

# **ORIEL WIND FARM PROJECT**

## **EIA Scoping Report**

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**Oriel Wind Farm Project**  
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# 1 INTRODUCTION

RPS has been appointed by Oriel Windfarm Limited (OWL), and its development partner Parkwind, to provide planning and environmental services in relation to the Oriel Wind Farm Project (hereafter referred to as the Project). This document has been prepared to inform the Environmental Impact Assessment (EIA) informal scoping consultation for the onshore and offshore elements of the Project prior to the preparation of the EIA Report (EIAR). As such this document provides the following:

- Background and need for the Project;
- Project Description;
- Planning Policy and Legislative Context;
- EIA Scoping Process and Guidelines;
- EIAR structure and content;
- Key environmental issues and proposed scope of the EIAR; and
- Informal Scoping Consultation.

## 1.1 Background to the Project

The Project has seen a level of progress for over 17 years, from the conception of the Project in 2001, to the acquisition of a Foreshore Licence and subsequent marine-based exploratory works in 2005. Environmental assessments were undertaken during the period 2005 to 2007 for the marine elements of the Project, cumulating in an Environmental Impact Statement (EIS) in 2007. A level of assessment was also undertaken of the terrestrial-based elements<sup>1</sup> of the Project.

OWL was granted a Foreshore Licence in October 2005 from the then Department of Communications, Marine and Natural Resources, giving permission to carry out a technical work plan to investigate the suitability of an area to the East of Dundalk Bay for the construction of an offshore wind farm. This included geotechnical site investigation, an engineering assessment and the completion of an Environmental Impact Statement (EIS), and Natura Impact Statement (NIS). All of this work was done by 2007.

OWL applied for a Foreshore Lease to construct an offshore generating station in February 2007. In autumn 2008, the Marine Licence Vetting Committee made a recommendation to grant a lease following two months of public consultation and various requests for further information. A draft Foreshore Lease was issued on 10th November 2010.

OWL was provided with a grid connection offer under the Commission for Energy Regulation's (CER)<sup>2</sup>, Gate 3 connection process with firm access granted in 2012. OWL made the strategic decision to follow the 'contestable' route with the grid connection making them responsible for the consenting and construction of the connection assets.

As part of the ongoing discussions with the Foreshore licensing section, the need to secure planning permission for the onshore elements of the Project as one of the pre-conditions to securing a final Foreshore Lease was outlined. OWL engaged in a pre-application consultation process with An Bord Pleanála (ABP) in December 2010, to seek advice on the requirements for the preparation of a planning application for the

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<sup>1</sup>The onshore assessments were not submitted to An Bord Pleanála and never achieved 'final' status.

<sup>2</sup>The CER is now known as the Commission of Regulation for Utilities (CRU).

onshore works, and to seek a determination on whether the works would be considered Strategic Infrastructure Development.

Following a series of consultation meetings with ABP during 2010/11, ABP agreed in principle that the planning process for the onshore works should be progressed under the terms of the Strategic Infrastructure Development Legislation.

Following the announcement to withhold a Tariff for offshore wind energy, by the then Minister for Communications Energy and Natural Resources in January 2012, the Project rested in abeyance. Since then OWL has held regular meetings with the Department officials during 2013 to 2017, to ensure that the Department was aware that the Project remained live.

While a number of environmental assessments have been undertaken for the Project, it is now almost ten years since the last of the environmental assessments for the Project were completed. OWL is now moving forward with the Project and these assessments will be revisited and updated accounting for the changes within the environmental and policy landscape and advancement of technologies. Environmental baseline surveys recommenced in 2018 including offshore bird and marine mammal surveys. A foreshore licence was granted in May 2019 for benthic sampling, geotechnical and geophysical investigations and the deployment of static acoustic monitoring. These surveys are being undertaken in summer 2019 and will assist the design and offshore environmental assessment of the Project. Onshore environmental baseline surveys are also underway.

## 1.2 Need for the Project

Offshore wind energy is positioned to play a key role in helping to achieve national renewable energy and decarbonisation targets through use of renewable energy sources. These targets are driven by European policy, with the EU setting overall renewable energy targets for Europe, and specific targets set for each member state. The Renewable Energy Directive (2009/28/EC) establishes the basis for the achievement of the EU's 20% renewable energy target by 2020. Ireland's overall binding target is to achieve 16% of gross final consumption from renewable sources by this date. However, in 2017 renewable energy in Ireland represented 10.6% of gross final consumption, leaving a significant shortfall and indicating that Ireland is likely to miss this target.

In 2018 the EU set further targets for beyond 2020 through the 2030 framework for climate and energy policies. These targets seek a 40% reduction in EU greenhouse gas emissions from 1990 levels and a greater contribution from renewable energy. The revised Renewable Energy Directive (2018/2001) sets a target of at least 32% for renewable energy at EU-wide level, with a review clause by 2023 for a potential upward revision of this target. In order to achieve these ambitious targets, Ireland's Climate Action Plan 2019 sets out a target for 70% of electricity to come from renewable energy sources by 2030. Wind energy is supported by the Climate Action Plan, which states that for the power generation sector, increasing both onshore and offshore wind capacity are the most economical options. The Decarbonisation Pathway to 2030 outlines at least 3.5 GW of offshore wind is required in the renewable electricity mix in order to meet the 70% target.

Offshore renewable energy is also supported at national level by Ireland's Offshore Renewable Energy Development Plan (OREDPA), which identifies the Irish marine area as one of the most productive in Europe, with a potential for GW scale development from offshore renewable energy technologies. Offshore renewable energy is also supported through Ireland's first National Marine Planning Framework (currently in preparation, with finalisation due in early 2020). Recent proposed changes in legislation have also been designed to streamline the foreshore consenting, development management, and environmental assessment processes, which will aid in the development of offshore wind. These changes are currently in progress with the recent publication of the draft Marine Planning Policy Statement which indicates additional legislation will be required in the form of the Marine Planning and Development Management Bill 2019 and the Maritime Jurisdiction Bill (under development).

Offshore wind energy development therefore has a critical role to play in contributing to national and EU targets, with the Project capable of delivering 330 MW of renewable electricity for Ireland.

## 2 PROJECT DESCRIPTION

### 2.1 Project Design Envelope

The Project Design Envelope (PDE) approach<sup>3</sup> is being adopted for the Project. The PDE concept is routinely utilised in both onshore and offshore planning applications to allow for some flexibility in design options, particularly offshore, and more particularly for foundations and turbine type, where the full details of a project are not known at application submission, but where sufficient detail is available to enable all environmental impacts to be appropriately considered as part of the EIA. This approach is referred to in the DCCAE (2017) *Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects* and EPA (2017) *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.

**Figure 2-1** below shows the location of the windfarm components being considered within the scope of the Project.

### 2.2 Offshore

The offshore elements of the Project, being those elements seaward of the high-water mark (HWM), comprise:

- Wind turbines<sup>4</sup>;
- Wind Turbine Foundations;
- Inter-Array Cables; and
- Offshore Substation.

#### 2.2.1 Offshore Export Cables<sup>5</sup>.Wind Turbines

Since the submission of the 2007 EIS, which was based on 55 wind turbines of approximately 4.5 to 6 MW in size, there have been considerable technological advancements in wind turbine design and size. Offshore wind turbines are now available with a capacity in the range of 9 to 12 MW. Given the advancements in technology, an update to the proposed wind turbine types and associated layout outlined in the 2007 EIS will be considered as part of the update of the EIAR.

#### 2.2.2 Wind Turbine Foundations

The wind turbines will be supported by foundations selected for their suitability to the sea bed conditions at the site. A number of foundation types and associated installation methods will form part of the PDE for the EIAR to provide flexibility in design. The 2007 EIS was based on the installation of concrete caisson gravity foundations, with monopiles and jacket foundations considered as alternatives. These alternatives will be considered in the EIAR.

#### 2.2.3 Inter-Array Cables

Inter-array cables will connect each wind turbine into arrays or 'strings' and will also connect the wind turbines to the offshore substation. Inter-array cables will be buried wherever possible as determined by sea bed conditions. Where burial is not possible, cable protection will be applied. The inter-array cables will be considered as part of the update of the EIAR.

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<sup>3</sup> Also known as the "Rochdale Envelope" approach.

<sup>4</sup> The wind turbines, offshore substation and associated foundations, will all be within the Foreshore Lease area identified in 2007.

<sup>5</sup> The export cable from the offshore substation to HWM at the landfall.

## 2.2.4 Offshore Substation

One offshore substation will be located within the Foreshore Lease area boundary to collect the electricity generated before transmission to shore via the Offshore Export Cables. A number of foundation types and associated installation methods will form part of the PDE for the EIAR to provide flexibility in design. The 2007 EIS was based on the installation of a gravity foundation.

## 2.2.5 Offshore Export Cables

The Offshore Export Cables will transmit electricity from the Offshore Substation to the landfall where these cables will connect with the onshore transmission infrastructure. The Offshore Export Cables will be buried wherever possible as determined by sea bed conditions. Where burial is not possible, cable protection will be applied.

## 2.3 Onshore

The onshore elements of the Project, being those elements landward of the HWM, comprise:

- A new 220kV substation, the preferred location of which is in the Stickillin area, east of Ardee – either air insulated switchgear (AIS) or gas insulated switchgear (GIS);
- A loop-in connection to the Woodland – Louth 220kV overhead transmission line;
- Approximately 20km of onshore cable linking the proposed landfall site with the proposed new substation in the Stickillin area; and
- A landfall site.

### 2.3.1 Onshore Substation and Connection to 220kV Transmission Line

The proposed substation will comprise various electrical installations, structures and a building. Both GIS and AIS substation design options are under consideration. The substation will not generally be manned, although regular maintenance checks are anticipated.

Since the proposed substation is provided for an Independent Generator, there will be a separation between the EirGrid equipment and the Customer (OWL) equipment. The 220 kV connections and the main substation will be installed in the EirGrid compound. The Customer compound will contain a reactor (similar in appearance to a transformer). Both compounds will be securely fenced with a second property fence at 5m beyond the compound fences, to allow screening, if required.

In an AIS substation all of the high voltage plant and equipment are outdoors in a switchyard, utilising air as the insulating medium. A larger site footprint is therefore required to provide large clearances between electrical equipment. A 220kV AIS outdoor equipment typically measures up to 20m in height. If an AIS substation footprint is to be used for this project then the area required, including the Reactive Power Compensation Equipment and tree planting, will be approximately 5ha.

The majority of equipment associated with a GIS substation (other than transformers, line termination equipment and connections) is housed within a building. Sulphur Hexafluoride (SF<sub>6</sub>) gas is used as the insulating medium which permits a much more compact design. GIS buildings typically have an industrial appearance (dependent on architectural finishing) and range in height from 10 to 12m, but may be larger depending on the building design i.e. the building can be elevated to permit access to equipment, which may add up to an additional 4 metres in height.

If a GIS substation is to be used for this project then the area required, including the Reactive Power Compensation Equipment and tree planting, will be approximately 1.8ha.

Both types of substation also contain the 220kV gantries and cable terminations. These will be located within the EirGrid Compound for security and safety purposes.

## 2.3.2 Onshore Cables

### Onshore/Offshore Transition

A cable transition joint pit will be required at the transition between the export cable and the onshore cable near the cable landfall site. The joint pit is typically 14m x 5m x 2.5m constructed with concrete walls and floor. After cable installation, the joint pit will be covered by soil/sand or similar and the original surface will be reinstated.

To enable periodic testing of the onshore or offshore power cables a link box will be accessible in a concrete well, accessed via a manhole. Similarly, a communication chamber will be provided to allow termination and testing access for the communications cables.

The offshore cable will be brought into the cable jointing pit in a short direct buried section. The vehicle access track will end at this location, where a vehicle turning point is required, along with adequate physical protection of the buried cable and pits.

### Substation Connection

A Cable Route Corridor of approximately 20km in length is required to connect the substation site to the landfall site. The Underground Cable Connection (UGC) will comprise of buried High Voltage Alternating Current (HVAC) power cables and one or more communications cables. The communications cable(s) will consist of multicore fibre-optic cables, dedicated to control and communications of the substation and wind farm power equipment.

Each power cable will have cross-linked polyethylene (XLPE) insulated electrical conductors, surrounded by a copper screen typically surrounded by High Density Polyethylene (HDPE), with a diameter of approximately 10cm. The operating voltage of these cables will be 220kV. The three cables may be laid flat or in a triangular (trefoil) arrangement.

The insulated cables will be enclosed in protective plastic ducts, which are then protected by being buried, typically at a depth of 1.2m, with a protective concrete surround and hardcore backfill up to the reinstated surface.

The cables are manufactured in lengths of up to 750m, and during installation each cable length may be jointed to the next cable at intervals not greater than 750m, in a cable joint pit (typically 10 m x 2.5 m x 2 m). The cable joint pits are buried and not visible. At the cable joint pit locations, the copper cable screens are also jointed in link box chambers, which have a surface access pit lid. There will be a need for approximately 26 cable joint pits.

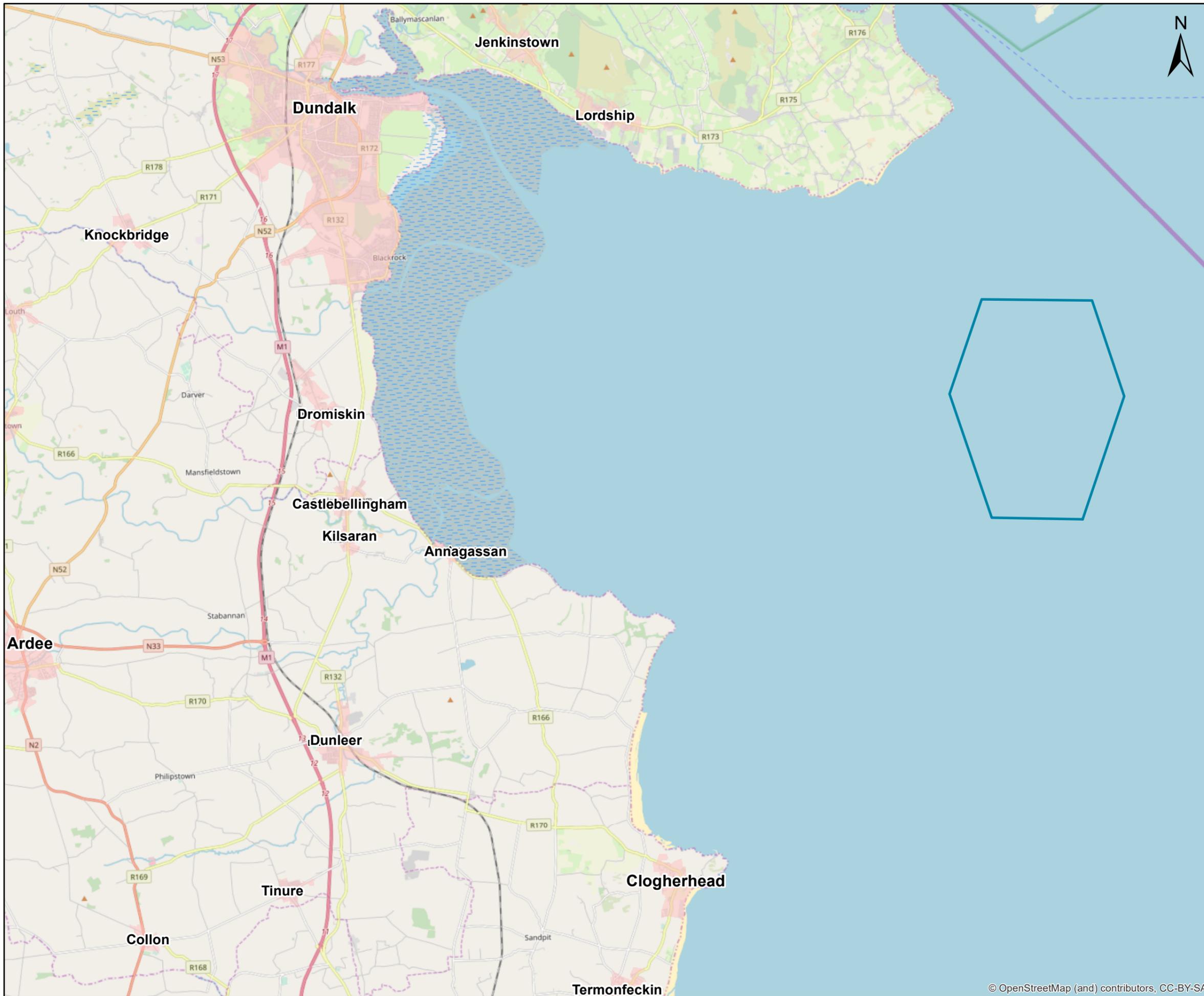
## 2.3.3 Landfall site

The Offshore Export Cables will make landfall where they will be connected to the onshore transmission cables at a location above MHW. The PDE will include two main landfall installation options, Horizontal Directional Drilling (HDD) under the intertidal area or temporary trenching activities through the intertidal area.

## 2.4 Alternatives Considered

The evolution of the design phase will consider the input from the EIAR team, direction provided by An Bord Pleanála as part of the pre-application consultation of the SID process, and feedback from prescribed bodies and non-statutory environmental stakeholders during EIAR scoping consultation.

Alternative layouts, design, materials, size and scale will be considered in progressing the design of the Project.



**Legend**

- Foreshore Lease Area
- CSO Settlements

Client  
**Oriel Windfarm Ltd.**



Title  
**Figure 2-1**  
**Area of Interest**

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## 3 PLANNING POLICY AND LEGISLATIVE CONTEXT

### 3.1 Planning Policy and Legislative Context

#### 3.1.1 EU Policy and Legal Context

In 2007 the EU adopted an Integrated Maritime Policy (EU-IMP) which seeks to provide a more coherent approach to cross-cutting maritime issues, with increased coordination between different policy areas such as blue growth, marine data and knowledge, integrated maritime surveillance, sea basin strategies and maritime spatial planning. EU-IMP encourages all coastal Member States to develop integrated maritime policy and plans at a national level. This has since been supported by policy initiatives and legislative measures.

The Water Framework Directive (WFD) (2000/60/EC) requires all Member States to protect and improve water quality in all surface and groundwaters so that Good Status is achieved by 2027, at the latest. It applies to rivers, lakes, groundwater, transitional and coastal waters (out to one nautical mile).

The Marine Strategy Framework Directive (MSFD) (2008/56/EC) is the environmental pillar of the EU's Integrated Maritime Policy and requires European Member States to reach Good Environmental Status in the marine environment by the year 2020 at the latest. The directive is similar to the WFD, but with the focus on the marine environment.

The Maritime Spatial Planning (MSP) Directive (2014/89/EU) for establishing a framework for maritime spatial planning was adopted in July 2014. The directive obliges all coastal Member States to establish maritime spatial plans by 2021 at the latest.

The key aspects of the legal framework underpinning planning in Ireland which is relevant to the Project are outlined in the following sections.

#### 3.1.2 National Planning Policy Context

##### Marine Spatial Planning

The development of an overarching national marine spatial plan is identified as a Government policy objective in Harnessing Our Ocean Wealth (HOOW) (2012). This sets out a roadmap for the Government to achieve its vision, high-level goals and integrated policy for the marine environment, which outlined that the ocean wealth would be a key element of Ireland's economic development and sustainable growth which would be supported by coherent policy, planning and regulation, and managed in an integrated manner. Several high level economic, environmental and social goals were identified. Building on this, the Department of Housing, Planning and Local Government (DHPLG) is currently preparing Ireland's first National Marine Planning Framework (NMPF) which is intended to be the marine equivalent to, and align with, the National Planning Framework (NPF) which covers land use planning. The NMPF is expected to be approved and adopted by late 2020.

The DHPLG released a draft Marine Planning Policy Statement in June 2019, which sets out a vision for the development of a fully integrated Marine Planning System, based on three coherent building blocks of forward planning, development management and enforcement. It draws together multiple existing regulatory functions into an overarching framework with guiding principles, high level objectives and milestones for future development. The draft Marine Planning Policy Statement will help to further align the marine and terrestrial planning systems in Ireland as well as provide a similar hierarchy for marine planning to that which exists in the UK.

##### Current Offshore Consent Regime

The Foreshore Act 1933 (as amended) requires a Lease or Licence to be obtained for the carrying out of works or placement of structures or material on, or for the occupation of or removal of material from, the State-owned foreshore. The granting of a Foreshore Lease allows construction and operation of development, subject to agreed terms and conditions.

An application for a Foreshore Lease is contingent on the applicant having held a Foreshore Licence for investigation in good order, and on making a valid Foreshore Lease application within 12 months of the Licence's expiry.

This is the application process which OWL entered into in 2007; after which a draft Foreshore Lease was issued on 10th November 2010.

## Planning and Development

In the context of planning, the legislation relating to the requirement for an EIA for various types of developments is the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended) (hereafter referred to as 'the Planning Act'). The Project is likely to be considered under Section 182A of the Planning Act procedures relating to SID. It is noted that OWL has been engaged in the pre-application consultation process with ABP since December 2010 (ABP Reference: VC0052) and that ABP has provided initial advice that the onshore works constitute SID under the meaning of Section 182A of the Planning Act.

## Environmental Impact Assessment

EIA requirements derive from EU Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC, 2011/92/EU) as well as 2014/52/EU on the assessment of the effects of certain public and private projects on the environment. The primary objective of the EIA Directive is to ensure that projects which are likely to have 'significant effects' on the environment are subject to an assessment of their likely impacts.

In the context of planning, the EIA Directive is given effect in Ireland through the Planning and Development Act 2000 (as amended). The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018), (hereafter the EIA Regulations 2018) came into operation on 1 September 2018 and transpose Directive 2014/52/EU into Irish Law and give further effect to the 2011 Directive. Given the delay in the adoption of this legislation, the provisions of the new directive were deemed to apply from 16 May 2017, under the principle of direct effect (DHPLG Circular PL/1 2017).<sup>6</sup>

The following new factors were introduced by the Amending EIA Directive 2014/52/EU in respect of the EIA process. Full consideration will be given to these provisions in relation to the EIA for the Project, as outlined in Table 3-1.

**Table 3-1: New Factors in the Amending EIA Directive**

Amending EIA Directive	Changes and Updates	How RPS will Address this
<b>Environmental Topics</b>	Additional factors in respect of which the effects of a project must be assessed as follows:	<i>These topics and aspects will be considered in the EIAR</i>
Article 3 (as amended by the Amending Directive)	<ul style="list-style-type: none"> <li>(a) <i>Population and human health;</i></li> <li>(b) <i>Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;</i></li> <li>(c) <i>The interaction between factors; and</i></li> <li>(d) <i>The effects on the factors shall include the expected effects deriving from the vulnerability of the projects to risks of major accidents and/or disasters to the projects concerned.</i></li> </ul>	
<b>EIA Screening</b>	Developers are now required to provide certain information to allow proper screening for EIA to be carried out (Annex IIA of the Amending Directive. Annex III is updated to include criteria the competent authority should take into account when screening a project for EIA.	<i>Addressed through the SID process</i>

<sup>6</sup> Circular PL 1/2017 - Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): <http://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/circular-pl-12017>

Amending EIA Directive	Changes and Updates	How RPS will Address this
<b>Mitigation &amp; Monitoring</b> Article 8(a)(4) (as amended by the Amending Directive)	Member States are to ensure that mitigation measures are implemented by the developer and shall determine the procedures regarding monitoring of significant adverse effects on the environment. The express provisions on post-consent monitoring now requires feedback from the developer post-consent (Section 176(11)(a)(iii) of the Planning Acts)	<i>Mitigation and Monitoring to be considered in the EIAR</i>
<b>Alternatives</b>	The Amending Directive now requires: "A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."	<i>Options Selection Report update and Alternatives chapter in the EIAR</i>
<b>Competent Experts</b> Article 5(3)	Article 5(3) requires that the developer must ensure that the EIAR is prepared by competent experts. Recital 33 of the Amending Directive provides that the competency of experts is required to ensure that the information provided by the developer is complete and of a high level of quality.  Expanded requirements for competent experts, with insertion of new Article 94 into the EIA Regulations.	<i>RPS topic leads meet the requirements for competent expert</i>

## Appropriate Assessment

An Appropriate Assessment (AA) is a separate but inter-related process to EIA, required under the EU Habitats Directive (92/43/EEC) for any plan or project likely to have a significant effect on an internationally important site for nature conservation, i.e. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), also known as European Sites.

Appropriate Assessment Guidelines for Planning Authorities have been published by the Department of the Environment Heritage and Local Government (DEHLG, 2010a). In addition to the advice available from the Department, the European Commission has published a number of documents which provide a significant body of guidance on the requirements of Appropriate Assessment, most notably including, 'Assessment of Plans and Projects Significantly Affecting Natura 2000 sites - Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2001), which sets out the principles of how to approach decision making during the process. These principal national and European guidelines have been followed in the preparation this report. The following list identifies these and other pertinent guidance documents:

- Communication from the Commission on the Precautionary Principle., Office for Official Publications of the European Communities, Luxembourg (EC, 2000);
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001a);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission; (EC, 2007);
- Estuaries and Coastal Zones within the Context of the Birds and Habitats Directives – Technical Supporting Document on their Dual Roles as Natura 2000 Sites and as Waterways and Locations for Ports. European Commission (EC, 2009);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010a);
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities (DEHLG, 2010b);

- Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging. European Commission (EC, 2011a);
- European Commission Staff Working Document 'Integrating biodiversity and nature protection into port development' (EC, 2011b);
- Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document, National Parks and Wildlife Service, Dublin (NPWS, 2012);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013); and
- European Commission Notice "Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", Office for Official Publications of the European Communities, Luxembourg (EC, 2018).

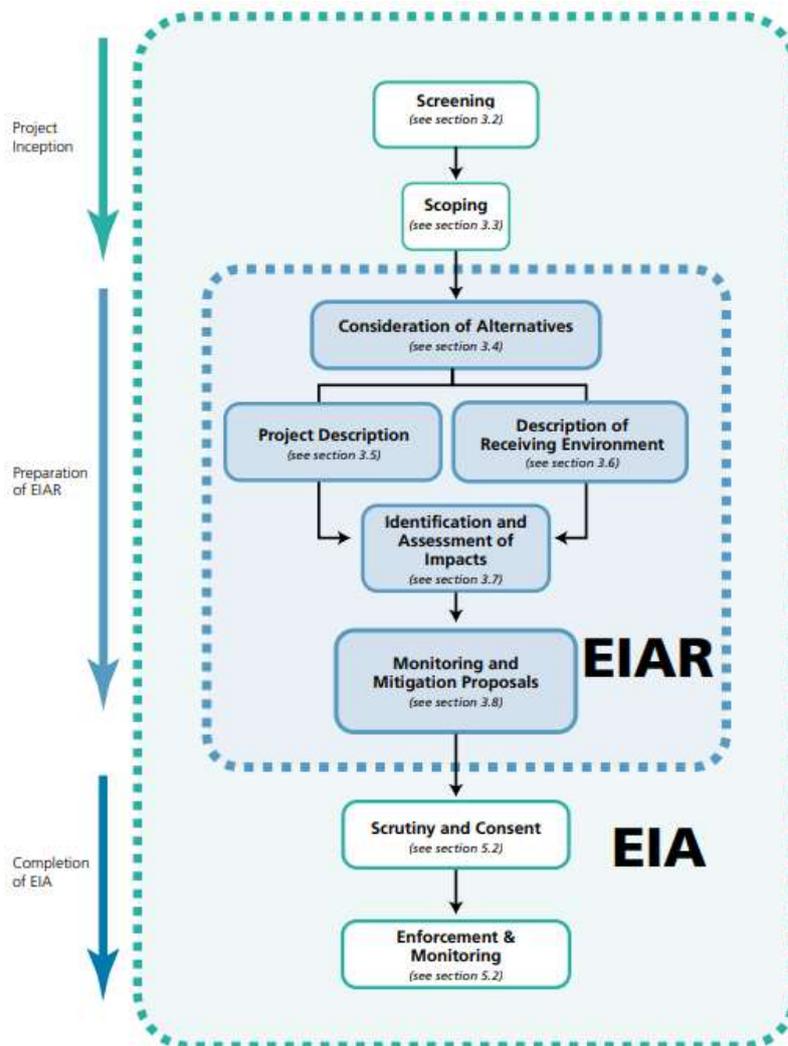
## 4 ENVIRONMENTAL IMPACT ASSESSMENT

### 4.1 Scoping

The objective of this EIA scoping process is to identify potential environmental topics for assessment which may be relevant to the Project.

The process involves an assessment of a project’s possible issues before deciding which should be brought forward for further consideration in the EIAR. Although scoping commences early in the process and informs the content and level of detail in the EIAR, it is noted that scoping is dynamic and only provides a starting point from which to launch an environmental assessment of the Project. It is regarded as an ongoing phase throughout the evolution of the EIAR.

An initial scoping of possible impacts may identify issues thought to be potentially significant, those where significance is unclear and those thought to be not significant. The issues in the potentially significant category are brought forward, together with those in the uncertain category. Those considered to be not significant are eliminated from further consideration. **Figure 4-1** illustrates the environmental assessment process and the role of scoping in the overall EIA context.



Source: Draft Guidelines on the Information to be Contained in an EIAR (EPA, 2017)

**Figure 4-1: The Position of Scoping an EIAR within the EIA Process**

### 4.1.1 Technical Scope

In accordance with the requirements of the EIA Regulations 2018 and the information to be contained in an EIAR (Schedule 6), the following list of offshore and onshore environmental topics will be examined through the EIAR for the Project.

#### Offshore

- Marine Processes
- Benthic and Intertidal Ecology;
- Fish and Shellfish Ecology;
- Marine Mammals (to consider sub-sea noise);
- Offshore Ornithology;
- Commercial Fisheries;
- Shipping and Navigation;
- Aviation, Military and Communications;
- Marine Archaeology; and
- Infrastructure and Other Users.

#### Onshore

- Population and Human Health (offshore and onshore);
- Biodiversity (Flora & Fauna);
- Land and Agriculture;
- Soil, Geology and Hydrogeology;
- Hydrology and Flood Risk;
- Air Quality;
- Climate (including consideration of the risk of major accidents and hazards);
- Noise and Vibration (including offshore airborne noise);
- Cultural Heritage (including architectural and archaeological heritage);
- Landscape and Seascape;
- Traffic and Transport;
- Material Assets; and
- Waste.

Each technical assessment will be carried out by a specialist in the relevant field to the current impact assessment guidance. In addition, it is proposed to include concluding chapters on summary of impacts and commitments register, and overall conclusion.

### 4.1.2 Geographic Scope

The geographic scope of the EIA will vary for each environmental topic and will depend on the nature and sensitivity of the receiving environment and the manner in which impacts may be received, e.g. via air, water etc.

### 4.1.3 Temporal Scope

For the EIAR, the Project's potential impacts of all stages of the Project will be assessed including the construction, operation and decommissioning stages. In all cases the "do nothing" scenario and the "do something" scenario, i.e. the proposed development, will be assessed. During the operational phase the assessment will include assessment of impacts in the short, medium and long term as appropriate.

Scoping will address three key questions:

- What effects could the Project have on the receiving environment?
- Which effects are likely to be significant?
- What alternatives and mitigation measures should be explored in advance of seeking approval for the Project?

### 4.1.4 Environmental Guidelines

The preparation of this Scoping report has had regard to:

- *Guidance on EIA Scoping* (European Commission, 2001b);
- *Guidelines on the Information to be Contained in Environmental Impact Statements* (EPA, 2002);
- *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements* (EPA, 2003);
- *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements* (EPA, 2015);
- *Draft Guidelines on the Information to be Contained in Environmental Impact Statements* (EPA, 2017);
- *Guidance on EIA Scoping* (European Commission, 2017a); and
- *Guidance on EIA Report* (European Commission, 2017b).

Having regard to the most recent guidance, based on the updated 2014 EIA Directive scoping must be focused on issues and impacts which are:

- Environmentally based;
- Likely to occur; and
- Significant and adverse.

An initial scoping of possible impacts has identified those impacts thought to be potentially significant, those thought to be not significant and those whose significance is unclear.

It must be emphasised that scoping for an EIAR is ongoing and iterative, which continues throughout the EIA process and through the design, construction and monitoring phases. As such the Scoping Report is never final but an ever-changing document. This allows the flexibility to adapt to any new issues, for example the discovery of additional impacts arising from detailed baseline studies resulting in the investigation of new impacts, alternatives and mitigation measures as necessary.

## 4.2 EIA Methodology

Information about the Project and the Project's activities for all stages of the Project life cycle (construction, operational and maintenance, and decommissioning) will be combined with information about the environmental baseline to identify the potential interactions between the Project and the environment.

These potential interactions are known as potential impacts. The potential impacts are then assessed for the level of significance of their effect on the receiving environment/receptors.

To ensure consistency throughout the EIAR, the terms effect and impact are defined below. The definitions are based on the glossary of the Highways Agency Design Manual for Roads and Bridges (DMRB) (2008):

- **Impact:** Change that is caused by an action; for example, land clearing (action) during construction which results in habitat loss (impact); and
- **Effect:** Term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact to the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria. For example, land clearing during construction results in habitat loss (impact), the effect of which is the significance of the habitat loss on the ecological resource.

The outcome of the assessment is the determination of the significance of these effects against predetermined criteria. The sensitivity of the receptor is defined through consideration of the vulnerability, recoverability and value/importance of that receptor.

The magnitude of the impact is defined through consideration of the spatial extent, duration, frequency and reversibility of that impact.

Significance is assessed by correlating the magnitude of the impact and the sensitivity of the receptor.

Each topic lead will define their own sensitivity and magnitude criteria based on terms and methods appropriate and specific to their topic. These criteria will be presented in table form (see Table 4-1 and 2 below) based on the DMRB descriptions.

**Table 4-1:** Definition of terms from DMRB relating to the magnitude of impacts

Magnitude of impact	Definition
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse)
	Large scale or major improvement or resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial)
Medium	Loss of resource, but not adversely affecting integrity of resource; partial loss of/damage to key characteristics, features or elements (Adverse)
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial)
Low	Some measurable change in attributes, quality or vulnerability, minor loss or, or alteration to, one (maybe more) key characteristics, features or elements (Adverse)

Magnitude of impact	Definition
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial)
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse)
	Very minor benefit to, or positive addition of one or more characteristics, features or elements (Beneficial)

**Table 4-2:** Definition of terms relating to the sensitivity of the receptor

Sensitivity	Definition
High	High importance and rarity, national scale and limited potential for substitution
Medium	High or medium importance and rarity, regional scale, limited potential for substitution
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

The significance of the effect is determined by correlating the magnitude of the impact and the sensitivity of the receptor, see Table 4-3. Significant effects (in EIA terms) are considered to be those assessed as being either "moderate", "major" or "profound". Other effects (imperceptible or slight) are considered to be not significant.

**Table 4-3:** Assessment matrix

Sensitivity of receptor	Magnitude of impact			
	Negligible	Low	Medium	High
Negligible	Imperceptible	Imperceptible or slight	Imperceptible or slight	Slight
Low	Imperceptible or slight	Imperceptible or slight	Slight	Slight or moderate
Medium	Imperceptible or slight	Slight	Moderate	Moderate or major
High	Slight	Slight or moderate	Moderate or major	Major or Profound

Note: Significance has been adapted from the EPA (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Figure 3.5 Chart showing typical classification):

The EPA (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports provides some useful guidance on the significance of effect levels. While these do not form part of the assessment process and should not be referenced in the chapter, they provide a useful sense check on the assessment process. The significance of effect levels are adapted from these guidelines and described as follows:

- Profound: *An effect which obliterates sensitive characteristics.*
- Major: *An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.*

- *Moderate: An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.*
- *Slight: An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.*
- *Imperceptible: An effect capable of measurement but without significant consequences.*

### 4.3 Appropriate Assessment (AA) Process

The approach to the AA process is to complete a combined AA Screening and Natura Impact Statement (NIS) as it is considered that a project of this nature would screen in for Stage 2 AA.

We will consider the Natura 2000 sites in the context of the proposed development and how each site has the potential to be impacted in view of the conservation objectives of each site. It will be necessary to establish if the proposed development will trigger the need for an Appropriate Assessment under Article 6 of the Habitats Directive. Article 6 (3) of the Habitats Directive states:

*6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.*

The focus of the Stage 2 AA will be on the potential for significant adverse effects, the conservation objectives of the site(s) and maintaining the integrity of the Natura 2000 site(s). Field surveys, (including specialist environmental surveys) and consultation with NPWS, DHPLG and IFI will be completed to reach informed and professional judgements on the issues. In addition, any further information including, but not limited to, any plans, maps or drawings, scientific information or data required to enable the carrying out of an Appropriate Assessment will be presented.

The outcome of this stage is an NIS. The findings of which should provide a clear statement of whether, or not, in view of best scientific knowledge and the conservation objectives of the site, if the plan or project, individually or in combination with other plans or projects may adversely affect the integrity of any European site(s).

### 4.4 EIAR Structure and Content

From a practical perspective it is advised that in order to provide the holistic assessment of the Project, but at the same time differentiate the offshore and onshore assessments, that a multi volume EIAR be prepared. This provides a suitable structure:

- To tailor the environmental topics to address the very different receiving environments, assessments and potential impacts;
- To support the different narratives around what level of environmental assessment has been carried out to date in respect of the onshore and offshore elements;
- This will allow interested stakeholders to readily identify the assessments of relevance to them (be it locational or sectoral based).

An indicative structure of the multi volume EIAR is set out in **Table 4-4**.

**Table 4-4: Indicative Structure of the Multi-volume EIAR**

Item	Detail
<b>Volume 1</b>	The Non-Technical Summary
<b>Volume 2A (and Appendices / Figures)</b>	<p>This will present matters of common interest to the holistic assessment of the Project. It will provide the background to the Project and the requirement for the onshore and offshore assessments (including need and alternatives).</p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Policy and Legislation</li> <li>• EIA Methodology</li> <li>• Site Selection and Consideration of Alternatives</li> <li>• Project Description</li> <li>• Consultation</li> </ul>
<b>Volume 2B (and Appendices / Figures)</b>	<p>This will present the technical environmental assessment of the offshore elements:</p> <ul style="list-style-type: none"> <li>• Marine Processes</li> <li>• Benthic and Intertidal Ecology</li> <li>• Fish and Shellfish Ecology</li> <li>• Marine Mammals (including Subsea Noise)</li> <li>• Offshore Ornithology</li> <li>• Commercial Fisheries</li> <li>• Shipping and Navigation</li> <li>• Marine Archaeology</li> <li>• Aviation, Military, and Communications</li> <li>• Infrastructure and Other Users</li> <li>• Inter-related Effects</li> <li>• Cumulative Effects Assessment (CEA) (included in the relevant chapters)</li> </ul>
<b>Volume 2C (and Appendices / Figures)</b>	<p>This will present the technical environmental assessment of the onshore elements:</p> <ul style="list-style-type: none"> <li>• Population and Human Health</li> <li>• Biodiversity</li> <li>• Land and Agriculture</li> <li>• Soil, Geology and Hydrogeology</li> <li>• Hydrology and Flood Risk</li> <li>• Air Quality</li> <li>• Climate (and Risk of Major Accidents and Hazards)</li> <li>• Noise and Vibration</li> <li>• Cultural heritage (including archaeological and architectural heritage)</li> <li>• Landscape and Seascape</li> <li>• Traffic and Transport</li> <li>• Material Assets</li> <li>• Waste</li> <li>• Inter-related Effects</li> <li>• A Cumulative Effects Assessment (CEA) (included in the relevant chapters)</li> </ul>

## 5 KEY ENVIRONMENTAL ISSUES & PROPOSED SCOPE OF EIAR

### 5.1 Introduction

The scoping of an EIAR is the process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. Scoping is concerned with identifying those aspects of the environment where there is an interaction, either direct or indirect, positive or negative, with the Project and as a consequence there is potential for likely and significant effects, which need to be assessed.

The environmental topics that require assessment for this project have been outlined in **Section 3**. This section outlines the key potential issues associated with the relevant environmental topic and identifies the specific methods and standards that will be used in the assessment. The most up to date available standards, guidelines and data has been referenced in this Scoping Report, however, it is recognised that amendments and updates will become available from time to time during the EIAR phase of the Project. The EIAR will reflect the most up to date information available at that time.

### 5.2 Offshore Key Issues and Proposed Scope

#### Marine Processes

Table 5-1 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to marine processes.

**Table 5-1: Marine Processes Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>Bathymetry data sourced from the Medin and Infomar studies;</li> <li>OPW Dundalk datasets; and</li> <li>Sediment dynamics study funded by the Geological Survey of Ireland.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Impact on tidal currents;</li> <li>Impact on wave climate;</li> <li>Effects on sediment transport;</li> <li>Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed during installation activities.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
	<ul style="list-style-type: none"> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland (2010);</li> <li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017);</li> <li>• ABPmer Ltd et al. (2008) Guidelines in the use of metocean data through the lifecycle of a marine renewables development CIRIA C666;</li> <li>• ABPmer, Met Office and POL (2008) Atlas of UK Marine Renewable Energy Resources: Atlas Pages. A Strategic Environmental Assessment Report, March 2008. Available online: <a href="http://www.renewables-atlas.info/">http://www.renewables-atlas.info/</a>;</li> <li>• ABPmer Ltd et al. (2010) A Further Review of Sediment Monitoring Data. Commissioned by COWRIE Ltd (project reference ScourSed-09);</li> <li>• Beiboer, F. and Cooper, B. (2002) Potential Effects of Offshore Wind Developments on Coastal Processes. Report by ABP Marine Environmental Research Ltd (ABPmer). pp 127, Crown;</li> <li>• BERR (2008) Review of Cabling Techniques and Environmental Effects applicable to the Offshore Windfarm Industry. Technical Report, Department for Business Enterprise and Regulatory Reform (BERR), in association with Defra, 164pp;</li> <li>• Brooks, A.J., Whitehead, P.A., Lambkin, D.O. (2018) Guidance on Best Practice for Marine and Coastal Physical Processes Baseline Survey and Monitoring Requirements to inform EIA of Major Development Projects. NRW Report No: 243, 119 pp, Natural Resources Wales, Cardiff;</li> <li>• CEFAS (2016) Suspended Sediment Climatologies around the UK;</li> <li>• Coughlan, M., Wheeler, A.J., Dorschel, B., Long, M., Doherty, P. &amp; Morz, T., (2019) Stratigraphic model of the Quaternary sediments of the Western Irish Sea Mud Belt from core, geotechnical and acoustic data, Geo-Marine Letters;</li> <li>• Department of Energy &amp; Climate Change, (2008) Dynamics of Scour Pits and Scour Protection, Research Advisory Group;</li> <li>• Geological Survey Ireland (2018) Scour Potential Evaluation of the Western Irish Sea Mud Belt, 79pp;</li> <li>• NIRAS, (2015) Subsea Cable Interactions with the Marine Environment, pp 58, Renewables Grid Initiative; and</li> <li>• Pye, K., Blott, S.J. &amp; Brown, J. (2017) Advice to Inform Development of Guidance on Marine, Coastal &amp; Estuarine Physical Processes Numerical Modelling Assessments. NRW Report No 208, 139pp, Natural Resources Wales, Cardiff.</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore 2007 EIS Chapter. 5 (Physical Environment).</li> </ul>

## Benthic and Intertidal Ecology

Table 5-2 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to benthic and intertidal ecology.

**Table 5-2: Benthic and Intertidal Ecology Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>Published historic surveys/data sets;</li> <li>Site-specific benthic surveys undertaken to inform the Original EIS;</li> <li>Results of the latest site-specific benthic subtidal and intertidal surveys (see below);</li> <li>Ireland's Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>;</li> <li>Data from the National Biodiversity Data Centre in Ireland; and</li> <li>Interpreted geophysical data.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<p>Subtidal Benthic Surveys:</p> <ul style="list-style-type: none"> <li>Benthic sampling to validate benthic surveys undertaken in 2006.</li> </ul> <p>Intertidal Benthic Surveys:</p> <ul style="list-style-type: none"> <li>Intertidal Phase 1 walkover survey to identify intertidal biotopes for the purposes of the EIA.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Habitat loss and disturbance, temporary (e.g. during construction and maintenance operations) and long term (e.g. habitat loss beneath foundations);</li> <li>Increases in suspended sediment concentrations and associated sediment deposition;</li> <li>Colonisation of foundations/scour protection affecting benthic ecology and biodiversity;</li> <li>Accidental release of pollution (e.g. from spillage or leakage); and</li> <li>Increased risk of introduction or spread of invasive and non-native species (INNS).</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>Consultation with the Marine Institute to discuss benthic ecology receptors: <ul style="list-style-type: none"> <li>Consultation on baseline data sources;</li> <li>Consultation to confirm the key impacts/risks and scope of impact assessment; and</li> <li>Consultation to discuss the results of the impact assessment, proposed mitigation and monitoring etc.</li> </ul> </li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
Work Completed to Date	<ul style="list-style-type: none"><li>• Guidance on Marine Baseline Ecological Assessments &amp; Monitoring Activities for Offshore Renewable Energy Projects;</li><li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland (2010);</li><li>• Published guidelines on the appropriate approach to impact assessment (e.g. CIEEM); and</li><li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017).</li></ul> <hr/> <ul style="list-style-type: none"><li>• Original Offshore 2007 EIS Chapter. 9, S9.1 (Marine Benthos).</li></ul> <hr/>

## Fish and Shellfish Ecology

Table 5-3 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to fish and shellfish ecology.

**Table 5-3: Fish and Shellfish Ecology Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Ireland's Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>;</li> <li>• Ellis, J. R., Milligan, S. P., Readdy, L., Taylor, N. and Brown, M.J., (2012) Spawning and nursery grounds of selected fish species in UK waters. Sci. Ser. Tech. Rep., Cefas, Lowestoft, 147: 56 pp.;</li> <li>• Coull, K. A., Johnstone, R and Rogers, S. I., (1998) <i>Fishery sensitivity Maps in British Waters</i>. Published and distributed by UKOOA Ltd. Available online from: <a href="http://cefas.defra.gov.uk/media/29947/sensi_maps.pdf">http://cefas.defra.gov.uk/media/29947/sensi_maps.pdf</a>;</li> <li>• Data from the National Biodiversity Data Centre in Ireland;</li> <li>• Data and information from the Marine Institute (e.g. spawning and nursery data, cod tagging data, migratory species data);</li> <li>• Data and information from Bord Iascaigh Mhara;</li> <li>• Data and information from Iascach Intire Éireann (Inland Fisheries Ireland) (e.g. migratory species data, if applicable);</li> <li>• Published data sources including information from the Ocean Energy Ireland website, the UK Offshore Renewables Joint Industry Partnership (ORJIP), Tethys and ORE Catapult Offshore Wind Innovation Hub Network; and</li> <li>• Original EIS.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Habitat loss/disturbance;</li> <li>• Increased suspended sediment concentrations and associated deposition;</li> <li>• Underwater noise as a result of foundation installation (i.e. piling) and other construction activities (e.g. cable installation), and operation of the turbines;</li> <li>• EMF causing behavioural responses in fish and shellfish receptors.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Consultation with the Marine Institute, Bord Iascaigh Mhara and Inland Fisheries Ireland to discuss fish and shellfish ecology receptors: <ul style="list-style-type: none"> <li>– Consultation on baseline data sources;</li> <li>– Consultation to confirm the key impacts/risks and scope of impact assessment; and</li> <li>– Consultation to discuss the results of the impact assessment, proposed mitigation and monitoring etc.</li> </ul> </li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"><li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li><li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li><li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPP) in the Republic of Ireland (2010);</li><li>• Published guidelines on the appropriate approach to impact assessment (e.g. CIEEM); and</li><li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017).</li></ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"><li>• Original Offshore EIS Chapter 8 (Commercial Fisheries).</li></ul>

## Marine Mammals

Table 5-4 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to marine mammals.

**Table 5-4: Marine Mammals Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Baseline boat-based survey data for marine mammals and results of the acoustic monitoring survey (four C-POD locations within the Foreshore Licence area);</li> <li>• Marine mammal surveys undertaken to inform the Original EIS;</li> <li>• Ireland's Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>;</li> <li>• National Parks and Wildlife Service (NPWS) (2008) Unpublished Report: The Status of EU Protected Habitats and Species in Ireland. 139pp.;</li> <li>• JNCC (2003) Records of cetaceans encountered during ESAS surveys in NE Atlantic from 1980 to 2003;</li> <li>• ObSERVE aerial survey data showing abundance and distribution of marine mammals in Irish waters (2015 – 2017);</li> <li>• Inshore cetacean surveys for the Irish Sea (Berrow <i>et al.</i>, 2010);</li> <li>• Reid, J. B., Evans, P. G., &amp; Northridge, S. P. (2003) Atlas of cetacean distribution in north-west European waters. Joint Nature Conservation Committee;</li> <li>• Sea Watch Foundation database for the Irish Sea;</li> <li>• Small cetacean abundance in the North Sea (SCANS) surveys which included the Irish Sea in 2005 (SCANS-II) and in 2016 (SCANS-III);</li> <li>• National Parks and Wildlife Service (NPWS) – seal data around the coast of Ireland;</li> <li>• Data from the Irish Whale and Dolphin Group (IWDG);</li> <li>• Biodiversity maps from the National Biodiversity Data Centre in Ireland;</li> <li>• At-sea distribution maps for seals (Marine Scotland online; Russell <i>et al.</i>, 2017) and previous seal distribution maps for the Irish Sea (Jones <i>et al.</i>, 2015); and</li> <li>• Special Committee on Seals (SCOS) reports.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• Boat-based survey for marine mammals ongoing; and</li> <li>• Acoustic monitoring survey (four C-POD locations within the Foreshore Licence area).</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Impact of piling of foundations for the Project alone and cumulatively with other activities that may lead to increased subsea noise;</li> <li>• Noise disturbance and collision risk from increased vessel activity;</li> <li>• Changes to fish and shellfish prey resources; and</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
	<ul style="list-style-type: none"> <li>Potential impacts from increased suspended sediment, noise and vibration from operational turbines and electro-magnetic fields (EMF) will also be considered however following consultation with stakeholders it may be possible to scope these out of the EIA.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>Consultation with NPWS and IWDG to agree the baseline data sources and approach to assessment.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDP) in the Republic of Ireland (2010);</li> <li>Published guidelines on the appropriate approach to impact assessment (e.g. CIEEM); and</li> <li>Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>Original Offshore EIS Chapter. 11 (Marine Mammals)</li> <li>Monthly site-specific boat-based surveys (2018 to 2019) are ongoing but have reported first year results.</li> </ul>

## Subsea Noise

Table 5-5 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to subsea noise.

**Table 5-5: Subsea Noise and Vibration Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Specific underwater noise data will be sought or, where this is not available, estimated based on other operations in similar environmental conditions;</li> <li>• Available source data for the range of pile sizes and hammer energies likely to be used;</li> <li>• RPS internal database of underwater noise data;</li> <li>• Published data.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Subsea noise impacts from piling activities on marine mammal and fish receptors.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDP) in the Republic of Ireland (2010);</li> <li>• Recent guidelines on EIS and NIS preparation for offshore renewable energy projects (Department of Communications, Climate Action and Environment, 2016);</li> <li>• NMFS (2018) guidelines for noise assessment for marine mammals;</li> <li>• Popper <i>et al.</i>, (2014) guidelines for noise assessment for fish and sea turtles; and</li> <li>• Guidance on Marine Baseline Assessments and Monitoring Activities for Offshore Renewable Energy Projects from the Department of Communications Climate Action and Environment.</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore EIS Chapter. 11 (Marine Mammals).</li> </ul>

## Offshore Ornithology

Table 5-6 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to offshore ornithology.

**Table 5-6: Offshore Ornithology Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Baseline boat-based ornithological survey data: original EIS data (2006-2008) and ongoing surveys;</li> <li>• Ireland's Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>;</li> <li>• National Parks and Wildlife Service (NPWS) (2008<sup>7</sup>);</li> <li>• Forthcoming seabird distribution and model outputs from the obSERVE project<sup>8</sup>;</li> <li>• SeabORD/Sea Watch Foundation outputs;</li> <li>• Findings from the Marine Protected Area Management and Monitoring (MarPAMM)<sup>9</sup> project;</li> <li>• Seabird count data around the coast of Ireland (held by the National Parks and Wildlife Service, BirdWatch Ireland and the National Biodiversity Data Centre in Ireland);</li> <li>• I-WeBS.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• Boat-based ornithology survey ongoing (2018 to 2020). The EIAR will include interim survey results.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Collision risk (notably gannets, shearwaters, terns, kittiwakes, large gulls and migrating wildfowl);</li> <li>• Displacement impacts (notably auks and divers);</li> <li>• Cumulative impacts of collision and displacement.</li> <li>• A range of other impacts on ornithological receptors will be considered including noise disturbance and collision risk from increased vessel activity, accidental pollution, and changes to fish and shellfish prey resources.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Consultation with NPWS and Birdwatch Ireland to discuss the ornithological baseline and to outline the approach to data analysis and assessment.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> </ul>

<sup>7</sup> National Parks and Wildlife Service (NPWS) (2008) Unpublished Report: The Status of EU Protected Habitats and Species in Ireland. 139pp.

<sup>8</sup> <https://www.dccae.gov.ie/documents/ObSERVE%20Aerial%20Data%20Availability.pdf> Aerial Surveys of Cetaceans and Seabirds in Irish Waters: Occurrence, distribution and abundance 2015 - 2017

<sup>9</sup> <https://www.birdwatchireland.ie/SearchResults/tabid/37/Default.aspx>

Scope of EIAR Chapter	Summary of Scope of Work
Work Completed to Date	<ul style="list-style-type: none"> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland (2010);</li> <li>• Published guidelines on the appropriate approach to impact assessment (e.g. CIEEM);</li> <li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017);</li> <li>• DCCA Guidance on Marine Baseline Ecological Assessments and Monitoring Activities: Offshore Renewable Energy Projects Parts 1 &amp; 2;</li> <li>• Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government, 2009 (as amended);</li> <li>• Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Union, 2019; and</li> <li>• Various specific guidance documents from UK Statutory Nature Conservation Bodies (SNCBs) regarding approaches to the assessment of collision and displacement impacts.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Original Offshore EIS Chapter. 10 (Birds) including survey data from 2006 to 2008; and</li> <li>• Monthly site-specific boat-based surveys (2018 to 2020) are ongoing but have reported first year results.</li> </ul>

## Commercial Fisheries

Table 5-7 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to commercial fisheries.

**Table 5-7: Commercial Fisheries Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Marine Institute;</li> <li>• Department of Communications, Climate Action and Environment (DCCA);</li> <li>• Sea Fisheries Protection Authority (SFPA);</li> <li>• Bord Iascaigh Mhara;</li> <li>• Central Statistics Office (CSO);</li> <li>• Inland Fisheries Ireland (IFI);</li> <li>• Central and Eastern Regional Fisheries Boards (CFB, ERFB);</li> <li>• Irish Fishermen’s Organisation (IFO);</li> <li>• Local fishermen and sea anglers;</li> <li>• Ireland’s Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>;</li> <li>• Data on Irish Sea fisheries from ICES, Natural Resources Wales (NRW), Marine Management Organisation (MMO), Marine Scotland, Department of Agriculture, Environment and Rural Affairs in Northern Ireland (UK);</li> <li>• The Fisheries Directorate of the Department of Environment, Food and Agriculture (DEFA) Isle of Man;</li> <li>• Original EIS.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Displacement of fishing activity;</li> <li>• Temporary reductions in access to key fishing grounds;</li> <li>• Potential changes to fishing activity once the wind farm is operational;</li> <li>• Increases in the potential for snagging of gear;</li> <li>• Reduction in available seabed due to the presence of infrastructure.</li> </ul> <p>The chapter will focus on metrics of the fishing fleets, such as catch rates, fishing effort, key fishing grounds and fisheries trends for the last 5 years.</p> <p>The chapter will also look at the spatial aspects of fishing activity, such as key fishing grounds, effort and catches across the site.</p>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Consultation with key fisheries interests, associations and groups, including the Marine Institute, DCCA, SFPA, Bord Iascaigh Mhara, IFO, CSO, IFI, CFB, ERFB, local fishermen and sea anglers to inform baseline data gathering process.</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPP) in the Republic of Ireland (2010);</li> <li>• Published guidelines on the appropriate approach to impact assessment (e.g. Cefas);</li> <li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017);</li> <li>• FLOWW Best Practice Guidance for Offshore Renewables Developments;</li> <li>• Blyth-Skyrme, R.E. (2010) Options and opportunities for marine fisheries mitigation associated with wind farms. Final report for Collaborative Offshore Wind Research Into the Environment contract FISHMITIG09. COWRIE Ltd, London; and</li> <li>• UKFEN (2013) Best Practice Guidance for Fishing Industry Financial and Economic Impact Assessments.</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore EIS Chapter 8 (Commercial Fisheries);</li> <li>• Original Offshore EIS Chapter 4 S4.4 (Shipping, Navigation, Undersea Cables and Pipelines); and</li> <li>• Original Offshore EIS Chapter 4 S4.8 (Tourism and Recreational Activities).</li> </ul>

## Shipping and Navigation

Table 5-8 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to shipping and navigation.

**Table 5-8: Shipping and Navigation Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Admiralty Sailing Direction (Irish Coast Pilot (NP 40) (UKHO);</li> <li>• Automatic Identification System (AIS) data and fishing data;</li> <li>• Ireland's Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>;</li> <li>• Dredging data;</li> <li>• Incident data; and</li> <li>• Admiralty Charts.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Displacement of vessels;</li> <li>• Vessel to vessel collision risk;</li> <li>• Vessel to structure collision risk;</li> <li>• Increased risk of anchor snagging;</li> <li>• Effects on SAR capability.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Consultation with Irish Coastguard and Commissioners of Irish Lights, in addition to Navigation Stakeholder Workshop with wider local stakeholders including local ports/harbours and local yacht clubs.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland (2010);</li> <li>• MGN 543 – Safety of Navigation: Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response;</li> <li>• MGN 372 – Offshore Renewable Energy Installations (OREIs) - Guidance to Mariners operating in the vicinity of UK OREIs;</li> <li>• Methodology for Assessing the Marine Navigational Safety Risks &amp; Emergency Response of Offshore Renewable Energy Installations;</li> <li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017).</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
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<b>Work Completed to Date</b>	• Original Offshore EIS Chapter. 4, S4.4 (Shipping, Navigation, Undersea Cables and Pipelines).
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## Aviation, Military and Communications

Table 5-9 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to aviation, military and communications.

**Table 5-9: Aviation, Military and Communications Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>Irish Aviation Authority (IAA) Integrated Aeronautical Information Package (IAIP);</li> <li>Ireland's Marine Atlas at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>; and</li> <li>Consultation.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Effects of physical obstruction to civil and military aircraft;</li> <li>Technical effects upon aviation radar systems;</li> <li>Effects on military practice areas;</li> <li>Effects on communications; and</li> <li>Navigation and surveillance (radar, microwave links, navigational aids).</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>IAA and other aviation/communications stakeholders.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland (2010);</li> <li>IAA guidance;</li> <li>International Civil Aviation Organisation guidance; and</li> <li>Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>Original Offshore EIS Chapter. 4, S4.6 (Aviation).</li> </ul>

## Marine Archaeology

Table 5-10 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to marine archaeology.

**Table 5-10: Marine Archaeology key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Original EIS;</li> <li>• Sites and Monuments Record and Record of Monuments and Places; and</li> <li>• Historic Shipwreck Inventory.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Effects on prehistoric land surfaces;</li> <li>• Effects on shipwrecks and aircraft wrecks; and</li> <li>• Effects on a variety of heritage assets.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland (2010);</li> <li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017);</li> <li>• UNESCO;</li> <li>• National Monuments Acts (1930-2004);</li> <li>• Merchant Shipping Act 1993; and</li> <li>• Institute of Archaeologists of Ireland Code of Conduct for Archaeological Assessments (2006).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore EIS Chapter. 7 (Cultural Heritage/Archaeology); and</li> <li>• Review of underwater archaeology completed for condition on the Foreshore Lease.</li> </ul>

## Infrastructure and Other Users

Table 5-11 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to infrastructure and other users.

**Table 5-11: Infrastructure and Other Users Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Original EIS;</li> <li>• Ireland's Marine Atlas (at <a href="http://atlas.marine.ie/">http://atlas.marine.ie/</a>); and</li> <li>• Consultation</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Displacement of recreational activities;</li> <li>• Effects on existing infrastructure (e.g. cables and pipelines);</li> <li>• Effects on dredging and disposal areas;</li> <li>• Restriction of oil and gas exploration and development.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Consultation with key stakeholders potentially affected, as identified during preparation of the baseline.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDP) in the Republic of Ireland (2010); and</li> <li>• Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects (Department of Communications, Climate Action and Environment, 2017).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore EIS Chapter 4, S4.4 (Shipping, Navigation, Undersea Cables and Pipelines), S4.8 (Tourism &amp; Recreational Activities); and</li> <li>• Original Offshore EIS Chapter 15 (Material Assets).</li> </ul>

## 5.3 Onshore Key Issues and Proposed Scope

### Population and Human Health

Table 5-12 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to population and human health.

**Table 5-12: Population and Human Health Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• CSO;</li> <li>• Pobal;</li> <li>• Project Ireland 2040 - National Planning Framework &amp; National Development Plan 2018-2027;</li> <li>• Regional Spatial &amp; Economic Strategy for the Eastern &amp; Midlands Regional Assembly;</li> <li>• Louth County Development Plan 2015-2021;</li> <li>• ESRI Quarterly Economic Commentary;</li> <li>• Housing Agency;</li> <li>• Department of Housing Planning &amp; Local Government / Myplan.ie;</li> <li>• International Commission on Non-Ionising Radiation Protection (ICNIRP);</li> <li>• World Health Organisation (WHO);</li> <li>• Health &amp; Safety Authority (HSA);</li> <li>• Health Service Executive (HSE); and</li> <li>• Other technical disciplines as relevant e.g. Air Quality, Noise and Vibration, Traffic and Transport, Climate Change and Risk of Major Accidents</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• Desktop analysis of the local area and its facilities including population level, population age structure, households and economic activity.</li> <li>• Windshield survey to confirm general land uses around the Project elements and provide an overview of the area and its environs.</li> <li>• The chapter will include reference to surveys undertaken as part of other technical disciplines such as Air Quality, Noise and Vibration, Traffic and Transport, Climate Change and Risk of Major Accidents.</li> <li>• Re-run assessment with up to date project information and provide new outputs on the potential direct, indirect and induced socio-economic effects.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Socio-economic aspects such as income and employment generation.</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
	<ul style="list-style-type: none"> <li>• Land use – consideration of severance, loss of rights of way or amenities, or other changes likely to ultimately alter the character and use of the surroundings.</li> <li>• Electromagnetic fields from underground cables and electrical sub-stations.</li> <li>• Transport and related air quality / noise impacts.</li> <li>• The wind farm has the potential to increase tourism in the area and improve the quality of diving and fishing in the area by the creation of artificial reefs.</li> <li>• Consideration of direct, indirect and induced socio-economic impacts on the local, regional and national economy from the 5-year construction period and during operation.</li> <li>• In addition, the EIA will touch on economic impacts where it is not possible to place a value on including: the opportunity for skills training; negative impacts on the tourism and fishing industry; wider economic development opportunities; and development of new turbine production facilities.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council</li> <li>• Health &amp; Safety Authority (HSA)</li> <li>• Health Service Executive (HSE)</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Health in Environmental Impact Assessment: A Primer for a proportionate Approach (IEMA, 2017)</li> <li>• EMF &amp; You - Information about Electric &amp; Magnetic Fields and the Electricity Transmission System in Ireland (EirGrid, 2017)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original offshore EIS 2007 Chapter 4, S4.3 (Traffic), Chapter 14 (Electromagnetic Effects), and Chapter 4 S4.7 (Socio-economics)</li> </ul>

## Biodiversity (Terrestrial and Aquatic Ecology, incl. Intertidal)

Table 5-13 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to biodiversity (terrestrial and aquatic ecology).

**Table 5-13: Biodiversity (Terrestrial & Aquatic Ecology, incl. Intertidal) Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• National Parks and Wildlife Service (NPWS)</li> <li>• National Biodiversity Data Centre</li> <li>• Louth County Development Plan</li> <li>• EPA mapping (EPA GIS and catchments.ie)</li> <li>• EPA Water Quality Data</li> <li>• GSI mapping</li> <li>• OSi mapping</li> <li>• Information on the conservation status of birds in Ireland (Colhoun &amp; Cummins, 2013)</li> <li>• Irish Wetlands Survey</li> <li>• Bat Conservation Ireland records</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• Habitats (intertidal, agricultural, woodland, hedgerow and built environment): <ul style="list-style-type: none"> <li>– Fieldwork approximately 150m either side of proposed cable route to establish zone of ecological influence.</li> <li>– The entire length of the route will be walked as will lands required for junction bays and construction related elements (such as temporary works areas). Other lands adjacent to the route identified during the field survey may also require surveying.</li> <li>– This survey will include potential for protected species (habitats, structures etc.)</li> </ul> </li> <li>• Protected species – species-specific/activity surveys (bats, owls, otters, badgers etc.) will be undertaken where suitable habitat is identified from the terrestrial habitat surveys above.</li> <li>• Aquatic habitat characterisation: <ul style="list-style-type: none"> <li>– Q sampling for watercourse crossings will be required.</li> <li>– upstream and downstream surveys of aquatic receptors including salmonid, crayfish and lamprey habitat assessment, macroinvertebrate (Q-value) survey, crayfish survey (if required) and general aquatic plant survey including aquatic IAS, general habitat and hydromorphological descriptions.</li> </ul> </li> <li>• Flora and invasive alien species (Japanese knotweed proximal to substation and cable route) – will be undertaken as part of the terrestrial habitats survey.</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
	<ul style="list-style-type: none"> <li>• Breeding birds - for the proposed cable route and substation locations; monthly walkover survey for breeding birds.</li> <li>• Intertidal birds – Focus would be on the landfall/intertidal area. Transect survey once a month for the duration of the Project programme (preferably to continue to 12 months total). See section below on seasonal surveys (Monthly).</li> <li>• Wintering birds - this element will/may overlap with marine surveys.</li> <li>• The requirement to undertake additional or specific surveys separate from those listed above (which were identified from a review of online databases) cannot be ruled out e.g. amphibian. This may also be relevant based on location of proposed infrastructure and /or site compounds.</li> </ul>
Key Issues	<ul style="list-style-type: none"> <li>• European Sites</li> <li>• Nationally designated sites</li> <li>• Rare and protected species</li> <li>• Other areas of biodiversity value</li> <li>• River/ stream crossings</li> <li>• Birds</li> <li>• Mammals</li> <li>• Invasive species</li> <li>• Major aquifers and dependent ecosystems</li> <li>• Appropriate Assessment</li> </ul>
Technical Consultations	<ul style="list-style-type: none"> <li>• National Parks and Wildlife Service (Development Applications Unit)</li> <li>• Inland Fisheries Ireland</li> <li>• Louth County Council (Heritage/ Biodiversity Officers)</li> <li>• SFPA</li> <li>• CoastWatch</li> <li>• Birdwatch Ireland</li> <li>• Bat Conservation Ireland</li> </ul>
Relevant Standards and Guidance	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018)</li> <li>• Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (IFI, 2016)</li> <li>• A guide to habitats In Ireland. The Heritage Council, Ireland; Fossitt, J. (2000)</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
	<ul style="list-style-type: none"> <li>• Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council. Smith, G, F, O'Donoghue, P, O'Hora, K, Delaney, E. (2011)</li> <li>• Bat Surveys: Best Practice Guidelines, 3rd Edition. Bat Conservation Trust (2016)</li> <li>• Environmental Planning and Construction Guidelines Series (National Roads Authority, 2005 – 2011)</li> <li>• The New Atlas of Breeding Birds in Britain and Ireland: Gibbons, D.W., Reid, J.W. &amp; Chapman, A. (1993)</li> <li>• Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2008)</li> <li>• Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin. Kelleher, C. &amp; Marnell, F. (2006)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore EIS 2007, Chapter 9, S9.3 Marine &amp; Terrestrial Ecology</li> <li>• 2007 EIS ecological survey</li> <li>• HDA Assessment and AA Screening</li> <li>• Draft Flora and Fauna Chapter, terrestrial ecology survey covering terrestrial, botanical, mammal &amp; Breeding bird in April 2011 – limited time e.g. birds (CBS methodology but how many visits. Aquatic ecology focused on River Dee e.g. Otter.</li> <li>• Tobin Draft Constraints Report 2011 (new corridor/landfall not covered)</li> <li>• AQUAFAC Draft AA 2010 (covering landfall and mainly the shoreline, intertidal and subtidal areas, not entirety of the Project)</li> </ul>

## Land and Agriculture

Table 5-14 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to land and agriculture.

**Table 5-14: Land and Agriculture Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Department of Agriculture, Food and the Marine (Census of Agriculture);</li> <li>• Louth County Council;</li> <li>• Environmental Protection Agency;</li> <li>• EPA/ Teagasc/ GSI GIS Map of National Soil Types, 2006;</li> <li>• Geological Survey of Ireland;</li> <li>• Ordnance Survey Ireland maps; and</li> <li>• Aerial photography.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• July 2019;</li> <li>• Windshield survey of current land uses, and field walk around substation/landfall points; and</li> <li>• Review of aerial photography.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Land use change/ removal of soil;</li> <li>• Impacts to agricultural lands/enterprise;</li> <li>• Severance of properties (temporary and permanent);</li> <li>• Severance of services (temporary and permanent);</li> <li>• Impacts on amenity (views)</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council;</li> <li>• Local tourism and commercial interests;</li> <li>• Department of Agriculture, Food and the Marine;</li> <li>• Potentially affected land owners; and</li> <li>• Geological Survey of Ireland</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (IGI, 2013)</li> <li>• Guide to Process and Code of Practice for National Road Project Planning and Acquisition of Property for National Roads, March 2003 (revised 2005);</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
Work Completed to Date	<ul style="list-style-type: none"> <li>• EPA/ Teagasc/ GSI GIS Map of National Soil Types, 2006 (<a href="http://gis.teagasc.ie/soils/map.php">http://gis.teagasc.ie/soils/map.php</a>);</li> <li>• Census of Agriculture 2010, final results (<a href="http://www.cso.ie">www.cso.ie</a>);</li> <li>• Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 5, HA 205/08 (Highways Agency et al., 2008) with respect to overarching assessment principles;</li> <li>• DMRB Section Volume 11, Section 3, Part 6 'Land Use' (Highways Agency et al., 2001) for the assessment of effects on land use assets;</li> <li>• Agricultural Land Classification of England and Wales, MAFF, 1988;</li> <li>• Environmental Impact Assessment of National Road Schemes – A Practical Guide, November 2008;</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• OWL have consulted with most landowners potentially affected by the proposed development;</li> <li>• Original Offshore EIS Chapter 4, S4.8 (Tourism &amp; Recreational Activities) – covering recreational aspects; no assessment of land use change or agriculture was undertaken</li> <li>• Tobin Draft Constraints Report 2011 (land use and geology)</li> </ul>

## Soils, Geology and Hydrogeology

Table 5-15 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to soils, geology and hydrogeology.

**Table 5-15: Soils, Geology and Hydrogeology Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Department of Agriculture, Food and the Marine (Census of Agriculture)</li> <li>• Louth County Council</li> <li>• Environmental Protection Agency</li> <li>• Geological Survey of Ireland</li> <li>• Ordnance Survey Ireland maps</li> <li>• Teagasc soils and subsoils</li> <li>• Aerial photography</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• Survey July 2019 if required.</li> <li>• Windshield survey of and field walk around substation/landfall points.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Land use change/ removal of soil and changing groundwater vulnerability class</li> <li>• Local alterations to water tables/dewatering</li> <li>• Potential impacts to water abstractions for public supplies/ private wells</li> <li>• Potential impacts to geological heritage areas/county geological sites (Dundalk Bay)</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council</li> <li>• Geological Survey of Ireland</li> <li>• Environmental Protection Agency</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (IGI, 2013)</li> <li>• Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2008)</li> <li>• Geology in Environmental Impact Statements – A Guide (IGI, 2002)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore EIS Chapter 4, S4.8 (Tourism &amp; Recreational Activities) – covering recreational aspects; no assessment of land use change or agriculture was undertaken</li> </ul>

**Scope of EIAR  
Chapter**

**Summary of Scope of Work**

- Tobin Draft Constraints Report 2011 (land use and geology)
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## Hydrology and Flood Risk

Table 5-16 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to hydrology and flood risk.

**Table 5-16: Hydrology and Flood Risk Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council</li> <li>• Environmental Protection Agency</li> <li>• Office of Public Works (OPW) CFRAMS and flood risk mapping/ Hydro-data mapping</li> <li>• EPA Water Quality Data</li> <li>• Aerial photography</li> <li>• Relevant Flood Risk Management Plans</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• Walkover survey</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Flood risk in the vicinity of the substation site</li> <li>• River/ stream crossings</li> <li>• Consideration of coastal flood risk</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council</li> <li>• OPW</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• The Planning System and Flood Risk Management Guidelines (DEHLG, 2009)</li> <li>• Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2008)</li> <li>• The SuDs Manual C697 (CIRIA, 2007)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Note considered in the 2007 EIS</li> <li>• Tobin Draft Constraints Report 2011</li> </ul>

## Air Quality

Table 5-17 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to air quality.

**Table 5-17: Air Quality Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council</li> <li>• Environmental Protection Agency</li> <li>• GeoDirectory</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• No survey work is considered necessary for this topic</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Impacts to air quality for sensitive receptors, primarily during construction/ decommissioning phases and from traffic-related emissions</li> <li>• Atmospheric deposition on sensitive designated habitats</li> <li>• Gas insulated substation –consideration of SF<sub>6</sub> but more relevant to the climate topic</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council</li> <li>• OPW</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Local Air Quality Management Technical Guidance LAQM.TG (09)</li> <li>• Design Manual for Roads and Bridges (DMRB) screening air quality model</li> <li>• Guidelines for the Treatment of Air Quality during the Planning and Construction of National Road Schemes (NRA, May 2011)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore 2007 EIS Chapter 6 (Air and Climate)</li> <li>• Tobin Draft Constraints Report 2011</li> </ul>

## Climate (incl. Risk of Major Accidents and Hazards)

Table 5-18 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to climate (including risk of major accidents and hazards).

**Table 5-18: Climate (incl. Risk of Major Accidents and Hazards) Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>EPA Emissions Inventory</li> <li>Louth County Council (hazardous areas, Seveso sites etc.)</li> <li>Materials balance / bill of quantities</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>No survey work is considered necessary for this topic</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Construction and operational impacts of the Project on climate is required. This will examine the total emissions of Greenhouse Gases (GHG)</li> <li>Vulnerability of the Project to risk of major accidents and /or disasters relevant to the Project; cross-check to other relevant technical disciplines in relation to major accidents such as population and human health and hydrology/flood risk chapters</li> <li>Gas insulated substation – Sulphur Hexafluoride (SF<sub>6</sub>) and consideration of potential for leaks/greenhouse gas warming potential.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>Louth County Council (if required)</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>Design Manual for Roads and Bridges (DMRB) screening air quality model</li> <li>EU Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (2013)</li> <li>Integrating Climate Change into Strategic Environmental Assessment in Ireland – A Guidance Note (EPA, 2015)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>No assessment on climate change was completed for the onshore elements.</li> <li>No assessment of risks of major accidents was completed for the onshore elements.</li> </ul>

## Noise & Vibration

Table 5-19 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to noise and vibration.

**Table 5-19: Noise and Vibration Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council;</li> <li>• Environmental Protection Agency;</li> <li>• GeoDirectory;</li> <li>• Draft Noise Action Plan 2018 for Louth; and</li> <li>• Noise monitoring levels.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• August 2019</li> <li>• Undertake an attended baseline survey of noise levels in the receiving environment and at the boundary of the site during normal operating hours</li> <li>• At noise sensitive locations in proximity to the sub-station location/landfall</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Impacts to sensitive receptors, primarily during construction/ operational/ decommissioning phases from traffic-related noise (onshore and temporary increase in shipping traffic) but also substation.</li> <li>• Airborne noise in relation to the offshore elements.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council; and</li> <li>• EirGrid.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• ISO 1996-1:2016 - Description and Measurement of Environmental Noise</li> <li>• British Standard BS5228:2009+A1:2014 Noise and Vibration Control on Construction and Open Sites</li> <li>• EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4, January 2016)</li> <li>• Guidelines for the Treatment of Noise and Vibration in National Road Schemes (NRA, 2004)</li> <li>• UK Department of Transport Document 'Calculation of Road Traffic Noise' CRTN' 1988</li> </ul> <p>In consideration of the overlap with the offshore noise assessment, the following standards and guidance may apply:</p> <ul style="list-style-type: none"> <li>• EPA Guidance Note on Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
Work Completed to Date	<ul style="list-style-type: none"> <li>• Wind Energy Development Guidelines (DECLG, 2006) [currently being updated]</li> <li>• ETSU-R-97, The Assessment and Rating of Noise from Wind Farms (1996) Department of Trade and Industry, UK</li> <li>• Institute of Acoustics, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (2003)</li> <li>• BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting</li> <li>• BS 6472-2:2008 Guide to evaluation of human exposure to vibration in buildings. Blast-induced vibration</li> <li>• BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration</li> </ul> <ul style="list-style-type: none"> <li>• Original Offshore 2007 EIS Chapter 4, S4.2 (Noise)</li> </ul>

## Cultural Heritage (incl. Archaeological and Architectural Heritage)

Table 5-20 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to cultural heritage (including archaeological and architectural heritage).

**Table 5-20: Cultural Heritage (incl. Archaeological and Architectural Heritage) Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council County Development Plan</li> <li>• Local Authority heritage data</li> <li>• Dept. Culture, Heritage &amp; the Gaeltacht</li> <li>• National Museum of Ireland</li> <li>• Excavations Bulletin and Database</li> <li>• Excavations.ie</li> <li>• Place names (logainm)</li> <li>• Data gathered from field work (industrial, cultural, marine heritage and areas of archaeological potential)</li> <li>• INFOMAR</li> <li>• OSi mapping</li> <li>• Aerial photography</li> <li>• Other documentary, cartographic and literary sources</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• July – August 2019</li> <li>• Field surveys of the proposed cable route and landfall locations</li> <li>• GI works monitoring if possible</li> <li>• Archaeological geophysical survey – if required based on walkover survey</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Potential impacts to heritage or setting for national and recorded monuments, areas of archaeological potential, buildings/features on the architectural heritage record of protected structures, demesne houses/ garden landscape, or architectural conservation areas and unrecorded cultural/ industrial heritage features</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council Heritage Officer</li> <li>• Dept. Culture, Heritage &amp; the Gaeltacht – Development Applications Unit <ul style="list-style-type: none"> <li>– National Monuments Service</li> <li>– Underwater Archaeology Unit</li> <li>– Architectural Policy and Built Heritage Section</li> </ul> </li> <li>• An Taisce</li> <li>• The Heritage Council</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• GSI (INFOMAR)</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Historic England (July 2015), Historic Environment Good Practice Advice in Planning, Note 3: The Setting of Heritage Assets</li> <li>• The Heritage Council (2013), Historic Landscape Characterisation in Ireland: Best Practice Guidance</li> <li>• Department of Arts Heritage and the Gaeltacht (DAHG) (2011), Architectural Heritage Protection Guidelines for Planning Authorities</li> <li>• Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht and Islands;</li> <li>• Cultural Heritage Guidelines for Electricity Transmission Projects (Courtney Deery for EirGrid, 2015)</li> <li>• The Heritage Council (2010), Proposals for Ireland's Landscapes</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• No assessment was undertaken for heritage as part of the previous EIS/constraints report.</li> </ul>

## Landscape and Seascape

Table 5-21 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to landscape and seascape.

**Table 5-21: Landscape and Seascape Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council/ County Development Plan Policy, Baseline landscape character, Designated Landscapes, scenic routes and views;</li> <li>• Meath - Baseline landscape character, Designated Landscapes and views;</li> <li>• Fingal County Council - Baseline landscape character, Designated Landscapes and views;</li> <li>• Monaghan - Baseline landscape character, Designated Landscapes and views;</li> <li>• NIAH inventory of designed landscapes</li> <li>• Louth, Meath, Fingal – baseline seascape character (Note data currently not available in County Plan)</li> <li>• Northern Ireland – Baseline landscape character areas.</li> <li>• Northern Ireland – Baseline seascape character areas.</li> <li>• Northern Ireland – Local landscape designations in 4 jurisdictions (Armagh, Banbridge Craigavon, Newry Mourne and Down, Lisburn and Castlereagh, Ards and North Down)</li> <li>• Northern Ireland – AONBs (Mourne, Ring of Gullion, Strangford and Lecale)</li> <li>• Northern Ireland - Register of Parks and gardens and National Trust sites:</li> <li>• Met Eireann Weather data.</li> <li>• Recreational assets including walking routes (irishtrails.ie, walkni.ie, LDWA), sea based recreational data</li> <li>• GeoDirectory data relating to residential dwellings for onshore elements;</li> <li>• OSi mapping at scale 1:50,000; and</li> <li>• Aerial Photography.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• An initial study area of 60km maximum from the outermost wind turbines is selected for initial desk based ZTV analysis of the offshore turbines. The extent of this study area to be refined down for the assessment and is expected to include the required study area for the Offshore transformer substation, cable route and grid connection for which the assessment study areas would be considerably smaller.</li> <li>• Appraisal of options to take account of turbine height, number and layout from key viewpoint locations to be agreed with local authorities and Department of Agriculture, Environment and Rural Affairs (DAERA).</li> <li>• Outputs to be in reporting format supported by photo wirelines from viewpoint locations agreed with consultees.</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
	<ul style="list-style-type: none"> <li>• Wind Turbine Options - Zone of theoretical visibility and wireline views from selected viewpoint locations for turbine layout options. ZTV to cover maximum and minimum height wind turbines only (2 ZTVs). Site based evaluation and options reporting.</li> </ul> <p>SLVIA – Seascape, Landscape and Visual Impact Assessment undertaken with reference to the baseline above and with anticipated study area to be minimum 35 or maximum 60km radius.</p> <ul style="list-style-type: none"> <li>• Effects on Coastal / seascape character (with reference to seascape character baseline)</li> <li>• Effects on Landscape Character,</li> <li>• Effects on national designations (AONBs)</li> <li>• Effects on County landscape designations and protected views;</li> <li>• Effects on designed landscapes</li> </ul> <p>Visual receptors – assessment of effects at representative viewpoint locations to include</p> <ul style="list-style-type: none"> <li>• Residents of dwellings</li> <li>• Recreational users where landscape is an important part of the experience</li> <li>• Road users (ranging from commuters to tourists)</li> </ul> <p>Visual effects assessment to consider main recreational sea-based receptors as informed by the offshore sea based assessment technical discipline</p> <p>Cumulative effects to take account of wind farms with assessment to focus on existing and planned wind farms within the environs of the Project.</p> <p>Assessment reporting to be supported by illustrated figures as follows</p> <ul style="list-style-type: none"> <li>• ZTV turbine hub height</li> <li>• ZTV turbine tip height</li> <li>• Baseline landscape and coastal/seascape character</li> <li>• Baseline designated landscapes and protected views</li> <li>• Viewpoints</li> <li>• Photomontages (including cumulative ZTV and Photomontages) of both the offshore and onshore elements;</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Nationally designated landscapes (Area of Outstanding Natural Beauty AONB) in Northern Ireland, namely Ring of Gullion and Mourne and Strangford Lecale. Closest turbine is circa 10km away. A detailed study will be required to analyse potential effects on the integrity of these landscapes;</li> <li>• Locally designated landscapes of Louth - Area of Outstanding natural beauty, Areas of high scenic quality - Carlingford peninsula;</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth designated scenic views on Carlingford peninsula and along the coastline of Dundalk Bay south to Clogherhead;</li> <li>• Louth Scenic routes on the coast from Castlebellingham to Clogherhead; and</li> <li>• Scenic routes on the coast of the Carlingford peninsula – circa 5km to the nearest turbine.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Options appraisal selection of viewpoints to be consulted on with Louth County Council and DAERA;</li> <li>• Detailed scope of work including landscape and visual receptors for inclusion in assessment with all prescribed bodies;</li> </ul> <p><b>Northern Ireland</b></p> <p>Northern Ireland Planning authorities</p> <ul style="list-style-type: none"> <li>– Armagh, Banbridge and Craigavon</li> <li>– Newry Mourne and Down</li> <li>– Lisburn and Castlereagh</li> <li>– Ards and North Down</li> </ul> <p>Northern Ireland AONBs</p> <ul style="list-style-type: none"> <li>– Mourne heritage trust</li> <li>– Ring of Gullion</li> <li>– Strangford and Lecale</li> </ul> <p>Northern Ireland Register of Parks and gardens – NI Historic Environment</p> <p>Northern Ireland stakeholders</p> <ul style="list-style-type: none"> <li>– DAERA</li> <li>– Long Distance Walkers Association</li> <li>– Northern Ireland Tourist Board</li> <li>– National trust</li> <li>– WalkNI.com</li> </ul> <p><b>Ireland</b></p> <p>Planning Authorities</p> <ul style="list-style-type: none"> <li>– Louth</li> <li>– Meath</li> <li>– Fingal</li> <li>– Monaghan</li> <li>– Cavan</li> </ul> <p>Stakeholders</p> <ul style="list-style-type: none"> <li>– Heritage Council</li> <li>– Irish trails</li> <li>– Failte Ireland</li> <li>– Carlingford and Cooley tourism</li> <li>– An Taisce</li> <li>– Consultees from last round ES 2006</li> <li>– NIHE – inventory of designed landscapes.</li> </ul>

Scope of EIAR Chapter	Summary of Scope of Work
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>• Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment. 3rd edition. Routledge. (“GLVIA3”);</li> <li>• Scottish Natural Heritage (2017) Siting and designing wind farms in the landscape. Version 3;</li> <li>• Scottish Natural Heritage (2017) Visual Representation of Wind Farms: Good Practice Guidance. Version 2.2;</li> <li>• Scottish Natural Heritage (2012) Onshore Renewables: Guidance on assessing the impact on coastal landscape and seascape;</li> <li>• Scottish Natural Heritage (2012) Assessing the cumulative impact of onshore wind energy developments;</li> <li>• Maritime Ireland – Guide to Best Practice in Seascape Assessment (2001)</li> <li>• Northern Ireland Regional Seascape Assessment (2014)</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Tobin Draft Constraints Report 2011 (Landscape and Visual Chapter)</li> <li>• Original Offshore 2007 EIS Chapter 13 (Landscape and Visual)</li> </ul>

## Traffic and Transport

Table 5-22 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to traffic and transport.

**Table 5-22: Traffic and Transport Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council;</li> <li>• OSi mapping;</li> <li>• Existing road networks; and</li> <li>• Baseline traffic counts.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• July 2019</li> <li>• Site Accessibility Survey;</li> <li>• RPS Baseline traffic counts only;</li> <li>• Road Condition surveys (during EIA); and</li> <li>• Road Safety Audit (during EIA).</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Temporary traffic impacts associated with haulage during construction – no generation of permanent operational traffic volumes.</li> <li>• Vehicular traffic associated with construction of onshore elements, with reference to key sensitive receptors in proximity to the proposed development.</li> <li>• Prediction of the likely impact the Project could have on adjacent receptors (operating performance of the access junctions and adjacent public road network).</li> <li>• Size of vehicles, loads and routes used by traffic.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council.</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015); and</li> <li>• Transport Assessment Guidelines (TII, May 2014).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore 2007 EIS Chapter 4, S4.3 (Traffic)</li> </ul>

## Material Assets

Table 5-23 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to material assets.

**Table 5-23: Material Assets Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>• Louth County Council; and</li> <li>• Environmental Protection Agency.</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>• July 2019</li> <li>• Desktop assessment of material assets potentially affected by the proposed development.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• An assessment of direct and indirect impacts on material assets is required for the onshore element of the Project. This will examine the potential for impacts of the construction and operation of the Project on services such as electricity, gas, telecommunications; roads &amp; traffic; waste management; and use of natural resources.</li> <li>• This assessment will refer to the EPA EIA guidelines including the draft EPA EIA Guidance Manual (draft 2017) and consider any relevant responses received during project consultation.</li> <li>• Material assets can also include architectural and archaeological heritage, and the cultural heritage, however this will be captured separately in the Culture Heritage section.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>• Louth County Council.;</li> <li>• Irish Rail;</li> <li>• EirGrid;</li> <li>• ESB;</li> <li>• Irish Water;</li> <li>• NTA;</li> <li>• TII;</li> <li>• EPA; and</li> <li>• Gas Networks Ireland</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>• Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017); and</li> <li>• Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>• Original Offshore 2007 EIS Chapter 12 (Living and non-Living Resources) and Chapter 15 (Material Assets)</li> <li>• No assessment on materials assets was completed for the onshore elements.</li> </ul>

## Waste

Table 5-24 outlines the baseline data sources, initial evaluation of key issues, technical consultations, relevant guidelines for the assessment, and work completed to date in relation to waste.

**Table 5-24: Waste Key Issues and Proposed Scope**

Scope of EIAR Chapter	Summary of Scope of Work
<b>Baseline Data Sources</b>	<ul style="list-style-type: none"> <li>Information provided by the design team on the predicted waste quantities and characterisations, e.g. hazardous or non-hazardous.</li> <li>Louth County Council (hazardous areas, Seveso sites etc.)</li> <li>Eastern &amp; Midland Regional Waste Management Plan</li> <li>Environmental Protection Agency (Section 22 Register of Historic Landfills)</li> </ul>
<b>Baseline Survey Work Proposed</b>	<ul style="list-style-type: none"> <li>No survey work is considered necessary for this topic.</li> </ul>
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Construction and operational impacts of the Project on materials and waste is required.</li> <li>The crossings will likely generate the largest volume of waste materials.</li> <li>The scope of the evaluation will be based on a desktop review of legislation, historic landfill databases and guidance documents,</li> <li>The scope will give consideration to the likelihood for significant impacts arising, having regard to the nature of the receiving environment and the nature and extent of the proposal.</li> </ul>
<b>Technical Consultations</b>	<ul style="list-style-type: none"> <li>Louth County Council (if required)</li> <li>Eastern &amp; Midlands Regional Waste Management Office</li> </ul>
<b>Relevant Standards and Guidance</b>	<ul style="list-style-type: none"> <li>Guidelines on the information to be contained in Environmental Impact Assessment Reports, (draft) (EPA, August 2017);</li> <li>Advice notes for preparing Environmental Impact Statements (draft) (EPA Sept. 2015);</li> <li>Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (2006, DECLG); and</li> <li>The Waste Management Act 1996 (as amended).</li> </ul>
<b>Work Completed to Date</b>	<ul style="list-style-type: none"> <li>No assessment on materials assets was completed for the onshore elements.</li> </ul>

## 6 INFORMAL SCOPING CONSULTATION

### 6.1 Consultation

Consultation is an essential part of the EIA process. Consultation with the public, statutory bodies and interest groups provides an opportunity to:

- Identify concerns and measures about the Project and uses these to inform the preparation of the EIAR;
- Incorporate mitigation measures where possible into the design of the Project in the early stages;
- Take into consideration the expertise and knowledge of local communities, experts and interest groups;
- Encourage participation in decisions yet to be made;
- Take into consideration concerns during the decision-making process and make the decision and conditions on the decision accordingly; and
- Ensure members of the community are fully informed with up to date information about all aspects of the development throughout the full duration of the Project.

This Scoping Report is intended to set out the proposed content (scope) of the EIAR which will be prepared to support any updated assessment for the Project. This report provides information for a number of stakeholder streams as follows:

1. In support of pre-application discussions;
2. Material to support consultation to a range of bodies to inform the scoping of the EIAR. In this early scoping stage, letters have been sent to a cross section of stakeholders, informing them of the Project and that this Scoping Report is available for comment. This consultation will form part of the wider Project stakeholder consultation. This consultation will continue throughout the Environmental Impact Assessment process.

A full list of proposed onshore and offshore stakeholders is provided in **Table 6-1**.

**Table 6-1: Proposed Schedule of consultees**

#### Consultee List for the Project

An Taisce

Bat Conservation Ireland

Belfast International Airport

Birdwatch Ireland

Bord Iascaigh Mhara

Carlingford Lough Commission

Coastwatch Ireland

## Consultee List for the Project

Commission for Railway Regulation

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Commission for Regulation of Utilities

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Commissioners of Irish Lights

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Córas Iompair Éireann [CIÉ] (Irish Transport System)

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Department of Agriculture, Environment & Rural Affairs in NI

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Department of Health in NI

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Department of Communities in NI

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Department of Communications, Climate Action and Environment

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Department of Defence - Naval and Air Corps

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Department of Education and Skills

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Department of Regional Development N.I. Ports and Public Transport Division

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Department of Transport (Marine Survey Office)

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Department of Transport, Tourism & Sport

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Dublin Airport Authority

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EirGrid

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Environmental Protection Agency

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ESB Networks

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Faite Ireland

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Fingal County Council

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Gas Networks Ireland

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Geological Survey of Ireland

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Health & Safety Authority

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Health Service Executive

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## Consultee List for the Project

Heritage Council

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Industrial Development Authority of Ireland

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Inland Fisheries Ireland

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Irish Aviation Authority

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Irish Coastguard

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Irish Rail

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Irish water

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Irish Whale and Dolphin Group

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Local Port and Harbour Authorities

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Louth County Council

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Marine Institute

---

Meath County Council

---

Minister for Agriculture, Food and the Marine

---

Minister for Business, Enterprise and Innovation

---

Minister for Culture, Heritage and the Gaeltacht

---

Minister for Defence

---

Minister for Housing, Planning and Local Government

---

Minister for Justice and Equality

---

National Parks and Wildlife Service

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National Transport Authority

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Navy

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NRW, MMO, Marine Scotland

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Office of Public Works

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## Consultee List for the Project

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Sea Fisheries Protection Authority

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Sustainable Energy Authority Ireland (SEAI)

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The Arts Council / An Chomhairle Ealaíon

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The Fisheries Directorate of the Department of Environment, Food and Agriculture (DEFA) Isle of Man

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The Irish Tourist Industry Confederation

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The Loughs Agency/Foyle, Carlingford and Irish Lights Commission

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Transport Infrastructure Ireland

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Waterways Ireland

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## 6.2 Next Steps

As part of the EIA scoping process, a consultation programme will be undertaken with the broad cross-section of stakeholders identified in Table 6-1 above, ensuring that they have the required information on which to make their submissions. An email and postal address have been provided below to receive scoping consultation submissions. Stakeholders will then have 4 weeks to respond with their submissions.

All submissions made in relation to this Scoping Report will be considered in the preparation of the EIAR.

All scoping responses are to be sent to the details below:

Contact: Conrad Wilson

Postal Address: RPS,  
West Pier Business Campus,  
Dun Laoghaire,  
Co Dublin,  
A96 N6T7

Email Address: [oriel@rpsgroup.com](mailto:oriel@rpsgroup.com)

Telephone: 01 488 2900

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