

Celtic Interconnector Project

Environmental Impact Assessment Report supporting the Foreshore Licence Application

March 2021

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EIRGRID

Report for

EirGrid plc and Réseau de Transport d'Électricité

Main contributors

Laura Gatdula
Jennifer Wilson
Hannah Nelson
Brian O'Keeffe
Alistair Billington
Rachael Mills

Issued by

Jennifer Wilson
.....

Approved by

Alistair Billington
.....

Wood

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Glossary

AA	Appropriate Assessment
AIS	Automatic Identification System
BAS	Burial Assessment Study
CBRA	Cable Burial Risk Assessment
CEF	Connecting Europe Facility
CPCS	Cable Protection Complementary Study
DEFRA	Department for Environment Food and Rural Affairs
DOL	Depth of Lowering
EC	European Commission
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPC	Engineering Procurement Construction
EQS	Environmental Quality Standard
ESAS	European Seabirds at Sea
EU	European Union
FLO	Fisheries Liaison Officer
GES	Good Environmental Status
HVDC	High Voltage Direct Current
HRA	Habitats Regulations Assessment
ICES	International Council for the Exploration of the Seas
IUCN	International Union for the Conservation of Nature
JER	Joint Environmental Report
JNCC	Joint Nature Conservation Committee
KP	Kilometre Point
MCAA 2009	Marine and Coastal Access Act
MCMS	Marine Case Management System
MCZ	Marine Conservation Zone

MFE	Mass Flow Excavator
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MW	Megawatt
NCA	National Competent Authority
NSCOG	Northern Seas Offshore Grid
OGA	Oil and Gas Authority
PCI	Project of Common Interest
PEXA	Practice and Exercise Areas
RTE	Réseau de Transport d'Electricité
SAC	Special Area of Conservation
SCANS	Small Cetaceans in European Atlantic waters and the North Sea
SFWD	Shellfish Waters Directive
SI	Statutory Instrument
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TEN-E Regulation	European Union Regulation No. 347/2013 on guidelines for Trans-European Network for Energy
TOC	Total Organic Carbon
TOM	Total Organic Matter
TSO	Transmission System Operator
TSS	Traffic Separation Scheme
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
UXO	Unexploded Ordnance
VMS	Vessel Monitoring Service
WFD	Water Framework Directive
ZoI	Zone of Influence

1 Introduction

The Celtic Interconnector project will create an electrical interconnection between Ireland and France to allow the exchange of electricity between the two countries. It is being developed by EirGrid, the electricity Transmission System Operator (TSO) in Ireland, and its French counterpart, RTE (Réseau de Transport d'Électricité). EirGrid and RTE are joint Project Promoters of the Celtic Interconnector Project, although for the purpose of the Foreshore Licence Application, EirGrid is the sole Applicant.

The connection will link an existing electricity transmission substation located in Knockraha in east Cork, Ireland, with a substation in La Martyre in Brittany, France. Recognised as a Project of Common Interest (PCI) by the European Union, the Celtic Interconnector project responds to European challenges regarding energy transition and addresses climate change by facilitating progress towards a low-carbon electricity mix. It will contribute to more secure, more sustainable and better priced electricity.

This voluntary Environmental Impact Assessment Report (EIAR) has been prepared to accompany a Foreshore Licence application to the Department of Housing, Local Government, and Heritage (DHLGH) for the Ireland Offshore elements of the Celtic Interconnector project (Volume 3D). A separate, though integrated, EIAR has been prepared to accompany an application for statutory approval to An Bord Pleanála (ABP) for the Ireland Onshore elements of the Celtic Interconnector project (Volume 3C).

About EirGrid

EirGrid is the state-owned independent Transmission System Operator (TSO) and developer of Ireland's national high voltage electricity grid (also called the "Transmission System"). The European Communities Regulations 2000 (SI 445 of 2000) sets out the role and responsibilities of the TSO in particular Article 8(1) (a) gives EirGrid, as TSO, the exclusive function:

"To operate and ensure the maintenance of and, if necessary, develop a safe, secure, reliable, economical, and efficient electricity transmission system, and to explore and develop opportunities for interconnection of its system with other systems, in all cases with a view to ensuring that all reasonable demands for electricity are met having due regard for the environment."

About RTE

RTE is the French TSO. Its fundamental mandate is to provide its customers with an economical, safe and clean supply of electricity.

RTE supplies its customers through appropriate infrastructure and provides them with all systems and services they require to meet their needs in terms of economic efficiency, respect for the environment and the security of their energy supply. To this end, RTE operates, maintains and develops high voltage (HV) and very high voltage networks. It guarantees that the electricity system operates safely and correctly. RTE is also responsible for routing electricity from other electricity suppliers (both French and European) to its consumers.

Project Overview

The Celtic Interconnector is a subsea link that will enable the exchange of electricity between the electrical transmission grids in Ireland and France. The link will have the capacity to carry up to 700 MW of electrical energy between the two systems.

The transmission grids in both Ireland and France are operated at High Voltage Alternating Current (HVAC). High Voltage Direct Current (HVDC) is used for the transmission of electrical power over large distances where HVAC is not technically or economically feasible. Converter stations are therefore required in both France and Ireland to convert the HVDC power to HVAC.

The main elements of the Celtic Interconnector project are:

- A High Voltage Direct Current (HVDC) submarine cable of approximately 500 km in length laid between the Ceinture Dorée coast in Brittany France, and the Cork coast in Ireland. The submarine cable will be either buried beneath the seabed or laid on the seabed and covered for protection;
- A landfall location in Ireland and France, where the HVDC submarine circuit will come onshore and terminate at a transition joint bay;
- A HVDC underground cable (UGC) in both countries between the landfall location and a converter station compound;
- A converter station to convert the electricity from HVDC to High Voltage Alternating Current (HVAC) and vice versa;
- A HVAC UGC in both countries between the converter station compound and the connection point to the National Grid;
- A connection to the National grid; and,
- A fibre optic link, with associated power supply, will also be laid along the route for operational control, communication and telemetry purposes.

The key elements of the project are illustrated in Figure 1.1 and Figure 1.2.

A detailed description of the Irish offshore (submarine cable) elements of the project subject to the assessment in this voluntary EIAR is provided in EIAR Volume 3D Part 2 Chapter 5: Description of the Landfall, and Chapter 6: Description of the Offshore Cable.

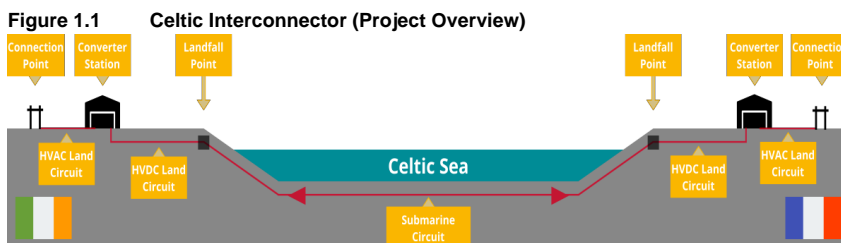
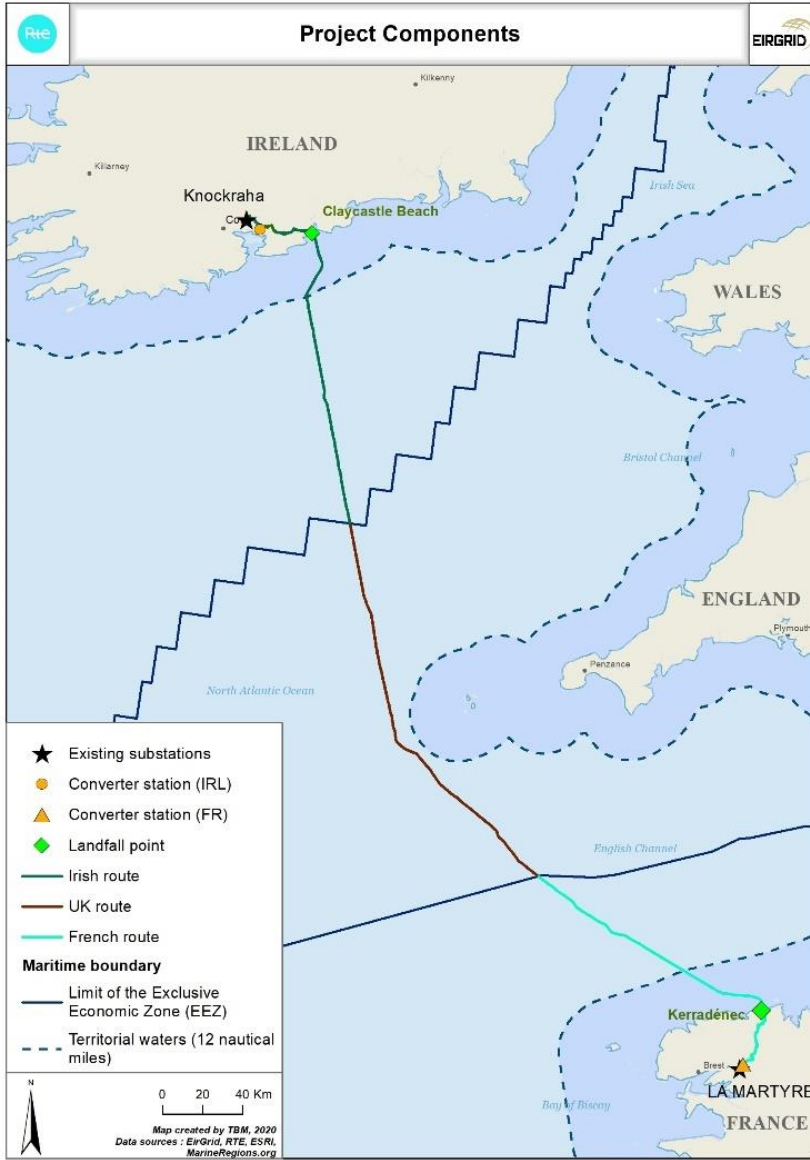


Figure 1.2 The Celtic Interconnector



Structure of Whole of Project Environmental Appraisal

The Celtic Interconnector project is, by its nature multi-jurisdictional, and is being jointly developed by the two TSOs of Ireland and France. In addition, while not occurring within UK territory, it will be located, in part, within the UK Exclusive Economic Zone (EEZ). In response, and to ensure a comprehensive environmental appraisal of the overall end-to-end project, this multi-volume application has been prepared by a multi-organisational team of competent experts working collaboratively. This has ensured that this overall environmental appraisal is robust, impartial and objective.

Having regard to this multi-jurisdictional project, this whole-of-project environmental appraisal is set out in a number of volumes. This is intended for the convenience of the various Competent Authorities, prescribed bodies and the general public as it allows specific focus on those particulars of relevance to each jurisdiction, set within a whole-of-project framework. It also facilitates the fact that the different jurisdictions have different legislative requirements and processes in respect of environmental assessment.

The multi-volume approach is set out in Table 1.1. This EIAR is Volume 3D Ireland Offshore.

Table 1.1 Multi-Volume Application and Supporting Documentation

Volume	No	Details	Organisation
Strategic Infrastructure Development (SID) Planning Application:			
Volume 1	1A	Statutory Particulars for SID Application	Mott MacDonald
	1B	Planning Drawings for SID Application	Mott MacDonald
Volume 2	2A	Planning Report	EirGrid
	2B	Public and Landowner Consultation Report	EirGrid
Volume 3	3A	NTS for Ireland Onshore	Mott MacDonald
	3B	NTS for Ireland Offshore	Wood
	3C	EIAR for Ireland Onshore	Mott MacDonald
	3D	EIAR for Ireland Offshore	Wood
Volume 4		Environmental Report for UK Offshore	Wood
Volume 5		Joint Environmental Report (JER)	TBM Consulting Group
Volume 6	6A	Onshore NIS (including in-combination effects)	Mott MacDonald
	6B	Offshore NIS (including in-combination effects)	Wood
Foreshore Licence Application:			
Volume 7	7A	Foreshore Licence Statutory Particulars	Wood

Volume	No	Details	Organisation
	7B	Foreshore Licence Drawings	Wood
Volume 8	8A	Planning and Consultation Report	Wood
	8B	Marine Strategy Framework Directive Assessment	Wood
	8C	Water Framework Directive Assessment	Wood
Commission for the Regulation of Utilities (CRU) Consent Applications:			
Volume 9	9A	Draft Authorisation to Construct Application	EirGrid
	9B	Draft Consent to Lay Electric Cables Application	EirGrid
UK Marine Licence Application			
Volume 10	10A	Marine Conservation Zone (MCZ) Assessment	Wood
	10B	Marine Strategy Framework Directive Assessment	Wood
	10C	Written Scheme of Investigation	Wood
	10D	Navigational Risk Assessment	Wood
Volume 11	11A	Habitats Regulations Assessment Screening Report	Wood

Wood has led the project design and environmental appraisal for the Irish offshore elements of the Celtic Interconnector project presented in this EIA (Volume (3D)). Mott MacDonald has led the project design and environmental assessment for the Irish onshore (land) elements of the project (Volume 3C). Both of these Volumes comprise Environmental Impact Assessment Reports (EIARs) prepared in accordance with relevant legislation and established guidance.

In respect of the UK offshore element of the project (Volume 4), the Competent Authority, the UK Marine Management Organisation (MMO), has determined that no EIA is required in respect of the proposed development. As such, an Environmental Report (ER) has been prepared by Wood that is consistent with the provisions of the EIARs carried out for the other jurisdictions, in order to ensure an adequate and robust whole-of-project environmental appraisal to assist the Competent Authorities in their assessments and decision-making.

TBM Consulting Group has led the environmental assessment for the French onshore and offshore elements. While EIARs have been prepared for the French onshore and French offshore project elements, the specifics of the French consenting process requires that, at the time of submitting the consents applications in Ireland, the French EIARs are not publicly available. A Joint Environmental Report (JER) has however been prepared in accordance with EU Guidance to present a whole-of-project environmental assessment for the benefit of the Competent Authorities, relevant Prescribed Bodies and the general public.

Details of the competencies of the EIAR contributors to Volume 3D are provided in Appendix A EIAR Competencies.

This EIAR (Volume 3D) addresses the Irish offshore elements of the proposals between the land cable and submarine cable interface (the Transition Joint Bay - TJB) located above Claycastle Beach in Youghal and the outer most limit of the Irish Exclusive Economic Zone (EEZ). Volume 3C (EIAR for Ireland Onshore) addresses the Irish onshore (land) elements of the proposals between Knockraha substation in County Cork and the high water mark (HWM) at Claycastle Beach in Youghal. This ensures an appropriate interface between the two EIARs, at the landfall area. An illustration of these different areas is set out at Figure 1.1 above. The structure of this EIAR (Volume 3D) is presented in Table 1.2.

Table 1.1 Structure of the EIAR for the Irish jurisdiction

Volume	Chapter	Title
Volume 3D EIAR for Ireland Offshore (Part 1)	1	Introduction
	2	Project Need
	3	Project Overview
	4	EIAR Methodology
Volume 3D EIAR for Ireland Offshore (Part 2)	5	Description of Landfall
	6	Description of Offshore Cable
	7	Alternatives Considered
	8	Population and Human Health
	9	Air Quality and Climate
	10	Marine Sediment Quality
	11	Marine Physical Process
	12	Marine Water Quality
	13	Biodiversity
	14	Seascape and Landscape
	15	Archaeology and Cultural Heritage
	16	Material Assets
	17	Noise and Vibration
	18	Shipping and Navigation
	19	Commercial Fisheries
	20	Major Accidents and/or Disasters

Volume	Chapter	Title
	21	Summary of Transboundary and Cumulative Impacts
	22	Summary of Monitoring and Mitigation Measures
	23	Interaction of Effects

DRAFT

2 Project Need

Introduction

This chapter sets out the need for the Celtic Interconnector Project. The text of this chapter is also set out in Volume 8A Planning and Consultation Report; however, it is being included in this EIAR for completeness, and to facilitate readers of this EIAR who might not otherwise read Volume 8A.

Project Need

The Celtic Interconnector project, being jointly developed by EirGrid and RTE, will create an electrical interconnection between Ireland and France to allow the exchange of electricity between the two countries.

The Celtic Interconnector is being developed in response to European challenges such as the energy transition and the management of climate change. Identified as a Project of Common Interest (PCI) by the European Union (see Volume 8A for more discussion re PCI projects), the project meets the criteria detailed in Article 4 of the EU Regulation 347/2013 on guidelines for trans-European energy infrastructure - i.e. the project contributes significantly to at least one of the following specific criteria:

- **Market integration**, *inter alia*, through lifting the isolation of at least one Member State and reducing energy infrastructure bottlenecks; competition and system flexibility;
- **Sustainability**, *inter alia*, through the integration of renewable energy into the grid and the transmission of renewable generation to major consumption centres and storage sites;
- **Security of supply**, *inter alia*, through interoperability, appropriate connections and secure and reliable system operation.

The Celtic Interconnector will:

- **Facilitate an increase in the use of renewable energy**: an interconnection between Ireland and the continent will increase the integration of renewable energy at the European level and enable France and Ireland to move forward in terms of the energy transition (in line with national policies in respect of the development of renewables);
- **Provide security of supply**: pooling resources will enable both countries to better cope with contingencies and spikes in electricity consumption. Interconnection will promote mutual assistance between both countries and will work in both directions;
- **Improve European solidarity on energy**: the Celtic Interconnector project will be a benchmark project in terms of European Solidarity on energy. It will enable Ireland to benefit directly from the European integrated electricity market. The Celtic Interconnector will be Ireland's only direct transmission link with another Member State of the European Union;
- **Promote the movement of electricity flows at a European level**: by promoting the movement of electricity in Ireland, in France and throughout all of continental Europe,

the Celtic Interconnector will enable European consumers to benefit from a more open electricity market;

- **Support the development of a more sustainable electricity mix in France and in Ireland:** The Celtic Interconnector will contribute to European objectives of a low-carbon energy future, promoting the development of other renewable energy sources and their integration into the European electricity system.

In this context, the project enjoys strong support from both the French and Irish governments, as well as from the European Commission. Of particular note in this regard, the completion of the project is specifically included in the current Programme for Government, as follows:

- In respect of Mission: A Green New Deal, the Programme states: "*We will take the necessary action to deliver at least 70% renewable electricity by 2030. To achieve this, we will:.....Complete the Celtic Interconnector to connect Ireland's electricity grid to France*" (p35);
- In respect of Mission: At the Heart of Europe and Global Citizenship, and in particular respect of Ireland at the Heart of Europe, the Programme states: "*We will.....Support work on the Celtic Interconnector, which will link Ireland to Europe's energy grid, increase competition in electricity prices, and help Ireland to switch to at least 70% renewable electricity*" (p111).

The Celtic Interconnector project is also specifically included in Project 2040: The National Development Plan 2018-2027. In particular respect of Strategic Outcome 8: Transition to a Low-Carbon and Climate-Resilient Society, the project is identified as a commercial state sector investment (p 78-79 and Figure 2.1 below).

Figure 2.1 Extract from Project 2040: The National Development Plan 2018-2027 (P79)

The proposed Celtic Interconnector
.....
Current Status: Initial Design and Pre-Consultation
Estimated Cost: €1 billion
Estimated Completion Date: 2025/2026

The Celtic Interconnector is a proposed €1 billion sub-sea electricity cable linking Ireland and France.

The capacity of the Celtic Interconnector is estimated at approximately 700 megawatts, enough to power 450,000 households, and is being studied by EirGrid and its French counterpart Réseau de Transport d'Électricité (RTE).

It would improve security of electricity supply in Ireland and France by providing a reliable high-capacity link between the two countries; diversifying our sources of supply; increase competition in the all-island Single Electricity Market; and support the development of renewable energy, particularly in Ireland.

The proposed 700 megawatts capacity would add to available generation capacity levels and assist in meeting future demand growth.

It is also a substantial step forward in the completion of the Ireland-France Sustainable Energy Roadmap, which both RTE and EirGrid intend to further actively support with all relevant stakeholders and ensure that Ireland benefits from the development of regional markets at EU level.

References

Department of Public Expenditure and Reform National Development Plan 2018 – 2027 [online]
Available at: <https://www.gov.ie/en/policy-information/07e507-national-development-plan-2018-2027/>

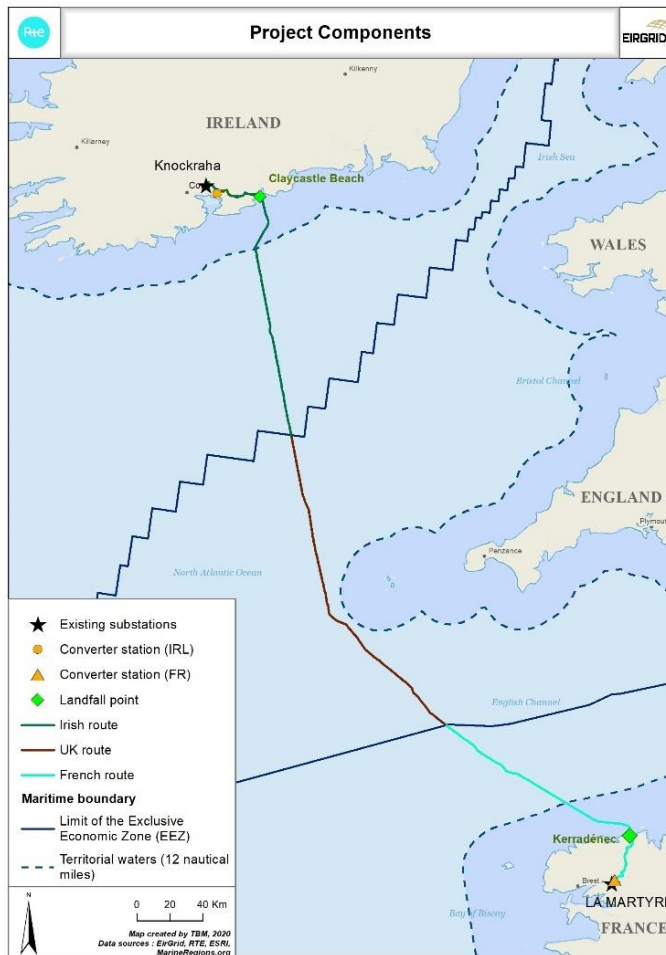
Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009

3 Project Overview

Introduction

The Celtic Interconnector project will create an electrical interconnection between Ireland and France to allow the exchange of electricity between the two countries. While not occurring within UK territorial waters, it will be located, in part, within the UK EEZ, as illustrated in Figure 3.1.

Figure 3.1 The Celtic Interconnector



Source: TBM Consulting Group

The following sections provide an overview of the proposals in each jurisdiction. Refer to Figure 3.1 above for an illustrative overview of those elements.

Irish Onshore (Land) Elements of the Celtic Interconnector Project

The EIAR for Ireland Onshore is presented separately in Volume 3C. A brief summary of the Irish onshore elements of the project is provided below.

The Celtic interconnector will connect to the Irish electricity transmission system at Knockraha substation in County Cork via a High Voltage Alternating Current (HVAC) underground cable of approximately 14km in length. Alternating current (AC) is the technology utilised on the Irish electricity transmission network.

Electricity is best carried over long distances by means of High Voltage Direct Current (HVDC) technology. As such, a HVDC submarine cable will connect to a HVDC onshore underground cable at a Transmission Joint Bay (TJB) north of the car park at Claycastle Beach near Youghal in County Cork. The HVDC onshore UGC is approximately 36km in length.

The majority of the HVAC and HVDC underground cables (UGCs) will be installed within the existing public road network. Off-road (cross-country) routes are proposed at particular locations to avoid constraints. In particular, these include:

- The villages of Killeagh and Castlemartyr will be avoided by means of cross-country routing; this will minimise disruption and nuisance for these villages, their residents and communities, and for traffic passing through the villages which are both located on the N25 Cork-Waterford-Wexford / Rosslare National route.
- North of Claycastle Beach where, due to structural constraints associated with an existing narrow railway bridge, it is necessary to divert the UGC off road for approximately 160 metres in the area of, and under, the planned Midleton to Youghal Greenway (currently under construction). Approximately 64 metres of the 160 metres of land cable for this off-road section will be installed within Ballyvergan Marsh proposed Natural Heritage Area (pNHA) (site code 000078).

The HVAC and the HVDC UGCs will terminate at a proposed converter station compound on a brownfield site within the Industrial Development Authority (IDA) development landholding at Ballyadam, between Carrigtwohill and Midleton, East Cork.

As the name suggests, the converter station will convert HVDC electricity to HVAC, and vice versa. The converter station compound will measure approximately 250m x 150m and will include three main buildings, the tallest element being up to 25m in height. The compound will also include associated and ancillary development such as electrical equipment and apparatus, stores and other buildings, drainage, road and landscaping infrastructure.

Figure 3-2 below illustrates the main elements of the proposed development in the Irish Onshore section of the Celtic Interconnector project.

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Figure 3.2 Irish Onshore elements

Cable trenches will be excavated (as noted above these will primarily be within or at the verge of public roads), and ducts will be installed, with the road reinstated. The UGC will be delivered to site on drums and will be pulled through the cable ducts. Fibre optic cables will also be laid along with the electricity cables.

Joint bays (underground chambers) will also be constructed along the cable routes, and are used to join together ('joint') consecutive lengths of cable and to facilitate the cable pulling. Typically, joint bay separation for a HVAC cable is between approximately 500m and 850m and joint bay separation for a HVDC cable is between approximately 750 to 1,000 metres.

To facilitate traffic management at locations where joint bays are to be located within the carriageway, the use of temporary passing bays is proposed. These are off-road strips of land on one side of a joint bay (approximately 50-80m in length), that are cleared and can facilitate vehicle movements around the joint bay, thereby avoiding or minimising the need for road closures. The creation of a passing bay is carried out prior to the commencement of joint bay construction. This will entail removing the top layer of ground to the side of the carriageway (including hedges where present) and temporarily storing it local to the site for reinstatement following the works. New hedges will be planted as part of re-instatement works.

Other traffic control measures will also be implemented as appropriate along the cable routes. These are likely to include road diversions, temporary closures and stop / go traffic management. All traffic management measures will be implemented in the context that the laying of UGC is a linear construction process, generally at a rate of approximately 50m per day for public roads

where there are generally little or no access constraints, and at a rate of approximately 20m per day on more constrained local roads.

A number of crossings of watercourses, drainage ditches, utilities, railway lines and the Midleton to Youghal Greenway will also be required along the cable route. These crossings will be facilitated by either open cut trenching or by use of Horizontal Directional Drilling (HDD) as and when appropriate. The specific detail of each crossing will be developed by the appointed contractor.

Laydown areas, where construction materials can be temporarily stored, and construction compounds, where welfare facilities can be provided, will also be provided along the route. Indicative areas are identified within the statutory planning drawings.

For the converter station construction, it is expected that a peak of approximately 300 Heavy Goods Vehicles (HGV) movements per day will be required during the most intense period of the construction phase. It is also expected that approximately 10 abnormal load movements will be required. Abnormal load deliveries will include elements such as construction cranes, the transport of electricity transformers to the site, and equipment to place the transformers on their plinths.

The number of construction workers anticipated to be employed during the construction phase is expected to peak at approximately 100 persons for the converter station. Crew sizes for the installation of the cable routes are estimated at approximately 10 persons per crew. Seeking to employ local construction operatives and businesses will be a requirement of the contractor undertaking the construction works.

Subject to the grant of statutory approvals, it is anticipated that construction of the converter station, including enabling works and equipment installation, will take approximately 36 months, commencing in Q4 2022. Installation of the land cables is anticipated to take approximately 24 months. Overall, construction of the Celtic Interconnector project is currently anticipated to be complete by 2026. Thereafter, there will be a lengthy period of testing and commissioning prior to full energisation of the Interconnector. Safety requirements for the installation operations / procedures and weather condition will however ultimately dictate the final programme.

It is expected that ESB Networks (ESBN) will ultimately own the HVAC assets, and will be responsible for maintenance of the HVAC cable and equipment within Knockraha substation.

The converter station and HVDC cable will fall under the ownership of EirGrid Interconnector DAC and EirGrid Interconnector, who will also be responsible for its maintenance.

Irish Offshore (Submarine) Elements of the Celtic Interconnector Project

A brief overview of the Irish offshore elements of the project is provided below. The detailed description of the Project is provided in EIAR Volume 3D Part 2 Chapter 5: Description of the Landfall, and Chapter 6: Description of the Offshore Cable.

The Celtic Interconnector will connect to its onshore element at the Transmission Joint Bay (TJB) north of the car park at Claycastle Beach near Youghal in County Cork. The HVDC cables will be buried within pre-installed conduits beneath the beach and car park at Claycastle Beach. The cables will be pulled ashore through the conduits and into the TJB by a temporary winch. Once the cable is secured in the TJB, the offshore cable lay and burial process shall commence. For this, a plough / jetter shall be transferred to the beach to bury the cable seaward.

The cable landfall installation method selected for Claycastle Beach is an open cut installation method to be constructed in two phases. The first phase of the installation involves the installation of pre-installed conduits within a trench excavated across the beach, and extending across an existing car park located above the beach to the area of the TJB. Phase one of the landfall installation is expected to take up to 10 weeks depending on the option selected.

Phase one of the Irish landfall considers two options:

1. Install the conduits almost to the LAT level and thus minimise disruption to the beach during the bathing season but increase the construction effort in phase one.
2. Install the conduits below the carpark and extending only a short distance below the beach, thus significantly reducing the construction effort, in particular there would be no requirement for a causeway and the extent of cofferdam piling would be minimal thus reducing associated noise and traffic. However, it would result in short duration exclusion zone and detours on the beach during the cable installation.

Phase two of the installation sequence involves pull-in of the offshore cables through the pre-installed conduits and into the TJB using a cable winch spread. The location of the receiver pit will vary between Option 1 and Option 2; however, all other activities are similar. Option 2 would require exclusion of the public from a 50m corridor of the beach for 2-3 days for the installation of each cable, however, the car park would remain fully accessible and allow for diversion around the exclusion zone.

Temporary laydown areas will be required along the beach, the car park, and the section of grass which separates the car park from the year-round holiday park for the installation of the installation of the onshore trench, the TJB and the winch platform. For phase one the number of installation workers required during the installation phase is expected to peak at approximately 30 persons for the submarine cable landfall. Approximately 40 light vehicle movements per day will be required to transport these workers to and from the sites. The installation vehicle movements for the second phase are estimated at 100 ingress / egress movements which may include at least 2 abnormal load movements for the delivery and retrieval of the cable winch. The number of installation workers required during the installation phase is expected to peak at approximately 10 persons for the submarine cable landfall. Approximately 10 light vehicle movements per day will be required to transport these workers to and from the sites.

The offshore cable route through the Irish Territorial Waters is approximately 34km and 117km in the Irish EEZ. The offshore works involve a number of vessels (survey vessels, cable lay vessels and support vessels). The installation of the submarine cable will typically follow a sequence similar to the following:

- Contractor survey, route engineering and finalisation;
- Unexploded Ordnance (UXO) intervention campaign;
- Boulder clearance;
- Sandwave pre-sweeping (not required in Irish Territorial waters or Irish EEZ);
- Pre-lay grapnel runs;

Commented [A3]: Placeholder: An appendix, considering and assessing the presence and handling of UXO, is currently in preparation, and will be ready for submission with the final Application File. Within the current EIAR, the approach has been to not include UXO within impact assessments, on the assumption that the chance of encountering them during works is low.

- Construction of infrastructure crossings;
- Pre-lay route survey;
- Cable lay;
- Post-lay survey;
- Cable burial;
- External / Secondary protection; and
- Post-burial survey.

The first activity of the offshore works will be the pre-lay survey expected to last 28 days in Irish waters and performed well in advance of the main construction activity. The preparatory works shall be carried out in advance of cable lay for approximately 30 days in Irish TW and EEZ. Offshore Cable installation is envisaged using standard burial tools (plough or a mechanical trenching tool). There is approximately 33km of the marine route in the Irish EEZ (KP 57.5 to KP 90.7) that has more challenging strata, consisting of underling chalk. Sections of this route may pose a challenge to cable burial using standard burial tools and may require the use of specialist rock cutting tools for trenching. The overall schedule for cable lay and burial in Irish Territorial Waters and EEZ excluding weather or mechanical damage stand by is 60 days.

A rock placement vessel, only if required in the Irish EEZ, will follow cable installation and be required in Irish TW and EEZ for between 0 days and approximately 16 days.

The durations of the works provided are indicative only and based on 24/7 operations. Safety requirements for the installation operations / procedures and weather condition may ultimately dictate the final programme.

UK Offshore (Submarine) Elements of the Celtic Interconnector Project

The voluntary ER for the UK Offshore is presented separately in Volume 4. A brief summary of the Irish onshore elements of the project is provided below.

The cable route through the UK EEZ is approximately 211km and does not enter the Territorial Waters of the UK. The installation of the submarine cables will typically follow a sequence similar to that in the Irish TW and EEZ. Certain activities, specifically the installation of cable protection, will require a marine licence. Activities within the UK EEZ include:

- Unexploded Ordnance (UXO) intervention campaign;
- Boulder clearance;
- Sandwave pre-sweeping [\(where necessary\)](#);
- Pre-lay grapnel runs;
- Construction of infrastructure crossings;
- Pre-lay route survey;
- Cable lay;
- Post-lay survey;

Commented [A4]: Placeholder: An appendix, considering and assessing the presence and handling of UXO, is currently in preparation, and will be ready for submission with the final Application File. Within the current EIAR, the approach has been to not include UXO within impact assessments, on the assumption that the chance of encountering them during works is low.

- Cable burial;
- External / Secondary protection ([where necessary](#), marine licence required); and
- Post-burial survey

The first activity will be the pre-lay survey expected to last 40 days in UK EEZ and be performed well in advance of the main construction activity. The preparatory works shall be carried out in advance of cable lay for approximately 40 days in the UK EEZ.

Offshore installation is envisaged using standard burial tools (plough or a mechanical trenching tool). There is approximately 120km of the marine route in the UK EEZ (KP 185.0 to KP 305.0) that has more challenging strata, consisting of underling chalk. Sections of this route may pose a challenge to cable burial using standard burial tools and may require the use of specialist rock cutting tools for trenching. The overall schedule for cable lay and burial in UK EEZ excluding weather or mechanical damage stand by is 139 days.

A rock placement vessel, only if required in the UK EEZ, will follow cable installation and be required in UK EEZ for between 0 days and approximately 50 days.

The durations of the works provided are indicative only and based on 24/7 operations. Safety requirements for the installation operations / procedures and weather condition may ultimately dictate the final programme.

French Offshore (Submarine) Elements of the Celtic Interconnector Project

The JER for the French offshore and onshore elements is presented separately in Volume 5. A brief summary of the French offshore elements of the project is provided below.

The cable route within French waters covers approximately 48km of French Territorial Waters, and 87km of the French EEZ. The installation of the cable will follow the same approach and processes as described above for the UK offshore elements of the project.

French Onshore (Land) Elements of the Celtic Interconnector Project

The JER for the French offshore and onshore elements is presented separately in Volume 5. A brief summary of the French onshore elements of the project is provided below.

The French onshore elements concern the corridor of least impact between the landfall point at Kerradéneq in Cléder and at connection point at the existing substation at La Martyre. Please consult the JER for a detailed description of the French onshore infrastructure, more detailed mapping and all associated environmental appraisals.

While four potential landfall points along the coast of Brittany in France were considered, namely Kervaliou, Kerradéneq, Groach'zu and Port Neuf, Kerradéneq was considered to have the least impact due to reduced human risks, fewer buildings, fewer recreational sites (beaches), no ports or port activities and no tourist accommodation. In addition this location presented fewer challenges in terms of biodiversity and aquatic environments.

The onshore HVDC cable corridor in France is proposed to follow generally a North – South direction from Kerradéneq to the converter station location near La Martyre. No town or settlement

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centres are traversed by the cable route but it is located near some residential and commercial buildings that are mainly related to agricultural activities: greenhouses, livestock buildings and farms.

After the cable has left the geographical area of the "Roscoff onion", it heads further south towards the Elorn. In this region, agricultural activities are more oriented towards livestock farming and poly-cropping.

A number of businesses and service providers are also present in the villages near the study area. Industrial and economic infrastructure is mainly located in the nearby major cities: Plouescat, Landivisiau, Landerneau and Brest. The presence of the Landivisiau naval aviation base should also be noted. The latter extends over the municipalities of Bodilis, Saint-Servais, Saint-Derrien, Plougar and Plounéventer and is an intermittent source of noise (aircraft). There is a working quarry to the South of the Elorn.

The study area in France is subject to flooding risks associated with two natural phenomena:

- Tidal flooding; and,
- Watercourses bursting their banks.

Both of these risks are addressed by regulations covering works and construction intended to protect the public in the event of incidents. The risk of tidal flooding only affects the coastal section (municipalities of Cléder and Sibiril) near the mouth of the Port Neuf cove. The risk of watercourse flooding is associated with the Elorn River and, in particular, the plots within the study zone directly next to it.

The landscape at La Martyre is likely to undergo permanent significant alteration due to the construction of the converter station, the only above-ground structure in the project. However, the building's location in a topographic low point and in direct proximity to an existing electricity substation will mitigate these effects. Therefore, there will be no likely significant effects on landscape arising as a result of the project. Given the siting and design (including mitigation) of both the converter station and the cable route, there are no likely significant effects for the heritage assets in the region.

4 EIAR Methodology

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Introduction

Environmental Impact Assessment (EIA) Directive 2014/52/EU (amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects; hereafter termed 'the amended EIA Directive') defines EIA as a process consisting of:

1. The preparation of an Environmental Impact Assessment Report (EIAR) by the developer;
2. The carrying out of consultations;
3. The examination by the competent authority of the EIAR, any supplementary information provided by the developer (where necessary) and relevant information received through consultations with the public, prescribed bodies and any affected Member States;
4. The reasoned conclusion of the competent authority on the significant effects of the project on the environment; and,
5. The integration of the competent authority's reasoned conclusion into any development consent decision.

This definition provides for a clear distinction between the process of EIA to be carried out by the competent authority and the preparation by the developer of an EIAR.

The Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports [Environmental Protection Agency (EPA), 2017], hereafter referred to as the EPA Draft Guidelines 2017 describe the EIAR as follows:

"The EIAR consists of a systematic analysis and assessment of the potential effects of a proposed project on the receiving environment. ...The EIAR should be prepared at a stage in the design process where changes can still be made to avoid adverse effects. This often results in the modification of the project to avoid or reduce effects through redesign".

This chapter sets out the approach to this EIAR. For each assessment, a precautionary approach¹ has been applied whereby maximum design parameters based on realistic worst-case dimensions, orientations and components have been assessed. This approach ensures that the assessment will consider the greatest environmental impact (i.e. largest footprint, longest exposure, or highest dimensions depending on the topic). This approach is a resilient method where it may not be possible to identify the exact design parameters at this stage within the final design, thereby accommodating flexibility in design and construction whilst ensuring maximum extents and ranges are assessed in this EIAR.

The technical chapters of this EIAR provide further topic specific details of the methodologies applied in the preparation of this EIAR.

¹ Principle adopted by the UN Conference on the Environment and Development (1992) states that in order to protect the environment, a precautionary approach should be widely applied, meaning that where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation. ([Definition from European Commission: \(europa.eu\)](#))

DHLGH has determined that no EIA is required for the Irish offshore elements for the Project. As such this EIAR has been prepared voluntarily to support the application to DHLGH. This has also had regard to relevant legislation and guidance for preparation of an EIAR, in order to ensure an appropriate and robust appraisal of the environmental impact of that element of the overall project. This ensures confidence that a whole-of-project environmental appraisal has been undertaken for the Celtic Interconnector project, irrespective of any specific jurisdictional requirements.

EIA Directive

The amended EIA Directive requires that the EIAR provides:

“A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge”.

Article 3(1) states that the EIA shall:

“Identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of the project on the following factors:

- 1. Population and human health;*
- 2. Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;*
- 3. Land, soil, water and climate;*
- 4. Material assets, cultural heritage and landscape; and*
- 5. The interaction between the factors referred to in points (a) to (d)”.*

Article 5 states that an EIAR shall include at least:

- 1. “A description of the project comprising information of the site, design, size and other relevant features of the project;*
- 2. A description of the likely significant effects of the project on the environment;*
- 3. A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce, and if possible, offset likely significant adverse effects on the environment;*
- 4. A description of the reasonable alternatives studied by the developer which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;*
- 5. A non-technical summary of the information referred to in (a) to (d); and*
- 6. Any additional information specified in annex iv relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected”.*

Annex IV requires:

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

In addition, Annex IV requires:

"A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved".

EIA Screening

Screening is the term used to describe the process for determining whether a proposed development requires an EIA by reference to mandatory legislative threshold requirements or by reference to the type and scale of the proposed development and the significance or the environmental sensitivity of the receiving baseline environment.

Annex I to the EIA Directive 2014/52/EU requires as mandatory the preparation of an EIA for all projects listed therein. Projects listed in Annex II to the Directive are not automatically subjected to EIA. Member States can decide to subject them to an assessment on a case-by-case basis or according to thresholds and/or criteria (for example size), location (sensitive ecological areas in particular) and potential impact (surface affected, duration).

The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018) amended the Planning and Development Act 2000 and the Planning and Development Regulations 2001 in order to transpose into Irish Law the provisions of Directive 2014/52/EU.

In Ireland, Schedule 5 (Part 1 and Part 2) of the Planning and Development Regulations 2001, as amended, transposes Annex I and Annex II to EIA Directive 2014/52/EU. The Celtic Interconnector is not of a type described by either Part 1 or Part 2 of Schedule 5 of the Planning and Development Regulations 2001, as amended. Notwithstanding this, however, following pre-application consultation between EirGrid and DHLGH, it has been agreed that a voluntary EIAR will be produced to accompany the Foreshore Licence application.

EIA Scoping

Scoping is the process of identifying the significant issues which should be addressed by a particular impact assessment as well as the means or methods of carrying out the assessment. Scoping of an EIAR is voluntary for a developer and, as outlined in the EPA Draft Guidelines 2017, scoping can also be an informal process.

The advancement and refinement of the proposed development has followed a systematic and iterative process of assessment and engagement.

As part of EirGrid's Development Framework, described in Volume 8A Planning and Consultation Report and EIAR Volume 3D Part 2 Chapter 7: Alternatives Considered, the collation and

assessment of environmental data were essentially linked to the refinement of the project, including inputs from key stakeholders.

Throughout the preparation of this voluntary EIAR, the design of the Project has been revised and refined to take account of the findings of studies and surveys and from public consultation and stakeholder feedback which have brought the design from initial design to the proposed design. This has also included ongoing consultation and engagement with the various Competent Authorities and other Prescribed Bodies.

Informal scoping of these documents was carried out by a team of environmental specialists working in close collaboration with design engineers, and EirGrid as the sole Applicant for the Foreshore Licence application, as part of an iterative design and consultation process, which also considered the potential for alternative approaches and techniques. Where appropriate these alternatives became part of the proposed design.

This scoping has continued throughout the environmental appraisal process and the overall project design and scope of work has been amended appropriately in light of any key issues identified or new information gathered from consultation or as a result of design changes which have subsequently been addressed in this EIAR. This is addressed in more detail in EIAR Volume 3D Part 2 Chapter 7: Alternatives Considered.

EIAR Methodology

Regulations and Guidelines

This EIAR has been prepared in line with the Planning and Development Act, 2000 S.I. No. 30/2000, as amended, and associated Regulations having regard to the following guidelines.

- The EPA Draft Guidelines 2017;
- Environmental Protection Agency (EPA) Advice Notes for Preparing Environmental Impact Statements (Draft 2015);
- Department of Housing, Planning and Local Government (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment; and
- European Commission Environmental Impact Assessment of Projects, Guidance on the preparation of the Environmental Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU), 2017.

Further specific reference documents are cited within the technical chapters of this EIAR, as appropriate.

Baseline Environment

The baseline environment describes the current state of environmental characteristics, detailing the condition, sensitivity and significance of relevant environmental factors which are likely to be significantly affected by the proposals.

The amended EIA Directive also requires consideration of the likely future receiving environment in the absence of the project, refer to Section 4.5.8 Do Nothing Effects:

“A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge”.

Temporal and Spatial Scope

The duration of effects will be described for each technical chapter in Part 2 of this EIAR.

Spatial (or geographical) scope refers to the area over which the EIAR considers effects. The environmental sensitivity of the surrounding geographical areas and the establishment of source-pathway-receptor linkages (i.e. the zones of influence) will determine the extent of the area to be assessed as part of the EIAR. This is defined in each of the technical chapters in Part 2 of this EIAR.

Identification of Potential Receptors

A receptor is defined in the EPA Draft Guidelines 2017 as *“any element in the environment which is subject to impacts”*.

The environmental effect will depend on the spatial relationship between the source and the receptor with some receptors being more sensitive than others to particular environmental effects. Topic specific receptors will be identified in each technical chapter in Part 2.

Identification of Likely Significant Impacts

Where appropriate and unless otherwise stated, the evaluation of impacts on the environment has been evaluated according to the criteria outlined in Table 4.1 Description of Effects and as referenced in the EPA Draft Guidelines 2017.

Table 4.1 Description of Effects

Category	Description of Effects
Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative or neutral	Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
	Negative/adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

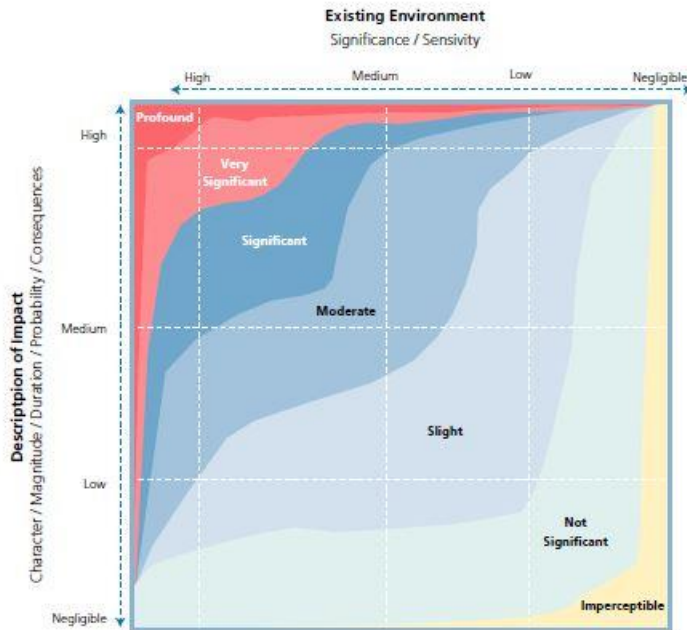
Category	Description of Effects
<p>Describing the Significance of Effects</p> <p>'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see Determining Significance below.).</p>	<p>Imperceptible</p> <p>An effect capable of measurement but without significant consequences.</p>
	<p>Not significant</p> <p>An effect which causes noticeable changes in the character of the environment but without significant consequences</p>
	<p>Slight Effects</p> <p>An effect which causes noticeable changes in the character of the environment without affecting its sensitivities</p>
	<p>Moderate Effects</p> <p>An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</p>
	<p>Significant Effects</p> <p>An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.</p>
	<p>Very Significant</p> <p>An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.</p>
	<p>Profound Effects</p> <p>An effect which obliterates sensitive characteristics</p>
<p>Describing the Extent and Context of Effects</p> <p>Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.</p>	<p>Extent</p> <p>Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.</p>
	<p>Context</p> <p>Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)</p>
<p>Describing the Probability of Effects</p> <p>Descriptions of effects should establish how likely it is that the predicted effects will occur – so that the CA can take a view of the balance of risk over advantage when making a decision.</p>	<p>Likely Effects</p> <p>The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.</p>
	<p>Unlikely Effects</p> <p>The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.</p>

Category	Description of Effects
<p>Describing the Duration and Frequency of Effects</p> <p>'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful</p>	<p>Momentary Effects Effects lasting from seconds to minutes</p>
	<p>Brief Effects Effects lasting less than a day</p>
	<p>Temporary Effects Effects lasting less than a year</p>
	<p>Short-term Effects Effects lasting one to seven years.</p>
	<p>Medium-term Effects Effects lasting seven to fifteen years</p>
	<p>Long-term Effects Effects lasting fifteen to sixty years</p>
	<p>Permanent Effects Effects lasting over sixty years</p>
	<p>Reversible Effects Effects that can be undone, for example through remediation or restoration</p>
	<p>Frequency of Effects Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)</p>
	<p>Describing the Types of Effects</p>
<p>Cumulative Effects The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.</p>	
<p>'Do Nothing Effects' The environment as it would be in the future should the subject project not be carried out.</p>	
<p>'Worst case' Effects The effects arising from a project in the case where mitigation measures substantially fail.</p>	
<p>Indeterminable Effects When the full consequences of a change in the environment cannot be described.</p>	
<p>Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.</p>	

Category	Description of Effects
	<p>Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.</p>
	<p>Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).</p>

The significance of a potential impact is defined by the sensitivity of the receiving environment and the character of the predicted impact as shown in Figure 4.1. In some cases, magnitude or significance cannot be quantified with certainty, and in these cases professional judgement remains the most effective way to identify the significance of an impact. Where significant adverse effects are likely, mitigation to offset those impacts is required.

Figure 4.2 Impact Assessment Methodology



Mitigation and Monitoring

Embedded mitigation refers to those measures that have been incorporated into the design of the proposals. There are four established strategies for the additional mitigation of effects; avoidance, prevention, reduction and offsetting.

Additional mitigation measures and monitoring that have been proposed / implemented for each environmental topic are set out in the technical chapters in Part 2 of this EIAR.

Residual Impacts

Residual impacts that remain from the predicted impacts of the proposals once additional mitigation has been implemented are set out in the technical chapters in Part 2 of this EIAR.

Decommissioning

The operational life of the equipment and apparatus of the Celtic Interconnector is expected to be 40 years. Thereafter, it is assumed that the equipment will be decommissioned and replaced with new equipment.

The HVAC and HVDC cables will either be left in place or will be removed for recycling in accordance with the relevant waste management regulations in place when decommissioning takes place. All equipment for the converter station will be removed for recycling or disposal as required by the regulations at the time.

While decommissioning impacts are assessed in this EIAR, it is noted that any works required to remove infrastructure as part of the decommissioning phase, will be the subject of relevant consent applications, and associated environmental assessments, at the time of decommissioning.

Do Nothing Effects

As outlined in the EPA Draft Guidelines 2017 the description of Do Nothing effects relates to *the environment as it would be in the future should the subject project not be carried out*.

In the context of the Celtic Interconnector Project, non-implementation would mean foregoing its benefits and slowing down the development of renewable energy required to combat climate change. Alternative development could occur at the proposed site of the converter station compound within IDA owned lands at Ballyadam in County Cork, given that the site is zoned for industrial (employment related) use in the current Cork County Development Plan 2014.

The Do Nothing scenario is however considered for each technical chapter in Part 2 of the EIAR.

Transboundary Effects

Certain environmental effects of a proposed development have the potential to cross state boundaries and have a 'transboundary effect'. Under the amended EIA Directive, the likely significant transboundary effects of a proposed development must be described.

All activities associated with the construction, operation of the Project were assessed for the likely significant transboundary effects and these are detailed in Part 2 Chapter 21 of this EIAR.

Commented [A8]: Placeholder: All mitigation measures are draft / potential only at this stage, and still under review / discussion, prior to finalization for inclusion within the final Application File.

Commented [A9]: Placeholder: All references to decommissioning are currently under review. Text will be finalized and standardized prior to submission of the final Application File.

Cumulative Effects

Cumulative effects take account of the addition of many minor or significant effects to create larger, more significant effects.

As outlined in the EPA Draft Guidelines 2017, while a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or significant), result in a cumulative impact that is collectively significant. A single effect which may, on its own, have a significant effect, may also have a reduced and insignificant impact when combined with other effects.

Having regard for relevant guidance in other jurisdictions (The Planning Inspectorate for England and Wales, 2019), a tiered approach has been taken to the identification of other projects, where the level of information likely to be available decreases from tier 1 to tier 3, as detailed below and in Table 4.2.

1. Tier 1:
 - a. Developments that are under construction.
 - b. Permitted applications, not yet implemented.
 - c. Submitted applications, not yet determined.
2. Tier 2
 - a. Development identified in Cork County Development Plan 2014 and the Draft County Development Plan 2022 - 2028 and associated Local Area Plans (LAPs).
3. Tier 3
 - a. Development identified in other framework plans and programmes for future development consents / approvals, where such development is likely to occur.

For each technical topic, the nature and scale of the other development has been evaluated and the potential for temporal overlap within the topic-specific zone of influence (Zol) has been assessed, having regard to the potential for significant cumulative effects.

All activities associated with the construction and operation and decommissioning of the Celtic Interconnector were assessed for the likely significant cumulative effects within the topic specific Zol. Where likely significant cumulative effects are identified, discussion is provided on the contribution of the Celtic Interconnector to that cumulative effect.

Subject to consents being granted, it is anticipated that construction of the Celtic Interconnector will commence in Q1 2023, with construction complete in 2026. Table 4.2 includes a non-exhaustive list of existing and / or approved development and known planned development considered in this EIAR. Existing operational projects have been assessed as part of the baseline evaluation in this EIAR. EirGrid has engaged, and will continue to engage with the proponents of the developments detailed throughout the development of the Celtic Interconnector project to ensure a co-ordinated approach to the minimisation of environmental impacts.

Commented [A10]: Placeholder: The draft Plan is due to be published in April 2021. The final application file will be updated to reflect the current status of the Plan and the development within this.

Table 4.1: Existing and / or Approved Proposed Development (Cumulative Effects)

Development	Tier	Reference (planning/ other)	Location	Summary of Details
Youghal to Midleton Greenway	1a	Part 8 Planning²	The Greenway will be largely developed along the disused railway line between Youghal and Midleton	<p>At the time of writing this EIAR the Greenway was under construction with vegetation clearance having been carried out in places.</p> <p>The Greenway will be a shared-use path for walkers and cyclists for leisure and visitor use and will incorporate landscaping, signage and associated amenities and all ancillary works.</p> <p>The Greenway will be in operation during the construction phase of the Celtic Interconnector. The proposed HVDC cable route will cross the Greenway at a number of points along the route.</p> <p>Engagement with Cork County Council will continue to ensure that impacts are minimised.</p>
Youghal Eco Boardwalk	1	Youghal Eco Boardwalk ³	<p>The wooden boardwalk will be developed between the western section of the car park at Claycastle Beach and the Youghal Quality Hotel at Redbarn.</p> <p>The footprint is entirely on the Summerfield / Redbarn sand shoreline (and shingle strandline).</p>	<p>At the time of writing this EIAR the Boardwalk was under construction.</p> <p>The Boardwalk will be in operation during the construction phase of the Celtic Interconnector. The proposed submarine cable route will traverse to the east of the boardwalk. Engagement with Cork County Council will continue to ensure that impacts are minimised.</p>
Various on IDA Lands at Ballyadam	3	Not Applicable	IDA owned lands at Ballyadam	<p>Although there were no definitive projects or plans at the time of writing this EIAR, land-use zoning and IDA ownership renders it possible that other developments within the wider Ballyadam site will be developed and that these may have cumulative effects.</p> <p>In facilitating future development, the IDA is also likely to develop internal access roads and utility connections for the wider Ballyadam site.</p> <p>As the nature of these projects and plans are not known, the associated cumulative impacts cannot be assessed. The proposed converter station compound, and associated infrastructure including drainage and access have however been developed independent of these other potential future proposals. The design of which can readily connect into such proposals in the future without affecting the conclusions of this EIAR.</p> <p>Engagement with the IDA will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented</p>

Commented [A11]: Placeholder: To be confirmed and updated prior to submission of final application file.

² [Closed Part 8 Development Consultation | Cork County \(corkcoco.ie\)](#)

³ [Youghal Eco-Boardwalk Extension Works Get Underway | Cork County \(corkcoco.ie\)](#)

Development	Tier	Reference (planning/ other)	Location	Summary of Details
				including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.
N25 Carrigtwohill to Midleton scheme	2	N25 Carrigtwohill to Midleton scheme ⁴	<ul style="list-style-type: none"> South and south west of the proposed converter station site at Ballyadam. <p>Includes a proposed new interchange to the south/south west of the converter station site at Ballyadam</p>	<p>The Cork Roads Design Office (RDO) in liaison with Transport Infrastructure Ireland (TII) is currently planning the upgrading of the part of the existing N25 between Carrigtwohill and Midleton, including that portion which adjoins the proposed converter station site. This road project will involve the expansion of the existing road corridor to dual carriageway. A number of potential options affecting the wider IDA landholding at Ballyadam are currently being considered by the RDO, including the provision of a full dumb-bell interchange at Ballyadam, with associated slip roads, on the southern portion of the overall landholding. The options are available to view on the N25 Brochure published by Cork County Council's Roads Design Office (RDO) in October 2020.</p> <p>Similar to the Celtic Interconnector Project, this project is also included in Project Ireland 2040 and the National Development Plan 2018-2027.</p> <p>There is potential for an overlap in construction for the period of 2024-2026. Access to the proposed converter station compound, has been developed independent of this potential future development. The design can however readily connect into such proposals in the future without affecting the conclusions of this EIAR.</p> <p>Prior to commencement of construction and during the construction phase, engagement with the RDO and TII will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.</p>
Urban Expansion Project	2	Part 8 planning is expected to be lodged in Q2 2021 for a services corridor for approximately 2,500 houses.	Between Midleton and Carrigtwohill	<p>The urban expansion of the area to the northwest of the IDA owned site (which includes the proposed converter station) is planned to facilitate housing development. As well as residential development, the proposals will include cycling / pedestrian facilities, a new school campus and road upgrades.</p> <p>Prior to commencement of construction and during the construction phase, engagement with Cork County Council will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.</p>

⁴ https://www.corkrdo.ie/major-schemes/n25-carrigtwohill-midleton-transport-infrastructure-improvement-scheme/?utm_source=rss&utm_medium=rss&utm_campaign=n25-carrigtwohill-midleton-transport-infrastructure-improvement-scheme

Development	Tier	Reference (planning/ other)	Location	Summary of Details
Waste water infrastructure (pump stations and network)	2	Pending Q1 2021	Between Midleton and Carrigtwohill	Irish Water (IW) has a growth project to construct new waste water infrastructure (pump stations and network) to connect Midleton and Carrigtwohill by Q4 2023. The proposed route is between Carrigrenan road and the Ballyadam bridge area, and this will overlap the proposed Celtic Interconnector HVDC cable route in places. Prior to commencement of construction and during the construction phase, engagement with IW will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.
Midleton Flood Relief Scheme	2	Midleton Flood Relief Scheme⁵	Midleton, including Water Rock and Ballinacurra.	This project is currently at options appraisal stage. A planning application is due to be submitted towards the end of 2021 and construction is due to commence in 2023. Prior to commencement of construction and during the construction phase engagement with Cork County Council and the Office of Public works (OPW) will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised..
CP901 Kilbarry-Knockraha	1	Section 55 Exempted Development	Knockraha substation, adjacent to the proposed development	Renewal and refurbishment of the Kilbarry-Knockraha 110 kV overhead transmission line. The majority of the works associated with this project will be carried out outside the ZoI of the Celtic Interconnector project. As the proponents of both projects EirGrid will ensure that where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.
Ballyadam 110 kV Substation	2	Not Applicable	Ballyadam, adjacent to the proposed development	The Electricity Supply Board (ESB) proposes to construct a new 110 kV substation immediately to the east of the proposed converter station compound, within the IDA-owned Ballyadam site. Prior to commencement of construction and during the construction phase engagement with the ESB will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented

⁵ [Flood Relief Schemes | Cork County \(corkcoco.ie\)](#)

Development	Tier	Reference (planning/ other)	Location	Summary of Details
				including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.
Statkraft (Lightsource) Solar Farm	1	Cork County Council 175370 An Bord Pleanála PL04.300434	Ballyvatta and Clash, Knockraha, Leamlara, Co. Cork	This project relates to a solar farm to be constructed approximately 2km north east of Knockraha substation. Lightsource BP was granted consent, on appeal to An Bord Pleanála on 19 July 2018. The solar farm project was acquired by Statkraft Ireland in 2020. Prior to commencement of construction and during the construction phase engagement with the ESB will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings between project teams to ensure that plans are co-ordinated and impacts are minimised.
Inis Ealga Marine Energy Park	2	Inis Ealga Marine Energy Park ⁶	Offshore; approximately 54km in width stretching from Dungarvan, Co. Waterford to Cork Harbour, Co. Cork	This project relates to an offshore floating wind energy project off the coast of Cork which is at an early stage of development. There is an intersection between the submarine cable route of the Celtic Interconnector and the indicative installation corridor identified for the Inis Ealga Marine Park. Micro-siting of the anchors associated with the Inis Ealga Marine Energy Park would be required to avoid the proposed Celtic Interconnector. The onshore transmission connection proposals are not yet available.
Planning Applications	1	Various	Adjacent to the proposed development	A search of current and decided Strategic Infrastructure Development Applications, and Current Strategic Housing Development applications to An Bord Pleanála was carried out in January 2021. No relevant applications were identified within the ZoI of the proposed development. A search of planning applications to Cork County Council was carried out in January 2021. The search did reveal a number of non-EIA planning applications related to dwellings and farm buildings along the proposed cables routes. Typically, these applications relate to extensions, demolition and construction of dwellings and installation of solar panels on roofs. The following applications are also noted: <ul style="list-style-type: none"> • Planning reference 195608 in the townland of Garranes, and adjacent to section AC03-AC04 of the proposed HVAC cable route, relates to a proposed

⁶ [DP Energy – Inis Ealga](#)

Development	Tier	Reference (planning/ other)	Location	Summary of Details
				<p>change of use from an existing dwelling to respite / residential accommodation.</p> <ul style="list-style-type: none"> • Planning reference 155995 in the townland of Carrigogna, and adjacent to section DC01-DC02 of the proposed HVDC cable route, relates to the retirement of an existing 38 kV station to include; demolition of existing control building, removal of existing transformers, 1 no. mast and 2 no. electrical poles <p>Prior to commencement of construction and during the construction phase engagement with the local communities along the proposed routes will continue and where there is potential for works to be carried out in parallel, appropriate mitigation measures will be implemented including the scheduling of works and regular liaison meetings to ensure that plans are co-ordinated and impacts are minimised.</p> <p>No large scale developments were identified in proximity to the proposals as a result of the search, other than those identified previously.</p>

Interactions between Environmental Factors

Interactions between effects may arise from the reaction between effects of the Celtic Interconnector on different aspects of the environment which may exacerbate the magnitude of those effects. These are presented in Part 2, Chapter 23 of this EIAR.

Limitations and Assumptions

Each technical chapter of this EIAR identifies any assumptions made in undertaking the assessment and the limitations of the assessment and whether there were any difficulties encountered compiling the required information and the main uncertainties involved.

All third-party reports, data and mapping are assumed to be correct for the purposes of this EIAR.

References

Cork Country council (2014) Cork County Development Plan

Cork Country Council Draft County Development Plan 2022 - 2028

Department of Housing, Planning and Local Government (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment

Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment

European Commission Environmental Impact Assessment of Projects, Guidance on the preparation of the Environmental Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU), 2017.

Environmental Protection Agency (EPA) (2015) Advice Notes for Preparing Environmental Impact Statements

Environmental Protection Agency (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports Draft

Planning and Development Act, 2000 S.I. No. 30/2000

S.I. No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018

S.I. No. 600/2001 - Planning and Development Regulations, 2001

The Planning Inspectorate for England and Wales, 2019 [online]. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf>

Appendix A

EIAR Competencies

Commented [A12]: Placeholder: To be completed prior to submission of final Application File.

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