** importance for amphibians, and they are considered unlikely to be present.

3.3.3 Reptiles

3.3.1.2 No records of reptiles were identified within 2 km of the Onshore Site, and no suitable habitat is found within the Onshore Site boundary.

3.3.2.2 The Onshore Site is considered to be of **Negligible** importance for reptiles, and they are considered unlikely to be present.

3.3.4 Birds

3.4.1.2 NBDC Biodiversity Maps returned records of several notable bird species within 2 km of the Onshore Site, including three species on the Birds of Conservation Concern Ireland (BoCCI) Red List (Gilbert et al. 2021) and two species listed on Annex 1 of the EU Birds Directive (EU BD), as detailed in **Table 3.2**.

Table 3.2: Protected and Notable Bird Species Recorded within 2 km of the Onshore Site

Species	EU BD Annex 1	BoCCI4 Red / Amber List
Black-headed gull *Larus ridibundus*	-	Amber
Cormorant *Phalacrocorax carbo*	-	Amber
Greylag goose *Anser anser*	-	Amber
Herring gull *Larus argentatus*	-	Amber
House sparrow *Passer domesticus*	-	Amber
Kingfisher *Alcedo atthis*	Y	Amber
Lesser black-backed gull *Larus fuscus*	-	Amber
Meadow pipit *Anthus pratensi*	-	Red
Mute Swan *Cygnus olor*	-	Amber
Red kite *Milvus milvus*	Y	Red
Sand martin *Riparia riparia*	-	Amber
Starling *Sturnus vulgaris*	-	Amber
Swallow *Hirundo rustica*	-	Amber
Swift *Apus apus*	-	Red
Teal *Anas crecca*	-	Amber

Species	EU BD Annex 1	BoCCI4 Red / Amber List
Wheatear *Oenanthe oenanthe*	-	Amber

3.4.2.2 Evidence of nesting birds was found during the extended habitat walkover survey at two locations around the external transformer. This structure offers shelter and nesting opportunities for urban species tolerant of disturbance, such as pigeons and gulls. Gaps in riprap may also provide some opportunities for ground-nesting coastal birds. The Onshore Site does not contain suitable nesting habitat for the other notable species identified within 2 km, as shown in **Table 4.2**.

3.4.3.2 The Onshore Site does not contain any suitable foraging habitat for birds, owing to a lack of significant vegetation, and is relatively isolated from areas of greenspace within the surrounding landscape.

3.4.4.2 Nesting birds are considered to be of no more than **Site Level** importance at the Onshore Site.

3.3.5 Bats

3.5.1.2 NBDC Biodiversity Maps identified several records of bats within 2 km of the Onshore Site, with species including Daubenton's bat *Myotis daubentonii*, Leisler's bat *Nyctalus leisleri*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and whiskered bat *Myotis mystacinus.*

3.5.2.2 No evidence of bat roosts or activity (e.g. droppings, urine staining) was observed during the building inspection. Numerous undisturbed spider webs were noted within the onshore substation interior, indicating bat absence. Lifted and missing tiles on the substation roof provide some potential roosting opportunities for crevice-dwelling bats. No other internal or external access points into the roof space or building interior were identified.

3.5.3.2 In isolation, the substation building offers low potential for roosting bats. However, there is no suitable foraging and commuting habitat at the Onshore Site or in the immediate surrounding area, with a lack of identifiable vegetated corridors and suitable linear features and the combination of poor connectivity, lack of suitable foraging habitat, high level of exposure, permanent noise disturbance from the transformer (TN2, **Figure 2**) and extensive night-time lighting mean that it is considered highly unlikely that bats would utilise the substation building for roosting.

3.5.4.2 The Onshore Site is therefore considered to be of overall **Negligible** importance for roosting, foraging and commuting bats.

3.3.6 Badgers

3.6.1.2 No records of badger *Meles meles* were identified within 2 km of the Onshore Site.

3.6.2.2 The coastal nature of the Onshore Site, lack of suitable habitat for foraging or sett-building, and lack of connectivity to areas of greenspace within the surrounding landscape means badgers are considered unlikely to be present.

3.6.3.2 No evidence of badgers was observed on the Onshore Site during the extended habitat survey.

3.6.4.2 The Onshore Site is considered to be of **Negligible** importance for badger.

3.3.7 Otters

3.7.1.2 NBDC Biodiversity Maps identified one record of Eurasian otter *Lutra lutra* within 2 km of the Onshore Site, located around the Avoca River approximately 830 m north-west, dating to 2015.

3.7.2.2 The Avoca River is found in close proximity to the Onshore Site, although this section of the river is highly modified and the Onshore Site itself does not offer any suitability for laying-up, resting or breeding sites. Whilst the Avoca River provides connectivity to the Arklow Marsh pNHA further upstream, which appears to include suitable habitat for otter including vegetated riverbanks and woodland, the northern bank of the Avoca River immediately south of the Onshore Site has been modified to form a vertical steel-plated wall, providing no access for otters. The presence of otter within the Onshore Site is therefore considered highly unlikely, although opportunistic individuals may be found within the stretch of river found off-site to the south. No evidence of otters was observed on-site during the extended habitat survey.

3.7.3.2 The Onshore Site is considered to be of **Negligible** importance for otter.

3.3.8 Seals

3.8.1.2 NBDC Biodiversity Maps identified one record of a harbour seal *Phoca vitulina* within 2 km of the Onshore Site, which was associated with the Avoca River / Arklow Marina approximately 370 m west.

3.8.2.2 The riprap found in the north of the Onshore Site may provide some suitable terrestrial habitat for resting harbour seals, although this area is likely to be subject to disturbance from humans which may reduce the likelihood of seal presence. Riprap is common in the local area, extending along much of the surrounding coastline, which means this habitat is widely available and seals are unlikely to rely solely on the area present within the Onshore Site.

3.8.3.2 Seals are considered to be of up to **Site Level** importance at the Onshore Site due to the presence of riprap habitat only.

3.3.9 Hedgehog

3.9.1.2 NBDC Biodiversity Maps returned several records of hedgehog *Erinaceus europaeus* within 2 km of the Onshore Site, the closest of which is located approximately 400 m northwest around the Arklow Marina Village and dates to 2021.

3.9.2.2 No hedgerows, scrub or other significant vegetation is found within the Onshore Site, and there is a lack of connectivity to areas of greenspace within the surrounding landscape with suitable habitat for hedgehogs. This species is therefore considered unlikely to be present.

3.9.3.2 The Onshore Site is considered to be of **Negligible** importance for hedgehog.

3.3.10 Assessment of Important of Ecological Features

3.10.1.2 **Table 3.3** presents the ecological importance of habitats and species present on the Onshore Site, in accordance with CIEEM guidance. Species assessed as being unlikely to be present on the Onshore Site are not considered further in this assessment. Where further surveys are required to determine presence, the ecological importance of the feature cannot be determined in advance of the further surveys.

Table 3.3: Ecological Importance of Features Present on the Onshore Site

Feature	Ecological Importance	Rationale
Buildings	Negligible	Some features suitable for use by roosting bats, however negligible potential overall due to complete isolation from suitable foraging and commuting habitat.
Hardstanding	Negligible	Transformer within this area appears to be used occasionally by nesting birds. No other significant ecological value, with negligible vegetation presence.
Fence	Negligible	Does not contribute to the biodiversity value of the Onshore Site.
Spoil and bare ground	Up to Site Level	Sparse vegetation with relatively low species diversity. Unlikely to significantly contribute to the biodiversity value of the Onshore Site.
Sea walls, piers and jetties	Negligible	Coastal defence formed from stacked boulders (riprap) with negligible vegetation. Does not contribute to the biodiversity value of the Onshore Site.
Birds	Up to Site Level	Limited nesting potential for urban species tolerant of disturbance, with evidence of nesting birds found at two locations around the external transformer.
Seals	Up to Site Level	The riprap may provide some resting habitat for seals, although no evidence of presence was observed. Extensive alternative resting habitat is present in the surrounding area.

4 Ecological Constraints and Opportunities, and Recommendations

1.1.1.2 This section collates the information gained during the desk study and extended habitat survey, presenting the ecological constraints and opportunities and makes recommendations for mitigation and further surveys. It has been prepared in view of the Proposed Works Onshore.

1.1.2.2 The Proposed Works nshore are understood to result in the removal of the external transformer and demolition of the existing substation building, along with the excavation of the onshore cable within the surrounding built-up area.

4.2 Further Surveys

2.1.1.2 Based on the desk study and extended habitat survey, no further ecological surveys are considered necessary.

4.3 Designated Sites

3.1.1.2 The Avoca River, found approximately 25 m south of the Onshore Site, forms part of the Arklow wildlife corridor network and connects directly to the Arklow Town Marsh pNHA further upstream.

3.1.2.2 The Onshore Decommissioning Environmental Management Plan (DEMP) will include measures to prevent dust and contaminated run-off into the Avoca River during the Proposed Works Onshore, which could otherwise negatively affect both the Avoca River and the Arklow Town Marsh pNHA. A suitably qualified Ecological Clerk of Works (ECoW) will input into the Onshore DEMP to ensure appropriate mitigation measures are in place.

4.4 Habitats

4.1.1.2 No trees or other habitats of significant ecological value are found within the Onshore Site.

4.1.2.2 Measures outlined in the Onshore DEMP will be followed to prevent contaminated run-off into the Avoca River estuary and Irish Sea found in close proximity to the Onshore Site during the Proposed Works Onshore. A suitably qualified ECoW will input into the DEMP to ensure appropriate mitigation measures are in place.

4.5 Species

4.5.1 Birds

5.1.1.2 All wild birds in Ireland are protected whilst nesting, with deliberate significant disturbance during breeding and rearing, destruction of active nests and the taking or keeping of eggs constituting an offence under the EU Birds Directive.

5.1.2.2 Although the Onshore Site is unlikely to support a significant population of notable birds, evidence of nesting birds was found around the external transformer during the extended habitat survey, and the substation building may also be used by roosting / nesting urban birds. Were works to take place during the breeding season (March to August inclusive), there would be a risk that nests would be damaged or destroyed during the process.

5.1.3.2 Works at the Onshore Site should therefore take place between September and January. If this is not possible, a nesting bird check should be undertaken by an experienced ecologist prior to commencement of works. If evidence of nesting birds is identified, work should stop and a suitable no-work buffer zone around the nest area should be installed, until such time as chicks have fledged.

4.6 Enhancement

6.1.1.2 No recommendations for enhancement are considered appropriate due to the low ecological value of the Onshore Site.

5 Conclusions

1.1.1.2 This Onshore PEA has confirmed that the Onshore Site is of nature conservation importance at up to the Site Level only. By undertaking the Proposed Works Onshore in accordance with the recommendations in this Onshore PEA, the Proposed Works Onshore will be in conformity with relevant planning policy and legislation relating to onshore ecology.

1.1.2.2 It should be noted that based on the findings of this Onshore PEA, no further surveys are considered necessary to inform the assessment of the Proposed Works Onshore. Due to the very low ecological importance of the Onshore Site, along with the minimal potential impacts predicted, a full EcIA is not recommended, and this Onshore PEA report is expected to contain sufficient information on which the planning application can be determined.

1.1.3.2 **Table 5.1** summarises the mitigation recommendations for the Proposed Works Onshore.

Table 5.1: Summary of Recommendations

Receptors	Recommendations
Designated Sites	• Pollution prevention measures outlined in a DEMP.
Habitats	• Pollution prevention measures outlined in a DEMP.
Birds	• Works should avoid the main bird breeding season (March to August inclusive). If this is not possible, a nesting bird check should be undertaken by an experienced ecologist prior to commencement of works.

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Appendix A Onshore Site Photographs



Plate 1: Substation Building



Plate 2: Built-up Area Surrounding Substation



Plate 3: Substation Interior

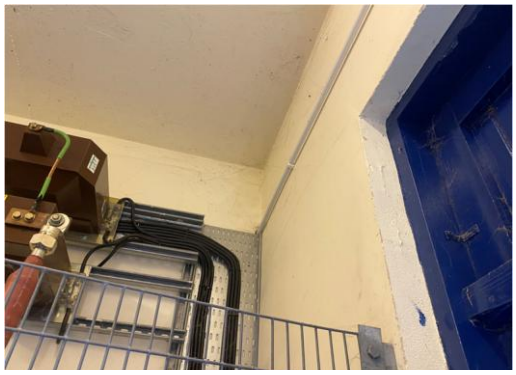


Plate 4: Substation Interior



Plate 5: Lifted Tiles on Substation Roof



Plate 6: Missing Tiles on Substation Roof



Plate 7: Crack at Top of Substation Gable End



Plate 8: Vegetation Growing Within Gravel



Plate 9: External Transformer



Plate 10: Bird Droppings Within Transformer



Plate 11: Bird Droppings Within Transformer



Plate 12: Exterior Fence with Sea Defence