GREENLINK PLANNING REPORT

IRELAND ONSHORE

September 2020

Greenlink Interconnector
- connecting the power markets
in Ireland and Great Britain

Greenlink
INTERCONNECTOR

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Planning History

1 Introduction

1.1 Introduction

This Planning Report has been prepared to support the planning application for the onshore Ireland component of Greenlink.

The Report presents an overview of Greenlink and a description of its onshore Ireland component. Greenlink has been designated as an European Union Project of Common Interest and the planning application for the onshore Ireland component will be made as a strategic infrastructure development. The significance of these designations is addressed. The consultations undertaken in the course of the preparation of the consent applications for the Irish components of Greenlink are summarised.

The planning history of the area in the vicinity of the onshore Ireland component of Greenlink is outlined.

The Report explains the European and Irish policy context of Greenlink and the need and justification for it.

The consents required for the components of Greenlink in Wales and Ireland, and the current status of these consents, are listed.

The Report has been prepared on behalf of Greenlink Interconnector Limited by Arup.

1.2 Overview of Greenlink and the Proposed Development

1.2.1 The Project so far

Greenlink is an electricity interconnector linking the Irish and United Kingdom high voltage electricity grids. Greenlink is designated as a European Union Project of Common Interest (PCI), under the provisions of European Union Regulation No. 347/2013 on guidelines for Trans-European Network for Energy ('TEN-E Regulation'). It has been given project reference number 1.9.1. Greenlink Interconnector Limited (GIL) has received funding for Greenlink under the Connecting Europe Facility (CEF). GIL was granted an Interconnector Licence for Greenlink in Great Britain, by Ofgem (the United Kingdom's Government regulator for gas and electricity markets), on 10th February 2015. Greenlink was awarded Initial Project Assessment (IPA) Status under Ofgem's Cap and Floor Regime on 30th September 2015. Ofgem's Cap and Floor Regime is a scheme to encourage the development of interconnectors to Great Britain by reducing the financial risks.

In Wales, a connection agreement has been signed with National Grid Electricity Transmission plc for a grid connection at the existing Pembroke substation. National Grid Electricity Transmission plc owns and manages the high voltage electricity transmission network in England and Wales.

In Ireland, a connection agreement has been signed with EirGrid, the high voltage electricity transmission network operator in Ireland, for a grid connection at the existing Great Island substation.

1.2.2 The Project

The project comprises subsea and underground cables and associated converter stations to connect EirGrid's Great Island 220kV substation in County Wexford (Ireland) and National Grid's Pembroke transmission substation in Pembrokeshire (Wales). These components are illustrated in **Figures 1.1 and 1.2.**

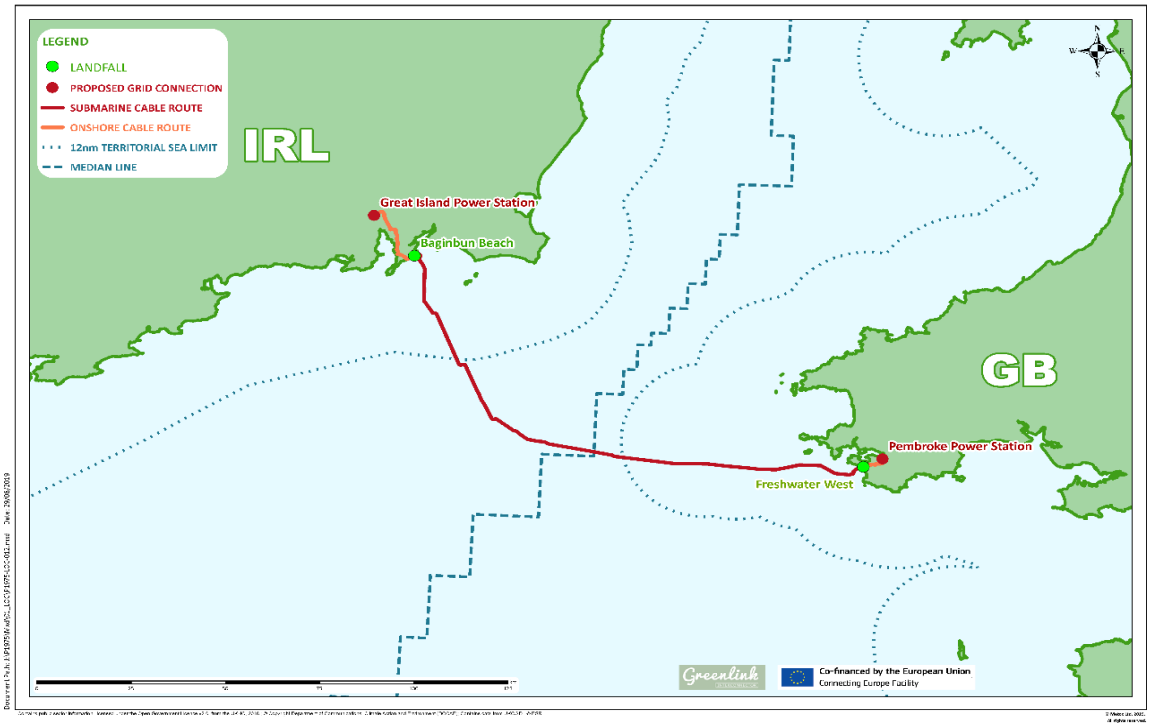

Figure 1.1 Greenlink Overview | not to scale

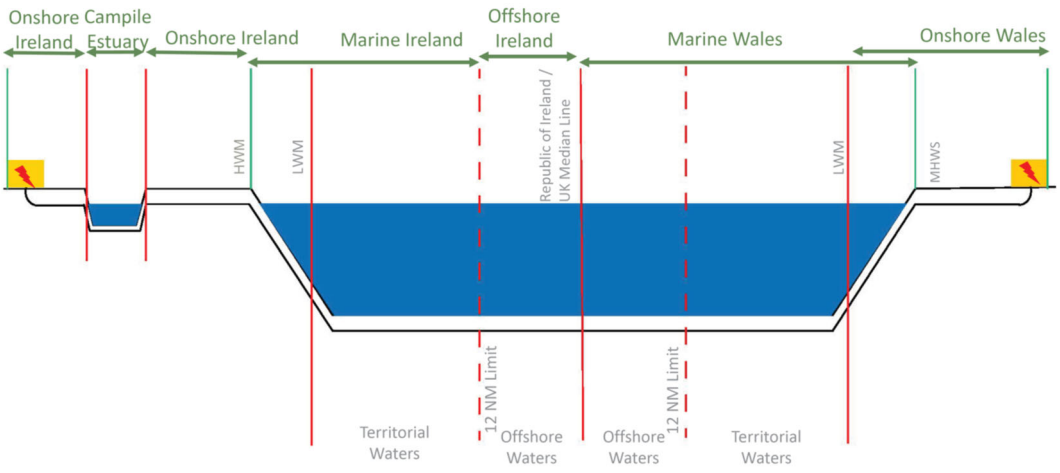

Figure 1.2 Greenlink Components | not to scale

1.2.3 The Proposed Development

The Onshore Ireland components of Greenlink, hereafter referred to as the 'Proposed Development', consists of the following permanent and temporary elements:

The proposed development (encompassing the onshore elements in Ireland only) will comprise:

Landfall Compound – a temporary landfall compound at Baginbun, where the high voltage direct current (HVDC) cable will be installed underground, below the beach and cliff at Baginbun Beach, by horizontal directional drilling (HDD);

HVDC Cables – two HVDC electricity cables with a nominal capacity of 500 megawatts (MW), installed underground from the landfall at Baginbun to the converter station, including jointing bays and ground level marker posts at intervals along the route;

Converter Station – a converter station situated close to the existing Eirgrid 220kV Great Island substation in Wexford;

Tail Station - a 220kV Loughtown substation located beside the converter station. The tail station connects the HVAC 220kV cable into the 220kV grid via the existing Eirgrid Great Island substation;

MV Substation – an ESB MV substation building located outside the converter station and tail station perimeter fences but within the land holding. This substation will provide the MV and LV connections required for the development;

Converter Station Construction Compound: temporary compound for the construction of the converter station and tail station at Great Island;

Cable Contractor Compounds – three temporary cable contractor compounds will be required (i) at the landfall site close to Baginbun Beach (ii) at the proposed converter station and (iii) one along the onshore route in the townland of Lewistown;

HDD Compounds – temporary HDD contractor compounds are required. One will be located close to the cable contractor compound at Baginbun Beach with another HDD compound located at either side of the Campile River Estuary crossing;

High Voltage Alternating Current (HVAC) Cables – one 220 kV HVAC electricity cable circuit consisting of three cables, installed underground connecting the converter station via the Loughtown tail station to the existing EirGrid substation;

Fibre Optic Cables – fibre optic cables for operation and control purposes, laid underground with the HVDC and HVAC cables;

Community Gain Roadside Car Parking near Baginbun Beach – in consultation with Wexford County Council, circa 54 roadside car parking spaces will be constructed; and

Community Gain in Ramsgrange Village – in consultation with Wexford County Council, extension to existing footpaths, four new streetlights and a speed activated sign at Ramsgrange.

Figure 1.3: Overview of the proposed development | not to scale [background mapping Bing © Microsoft 2020]

1.3 Applicant

Greenlink is being developed by Greenlink Interconnector Limited, which is owned jointly by Element Power Holdings, part of Hudson Sustainable Investment, and Partners Group on behalf of its clients. Hudson Sustainable Investment is an independent investment management firm with a strong track record and expertise in investing in and developing sustainable energy infrastructure projects in Ireland, the UK and internationally. Partners Group is a global private markets investment management firm with €73 billion in investment programmes under management in private equity, private real estate, private infrastructure and private debt.

1.4 Planning Interest

The sites for the converter station and tail station will be permanently acquired for the purposes of the proposed development. The landowners have given their consent to the making of the planning application. Wayleave agreements over land have been made with the relevant landowners. The wayleave agreements provide sufficient legal interest for the consent applications to be made and for the proposed development to be constructed.

1.5 Strategic Infrastructure Development

Strategic Infrastructure Act Planning Procedure

The Planning and Development Act 2000 was amended in 2006 to require applications for planning permission for major infrastructure, including electricity transmission and gas infrastructure projects to be made directly to An Bord Pleanála rather than to the local planning authority, as would have previously been the case.

Section 182A of the Planning and Development Act 2000 (as amended) states:

"Section 182A.—(1) Where a person (hereafter referred to in this section as the 'undertaker') intends to carry out development comprising or for the purposes of electricity transmission, (hereafter referred to in this section and section 182B as 'proposed development'), the undertaker shall prepare, or cause to be prepared, an application for approval of the development under section 182B and shall apply to the Board for such approval accordingly."

Paragraph 182A (9), includes the following as meaning 'transmission', in relation to electricity:

"…meaning the transport of electricity by means of -

…

(b) an interconnector, whether ownership of the interconnector will be vested in the undertaker or not.

…"

Pre-Application Stage

As required under the amended Act, Greenlink commenced pre-application consultations with An Bord Pleanála in November 2016 under section 182E of the Planning and Development Act, 2000, as amended.

Application Stage

The planning application, the Environmental Impact Assessment Report (EIAR), Natura Impact Statement and Planning Report will be sent to An Bord Pleanála and to the prescribed bodies identified by the Board.

Any person may make submissions to An Bord Pleanála in relation to the application, within a specified period, being not less than 6 weeks from the date that the application is made. Wexford County Council's officials are required to issue a report to An Bord Pleanála within 10 weeks of the application being made (or a longer period if specified by An Bord Pleanála). Wexford County Council's elected members may append recommendations to the officials' report.

An Bord Pleanála may, at any stage, hold a meeting with Greenlink or any other person and may request further information from Greenlink including a revised EIAR. In addition, An Bord Pleanála must notify prescribed bodies in certain circumstances of the application and such bodies may make submissions.

An Bord Pleanála may hold an oral hearing.

In accordance with Section 182B of the amended Act, before making a decision on the application, An Bord Pleanála must consider:

- the EIAR and Natura Impact Statement submitted,
- any submissions or observations made in accordance with the relevant sections of the amended Act,
- the likely consequence for the proper planning and sustainable development of the area in which the proposed developed will be situated,
- the likely effects on the environment or adverse effects on the integrity of a European site as the case may be,
- and the report and any recommendations of the person conducting any oral hearing relating to the proposed development.

An Bord Pleanála must make its determination of the application '*as expeditiously as is consistent with proper planning and sustainable development*'. It has an objective, but not an obligation, to make a determination within 18 weeks of the latest date for the receipt of submissions from the public.

An Bord Pleanála may grant permission, refuse permission, grant permission for part of the proposed development, or modify the development and grant permission for the development in its modified form. An Bord Pleanála may also attach conditions to any permission granted

1.6 Project of Common Interest

Projects of Common Interest (PCI) are cross border infrastructure projects that link the energy systems of European Union (EU) Member States. They are intended to help the EU achieve its energy policy and climate objectives: affordable, secure and sustainable energy for all citizens, and the long-term decarbonisation of the economy in accordance with the Paris Agreement. PCIs are projects that have a significant impact on energy markets and market integration in at least two EU countries, they boost competition on energy markets and foster the EU's energy security by diversifying sources, and they contribute to the EU's climate and energy goals by integrating renewables.

Under the Trans-European Network-Energy (TEN-E) Regulation No. 347/2013 on guidelines for Trans-European energy infrastructure, adopted in 2013, the Commission identifies the most important PCIs across the EU, so that these projects can benefit from simplified permitting and the right to apply for EU funding from the Connecting Europe Facility.

There are 151 energy infrastructure projects on the October 2019 European Union list of PCIs, of which 102 are electricity transmission projects. These PCIs encompassed a range of network development, smart grids, energy storage and interconnector projects involving two or more EU Member states. Greenlink is a PCI under the provisions of the TEN-E Regulation.

The TEN-E Regulation aims to implement a streamlined permitting procedure for PCIs by requiring each Member State to appoint a National Competent Authority responsible for collating and co-ordinating the issuing of all the consents and decisions required from all relevant authorities in that state. The National Competent Authority must also co-ordinate with the other relevant National Competent Authorities on a PCI project.

An Bord Pleanála was designated the National Competent Authority in Ireland for PCI. An Bord Pleanála has issued a document entitled 'Projects of Common Interest Manual of Permit Granting Process Procedures' which outlines the process to be followed for all PCI projects in Ireland.

Article 7 of the TEN-E Regulation requires that PCI projects are given 'priority status' at a national level to ensure rapid administrative treatment. To address this An Bord Pleanála issued a Schedule of Permit Granting Process for Greenlink which outlines the 'in principle' timeline for the permit granting process. An Bord Pleanála is responsible for ensuring that this schedule is complied with.

Article 10(4)(a) of the TEN-E Regulation requires the National Competent Authority to identify the scope of material and level of detail of information to be submitted by the project proponent, as part of the application for the comprehensive decision (i.e. the "*decision or set of decisions taken by a Member State authority or authorities that determines whether or not a project promoter is to be granted authorisation to build the energy infrastructure to realise a project*").

Article 10(4)(c) of the TEN-E Regulation requires the project proponent to submit a "*draft application file*" to the National Competent Authority. The project proponent is also required to make the "*draft application file*"

available to consultees. Following receipt of the file, the National Competent Authority is required to identify whether information is missing and inform the project proponent of omissions.

The Schedule of Permit Granting Process provides that the National Competent Authority (in this case, An Bord Pleanála) will confirm that the "*final application file*" can be submitted within 3 months of receipt of the "*draft application file*" or the submission of missing information.

The '*draft application file*' was submitted to An Bord Pleanála as the National Competent Authority. An Bord Pleanála responded with comments on the draft application file. This Planning Report is included in the '*final application file*', in response to the An Bord Pleanála's comments.

Article 7(8) of the Regulation states that with regard to the environmental impacts addressed in Article 6(4) of Directive 92/43/EEC (Habitats Directive) and Article 4(7) of Directive 2000/60/EC (Water Framework Directive), PCI projects may be considered as being of overriding public interest, provided that all the conditions set out in those Directives are fulfilled.

Specific requirements of the TEN-E Regulation include guidelines for public participation. Annex IV (5) specifies that at the least the following should be undertaken:

- Publish an information leaflet, giving, in a clear and concise manner, an overview of the purpose and preliminary timetable of the project, the national grid development plan, alternative routes considered, expected impacts, including of cross-border nature, and possible mitigation measures, which shall be published prior to the start of the consultation;
- Establish a project website;
- Inform all stakeholders affected about the project through the project website;
- Invite in written form relevant affected stakeholders to dedicated meetings, during which concerns shall be addressed; and
- Undertake at least one public consultation before submission of the "draft application file".

GIL has complied with these requirements, details of which can be found in an Appendix A to this Report and on the project website: www.greenlink.ie.

1.7 Pre-Application Consultation

1.7.1 Pre-Application Consultation with Strategic Infrastructure Development Unit of An Bord Pleanála

GIL had five pre-application meetings with the Strategic Infrastructure Development Unit of An Bord Pleanála. These were on 8 December 2016, 20 September 2018, 14 May 2019, 31 January 2020 and 3 June 2020. An Bord Pleanála's file reference for GIL's pre-application consultation was PL26.VC0102 and An Bord Pleanála's record of each meeting is available on its website, under this file reference.

The topics addressed in the five meetings with An Bord Pleanála included:

- Jurisdiction of An Bord Pleanála

  The Board confirmed that the part of the development, that falls above the high-water mark and all onshore elements, was within its jurisdiction.

- Consultation and Scoping Activities

  The scoping and consultation activities with the various stakeholders were addressed, including concerns that were raised. Stakeholders included Natural Parks and Wildlife Service, Wexford County Council, Port of Waterford and Inland Fisheries Ireland.

- Environment Impact Assessment Report

  Discussions were had regarding whether an EIAR would be submitted as part of the planning application package even if the development does not fall under a class requiring a mandatory EIAR. The Board confirmed that this could be done and stated that this would negate the need to screen for EIA. The EIAR should describe the proposed development to the 12 nautical mile limit and that sufficient detail should be given on the two alternatives for the converter stations.

  - During these meetings, it was emphasised that consideration should be given to the following aspects of the proposed development:
  - Photomontages should take the Wexford County Council Development Plan and the listed protected views into consideration and describe how views to and from any archaeological sites may be affected;
  - Consideration should be given to mitigating any disruptions to local amenity areas;
  - Consideration should be given to works in proximity to protected structures;
  - Possible community gain arising from the proposed development.

- Appropriate Assessment

  It was noted during the meetings that if a Stage 2 Assessment is required for any part of the project, then it will apply to the project as a whole. The applicant was also advised to be cognisant of secondary, indirect and cumulative effects.

- Foreshore Licence

  It was agreed that the Foreshore Licence will go through the existing regime and will extend to the 12 nautical mile limit and that relevant assessments should extend to the median line.

- Status of the Project and Grid Connections

  Updates were regularly provided on the status of the project in relation to Projects of Common Interest (PCI) and the Connecting European Facility (CEF). The project had been awarded PCI status and financial support has been obtained from the CEF. Updates were also provided in relation to securing grid connections in both Ireland and Wales.

- Public Consultation

  Updates were given on the public consultation events which were held.

1.7.2 Pre-Application Consultation as Part of the PCI Process

GIL had 5 meetings with the PCI Unit of An Bord Pleanála on 24 February and 16 August 2016, 15 February 2018, 23 January and 31 January 2020. The meetings typically addressed the PCI Unit's procedures, which include the submission of certain documents for approval. GIL provided updates on the proposed development, the progress on meeting the requirements of the procedures and the status of the documents submitted.

The PCI Unit's file reference is PCI0004. Once a comprehensive decision has been issued, the proposed development's PCI Unit application file will be available for inspection on An Bord Pleanála's website.

GIL also had pre-application consultation with the PCI Unit of the Welsh Government.

As part of the PCI process, Greenlink Interconnector Limited prepared a Concept for Public Participation (CPP) which set out its proposed strategy for public participation in the project consent process. This is a comprehensive document and ensures that the public will be consulted appropriately throughout the project. The CPP is included in the Greenlink Consultation Report (Ireland) included in **Appendix A** to this Report. The scope and concept of public participation has been developed and agreed in consultation with the PCI unit. The aim of public consultation was to incorporate and consider feedback throughout the development process with the aim of developing a project to the highest standards.

Public consultation on the proposed development commenced in Ireland in summer 2018 with exhibitions taking place in June at Fethard on Sea, and in August at Duncannon, County Wexford. The latest project information was made available at the public exhibition and members of the project team sought input from the community to improve the design and delivery of the interconnector.

Further public consultation took place on 16th January 2019 at Fethard on Sea, on 17th January 2019 at Duncannon, and 28th March 2019 in Ramgsgrange, County Wexford. An update for local residents and other stakeholders on the project proposal, including details of the environmental, technical and geophysical surveys, underway at the time of the consultations, was provided. A third round of consultations, to provide residents and interested parties with a project update, was undertaken in December 2019. A project brochure was made available for the public, and online to coincide with this round of consultations – included in the Greenlink Consultation Report (Ireland) included in **Appendix A** to this Report.

These public consultation events are summarised in **Table 1.3**.

Table 1.3 Greenlink Public Consultation Events

Consultation Event	Consultation Stage	Consultation Venue	Consultation Dates
Public Consultation Event – June 2018	Optioneering	St Mary's Community Hall, Fethard on Sea, County Wexford	27th June 2018
Public Consultation Event – August 2018	Optioneering	Star of the Sea Parish Centre, Duncannon, County Wexford	15th August 2018
Public Consultation Event – January to March 2019	Cable Infrastructure and Converter Station – Initial Designs and Assessment Outputs	St Mary's Community Hall, Fethard on Sea, County Wexford Star of the Sea Parish Centre, Duncannon, County Wexford Ramsgrange, County Wexford	16th January 2019 17th January 2019 28th March 2019
Public Consultation Event – December 2019	Cable Infrastructure – Detailed Design Converter Station – Outline Design	Parochial hall, Ramsgrange, County Wexford Fort Conan Hotel, Duncannon, County Wexford St Mary's Community Hall, Fethard on Sea, County Wexford	10th December 2019 11th December 2019 12th December 2019

In addition, GIL presented an overview of the project to local County Councillors in New Ross, County Wexford in September 2019.

GIL's report on the public consultation in Ireland is provided in **Appendix A** of this Report

Greenlink also set up a project specific website (https://www.greenlink.ie/) which has provided regular updates with respect to the project.

1.7.3 Pre-Application Consultation which Provided Input to the Engineering Design and Preparation of the EIAR and NIS

Many statutory bodies and stakeholders were consulted in the course of the route and landfall selection studies, the engineering design of the project and the preparation of the EIAR and NIS. These included:

- Wexford County Council;
- Port of Waterford Company;
- Commission for Regulation of Utilities;
- Department of Culture, Heritage and the Gaeltacht;
- Department of Housing, Planning and Local Government;
- Department of Communications, Climate Action and Environment;
- Department of Agriculture, Food and the Marine;
- National Parks and Wildlife Service;
- National Monuments Service;
- Irish Rail;
- Gas Networks Ireland;
- Southern Regional Assembly;
- Wexford Local Enterprise Office;
- Transport Infrastructure Ireland;
- National Transport Authority;
- Health and Safety Authority;
- Sea Fisheries Protection Authority;
- Inland Fisheries Ireland;
- Commission for Railway Regulation;
- Heritage Council;
- Fáilte Ireland;
- An Schoharie Ealaíon (The Arts Council);
- Marine Institute;
- Office of Public Works;
- Geological Survey of Ireland;
- Bord Iascaigh Mhara;
- Environmental non-governmental organisations including:
    - An Taisce;
    - Birdwatch Ireland;

- Irish Whale and Dolphin Group;
- Irish Peatland Conservation Council;
- Irish Wildlife Trust; and
- Bat Conservation Ireland.

An Environmental Impact Assessment (EIA) scoping report for the parts of the Project in Ireland was prepared and sent to all relevant statutory and non-statutory consultees, with feedback sought to further inform the content and scope of the EIAR. The scoping report is included as **Appendix 1.2 of the EIAR**.

Submissions were received in response to the scoping report. Points raised, and associated action taken by the EIAR team is provided in **Appendix 1.3 of the EIAR**.

The minutes of a meeting between Greenlink Interconnector Limited and Wexford County Council planning officials are included as **Appendix 1.4 of the EIAR**. Among the issues raised were:

- Public consultation
- Protection of cultural heritage
- Public gain
- Traffic impact and traffic management plan
- Road resurfacing
- EIAR
- Appropriate assessment
- Construction management plan, with particular regard to protecting Natura 2000 sites.

These issues have been addressed by Greenlink Interconnector Limited and are documented in the relevant chapters and appendices of the EIAR and this Report. For example, public consultation is described above, cultural heritage, traffic impact and potential impacts on conservation sites are addressed in topic-specific chapters of the EIAR, and community gain has been the subject of further discussions and agreement with the Council, regarding the provision of car parking facilities near Baginbun Beach.

A Joint Environmental Report addressing the entire project has been prepared and is included as **Appendix 1.6** to the EIAR.

2 Description of Proposed Development

2.1 Overview

The proposed development (encompassing the onshore elements in Ireland only) will comprise:

- **Landfall Compound** – a temporary landfall compound at Baginbun, where the high voltage direct current (HVDC) cable will be installed underground, below the beach and cliff at Baginbun Beach, by horizontal directional drilling (HDD);
- **HVDC Cables** – two HVDC electricity cables with a nominal capacity of 500 megawatts (MW), installed underground from the landfall at Baginbun to the converter station, including jointing bays and ground level marker posts at intervals along the route;
- **Converter Station** – a converter station situated close to the existing Eirgrid 220kV Great Island substation in Wexford;
- **Tail Station-** a 220kV Loughtown substation located beside the converter station. The Loughtown tail station connects the HVAC 220kV cable into the 220kV grid via the existing Eirgrid Great Island substation;
- **MV Substation** – an ESB MV substation building located outside the converter station and tail station perimeter fences but within the land holding. This substation will provide the MV and LV connections required for the development;
- **Converter Station Construction Compound:** temporary compound for the construction of the converter station and tail station at Great Island;
- **Cable Contractor Compounds** – three temporary cable contractor compounds will be required (i) at the landfall site close to Baginbun Beach (ii) at the proposed converter station and (iii) one along the onshore route in the townland of Lewistown;
- **HDD Compounds** – temporary HDD contractor compounds are required. One will be located close to the cable contractor compound at Baginbun Beach with another HDD compound located at either side of the Campile River Estuary crossing;
- **High Voltage Alternating Current (HVAC) Cables** – one 220 kV HVAC electricity cable circuit consisting of three cables, installed underground connecting the converter station via the Loughtown tail station to the existing EirGrid substation;
- **Fibre Optic Cables** – fibre optic cables for operation and control purposes, laid underground with the HVDC and HVAC cables;
- **Community Gain Roadside Car Parking near Baginbun Beach** – in consultation with Wexford County Council, circa 54 roadside car parking spaces will be constructed; and

- **Community Gain in Ramsgrange Village** – in consultation with Wexford County Council, extension to existing footpaths, four new streetlights and a speed activated sign at Ramsgrange.

2.2 Land Requirements

2.2.1 Wayleave, Working Width and Deviation Allowance

GIL will have a permanent wayleave along the route of the HVDC and HVAC cable to allow access for future maintenance. Where the cable is routed across agricultural land (off the public road), the width of the permanent wayleave, which has been agreed with the landowners is 15m and the agreed temporary working width is 30m (centred on the permanent wayleave width). The cable will generally be routed along the centreline of the permanent wayleave. The 30m temporary working width will give sufficient area for the excavation of the trench, storage of topsoil and subsoil arisings plus a haul road for the movement of the excavation equipment and general installation vehicles for the delivery of materials such as ducting, protective covers and bedding. existing roads or lanes, the permanent wayleave will generally be the width of the road or lane. The temporary working width for cable construction will depend on the width of the road or lane. Where feasible, if the road or lane is wide enough, one carriageway will remain open to traffic.

The proposed cable centreline is shown on the planning drawings. In the unlikely event of unforeseen circumstances arising during construction, it may be necessary for the cable to deviate from the centreline position, and the cable may be positioned anywhere within the redline boundary shown on the planning drawings.

Within the permanent wayleave where it crosses farmland, the wayleave agreement allows the planting of crops and shallow rooted plants, to facilitate ongoing agricultural use. Planting of deep-rooted plants or construction of buildings is excluded.

2.3 Cable Route

2.3.1 HVAC Grid Connection

The HVAC grid connection will be made from the Great Island 220kV substation, to the proposed Great Island converter station, via the proposed 220kV Loughtown tail station.

The connection from the tail station will be made into an existing spare bay in the Great Island 220kV substation. No extension of the 220kV switchgear is required. No deep reinforcement is required to the 220kV transmission grid, of which the Great Island substation is a node, to facility the Greenlink converter connection. Refer to **Sections 2.4 and 2.5**, below for descriptions of the tail station and converter station.

2.3.2 HVAC Cable Route

The converter station, tail station and Great Island substation are adjacent to each other and the connection will be made by an underground 220kV cable.

From the Loughtown tail station, the cable will be laid in a southerly direction before crossing westwards into the SSE landholding at the southern edge of an existing car park. Once in the SSE landholding, the cable will be laid under the Gas Networks Ireland high pressure gas pipeline which serves the Great Island Power Station. At the western side of the car park, the cable will be laid in an existing site road in a southerly direction for a short distance along this road, then turn westward and then northwards, entering the EirGrid Great Island substation from the south.

The HVAC cable route will be approximately 420 metres long and is shown (as an orange line) on **Figure 2.1**.

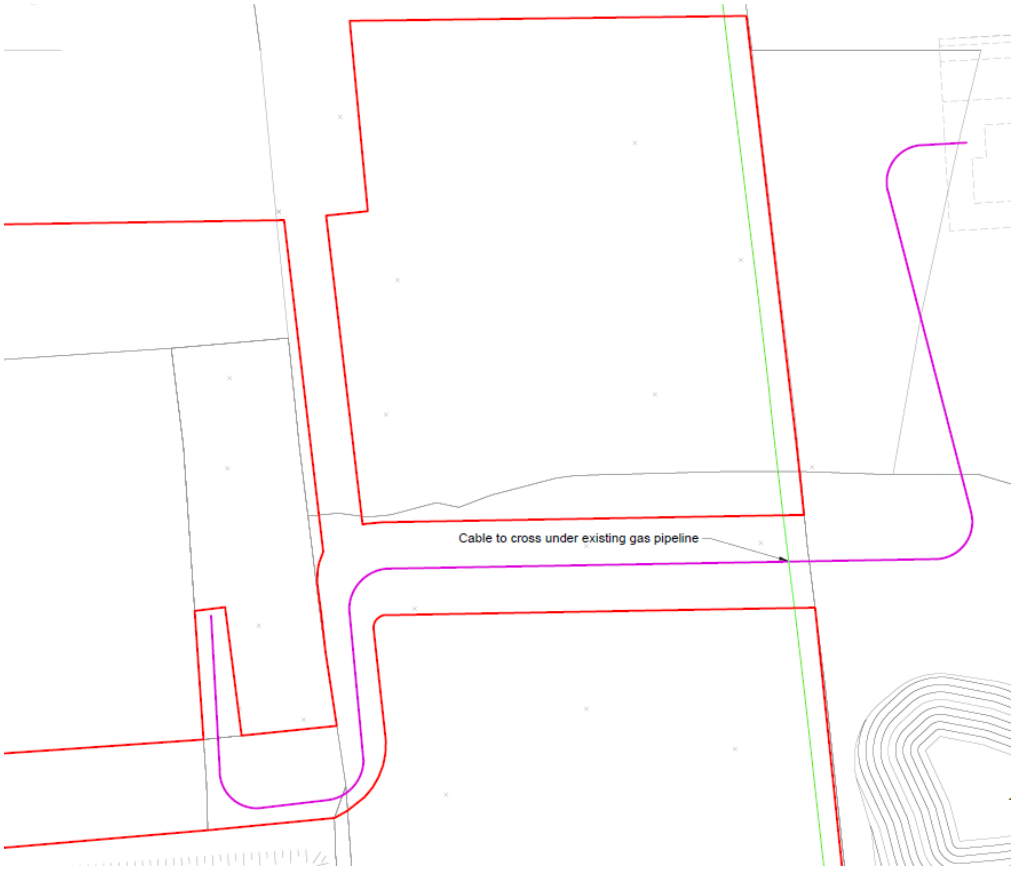

Figure 2.1: HVAC Cable Route (magenta line) | not to scale

2.3.3 HVDC Cable Route Description

The cable route between the converter station and the landfall site is approximately 23km long. The entire route will be underground.

The onshore cables are routed along local roads, apart from the portions of the route closest to the landfall location, the converter station, and where it is

necessary to divert the route off the road for engineering reasons, as described below. The cable route is shown in **Figures 2.2 to 2.8** and is described in more detail below.

Converter Station to R733

From the converter station, the cables will be laid cross-country, off-road, in a north-easterly and then south-easterly direction through agricultural land (pasture and tillage) for the first circa 2.7 km before meeting the R733 to the west of Campile just south of Dunbrody bridge. Construction access to this off-road section will from the local road, in the townland of Kilmannock, a short distance to the north of the junction of the local road with the R733.

This section of the route includes a trenchless crossing of the Campile River Estuary, downstream of Dunbrody Bridge. The cables will be a minimum of ten metres below the riverbed at this location.

The width of the planning corridor along this section of cable route varies to give some flexibility for cable alignment. In the location of the estuary crossing for example, the planning corridor is up to circa 300 m in width, to provide the flexibility needed for the trenchless crossing and the HDD construction compound. For construction purposes, in farmland, a 30m working strip of land will be fenced-off to enable construction.

Along this section of the route, there are existing services which cross the cable route, including telecoms and overhead medium voltage (MV) electrical lines.

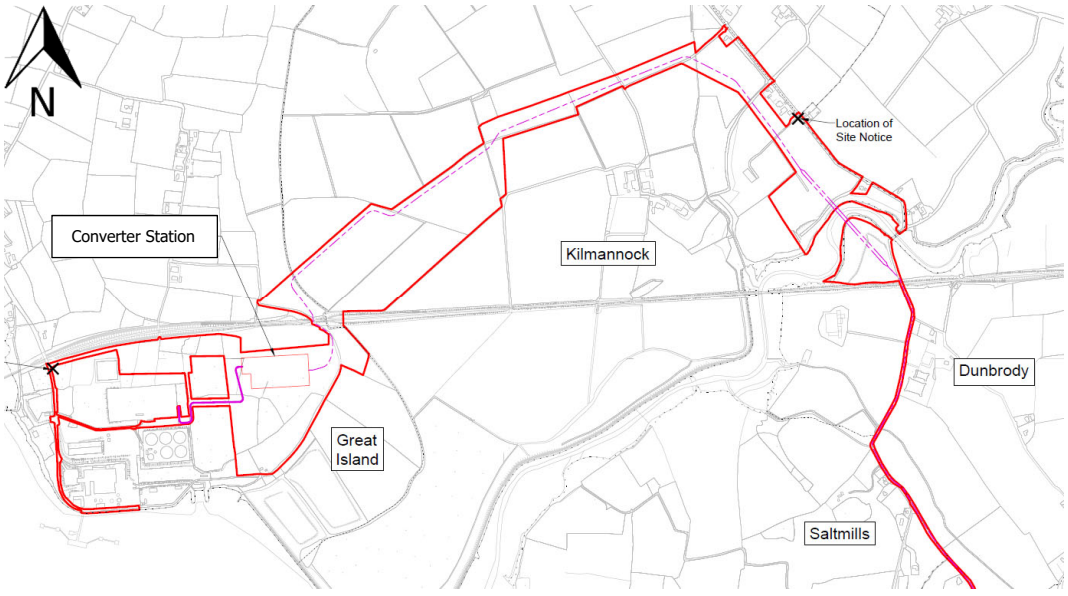

Figure 2.2 HVDC Cable Route (Figure 1 of 7) | not to scale

R733 to L4050

Just south of the Campile River Estuary crossing, the cable will be laid in the R733 road where the road passes under a bridge carrying the disused Waterford to Rosslare railway. The cable route travels southwards along the R733 for a distance of circa 5 km, passing through the townlands of Dunbrody, Saltmills and Grange. Along this length, the cable will be laid within the road or verge, depending on the final alignment and existing services.

This section of cable route is along a roadway which passes primarily through farmland, with a few farmhouses along the route. The route also passes the Dunbrody Abbey Visitor centre, at the northern end of this section of the route.

The cable route crosses existing services along this section of the route, including watermains, telecoms and overhead electrical lines.

At the junction of the R733 and the L4050, the cable route leaves the R733 road continuing southwards on the L4050 road. There is some ribbon development at this junction, along both sides of the road.

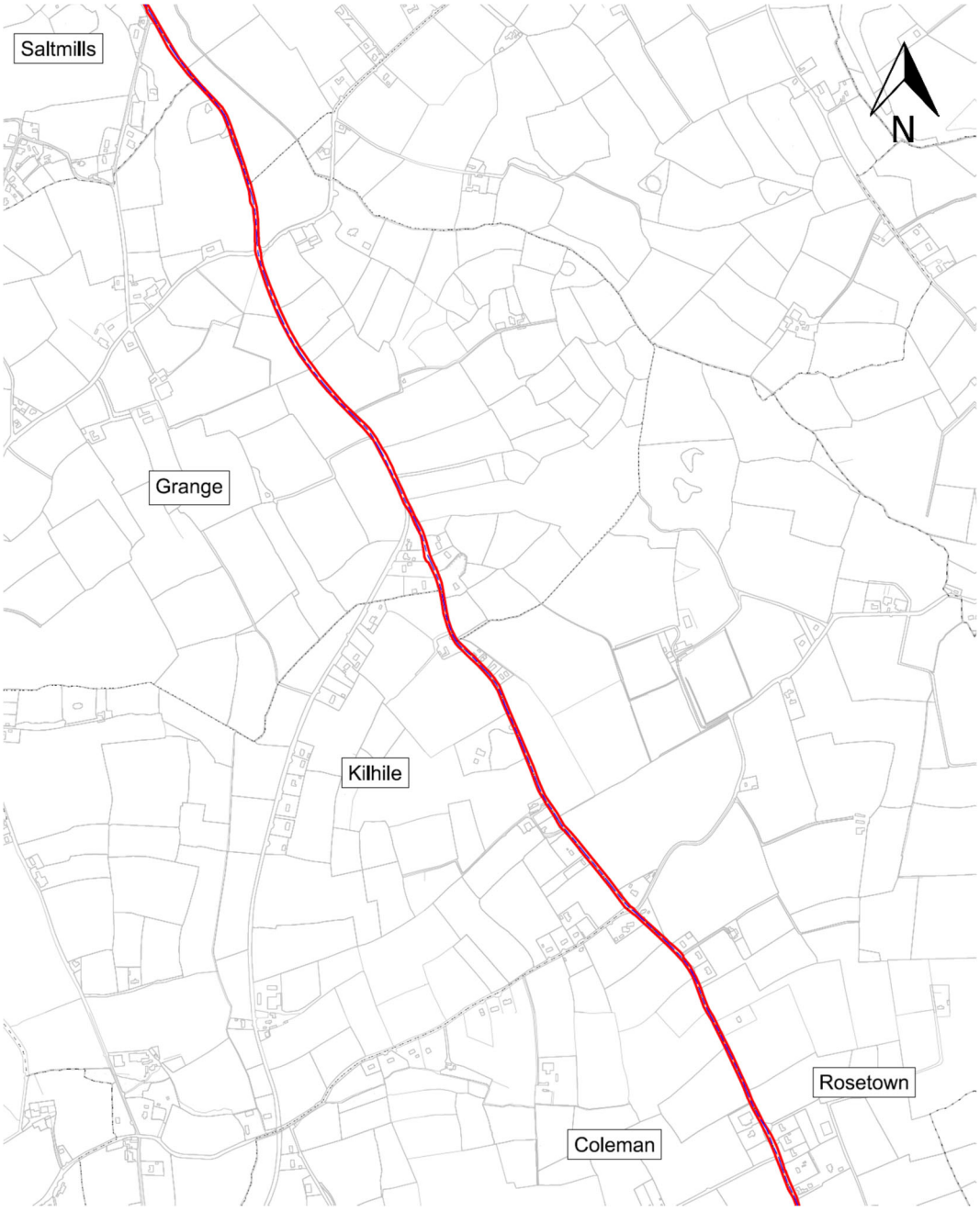

Figure 2.3 HVDC Cable Route (Figure 2 of 7) | not to scale

L4050 to R733 (at Suttons Cross)

The cable route follows the L4050 road generally in a southerly direction, for circa 2.8km, passing through the townlands of Kilhile, Rosetown and Coleman. There is a higher level of ribbon development along the road through this section of the cable route, with associated services crossing the cable route and laid within the roadway.

These services include telecoms and watermains, as well as overhead lines, which cross the cable route in a number of locations. The final position of the cable within the roadway, will be dependent on the exact location of these services.

At Suttons Cross, the cable route joins the R733 once more, turning in an easterly direction towards Ramsgrange.

At Suttons Cross, the route turns through a circa ninety-degree bend. The wayleave/planning boundary will be widened on both sides of the road to give flexibility for the cable alignment at the bend, and to minimise impacts on existing services (there is a watermain on the southern side of the road and telecoms on the northern side of the road) in this location.

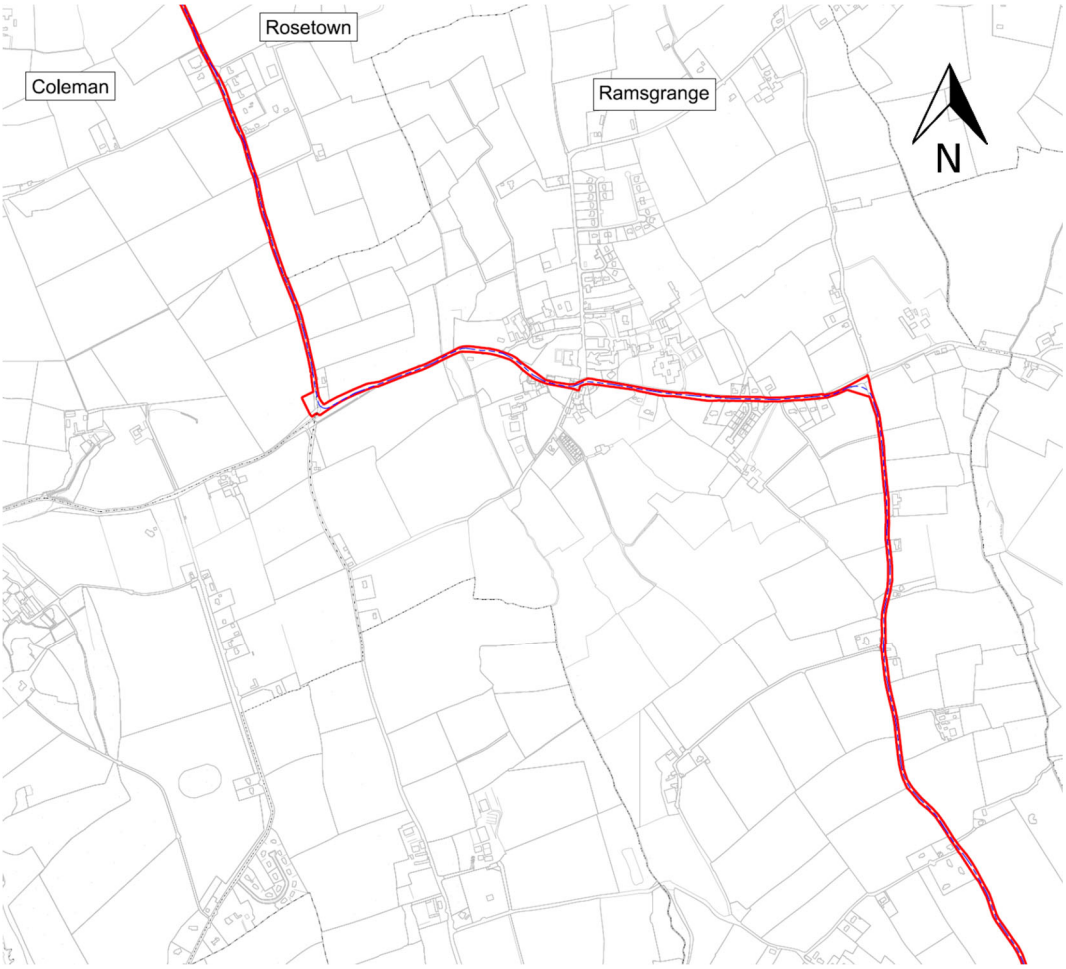

Figure 2.4 HVDC Cable Route (Figure 3 of 7) | not to scale

R733 to the Templar's Inn (Templetown)

From Suttons Cross, the cable will follow the R733 in a generally easterly direction, through the village of Ramsgrange, until it meets the L4045, a

distance of circa 1.5km. The cable will be laid generally within the roadway along this section, with existing services encountered at various locations and running parallel with the cable, particularly through the village. The services include telecoms, watermains and overhead electrical lines.

At the junction with the L4045, the route turns through a circa ninety-degree bend. The cable will be laid outside the roadway, to the southeast, in farmland, and the wayleave/planning boundary will be wider in this location to accommodate the bend in the alignment. This alignment also avoids the services within the road at this junction.

The cable will then turn south, travelling along the L4045 over a distance of circa 7.5km, through the townlands of Ramsgrange, Kilbride, Ballinruan, Aldridge and Booley to Lewistown, where a temporary construction compound will be located. The construction compound will be to the north of the cable route, a short distance off the L4045. The Lewistown temporary construction compound will accommodate site offices, welfare facilities, parking and materials storage for the cable contractor. The compound will be in a field, currently in pasture, with forestry on the eastern boundary of the compound, an area of scrubland to the south and a farm holding to the north. A temporary short access road will be constructed from the L4045 to the compound.

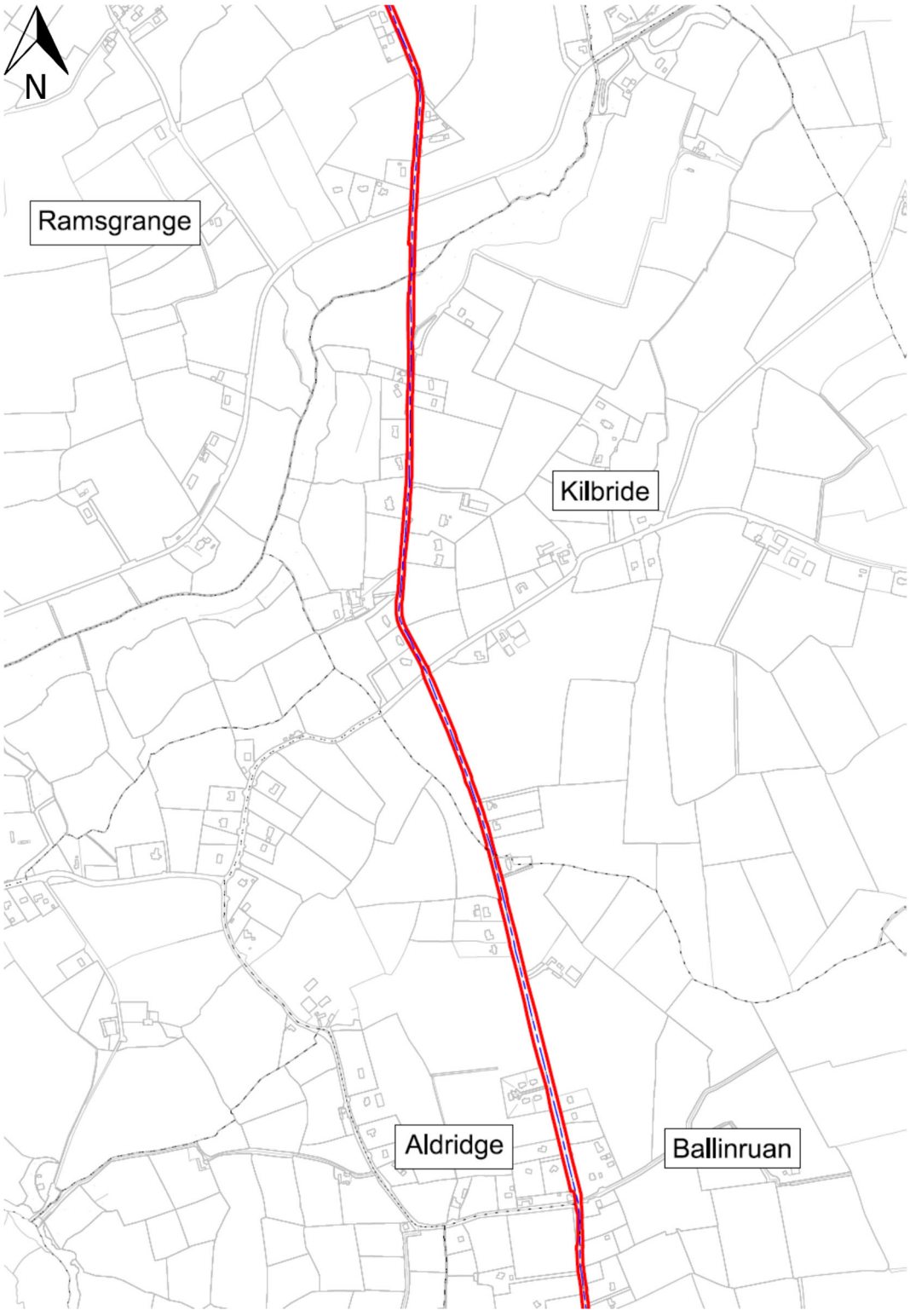

Figure 2.5 HVDC Cable Route (Figure 4 of 7) | not to scale

From Lewistown construction compound access road, the route continues southwards on the L4045 through the townland of Kilcloggan to the junction with an unnamed local road at the Templar's Inn, in the townland of Templetown.

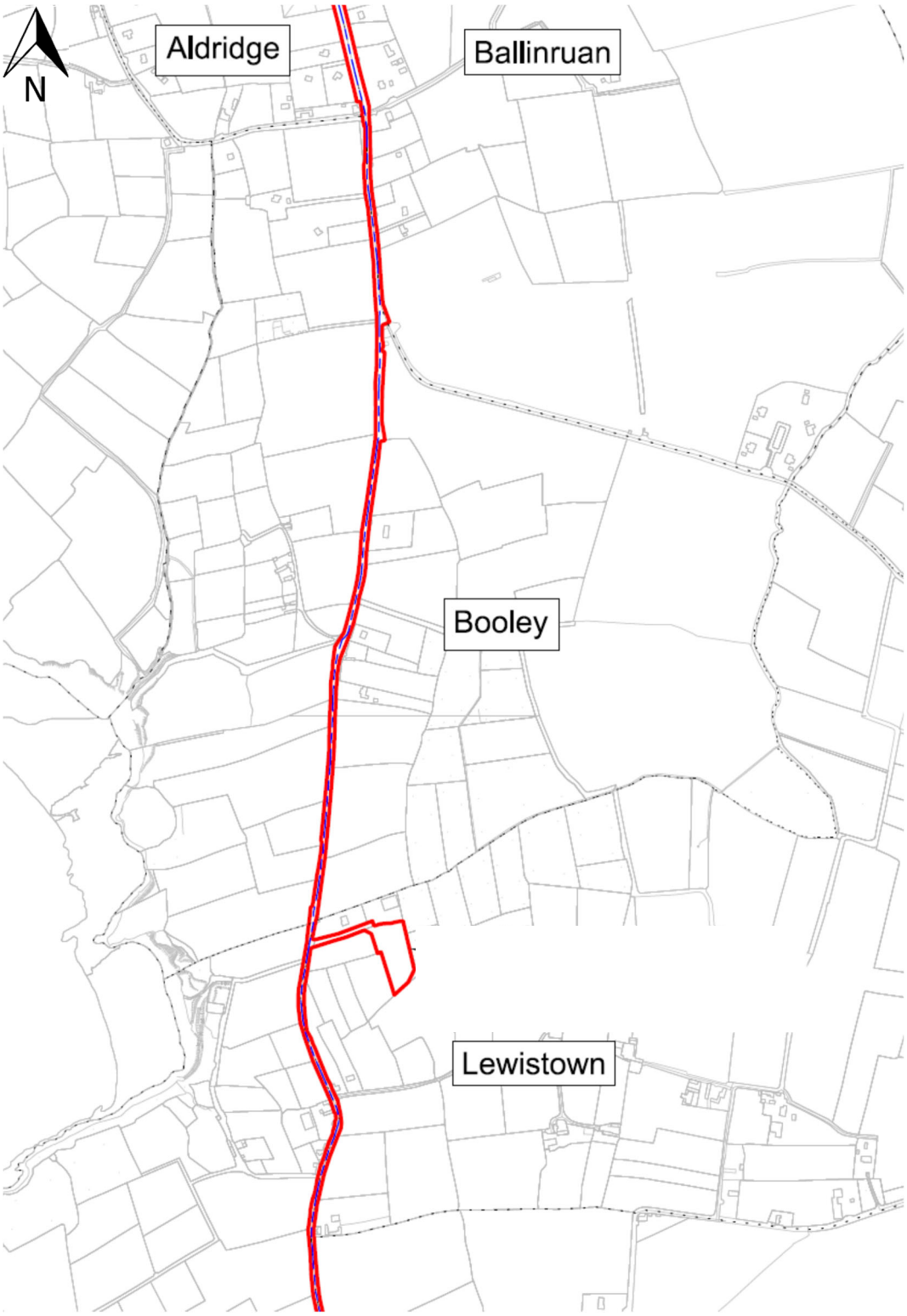

Figure 2.6 HVDC Cable Route (Figure 5 of 7) | not to scale

Most of the ribbon development along this section of the route is on the northerly section, nearer Ramsgrange and at the southern end, near the coast, with the middle section being mainly surrounded by farmland.

There are existing services both crossing and along the proposed cable route, with watermains in particular laid within the roadway for most of this route section.

At the junction of the L4045 and the unnamed local road at the Templar's Inn, the cable route turns to the east through a circa ninety-degree bend. The wayleave will be widened to the west and the cable will be laid in farmland to the west of the road at this junction, to achieve the required alignment and avoid existing services.

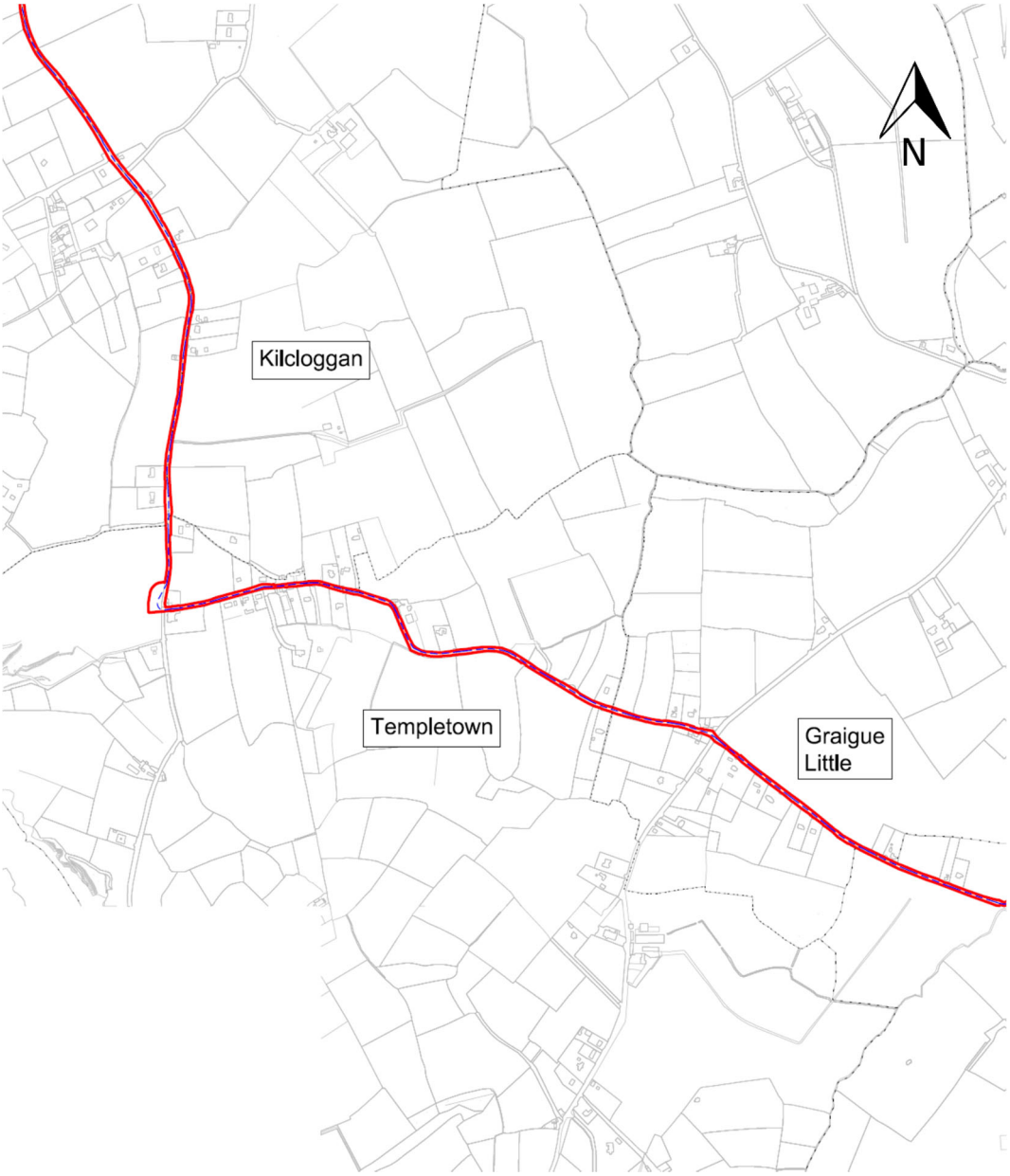

Figure 2.7 HVDC Cable Route (Figure 6 of 7) | not to scale

The Templar's Inn (Templetown) to Landfall

From the junction of the L4045 and the unnamed local road at the Templar's Inn (Templetown), the cable route again follows the road in a south-easterly direction for circa 2.1km, through the townland of Graigue Little to the townland of Graigue Great.

There are two bends in close succession in this narrow road at Graigue Great. The route leaves the road for a distance of circa 250m to accommodate the two bends. The wayleave will be widened and the cable will be laid in farmland north of the road at this location. The route re-joins the road, travelling south/southeasterly for circa 300m to another bend in the narrow road. At this location the wayleave will be widened to the west and the cable will be laid farmland for circa 200m.

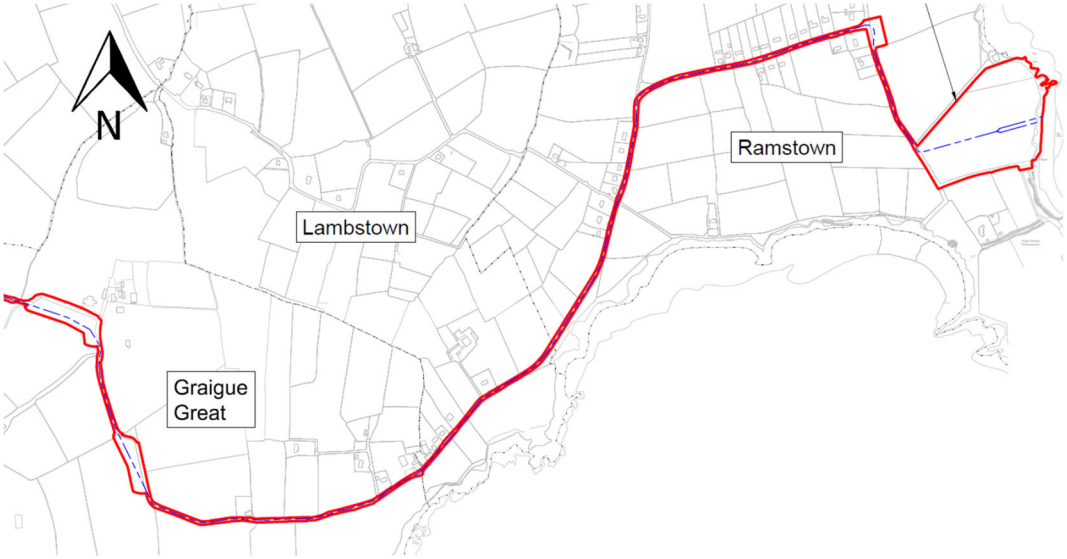

Figure 2.8 HVDC Cable Route (Figure 7 of 7) | not to scale

From this point, the cable route follows the unnamed road for circa 3km, travelling east and then northeast along this coast road, through the townland of Lambstown, before turning north through the townland of Ramstown. The route follows this road to the east, through the village of Ramstown to the junction with the L4049. At the junction with the L4049, the route turns south along the L4049, through a circa ninety-degree bend, towards the coast until it reaches the field proposed for the landfall site at Baginbun Beach. At the ninety-degree bend, the wayleave will be widened, and the cable will be laid in farmland, to accommodate the alignment.

At the landfall site, which is in farmland to the east of the road, the cable route crosses the site to the proposed landfall HDD compound.

Along this route, which is adjacent to the coast, there is ribbon development including some new development within and in proximity to the village of Ramstown.

There are also existing services crossing and along the cable route, including watermains, telecoms and overhead electrical cables. In particular, both the watermains and telecoms cables run along the roadway for a significant portion of the route.

2.3.4 Onshore Cable Technology

The nominal HVDC voltage of the onshore cables will be +320kV. The maximum continuous current will be 810A, while the maximum overload current will be 1,134A.

The HVAC cable will be 220kV rated. The maximum continuous current will be approximately 1,362A, while the maximum overload current will be approximately 1,907A.

2.3.4.1 HVDC Cables Typical Trench Detail

The two HVDC onshore cables will be buried underground in a single trench with a typical depth of cover of 850mm to 1000mm. The standard depth of burial for cables buried in agricultural land will be 1050 mm to the top of the cable ducts, refer to **Figure 2.9**.

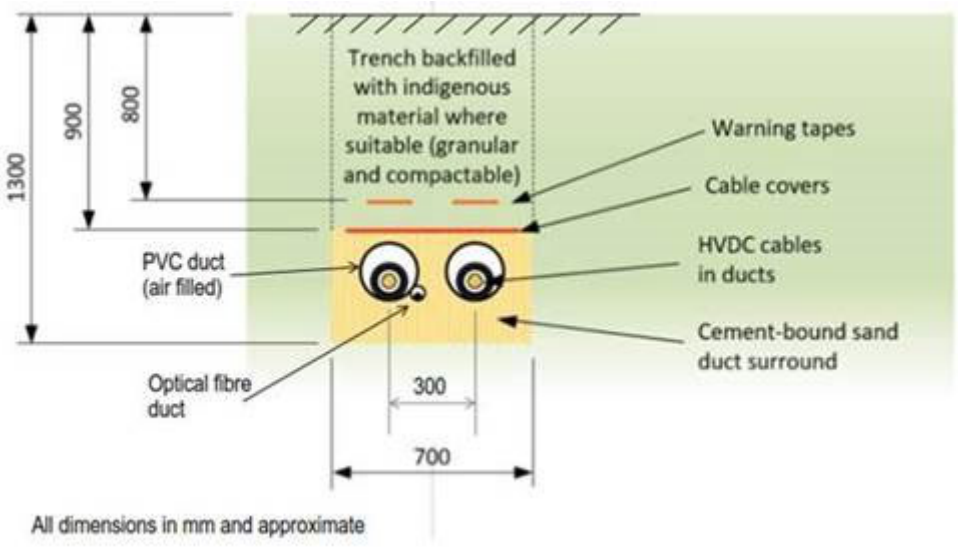

Figure 2.9 Typical HVDC Trench Cross-Section (source: WSP | not to scale)

The cables will be installed in plastic ducts to simplify the construction process. It is usual for the two ducts to be positioned close together (approximately 300mm). A protective cover and warning tape are also usually buried along with marker posts at regular intervals at ground level.

2.3.4.2 Cables at Greater Depth

Where cables need to be buried at a greater depth (i.e. to avoid existing services or at a HDD), it will be necessary to increase the cable spacing to maintain the cable rating.

For onshore cables typical burial depths for HDDs will be in the range of 5 metres to 10 metres. When cables are installed at a greater depth it will be necessary to increase the cable spacing to maintain the rating of the cables. Typically, the axial spacing between ducts will be in the range of 5 metres to 10 metres. The depth of the HDD will be dependent on the ground profile and

the cable spacing will be dependent upon the cable ratings. The maximum axial spacing between HDDs will be 10 metres. At this spacing, each cable can be regarded as thermally independent.

For onshore cables the expected outer diameter of the HDD will be in the range of 200mm to 250mm. The expected outer diameter of the HDD at the sea/land interface will be in the range of 350mm to 450mm.

2.3.4.3 Cable Surround Material

For virtually the complete route the duct surround will be a granular well-compacted thermally suitable material (e.g. cement bound sand) up to the protective covers. For HDD locations it is not possible to have a special backfill around the cables and therefore the ducts will be installed at a greater spacing to improve heat dissipation and ensure no drying out of the indigenous soil occurs.

The trench back-fill above the protective covers will also be well compactable and thermally suitable. Most types of soil will be thermally suitable. However, ground types and material that will not be thermally suitable are as follows:

- Fuel ash;
- Made ground and rubble; and
- Peat.

The cable route will avoid areas that contain the materials listed above. The suitability of a cable route will be confirmed by trial holes, and it is considered there is sufficient scope for micro-routeing of the cables, within the permanent wayleave and red line boundary, to achieve a route through suitable material.

2.3.4.4 HVAC Cable Typical Trench Detail

220kV HVAC cables will connect the proposed converter station to the existing electricity substation. The arrangement for the underground HVAC cables is illustrated in **Figure 2.10**.

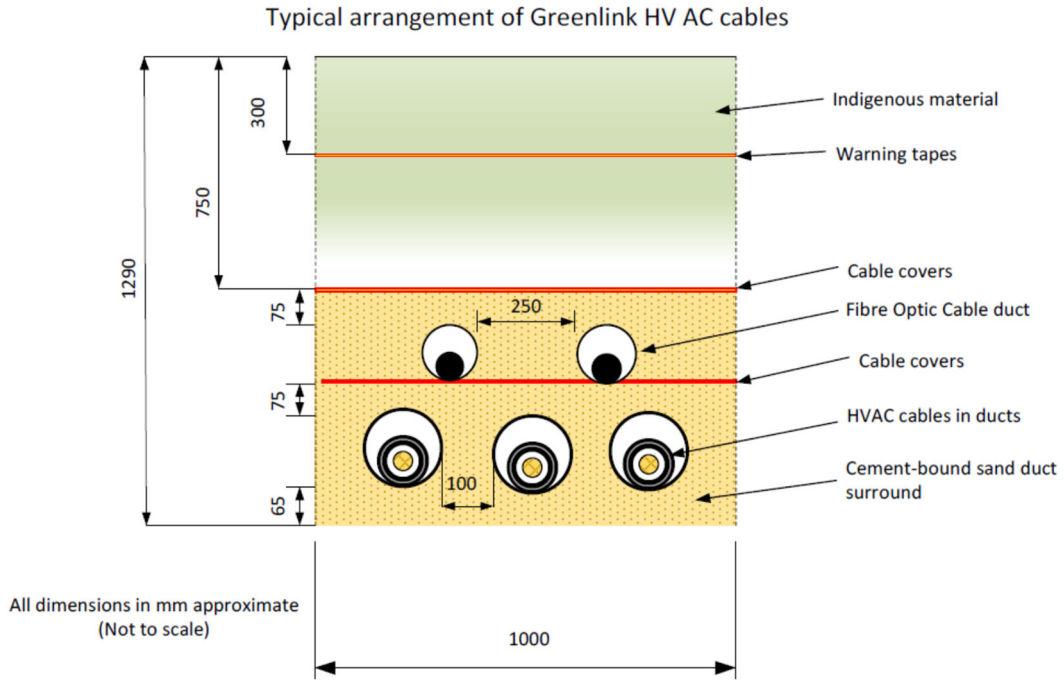

Figure 2.10 Typical HVAC Trench Cross-Section (source: WSP | not to scale)

2.3.4.5 Cable Details

XLPE insulated cables will be used for both the HVDC and HVAC circuits. The offshore and onshore cables will be different in that the subsea cable requires an armouring of steel wires helically wound around the cable for protection from the rigours of subsea installation and the subsea environment.

Ducts and Protective Measures

Both the HVAC and HVDC cables will be installed in ducts. The cable ducts will be plastic (i.e. either PVC or PE). It is anticipated that the duct will have a diameter of approximately 200mm. The depth will be increased in farmland to around 1050mm (increase from 850mm).

The width of the trench will also vary with depth of cover (the deeper the cables are buried the wider the trench may become).

The protective measures required for the cables are listed below. Some of these protective measures will not be practical at some locations (e.g. the HDD under the Campile River Estuary).

- The cables will be installed in plastic cable ducts;
- Around the cable ducts there will be a thermally suitable compactable granular material such as cement-bound sand (CBS or weak concrete mix);
- Above the cable backfill there will be cable covers for the full trench width;
- Above the protective covers there will be a warning tape;
- At joint-bays a concrete slab will be positioned at the bottom of each joint-bay;

- At jointing-bays, above the joints and the thermal backfill there will be protective covers fitted across the full joint-bay; and
- At road crossings the cable ducts will be embedded in concrete.

Marker Posts

Marker posts (refer **Figure 2.11**) will be installed with approximately 750mm of the post above ground and 600mm below ground location, and will be put in place at the following locations:

- Along railways or at railway crossings;
- At road crossings;
- Across agricultural land, in which the maker posts will be located at the edge of field where cables enter and leave the field;
- At joint locations; and
- At change of direction of the cable route.

A typical marker post is shown in **Figure 2.11**.

Figure 2.11: Typical Marker Post

Link Boxes

Link boxes will be located along the route at approximately 5km intervals. They will be located in a pit close to the joint bay (typically less than 10m apart). There will be an earthing strip around the periphery of the joint bays where link boxes are installed. The earthing strip is typically a copper tape, approximately 75mm^2 to 300mm^2 in size, and provides an interface to ground

via joint bay earth rods. The earth strip connects the cable screen to earth via the link box.

There will be bonding leads (i.e. lower voltage cables) running from the link-boxes to the joints. **Figure 2.12** illustrates a typical link box. They will need to be accessed occasionally (i.e. approximately every 2 years) to allow the outer polyethylene layer of the cable to be tested for integrity.

Figure 2.12: Link box (typical dimensions: 1m long x 0.8m wide x 0.5m deep)

Fibre Optic Cable Splicing Boxes

Fibre optic cable splicing boxes (communication chambers) will be located near each joint bay **Figures 2.13** and **2.14** illustrates a typical fibre optic box.

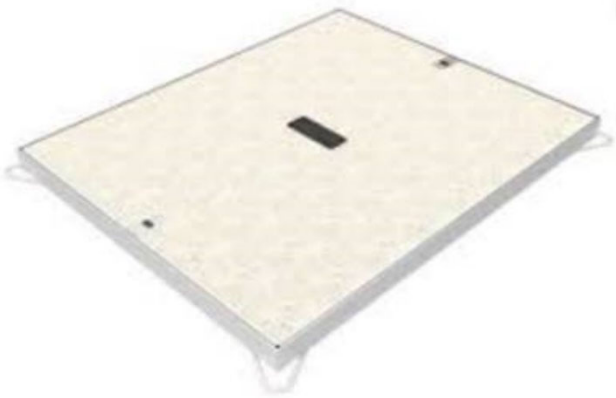

Figure 2.13: Fibre Optic Box (lid) as seen at ground level

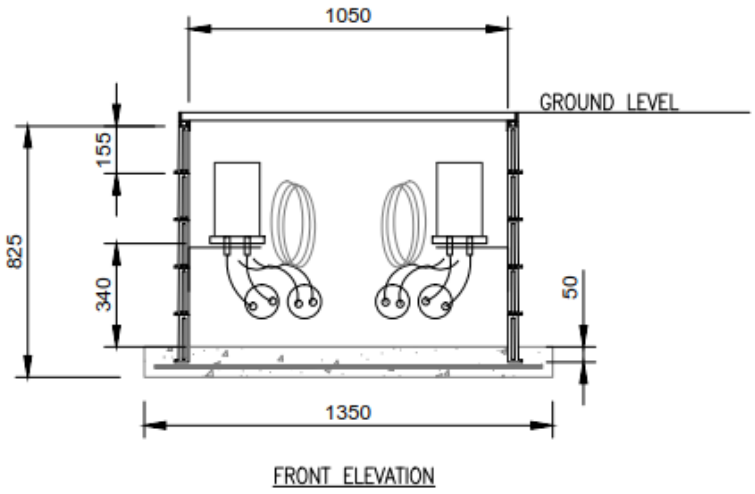

Figure 2.14: Fibre Optic Box at underground level | not to scale

Joint Bays

Typically, up to 1.8km of HVDC cable can be carried on a single reel. This results in one jointing bay being required every 1.8km of a cable installation, at a minimum. However, it is expected that joint bays will be required at circa 1km spacing, to reflect the complexity of the final cable route. Once the joint has been made the cable will be buried in the same manner as the rest of the underground cable.

2.3.5 Landfall Description

The offshore cables will be to a specification which will be different from the cables to be used onshore. The connection between the onshore cables and offshore cables will be made at a location adjacent to Baginbun Beach. In a field inland from the beach, a horizontal directional drill (HDD) will be made connecting to the offshore element of the project at a point below the low-tide mark on the seabed.

2.3.5.1 Landfall Site Description

The landfall site is shown on **Figure 2.8**. The site is located directly adjacent to the coast, to the southeast of the hamlet of Ramstown. The site comprises a large field, currently in tillage, bounded on the eastern side by Baginbun Beach, to the north by a private access to a dwelling house, to the south by a road providing access to the beach and to the west by the local public road. The site area within the redline boundary, which includes the road on the southern side, is 6.63 hectares (16.4 acres).

The site is gently undulating, with a slight northeast – southwest aligned ridge towards the centre. Ground levels vary from just less than 11.00mOD at the north-eastern boundary, to almost 16mOD at the high point of the ridge.

2.3.5.2 Cable Landfall Technology

The cables to be installed on land will be different from the marine cables. The land cables will be connected to the marine cables in a Transition Jointing Bay (TJB) buried in the ground in the field inland from Baginbun Beach along a line of low cliffs. The TJB at the sea-land interface will contain the following:

- 2 no. armour clamps (fixed to a concrete block);
- 2 no. HVDC cables joints;
- Concrete plinth;
- A fibre joint;
- A link-box or link-pillar; and
- There will be an earthing strip around the periphery of the joint bay.

HDD is the preferred method of installation at the landfall site inland.

Typical depths for HDDs will be in the range of 5m - 10m. When cables are installed at a greater depth to maintain the rating of the cables it will be necessary to increase the cable spacing. Typically, the axial spacing between ducts will be in the range of 5m – 10m. The depth of the HDD will be dependent on the ground profile and the cable spacing will be dependent upon the cable ratings.

2.3.6 Maintenance of the Cables

Maintenance of the cables will comprise an inspection inside the link boxes, which will be located at every fifth jointing bay, every two years.

2.3.7 Decommissioning Cables on Land

The HVDC, HVAC and fibre optic cables will be decommissioned when Greenlink ceases operation, at the same time as decommissioning of the converter station and tail station. The current trend is to refurbish HVDC equipment at the end of its operational lifetime and extend the lifetime of the interconnector.

When it becomes appropriate to decommission the interconnector, the HVDC and HVAC cables will remain in-situ as there would be more environmental impact in removing the cables than can be justified by the recycle value of cable material. However, the link boxes and fibre optic joints will be removed, and their locations reinstated.

2.4 Tail Station

The HVAC cables will connect the existing Eirgrid Great Island substation to a small new substation, located adjacent to the proposed converter station. This new substation will be referred to as the 'Loughtown substation' or 'Loughtown tail station'. The earthworks platform, on which the converter station will be built, will extend westwards to accommodate the tail station.

The Loughtown tail station site, as illustrated in **Figure 2.15,** will have a footprint of 33m by 35m and the building will be approximately 11 metres in height. The levelled platform for the tail station will be at the same elevation as the converter station platform. The tail station will have the same design life as the converter station.

The tail station has been designed to comply with EirGrid's specifications. The tail station will comprise a single 220kV gas insulated switchgear (GIS) circuit along with control panels and a small diesel generator (250kVA). It will have a single perimeter fence, 2.6m in height.

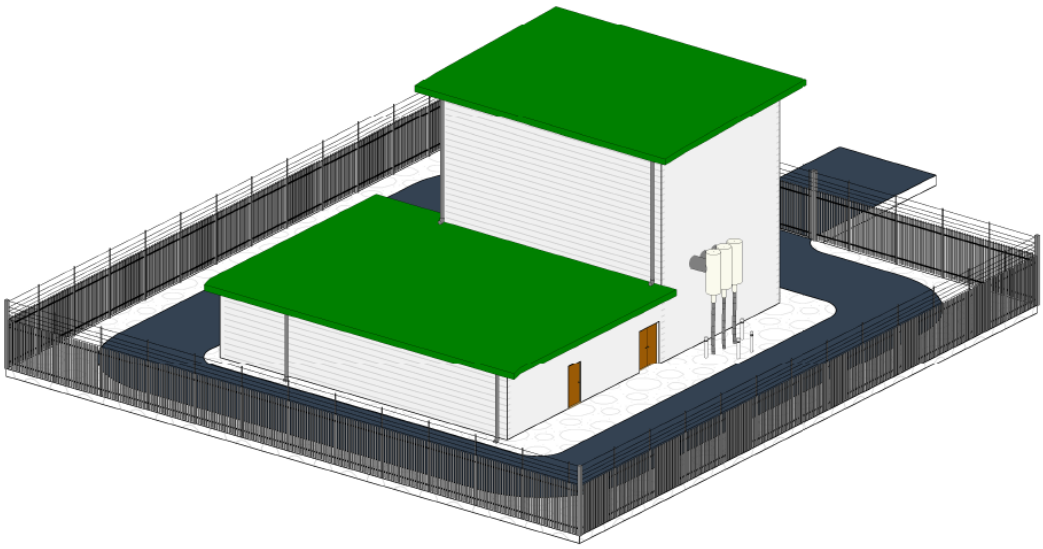

Figure 2.15: Tail Station 3-D View (source: WSP | not to scale)

2.5 Converter Station

2.5.1 Site Location and Context

The converter station site is located to the east of the SSE Great Island Power Station site, in County Wexford. Great Island Power Station operates subject to an Industrial Emissions licence, and is a lower-tier Control of Major Accidents Hazards (COMAH) site. The site is located to the north of the River Barrow Estuary and south of the disused Waterford to Rosslare Harbour railway line. The nearest village is Campile, approximately 3km to the east. New Ross is located circa 17km to the north. The site is accessed from local roads off the R733, which runs in a north-south direction, approximately 1km to the east of the site.

The converter station site is located within an area of pasture, within a single field. The site is circa 9.3ha (23acres) in area. The site is of low ecological interest. The site will be re-graded to form a level platform, at an elevation of 23mOD, for the converter station and tail station footprint.

2.5.2 Converter Station Buildings and Equipment

The area of the footprint of the proposed levelled platform for the converter station will be circa 1.85 hectares, additional to the levelled area for the tail station. This footprint will accommodate a 500MW nominal capacity station, for the conversion between HVAC and HVDC electrical currents. Within that footprint, two alternative converter station configurations are currently being considered by Greenlink Interconnector Ltd. The exact configuration will be chosen by the (one of two) contractor that will be awarded the design/build contract. Although the final configuration of the converter station has not yet been determined, the 'worst-case' environmental effects of the converter station alternatives has been documented and assessed in this EIAR.

The two converter station configurations and equipment will function in the same manner, and both will comply with strict guidelines when operating.

2.5.3 Alternative Configurations

Two alternative converter station configurations will be submitted as part of the planning application.

The alternative converter station configurations are illustrated in **Figure 2.16** and **2.17**.

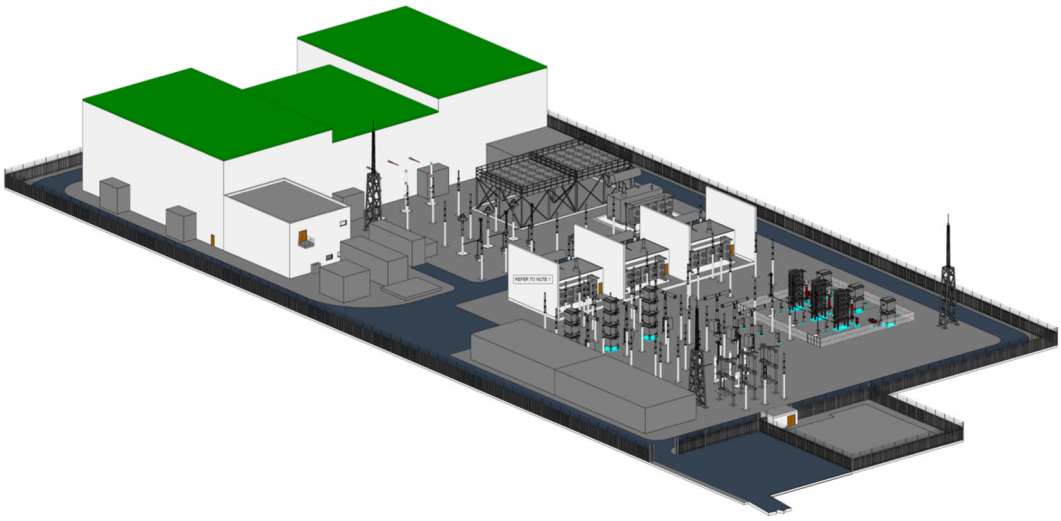

Figure 2.16 Converter Station Alternative Configuration 1 3-D View (source: WSP | not to scale)

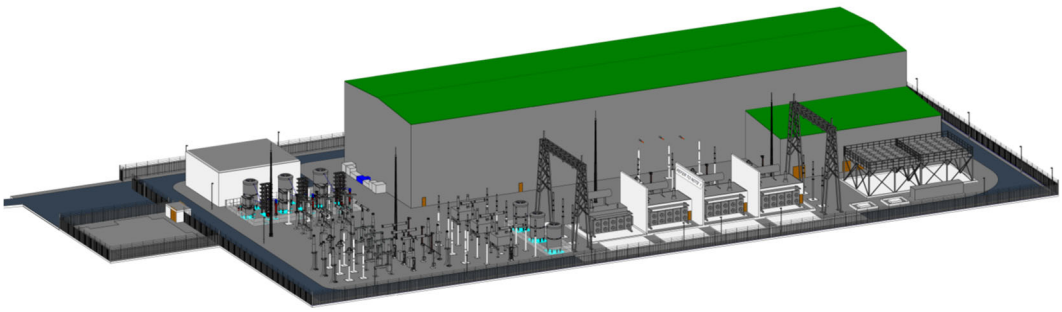

Figure 2.17 Converter Station Alternative Configuration 2 3-D View (source: WSP | not to scale)

The converter station will include various buildings, apparatus and equipment. These will include a converter hall, converter transformers, AC switchgear and busbars, harmonics filters, lightning towers, ancillary plant such as cooling bank and a diesel generator, and a control building. The tallest components will be the lightning towers at c. 26 metres high and the converter hall, which will be up to 21 metres high at its apex. The converter hall and main building will be one continuous building with roofs at different heights. A description of the main components of the converter station is presented below.

2.5.4 Converter Hall

The converter hall will house the valve, reactor and DC switches. The valve equipment will convert electrical power from DC to AC.

The DC switches will control the DC cable termination area. The reactors will be large air-cooled reactors.

The proposed building will be a rectangular, shallow pitch, single storey piled structure to provide a weatherproof enclosure over the electrical plant, instrumentation and switchgear. Internally, the building will be divided into the reactor hall, valve hall and DC hall (total area approximately 4305 square

metres for Alternative 1). For Alternative 2, these halls are separate (total area approximately 2870 square metres). Due to the building functionality and electrical clearance requirement, internal columns will be minimised. The roof structure may include beams capable of lifting at least 10 tonnes of equipment and these beams would be integrated into the roof structure. To aid installation and removal of large equipment, lifting beams will be supported from the roof structure at appropriate positions.

Roof cladding will be standing seam roof cladding on cold formed purlins supported from primary roof beams.

Wall cladding will be an appropriate composite wall cladding on cold formed rails supported from primary steel columns. The cladding design will give the appearance of an 'ordinary' industrial building, with colours selected to minimise visual impacts. The ground floor will be designed as suspended in-situ concrete piled raft to suit the design loading and usage requirement.

2.5.5 Control Building

The control room will accommodate equipment housed in panels which will provide the functionality of operation, control and protection of the converter station's electrical equipment.

The control building will comprise a single storey piled structure (approximately 740 square metres for Alternative 1 or approximately 280 square metres for Alternative 2) with a cable basement and a lightweight roof with no permanent access/access for maintenance only. Each floor will be divided by lightweight but durable metal stud partitions to provide dedicated spaces for batteries, panels, etc.

Welfare facilities will be provided in the control building.

The control building and converter halls will have a common superstructure and substructure due to their very close proximity.

The below ground cable basement will be designed as a fully reinforced retaining wall with appropriate penetrations to suit LV cables and valve cooling pipes. The perimeter retaining wall will be designed for an appropriate surcharge loading, for the permanent design condition. The retaining wall will be designed and constructed as a water retaining structure.

A composite roof cladding system suitable for 8° roof pitch on cold formed purlins supported from primary roof beams will be adopted.

Wall cladding will be of an appropriate composite on cold formed rails supported form primary steel columns, in colours selected to minimise visual impacts.

The basement floor slab will be designed as a suspended in-situ concrete piled raft to suit design loading and usage requirement.

2.5.6 Spare Parts Building/Storage Building

The spare parts building, labelled 'Storage building' on the alternative plan, will house the equipment that will be used to replace worn or faulty equipment

(Alternative 1 has an area of approximately 360 square metres and a height of 8.4m, while Alternative 2 has an area of approximately 320 square metres and a height of 5.6m and a separate cable store of approximately 300 square metres and a height of 6.1m). Included within the spares building will be cable drums that will be used to replace damaged DC cable.

The spare parts building will be a duo pitched piled portal frame structure to suit the project requirements.

A composite roof cladding system suitable for 8° roof pitch on cold formed purlins supported from primary roof beams will be adopted.

Wall cladding will be an appropriate composite on cold formed rails supported form primary steel columns. The cladding design will be developed in such a way to give the appearance of an industrial building.

The ground floor will be designed as suspended in-situ concrete piled raft to suit the design loading and usage requirement.

2.5.7 Transformer and Bunds

Transformers will be sited within a reinforced concrete bund which will be linked to an underground oil dump tank.

The location of the converter transformers on site will be in accordance with fire design and electrical clearance requirement. 9.0m high precast fire walls with 4 hours fire resistance will be provided, where appropriate, to provide adequate separation between adjacent transformers and electrical circuits.

Transformer bunds will be designed as waterproof structures in accordance with BS EN 1992-3. The bunds will be tested in accordance with standard bund testing requirements.

The height of all oil retaining area walls will be a minimum of 450mm above the finished substation ground level or the support plinth(s) of the associated contacting equipment, whichever is greater, to provide a physical barrier preventing possible vehicular contact with transformers.

Rainwater or other surface water shall permeate through a flame trap. Once permeated through the stone fire trap, the water will be collected in a common dump tank. It will then be pumped out of the dump tank via a bund water control pump to a manhole, before flowing by gravity to a hydrocarbon interceptor prior to final discharge into the surface water drainage system.

The oily water system will incorporate penstocks to close off the system.

The hydrocarbon interceptor system will include a Class 1 full retention unit in accordance with BS EN 858-1, incorporating a coalescer automatic closure device and high oil level alarm. The separator shall be fully capable of isolating all upstream oil flow in the event that the high-level oil alarm is activated.

The interceptor will be sized to suit the storm intensity flow rates from the transformer bunds and any other designated oil containment area.

2.5.8 Storage of Liquids

The coolant, which will be either distilled water or glycol (depending on the contractor employed), will be the only liquid stored in bulk on site, apart for the fuel storage for the standby generator. Coolant will be stored in special standby tanks located in the cooler pump room. The cooler pump room will be adjacent to the Storage Building, or part of the control building.

2.5.9 Standby Generator

The standby generator, approximately 2000kVA in size, is self-contained with 2 days of fuel storage.

2.5.10 Landscaping

Within the converter station site that accommodates the converter station site and Loughtown tail station, a comprehensive landscaping scheme will be implemented, incorporating significant earthworks, berming, planting of approximately 15,000 native mixed-woodland trees, and zones of grassland meadow.

2.5.11 Utility Connections

The converter station and tail station will have the following utility connections:

- Potable Water;
- Foul Drainage;
- Surface Water Drainage;
- Telecoms and IT; and
- Electricity.

2.5.11.1 Potable Water

Potable water for the site will be provided by a new watermain, which will connect to the existing watermain just outside the site and will be laid along the proposed site access road, to the welfare facilities in the control building of the converter station and in the tail station.

2.5.11.2 Foul Drainage

There will be two personnel stationed at the converter station at all times operating the interconnector, with only infrequent visits by personnel to the tail station. Therefore, foul wastewater generated will be minimal. Foul wastewater will be collected from the welfare facilities in the converter station and tail station.

It will be contained in the units and removed from site periodically, by a licensed service provider, to a local sewage treatment plant, which has adequate capacity.

2.5.11.3 Surface Water Drainage

Surface water on site will be collected in a new surface water drainage system. Surface water from the proposed access road will connect to the existing Great Island sub-station road drainage.

Surface water run-off from yard areas and the building roofs of the converter station and tail station, will discharge through proposed filter drains and surface water sewers, through a bypass interceptor, to a proposed attenuation pond, to be constructed to the south-eastern part of the site. The attenuation pond will provide c. 800 m^3 of storage. The attenuation pond will have a c. 1.5 m track around its perimeter and will be excavated to provide 1 in 3 side slopes. Discharges from the attenuation pond will be via an outfall pipe to the existing stream in the eastern part of the site (Newtown Stream) and will be controlled to greenfield rates.

2.5.11.4 Telecoms and Electrical Supply

New connections will also be provided to the converter station and tail station for telecoms and electrical supply, from existing utility services adjacent to the site.

A new MV substation building of approximately 9.0m by 4.5m, and 3.0m in height, will be located outside the converter station and tail station perimeter fences, connecting the electrical supply to the converter station site and to the Loughtown tail station. All the MV and LV electrical connections on the site will be made by underground cable.

The telecoms connection will be an underground connection route along the converter station and tail station access road to the Eircom service on the public road at the entrance to the SSE power station site.

2.5.12 Security Fencing

Two security fences, one inside the other (with approximately 0.3m separation), will be installed around the perimeter of the Converter Station, with access thorough security gates. The fences are likely to be as follows:

- A 2.4m high security weld mesh fence, with perimeter gates for vehicular and pedestrian access
- A 3.4m high power fence (electrified).

CCTV cameras will be installed along the perimeter for security purposes and will be monitored remotely. Intruder alarms will be signalled to the remote monitoring at the Greenlink Operations facility.

2.5.13 External Lighting

The lighting system will provide adequate illumination within the converter station to allow personnel to move without risk to health and safety. Security lighting will be installed against the building and GRP lighting poles of at least 6m height will be installed for illuminating the external area between buildings, transformer and reactor area and within the perimeter walls.

Under normal operating conditions, external lighting would be switched off during the hours of darkness, to avoid creating any unnecessary glare in the night sky. The exception would be for emergency repairs to outdoor equipment, where high-level illumination would be switched on. The use of motion sensor technology is likely to be implemented to control lighting at access doors, security gates, etc.

2.5.14 Site Access Road and Site Surfacing

A new access road, to provide access and egress from the site, will also be provided. This access road will connect to the existing Great Island Substation road. Improvements will be made to the existing road as required for maintenance during construction and operations. Surface water from the proposed access road will drain to infiltration trenches located in the verge area of the access road. These infiltration trenches will provide water quality treatment and allow the surface water to infiltrate to ground.

Site surfacing (other than site access roads) will consist of clean, hard 30mm natural gravel or crushed stone to a compacted thickness of 150mm and lightly rolled. Site surfacing shall be spread after installation of services and cables. Filter drains, connected to the surface water drainage system, described above, will collect surface water run-off from the site road and yard areas.

2.5.15 Operation and Maintenance of the Converter Station

Greenlink is anticipated to provide permanent employment for approximately 20 people for the overall project in Ireland. Of this figure approximately five people will have particular responsibility for the proposed development during the operational phase. Of these five, two personnel will be stationed at the converter station at all times operating the interconnector.

It is expected that one or two vehicles may attend the site every four weeks for an inspection. Each inspection will be limited to approximately four hours and restricted to within normal working hours.

On an annual basis, four consecutive days each year, the converter station will undergo maintenance work that will typically require 12 to 15 vehicles per day. This work may be undertaken on a shift pattern to allow 24-hour working.

For powering the auxiliary systems of the converter station there are two alternative power supplies. There will be a 10kV or 20kV supply from the local distribution network and a standby generator, that will be available for operation in the event the normal auxiliary supply is lost. The standby generator will likely be one 2MVA unit housed in a weatherproof enclosure and located upon a concrete bund. Since the latter is a secondary reserve, use will be limited to testing; circa one day per month.

2.5.16 Operation and Maintenance of the Tail Station

Eirgrid will operate the tail station. The station will operate continuously. It will be unmanned and operated remotely. Eirgrid staff will visit infrequently to inspect equipment. The tail station will be subject to an annual maintenance visit of several days' duration by a small crew.

2.5.17 Decommissioning the Converter Station and Tail Station

The converter station and tail station will be decommissioned when Greenlink ceases operation. The design life of these assets will be 40 years. The current trend is to refurbish HVDC equipment at the end of its operational lifetime and extend the lifetime of the interconnector.

When it becomes appropriate to decommission the interconnector, each item of equipment in the converter station and tail station will be removed for appropriate management, based on the waste regulations at the time of decommissioning. All above ground structures within the proposed converter station and tail station footprint will be removed and the site will be returned to its previous state. It is not proposed to remove landscaping berms and planting. The attenuation pond will be filled in with some subsoil from the original site works, used to form the landscape berm, and then top-soiled.

2.6 Community Gain (also summarised in Appendix B)

2.6.1 Car Park at Baginbun Beach

Baginbun Beach is popular with locals and tourists, especially during the summer months. Currently, visitors to the beach park along both sides of the narrow approach road to the beach and, at particularly busy times, the parking extends around the corner onto the L4049 road, at the western end of the approach road. This parking creates congestion and is a hazard for road users, particularly pedestrians.

During the consultations with Wexford County Council, Greenlink agreed to construct car-parking facilities near Baginbun Beach as an element of community gain for the project. Greenlink will purchase a strip of land on the north side of the approach road which will allow the road to be widened to an overall width of 12m. The road is edged with low scrub, which does not have high habitat value. There will be a 3m wide parking bay on both sides and two 3m wide vehicular lanes. Approximately 54 parking spaces will be provided, with parallel parking along both sides of the road. The 6m wide carriageway will allow two cars to pass comfortably. The road widening will extend from the junction at the western end of the road to a point approximately 35m west of the edge of the cliff, behind the beach. A 10kV ESB pole, close to the junction at the western end of the road, will be relocated to accommodate the road widening. There are two farm gates in the road boundaries, one on either side. The gate on the northern side will be set back as part of the widening, and appropriate sight lines will be provided for both gates.

There is an entrance to a dwelling house close to the beach, on the southern side of the road, and this will also be given sufficient sight lines. A turning area will be established at the beach end of the road. The 6m wide carriageway will also facilitate three-point turning along the road. The widened road and parking will be constructed with a full road build-up, surface dressing and line markings, with stormwater run-off continuing to naturally

infiltrate on both sides of the road in accordance with Wexford County Council's requirements.

Figure 2.18 illustrates the proposed roadside car parking area.

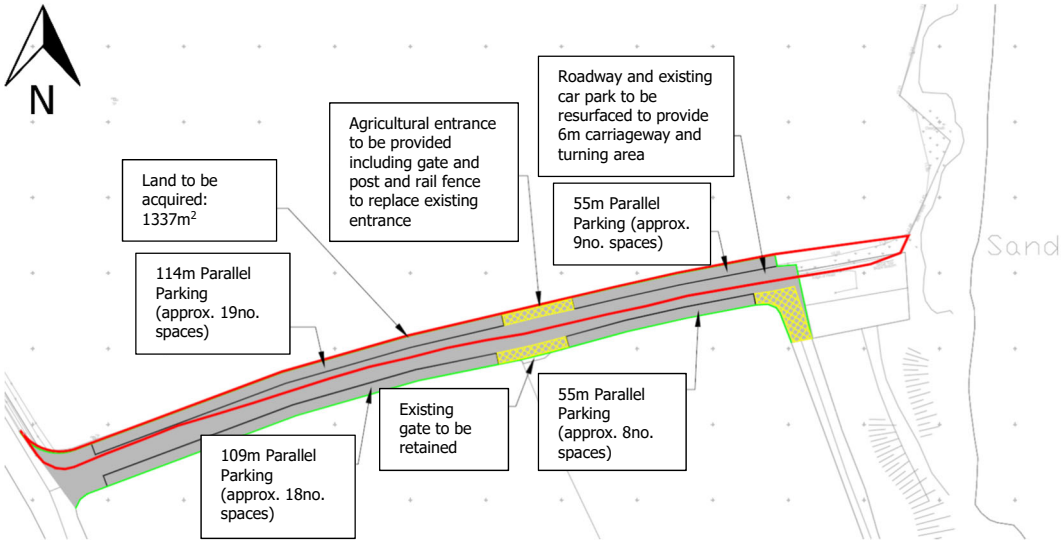

Figure 2.18: Proposed Car Parking near Baginbun Beach | not to scale

This parking facility is welcomed by Wexford County Council and the local residents, to whom the Greenlink representatives have spoken. It is likely that the parking facility would be constructed by Wexford County Council.

The car park at Baginbun Beach will be retained when Greenlink is decommissioned.

2.6.2 Ramsgange Village

As part of the public engagement with residents in Ramsgrange, the potential was identified for the provision of community gain in the form of improvements to pedestrian amenity in the village. In consultation with Wexford County Council, it was agreed that a footpath would be provided on the southern side of the R733 eastbound, between the village centre and the recently constructed housing development at the eastern edge of the village. In addition, a short length of footpath will be provided on the northern side of the road, opposite the housing development. The new footpaths will generally have dropped kerbs which will be provided at each entrance.

Four new streetlights will be provided on the northern side of the road, to the east of the existing school entrance, and a new speed-activated sign will be provided at the western approach to the village. Surface water drainage will be connected to the existing surface water network, and a power cable will be installed to power the proposed street lighting.

Figure 2.19 illustrates the proposed works at Ramsgrange.

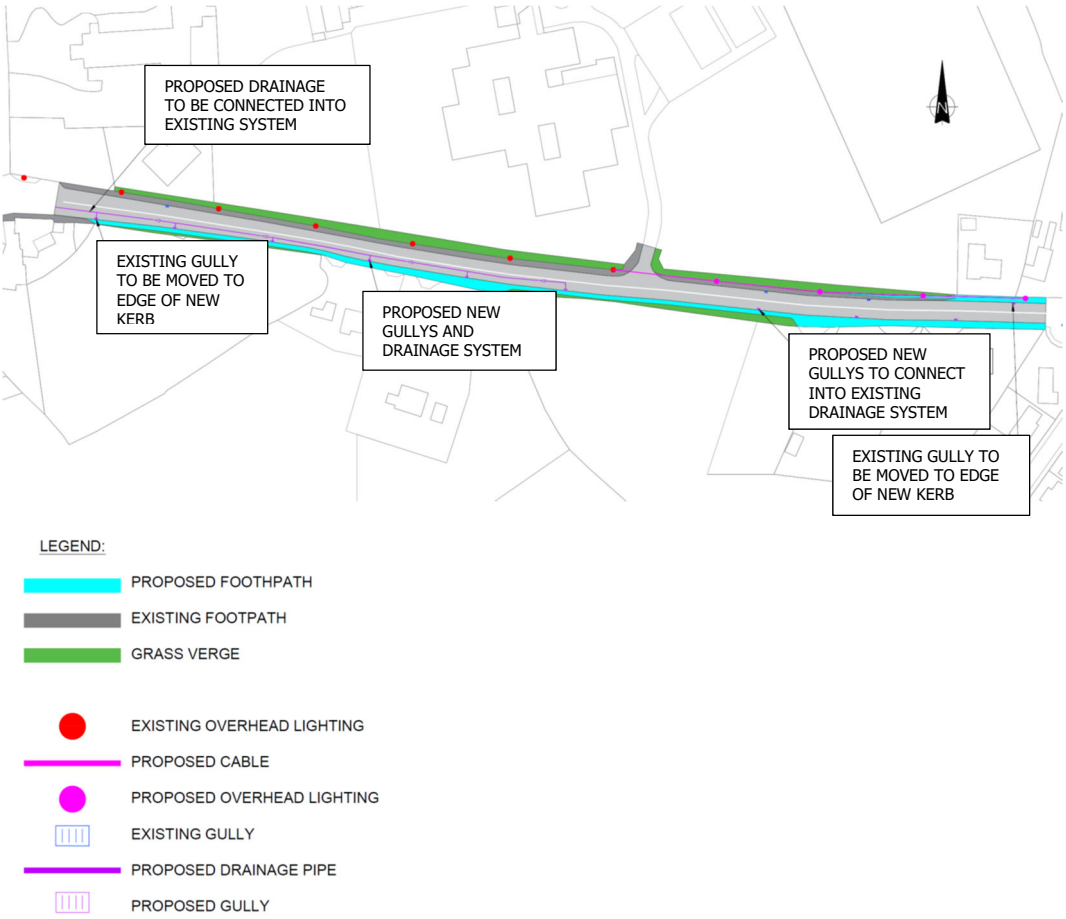

Figure 2.19: Proposed Pedestrian Amenity Improvement Works at Ramsgrange | not to scale

2.7 Overview of Construction Strategy

A large infrastructure project such as Greenlink takes several years from concept to construction. Subject to obtaining planning approval and the relevant permits and licences, on-site construction of the proposed development will commence in 2020. Greenlink is expected to be fully operational in 2023.

The following sections outline the planned methodology for the main construction elements of the proposed development.

2.7.1 Enabling Works and Site Clearance

These works will include implementing the Construction Traffic Management Plan and the Surface Water Management Strategy, construction of temporary site access to the construction compounds, removal of vegetation, installing hoarding and fencing around the temporary construction compounds, provision of welfare facilities where foul sewage will be removed off-site and undertaking all required utility and service connections.

2.7.2 Converter Station Site

The construction strategy and sequence to be employed at the converter station site is outlined below.

- Construct access road and converter station construction compound
- Earth moving to create the platform on converter station site, construct the haul roads and undertake piling for building foundations
- Install converter station site perimeter fencing
- Construct site drainage and other underground services
- Pour reinforced concrete foundations and slabs
- Erect converter station and tail station steel superstructure, wall cladding, roof installation, gutters and rainwater pipes.
- Complete converter station and tail station fit out and finishes
- Complete final road surfacing, painting white lines, signage and placing stone chippings where there will not be roads.

2.7.3 Cable Route

Duct Installation in Roads, Footpaths and Verges

The temporary working area, for cable construction in a road, will depend on the width of the road or lane.

Where feasible, if the road or lane is wide enough, one carriageway will remain open to traffic. A section of the route in the road between 100 and 300 metres long, depending on road conditions, will be fenced-off at the start of the week, the road excavated, the ducts installed, and the trench backfilled with duct surround material (cement-bound sand or concrete and compacted aggregate) each day. At the end of the week, the road surfacing will then be reinstated over the completed trench section.

In general, because the full-depth trench will only be open for less than 24 hours, and the ground will be well compacted, internal trench supports will not be required while the trench is open.

Cables and Ducts Trench Construction Off-Road

A schematic of the arrangement of the construction activities, within the working width, which will be used for the construction of the portions of the cable route in farmland is presented below. A 30m construction working width (centred on the permanent wayleave) has been agreed with the landowners. This 30m temporary working width will give sufficient area for the excavation of the trench and storage of topsoil and subsoil from the trench. It will also have room for a temporary haul road for the movement of the excavation equipment, general installation vehicles, and for the delivery of materials such as ducting, protective covers and bedding. The arrangement of the working area in farmland is illustrated in **Figure 2.20**.

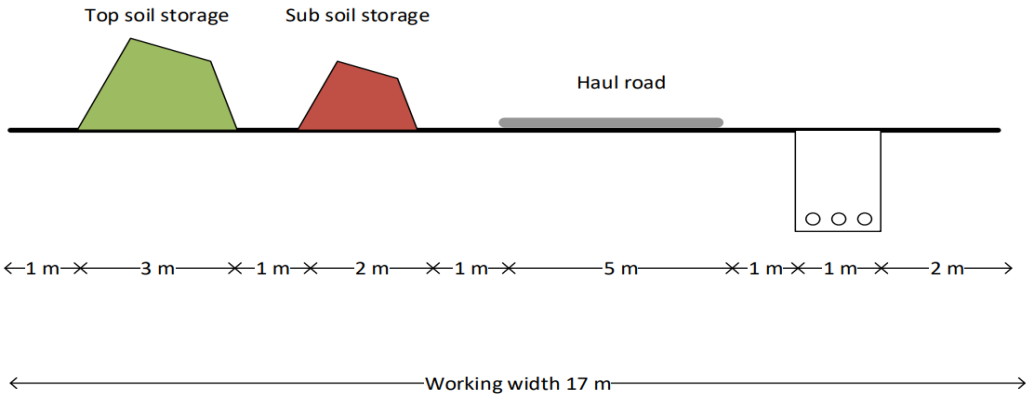

Figure 2.20: Working Corridor for Cables (source: WSP | not to scale)

Duct Installation by Horizontal Directional Drilling

Horizontal directional drilling is the method of cable installation which will be used at Baginbun Beach and the cable crossing of the Campile River Estuary. Mini-horizontal directional drilling is the preferred method for crossing the existing underground gas pipeline at Great Island and for the crossing the Kilmannock Stream. Gas Networks Ireland has been consulted on the crossing of the pipeline. Horizontal directional drilling is a technique whereby a hole is drilled under a feature so that the cable installation avoids disturbance of the feature. A pipe is inserted into the drilled hole. The pipe acts as a duct through which the cable is pulled. The horizontal directional drilling may require a drilling fluid to cool and lubricate the drill head. Typically, bentonite is used, which is a non-toxic, natural substance.

Typical depths for horizontal directional drilling will be in the range of 5m to 10m.

Once commenced, the horizontal directional drilling activity will continuously operate over a 24-hour period until each bore is complete.

Figure 2.21: Photo of Typical Horizontal Directional Drilling Rig

Figure 2.21 is a photograph of a horizontal directional drilling drill rig. For mini- horizontal directional drilling the rig is much smaller, and the area require to operated it is much less.

Joining of Cables

The cables will be supply to site on very large drums. The lengths of cable will be joined at jointing bays. A jointing bay will be required every 1.8km of a cable installation, at a minimum. However, jointing bay locations depend on the geometry of the cable route. It is expected that there will be joint bays at circa 1km centres. A jointing bay provides a temporary safe and clean environment for an engineer to work in while connecting two cable ends. Any works within private land will be agreed with landowners in advance of the works.

Landfall Transition Jointing Bay

The onshore cables will be to a different specification to that of the subsea cables. The onshore cables will be connected to the marine cables at the Transition Jointing Bay, which will be located below ground level in the horizontal directional drilling contractor's compound adjacent to Baginbun Beach.

Watercourse Crossing

The cable corridor crosses a watercourse, Kilmannock Stream (Newtown Stream), northeast of the converter station. The preferred method to cross the stream is a horizontal directional drill using a mini rig. The non-preferred option is a trench crossing.

Gas Pipeline Crossing

The high voltage alternating current cable from the Loughtown tail station to the Eirgrid Great Island 220kV substation will be laid under the Gas Networks Ireland high-pressure gas pipeline. A horizontal directional drill mini-rig is the preferred method to install the cables under the gas pipeline. The horizontal directional drill will install the cables well under the pipeline. Hand digging will be used to locate the pipeline. The works will be supervised by a Gas Networks Ireland Inspector.

Off-Road Locations

There are a number of special locations along the cable route, at which the cable diverts from the public road or at which a greater construction area is required. At each of these locations it will be necessary to remove the hedgerow or field boundary and install fencing to secure the area. It is recommended that the vegetation be removed outside of the breeding season. Once construction is completed the field boundaries will be reinstated.

These areas include –

- Ramstown;
- Graigue Great Areas 1 and 2;
- Templars Inn;
- Ramsgrange;

- Coleman;
- Railway Crossing at the Campile River Estuary;
- Campile River Estuary to the Great Island Converter Station Site.

2.7.4 Invasive Species Management

The non-native, invasive species Japanese Knotweed, Rhododendron and Three-Cornered Leek were recorded within or in proximity to the proposed works area. All three species are listed on both the "Most Unwanted: Established Threat" and on the "High Risk: Recorded Species" lists compiled by Invasive Species Ireland, a joint initiative by the Northern Ireland Environment Agency and National Parks and Wildlife Service. The Amber listed species Winter Heliotrope was recorded within the works area. It is ubiquitous along roadside verges in this area. (Amber list species are species that, in the right ecological conditions, may have an impact on the conservation goals of a protective site or may impact on a water body achieving good/high ecological status under the Water Framework Directive.) An invasive species management plan has been prepared and will be implemented for the duration of the construction phase.

2.7.5 Construction Compounds and Working Areas

Land will be temporarily required to accommodate construction compounds and temporary on-site activities.

Cable Contractor Compounds: Three construction compounds/lay down areas will be required. There will be one at each end of the cable route (i.e. adjacent to the converter station site and at the landfall site close to Baginbun Beach) and one will be located in the townland of Lewistown, along the onshore route.

Horizontal Directional Drilling Contractor compounds: There will be a compound for the horizontal directional drilling contractor adjacent to Baginbun Beach and another at either end of the Campile River Estuary horizontal directional drilling crossing.

Converter Station Construction Compound: This compound will be adjacent to the converter station and tail station.

These compounds will provide space for the storage of construction plant, parking spaces, wheel wash, and the provision of site offices and welfare facilities. In addition, the construction compounds/lay down areas will be used for the external storage of plant, ducts, protective tiles, warning tapes, cable drums, duct surround materials etc.

2.7.6 Site Management

Greenlink Interconnector Limited will have a construction management team. The team will be responsible for ensuring compliance with the conditions attached to all consents and for ensuring that the mitigation measures listed in the Environmental Impact Assessment Report are implemented in full.

A Construction Environmental Management Plan, which includes a schedule of mitigation measures, has been prepared to define the minimum standards which will be achieved during the construction phase of the proposed

development. All measures outlined in the plan will be implemented in full. Method Statements will be prepared in advance of any works commencing on site.

A Construction Traffic Management Plan, which includes specific construction traffic mitigation measures, has been prepared. The Plan will be implemented in advance of any works taking place. Traffic flows and scheduling will be appropriately planned to ensure traffic to and from the proposed works areas are managed efficiently and effectively.

An Invasive Species Management Plan, which includes specific mitigation measures, has been prepared. The Plan will be implemented in advance of any works taking place in any areas where invasive have been located.

The construction waste management strategy, which includes specific construction waste mitigation measures, has been included in the Construction Environmental Management Plan. It will be implemented in advance of any works taking place.

2.7.7 Emergency Response

Appropriate site personnel will be trained as first aiders and fire marshals. In addition, appropriate staff will be trained in environmental issues and spill response procedures. Tanks and drums of potentially polluting materials will be stored in secure containers or compounds which will be locked when not in use. Secure valves will be provided on oil and fuel storage facilities. Equipment and vehicles will be locked, have keys removed and be stored in secure compounds.

There will be a site emergency response strategy which will cover all foreseeable risks i.e. fire, flood, collapse etc.

In preparing this strategy, Greenlink Interconnector Limited will liaise with the emergency response services.

2.7.8 Workforce on Site

It is anticipated that there will be approximately 250 construction employees on site during the peak construction period. Temporary offices and welfare facilities will be installed in three separate locations along the proposed cable route and at the converter station construction compound. The core construction working hours for the proposed development will be:

- 7am – 7pm: Monday to Friday; and
- 8am – 2pm: Saturday.

2.8 Other Elements of Greenlink

As explained in **Section 1,** the overall Greenlink project is a proposed subsea and underground electricity interconnector between the existing electricity grids in Ireland and Great Britain, with a nominal capacity of 500 MW.

A brief description of the other elements of the project is provided below. See **Figure 1.1** for an illustration of the main components of the overall project.

2.8.1 Subsea Cable (Ireland to Wales)

From the landfall at Baginbun beach in Ireland, the marine cables will follow the offshore cable route, as illustrated in **Figure 1.1**, to the landfall site in South Wales, at Freshwater West, Pembrokeshire.

The chosen route was informed by subsea surveys undertaken in 2018/19 and offers the best solution to challenges identified while maintaining the shorter route solution. The subsea route is approximately 160km long; circa 86km in Irish waters and 74km in Welsh waters. In Irish waters, approximately 36km is within the foreshore area, Irish territorial waters out to the 12 nautical mile limit, with approximately 50km in the Irish Exclusive Economic Zone (EEZ). In Welsh waters, approximately 66km is within Welsh territorial waters, with approximately 8km in the Welsh offshore area.

A 500m wide corridor for the cable is being included in the consent applications for the offshore cable, although the final cable configuration will only be in the order of 10m to 20m wide. This flexibility allows for micro-routing and optimisation of the final laid submarine cables, to minimise engineering and environmental challenges.

The marine cables will be tied together in a bundle with a fibre optic cable (used for control and communications purposes) and laid in a single trench. The target depth of burial of the cables will be 1.0m for all areas of loose sediment (sands/gravels) and 0.6m for areas of glacial till along the route. The depths of burial of the cables have been chosen to mitigate the risk of damage from ships anchoring or fishing activities.

The nature of the seabed varies along the cable route, ranging from fine sediments to stony reefs, consisting of pebbles and boulders and bedrock outcrops. Burial in the seabed is the preferred option, but where the seabed composition is not suitable for burial, external mechanical protection will be provided through rock placement or concrete mattresses. Subsea surveys have indicated that burial in sediment is achievable for approximately 89% of the route.

Approximately 16km of the subsea cable route in Welsh waters will require external cable protection due to seabed conditions. External cable protection will also be used where Greenlink crosses existing subsea telecommunication cables in both Irish and Welsh waters.

The marine HVDC cable will be connected to the terrestrial HVDC cable in an underground transition jointing pit (TJP). In Wales, the TJP will be sited within farmland, close to the beach at Freshwater West in Wales, with HDD being used to install ducts from the TJP to emerge below the low water mark. The ducts will pass approximately 10m beneath the beach at Freshwater West. The marine cables will then be pulled through the ducts to be joined to the terrestrial HVDC cables. All cabling and jointing infrastructure will be below ground and following completion of the HDD and jointing activities, the landfall compound will be reinstated and returned to arable use. The use of HDD will avoid damaging sensitive ecological features such as the dune system at Freshwater West.

Greenlink crosses one out-of-service telecoms cable within Irish territorial waters, and a further four in-service telecoms cables within the Irish EEZ. The

in-service cables will be crossed on a 'bridge' comprised of aggregate (rock) and concrete mattresses.

2.8.2 Onshore Infrastructure in Wales

The onshore infrastructure in Wales is similar to that in Ireland, as described herein. In Wales, the National Grid Pembroke substation was identified as the connection point for Greenlink. HVAC cables will connect the Greenlink converter station to this substation.

The HVDC onshore cable route in Wales will be approximately 7km long, from the landfall at Freshwater West to the proposed converter station site. The cable route, as indicated in **Figure 1.1** is generally routed through agricultural land and the existing road network.

From the landfall, the cable will be laid northwards through the agricultural field boundary towards the B4320 road. HDD will be employed to install the HVDC cable under the B4320 road to an exit point outside the boundaries of the Limestone Coast of South Wales SAC and the Broomhill Burrows Site of Special Scientific Interest and a sensitive treeline.

The HVDC cable will continue underground eastwards in agricultural (pastoral and arable) fields outside the protected sites, continuing eastwards through farmland before turning northwards beyond a water supply pond.

The cable route continues north, through a short section of woodland, before re-emerging into farmland and merging with the unnamed road linking Wollaston Cross and Angle Bay.

The cable will then be installed within this road, progressing eastwards to Wallaston Cross, before continuing eastwards to the converter station site near Lambeeth Farm. The converter station will be contained within a single field with HVDC cables entering at the south and HVAC cables emerging to the north. The converter station will be similar to that for the Great Island Converter station described herein in **Section 2.5**.

The HVAC cable route will emerge from the converter station site within a hedgerow gap on the northern field boundary, before following further gaps in hedgerows and treelines north and east to avoid existing infrastructure, crossing the Wales Coast Path, before continuing north to connect at the National Grid substation.

3 Planning History

The historical and current planning applications along the cable route and in the vicinity of the proposed converter station site are presented in **Appendix C** of this Report. Along the proposed cable route the planning applications have been mainly for new dwellings, alterations or extensions to existing dwellings and alterations or extensions to farm buildings. In the vicinity of the converter station site, there have been several planning applications related to the nearby Great Island Power Station and the Eirgrid 220kV Substation. There was also a planning application for the upgrade of the Great Island to Kilkenny 110kV overhead powerline and one for a new Grid System Services Facility, including a TSO compound, TSO electrical substation and customer substation, to be located to the north of the converter station site.

The proposed converter station and tail station, which will be the only substantial above ground structures, will be appropriately located in the industrial setting of the Great Island Power Station, Eirgrid 220kv Substation and the Grid System Services Facility, which has obtained planning permission. The proposed cables will be installed underground and, once construction has been completed, will have no impact on the rural setting of villages, roadside dwellings and farms.

4 Policy and Planning Policy Context

4.1 Introduction

The competent authority, in making its decision on a planning application, is required to have regard to the proper planning and sustainable development of the area or region, in which the proposed development is located. The national, regional, county and local development plans, strategies and policies provide the framework for the proper planning and sustainable development of the area or region. They also form part of the context for assessing the population and societal effects of a project.

This section considers the proposed development in the context of relevant European and Irish policies and the planning framework.

4.2 EU and National Energy Policy

A number of EU and National energy and planning policies support the delivery of the proposed development.

Greenlink has been awarded Project of Common Interest (PCI) status by the European Commission, making it one of Europe's most important energy infrastructure projects. Under the EU TEN-E Regulation 347/2013, Member States should consider granting PCI projects the status of 'highest national significance' possible. **Section 1.5** above provides more information on the significance of Greenlink's PCI status.

4.2.1 European Policy on Interconnectors

The 'Energy Union' launched by the European Commission in February 2015, and endorsed by Member States in October 2015, is driving a fundamental transition towards more innovative ways to produce, transport and consume energy, and to address different approaches to design, implement and, where needed, enforce energy policy. A range of actions will be required to make this happen, including improvements to the physical interconnectedness of energy grids (both gas and electricity) to meet a 10% interconnection target by 2020 and to possibly reach 15% by 2030. As of November 2017, 17 European Union Member States have reached the 10% target, with a further 7 on the path to reach the target by 2020. Ireland's level of electricity interconnection in 2017 was 7.4% and the expected level of interconnection in 2020 is 10% (European Commission 2017).

The interconnectivity level is calculated as a ratio between import interconnection and net generation capacities of the country (i.e. the 2017 value is the ratio between simultaneous import interconnection capacity [GW] and net generating capacity [GW] in the country at 11 January 2017 at 19:00 pm as determined from ENTSO-E Winter Outlook 2016/2017).

Subject to receiving planning permission and other consents, Greenlink will commence operation in 2023 and will double the 2017 interconnection percentage.

An interconnected European energy grid is vital for Europe's energy security, for more competition in the internal market resulting in more competitive prices, and for better achieving the decarbonisation and climate policy targets, to which the EU has committed. An interconnected grid will help to deliver the goal of the Energy Union, i.e. to ensure affordable, secure and sustainable energy, as well as growth and jobs across the EU.

There is broad consensus that, in a post-Brexit world, the efficient cross-border trade in electricity between the United Kingdom and the EU should continue. The United Kingdom government has stated its commitment to mechanisms to achieve this (BEIS 2019). The Commission for Regulation of Utilities (CRU) 2018 assessment of the benefits of Greenlink on the economy, post Brexit, is outlined below.

4.2.2 Irish Policy on Interconnection

On 6 July 2018 the Irish Department of Communications, Climate Action and Environment (DCCAE) published its National Policy on Electricity Interconnection in Ireland. The Policy sets out the strategic importance of interconnection to Ireland and the three pillars of its energy policy – sustainability, security of supply and competitiveness. The policy recognises the benefits to the consumer "*including lower long-term costs of electricity*". (DCCAE 2018).

Following public consultation in relation to the initial project assessment of Greenlink, the CRU determined that Greenlink passes the public interest test in Ireland (CRU 2018), i.e. Greenlink has the potential to provide a net benefit to Irish consumers and Ireland a whole.

Whether there is a '*hard*' or '*soft*' Brexit, Greenlink will not only remain economically viable, but will continue to offer benefits to both Ireland and the United Kingdom in the shape of increased energy security, decarbonisation and downward pressure on consumer bills (CRU 2018).

The CRU's modelling included a sensitivity analysis of the impact of Brexit on the benefit of Greenlink to Irish consumers. The CRU concluded that under Brexit "*introducing a new interconnector may unlock more benefits to Irish consumers compared to a no Brexit scenario where no trading frictions are present*". The CRU explained: "*this is because the addition of Greenlink in a market with trading frictions provides an additional link to an import/export route and hence consumers are better off than without the addition of a new interconnector.*" (CRU 2018).

Regardless of the outcome of Brexit, Greenlink will be an example of how Ireland and United Kingdom can continue to work positively and profitably together to meet their energy and economic objectives.

4.2.3 Irish Policy on Carbon Emission Reduction

4.2.3.1 The Energy White Paper 2015

The White Paper "Ireland's Transition to a Low Carbon Energy Future 2015 – 2030" is the Government's most recent energy policy update. The framework acts to guide policy and the actions that the Government intends to take in the

energy sector up to 2030. The White Paper does not set out detailed proposals or work packages but outlines high level government actions to support an energy transition to a low carbon energy system.

The White Paper addresses energy security in chapter 6.

"177. The main energy security policy objective is to maintain the security of Ireland's energy system in the most cost effective manner.

178 This requires adequate infrastructure and diversity of energy supply that avoids over-dependency on any particular fuel, supplier, route or region.

179 A range of potential oil, gas and electricity infrastructure projects could enhance our energy security, in some cases with EU support as Projects of Common Interest (PCIs). Such projects would help to address interconnection and enhance security of supply, market integration and sustainability.

180 Achieving our sustainable energy goals and having fully integrated and well-functioning markets that promote investment will also impact positively on energy security.

183 Ireland will, therefore, work with its European partners to further develop a coordinated energy security policy, which will enhance Europe's collective strength in negotiations with energy suppliers. Through Ireland's membership of the EU and IEA, we will support policies that encourage diversification of energy supplies and facilitate more integrated energy markets."

Section 6.7 presents a list of actions which include:

"*209….*

- *promoting and facilitating interconnection with other countries and regions (§240-243)"*

Chapter 7 of the White Paper is titled "*Enabling the Transition: Regulation, Markets and Infrastructure*". Interconnection is addressed in Section 7.3.

"242 The 2009 All Island Grid Study [31] showed that the current transmission network could safely absorb a level of renewable production generation of up to 42% of total electricity generated without affecting security of supply. Higher penetration levels would require significant additional interconnection or energy storage (§160-161). This continues to be the case and, given the Commission will report regularly to the European Council with the objective of arriving at a 15% target by 2030, further interconnection will be necessary. In addition to the proposed North-South transmission line, there are several initiatives underway which will lay solid analytical foundations for further interconnection:

- *a feasibility study on an interconnector with France [58]. The technical analysis commissioned to inform the development of the White Paper [16] suggests that this would enable the reduction of GHG emissions*
- *the North Seas Countries' Offshore Grid Initiative (NSCOGI) [59]*

- *the Irish-Scottish Links on Energy Study (ISLES) [60], which explored the potential for cross-border offshore renewable energy production between Northern Ireland, Scotland and Ireland*
- *decisions on further interconnection would be preceded by a full evaluation, including cost-benefit analysis."*

4.2.3.2 Climate Action Plan 2019 to Tackle Climate Breakdown

The Government published the Climate Action Plan 2019 to Tackle Climate Breakdown. The Plan sets out the actions the Government intends to take to address climate breakdown across sectors such as electricity, transport, built environment, industry and agriculture. Chapter 7 addresses electricity. In Section 7.2, the Plan sets out a target of 70% renewable electricity generation by 2030. The plan acknowledges that to achieve this will require greater interconnection with other countries, in addition to other measures.

"Achieving 70% renewable electricity by 2030 will involve phasing out coal- and peat-fired electricity generation plants, increasing our renewable electricity, reinforcing our grid (including greater interconnection to allow electricity to flow between Ireland and other countries), and putting systems in place to manage intermittent sources of power, especially from wind. This will require Obligated Energy Suppliers to work more closely with community and enterprise to ensure wider community gain."

The measures to deliver the 70% renewable electricity target are set out in Section 7.3, and in relation to harnessing renewable energy, include:

"Enhanced interconnection is planned, including the Celtic Interconnector to France and further interconnection to the UK. We will strengthen the policy framework to incentivise electricity storage and interconnection. Increased levels of storage and interconnection will be critical to absorbing high levels of renewable generation on to the system, as renewables require back-up which will have to be provided by quick response plant, storage or interconnection."

Greenlink will support the objectives of the Climate Action Plan 2019 because it will provide 500MW of interconnector capacity, which will support greatly increased renewable electricity generation.

4.2.3.3 National Mitigation Plan 2017 - 2022

The Government published the National Mitigation Plan (2017 – 2022) in July 2017. In July 2020, the Supreme Court ruled that the 2017 Plan did not comply with the requirements of the Climate Action and Low Carbon Act 2015 as it was not specific enough. A replacement plan has yet to be published. It is expected that the replacement plan will have similar objectives to the 2017 Plan.

The primary objective of the 2017 Plan was, and the expected primary objective of the replacement plan will be, to reduce Ireland's carbon emissions. The role of interconnectors in supporting decarbonisation of electricity generation was recognised in the 2017 Plan. Section 3.1 of the 2017 Plan outlined the vision for decarbonising electricity generation, including:

"By the end of the decade, further interconnection with Great Britain and mainland Europe will have enhanced stability of the grid, facilitated further

development of our indigenous renewable electricity resources and allow trading of renewables in an integrated electricity market."

It is expected that the replacement plan will have a similar view of the role of interconnectors. It is expected that Greenlink will further the objectives of the replacement plan by supporting renewable energy generation and facilitating the trading of renewable energy.

4.3 National, Regional and Local Planning and Policy Framework

4.3.1 National Planning Framework Project Ireland 2040 (February 2018)

The Department of Housing, Planning and Local Government, on behalf of the Government, has prepared and published the National Planning Framework (NPF) under Project Ireland 2040, the overarching policy and planning framework for the social, economic and cultural development of our country.

One of the primary objectives of the NPF is to improve resource efficiency and promote the movement towards a low carbon economy. The aim is to achieve this by:

- **Sustainable Land Management and Resource Efficiency**

  Adopting the principles of the circular economy to enable more sustainable planning and land use management of our natural resources and assets

- **Low Carbon Economy**

  Accelerating action on climate change

- **Renewable Energy**

  Transition to a low carbon energy future.

National Policy Objective 52

"*The planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits, having regard to the requirements of all relevant environmental legislation and the sustainable management of our natural capita*"".

The proposed development supports this objective as it supports the growth of and integration of low carbon and renewable energy. The EIAR for the proposed development documents how the development will occur within environmental limits and have regard to the requirements of all relevant environmental legislation.

4.3.2 National Development Plan 2018 – 2027

The Department of Public Expenditure and Reform published the most recent National Development Plan 2018 - 2027 (NDP) in February 2018. In its introduction, the objective of the NDP is stated as follows:

"*A fundamental underlying objective of the National Development Plan is, therefore, to focus on continued investment to yield a public infrastructure that facilitates priorities such as high-speed broadband and public transport in better cities and in better communities. The public goods generated through investment in physical infrastructure will be critical to strengthening Ireland's human capital and to fostering the development of clusters in important growth areas in order to attract new investment.*"

The NDP sets out the strategic investment priorities to address the deficits in public capital infrastructure, which will underpin the implementation of the National Planning Framework.

The NDP identifies 10 national strategic outcomes which the Government intends to achieve in the lifetime of the plan. National strategic outcome 8 is the "*Transition to a Low-Carbon and Climate-Resilient Society*". To achieve this outcome the plan identifies various strategic investment priorities and investment actions. Under the sub-heading 2 "Decarbonising Energy", the plan states:

"Decarbonising Energy

Ireland's energy system requires a radical transformation in order to achieve its 2030 and 2050 energy and climate objectives. This means that how we generate energy, and how we use it, has to fundamentally change. This change is already underway with the increasing share of renewables in our energy mix and the progress we are making on energy efficiency.

Investment in renewable energy sources, ongoing capacity renewal, and future technology affords Ireland the opportunity to comprehensively decarbonise our energy generation. By 2030, peat and coal will no longer have a role in electricity generation in Ireland. The use of peat will be progressively eliminated by 2030 by converting peat power plants to more sustainable low-carbon technologies.

Investment in renewable energy must be complemented by wider measures to moderate growth in energy demand, diversify supply sources by greater interconnection to international energy networks, and increase adoption and utilisation of electricity storage and smart meters.

This will significantly increase our capacity to electrify heat and transport and promote less energy intensive/low-carbon heating solutions, including biomass and biogas.

Measures required to decarbonise energy generation and enhance energy efficiency include those listed below.

- *Decarbonising electricity generation.*
- *Develop further interconnection to increase energy security and facilitate more variable electricity generation on the grid…."*

4.3.3 Regional Spatial and Economic Strategy for the Southern Region 2020

The Regional Spatial and Economic Strategy came into effect on 31st January 2020. The Southern Region comprises counties Cork, Clare, Kerry, Limerick,

Tipperary, Waterford, Carlow, Kilkenny and Wexford. The Southern Regional Spatial and Economic Strategy sets out a 12-year strategic development framework for the Southern Region, with chapters dealing with Strategic Vision, Economy, Environment including responding to climate change, Connectivity, Quality of Life, Water and Energy Utilities and implementation, Monitoring and Evaluation. The Strategy establishes a broad framework for development and the way in which the Region's society, environment, economy and the use of land should evolve.

The overarching purpose of the Strategy is to support the programme for change set out in Project Ireland 2040, the National Planning Framework, and the National Development Plan (NDP 2018-2027) and Government economic policies, and to ensure coordination between city and county development plans and local enterprise and community plans.

The Strategy is to build a strong, resilient, sustainable region through *"safeguarding and enhancing our environment through sustainable development, transitioning to a low carbon and climate resilient society"* and *"provision of infrastructure and services in a sustainable, plan and infrastructure led manner to ensure the sustainable management of wastewater and other environmental resources"*.

The policies in the Strategy are structured under Regional Policy Objectives (RPOs) and MASP (Metropolitan Strategic Area Plan) Objectives.

Greenlink aligns with several objectives of the Strategy's RPOs.

Overall Strategy no. 8 is stated on page 27 as follows: *"Safeguarding and enhancing our environment through sustainable development, prioritising action on climate change across the region, driving the transition to a low carbon and climate resilient society."*

The sector specific RPOs relating to action on climate change and supporting low carbon energy development include:

RPO 87 – Low Carbon Energy Future

"The RSES is committed to the implementation of the Government's policy under Ireland's Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport and agriculture."

RPO 95 - Sustainable Renewable Energy Generation

"It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan and the implementation of mitigation measures outlined in their respective SEA and AA and leverage the Region as a leader and innovator in sustainable renewable energy generation."

RPO 96 – Integrating Renewable Energy Sources

"It is an objective to support the sustainable development, maintenance and upgrading of electricity and gas network grid infrastructure to integrate a renewable energy sources and ensure our national and regional energy system remains safe, secure and ready to meet increased demand as the regional economy grow."

RPO 99 - Renewable Wind Energy

"It is an objective to support the sustainable development of renewable wind energy (on shore and off shore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines."

RPO 103 – Interconnection Infrastructure

"It is an objective to support the sustainable development of interconnection infrastructure, in particular the potential for the sustainable development of an international connection between Ireland and France in the Region."

Greenlink will further these objectives of the Strategy as it will support the growth and integration of low carbon energy and renewable energy generation. Greenlink will be sustainable interconnector between Ireland and the United Kingdom.

4.3.4 Wexford County Council Development Plan 2013 - 2019

There are several objectives in the Wexford County Development Plan 2013 – 2019, the current plan, which are supported by the proposed development, and in particular, Objective EN04:

Objective EN04

"To facilitate the provision of and improvements to energy networks in principle, provided it can be demonstrated that:

- *The development is required to facilitate the provision or retention of significant economic or social infrastructure;*
- *The route proposed has been identified with due consideration for social, environmental and cultural impacts;*
- *The design is such that will achieve least environmental impact consistent with not incurring excessive cost;*
- *Where impacts are inevitable, mitigation features have been included;*
- *Proposals for energy infrastructure should be assessed in accordance with the requirements of Article 6 of the Habitats Directive."*

Greenlink complies with the objective of the County Development Plan. Greenlink will improve the energy network in Ireland and will support significant low carbon generation development. Greenlink has been designed and will be constructed with due consideration for social, environmental and cultural impacts. As described elsewhere in the EIAR, possible social, environmental and cultural effects have been identified and will be mitigated,

where feasible. The proposed development will cause the least environmental impact consistent with not incurring excessive costs.

4.4 Conclusion on Planning and Policy

EU and Irish national energy policy and climate action plans, discussed above, identify greater interconnection of the Irish electricity grid with other countries as a key requirement to facilitate increased renewable electricity generation. Greenlink will provide significant new interconnection capacity, which will support the objectives of these plans and policies.

By providing additional interconnection for the Irish electricity grid, Greenlink will also further the objectives of the National Planning Framework, the National Development Plan, the Regional Spatial and Economic Strategy for the Southern Region and the Wexford County Development Plan. Greenlink will enhance the security of the energy supply, underpin the decarbonising of energy generation in Ireland and bring economic benefits by increasing competition in the Irish electricity market.

5 Need and Justification for the Project

5.1 Overview

The Greenlink interconnector will link the high voltage electricity transmission networks in Ireland and Great Britain and the markets which they serve. The project is independent of the power generation sources that will generate the power to be transmitted through the interconnector; the interconnector will utilise whatever sources of power are supplied to those networks from time to time. The interconnector will facilitate power transfer in both directions.

Greenlink will be of key strategic importance, providing significant additional interconnection between Ireland and Great Britain, and onwards to mainland Europe via existing interconnectors between Great Britain and continental Europe. It will provide additional transmission network capacities, reinforcing the existing electricity grids in south-east Ireland and south Wales and contributing to each country's strategic interconnection objectives. Greenlink will deliver increased security of supply, facilitate fuel diversity and greater competition, and will ultimately provide significant benefits to consumers in Ireland and Great Britain.

Section 4 *Policy and Planning Policy Context* provides more information on the European Union's and Irish Government's plans and policies in relation to the requirement for and benefits of greater interconnection between energy grids.

It is recognised that there are significant benefits to be accrued in Ireland, Great Britain as a whole and mainland Europe from the provision of additional interconnection of the two national electricity grids. The advantages likely to result from Greenlink are summarised in **Figure 5.1** and explained below.

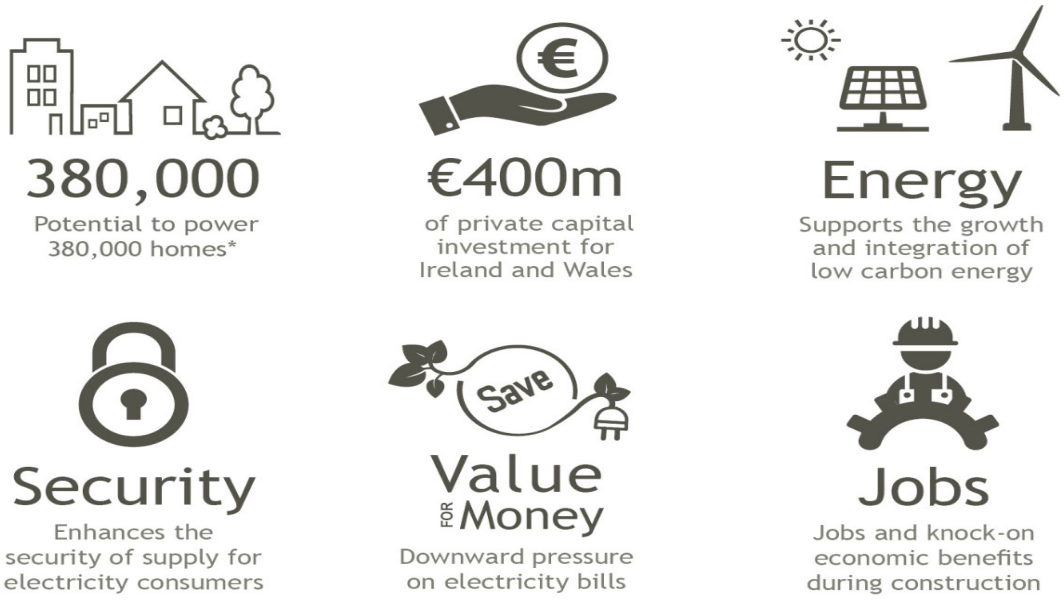

Figure 5.1: Potential benefits of the proposed development

* Figure for number of homes is based on typical annual household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total

flows from UK to SEM of 1,600,000 MWh/yr.) Note: SEM – the single electricity market – is the electricity market in Ireland which operates on an all-Ireland basis.

5.2 Additional Interconnector Capacity

Currently, the capacity of the interconnection between the transmission networks on the island of Ireland and Great Britain is 1000MW. Greenlink will increase this by a nominal capacity of 500MW. While Eirgrid and the French transmission system operator have commenced a series of studies for a 700MW interconnector to France, there is no interconnector capacity from Ireland to continental Europe currently.

5.3 Security and Diversity of Supply

Greater interconnection will allow Ireland and Great Britain to pool reserve capacity, reducing the future peaking plant requirement. The impact of supply shocks or unplanned power station outage or fault at peak demand in either system, which could result in voltage reductions and emergency demand controls or even partial blackouts, will be mitigated by the transmission system operators using Greenlink. It will also enable system balancing arrangements to respond to different weather conditions in Ireland and Great Britain and, via Great Britain, to continental Europe, against the background of high intermittent renewable energy generation.

Greenlink will rely on generators and suppliers contracting capacity (applying European network codes) to transmit power across borders to link pools of supply and demand. Maintaining a diverse supply of electricity sources will protect consumers from overreliance on one source of generation and the resulting risk of price volatility or a risk of interruption to the supply of that source. Additional interconnection to Great Britain will provide an alternative means of electricity supply to Ireland, thereby increasing diversity of supply, and encouraging future diversity of indigenous supply.

5.4 Support for Low Carbon Energy

There has been significant development of low carbon power generation in Ireland in recent years, which is expected to continue, to meet the country's carbon reduction targets. However, when renewable generation exceeds the demand for electricity, the surplus cannot be used or stored and the renewable generators must be shut down. This is referred to as curtailment. Greenlink will play an important role in reducing the fiscal cost of renewable support schemes and will contribute to diversity of supply by:

- Reducing the need for curtailment
- Providing access to higher priced markets
- Increasing the addressable market size.

By providing additional interconnection, Greenlink is expected to provide stimulus to Ireland's offshore wind industry. Offshore wind has the potential to materially increase the renewable generation base and further diversify Ireland's supply.

5.5 Competitiveness

Greenlink, by providing additional interconnection to Great Britain's relatively much larger energy market, will promote competition between suppliers and offer new trade opportunities to efficient generators. This should result in lower prices to Irish consumers. Potentially lower energy prices will benefit Irish businesses and enhance Ireland's attractiveness to foreign direct investment.

5.6 Direct Economic Benefit

Greenlink will result in an investment of €400 million of private capital in Ireland and Wales. Approximately 250 jobs will be generated in Ireland in the construction phase on Greenlink. Further employment and direct benefits to the Irish economy will arise when Greenlink is operational.

5.7 Greenlink and Brexit

The UK's exit from the European Union in January 2020 has not altered the case for the Greenlink. Increasing levels of interconnection remains of key national strategic importance to both the UK and Ireland, and throughout Europe there are many examples of interconnectors, both existing and planned, between EU Member and non-Member States.

Switzerland, for example, is not part of the EU's Internal Energy Market and does not participate in EU market coupling initiatives. However, the volume of electricity exchange between Switzerland and neighbouring markets is very high.

The UK Government has stated in Section 1.7.5 of its Brexit White Paper that it aims to preserve existing efficient trading practices over interconnectors and to "*explore what would be needed to ensure trade over interconnectors would continue without automatic capacity allocation via the IEM system*". Greenlink will emulate the relevant regulatory and policy arrangements as defined by the future UK - EU energy relationship.

In 2018, GIL and the Commission for Regulation of utilities (CRU) modelled Brexit sensitivities to assess the impact on the benefits of the Project, which suggest that the social benefits of the Project would remain broadly unaffected in a Brexit scenario and would still be driven by key market fundamental factors such as improved integration of renewable energy sources, improved security of supply, and lower long-term costs of electricity through improving the efficiency of system dispatch. In fact, the modelling carried out by GIL's advisors and the CRU suggests that in a Brexit scenario, Greenlink could provide even more benefits to consumers than under a no Brexit scenario.

6 Schedule of Permits Required and Status of Each

6.1 Introduction

The various permits required in both Ireland and Wales and the status of each are outlined in further detail in **Section 6.2** and **Section 6.3** below.

6.2 Consents required in Ireland

Table 6.1 below outlined the various consents required in Ireland for the Greenlink project.

Table 6.1: Consents required in Ireland

Jurisdiction	Permit	Determining Authority	Status of Application
Ireland	Planning permission as a Strategic Infrastructure Development	An Bord Pleanála (SID Unit)	Submission planned for Q3 2020
Ireland	Foreshore Licence	Department of Housing, Planning and Local Government – Foreshore Unit	Application submitted on 01/08/19. Received confirmation of receipt on 15/08/19. Application validation confirmed by the Foreshore Unit on 07/10/19. Formal consultation commenced on 13/11/19. Determination pending.
Ireland	Authorisation to Construct an Interconnector	Commission for Regulation of Utilities	Draft Application submitted via PCI Unit, 12/06/2020.
Ireland	Consent to Lay Electric Cables	Commission for Regulation of Utilities	Draft Application submitted via PCI Unit, 12/06/2020.

Jurisdiction	Permit	Determining Authority	Status of Application
Ireland	Licence to operate and maintain an interconnector	Commission for Regulation of Utilities	This is an end stage consent granted automatically, on application, to recipients of an Authorisation to Construct an Interconnector.
Ireland	Special Order	Commission for Regulation of Utilities	Will only be sought if agreement cannot be reached with landowners.

6.3 Consents required in the United Kingdom

Table 6.2 below outlines the various consents required in the United Kingdom for the Greenlink project.

Table 6.2: Consents required in the United Kingdom

Jurisdiction	Permit	Determining Authority	Status of Application
Wales	Permission Major Development (Outline Planning)	Pembrokeshire County Council	Application submitted 20/04/20. Approved 28/07/20. Reserved matters ongoing.
Wales	Permission Major Development (Full Planning)	Pembrokeshire County Council	Application submitted 20/04/20. Approved 28/07/20.
Wales	Permission Major Development (Full Planning)	Pembrokeshire Coast National Park Authority	Application submitted 20/04/20. Approved 15/07/20.
Wales	Marine Licence	Natural Resources Wales (NRW)	Application submitted on 24/06/19. Received confirmation of receipt on 25/06/19. Application validation confirmed by NRW on 02/10/19. Formal consultation commenced on 13/11/19. Determination pending.
Wales	Marine Works Licence	Milford Haven Port Authority	Application was submitted on 27/11/19. Determination pending.

6.4 Contact details for the relevant consent authorities

Table 6.3 below lists the contact details for the consent authorities.

Table 6.3: Contact details for the consent authorities

Permit	Determining Authority
Planning permission as a Strategic Infrastructure Development	The Secretary An Bord Pleanála 64 Marlborough St Dublin 1 D01 V902 Contact: Ellen Morrin E.Morrin@pleanala.ie
Foreshore Licence	Marine Planning and Foreshore Section Department of Housing, Planning and Local Government Newtown Road Wexford Y35 AP90 Contact: Matthew McLoughlin matthew.mcLoughlin@housing.gov.ie
Authorisation to Construct an Interconnector	Commission for Regulation of Utilities The Grain House The Exchange Belgard Square North Tallagh Dublin 24 D24 PXW0 Contact: Roisin Cullinan rcullinan@cru.ie
Consent to Lay Electric Cables	Commission for Regulation of Utilities The Grain House The Exchange Belgard Square North Tallagh Dublin 24 D24 PXW0 Contact: Karen Trant ktrant@cru.ie

Permit	Determining Authority
Licence to operate and maintain an interconnector	Commission for Regulation of Utilities The Grain House The Exchange Belgard Square North Tallagh Dublin 24 D24 PXW0 Contact: Karen Trant ktrant@cru.ie
Special Order	Commission for Regulation of Utilities The Grain House The Exchange Belgard Square North Tallagh Dublin 24 D24 PXW0 Contact: Karen Trant ktrant@cru.ie
Permission Major Development (Outline Planning)	Pembrokeshire County Council Contact: Mike Simmons Development Manager (Major Projects and Planning Obligations) mike.simmons@pembrokeshire.gov.uk
Permission Major Development (Full Planning)	Pembrokeshire County Council Contact: Mike Simmons Development Manager (Major Projects and Planning Obligations) mike.simmons@pembrokeshire.gov.uk
Permission Major Development (Full Planning)	Pembrokeshire Coast National Park Authority Contact: Andrew Richards Senior Planner andrewr@pembrokeshirecoast.org.uk
Marine Licence	Natural Resources Wales (NRW) Contact: Joseph Thomas Marine Licensing Officer joseph.thomas@cyfoethnaturiolcymru.gov.uk

Permit	Determining Authority
Marine Works Licence	Milford Haven Port Authority Contact: Mike Ryan Marine Director and Harbourmaster Mike.Ryan@MHPA.co.uk

7 References

Commission for Energy Regulation (2017) *Review of Typical Domestic Consumption Values for Electricity and Gas Customers. CER/17042.* Dublin, Ireland.

Commission for Energy Regulation (2018) *Greenlink Electricity Interconnector Determination reference: CRU/18/216 https://mk0cruiefjep6wj7niq.kinstacdn.com/wp-content/uploads/2018/10/CRU18216-Greenlink-determination-paper-1.pdf*

European Commission (2013) *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).*

UK Ofgem (May 2016) *Cap and Floor Regime: unlocking investment in electricity interconnectors*

UK HM Government (2018) *The Future Relationship between the United Kingdom and the European Union, Cm9593, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/786626/The_Future_Relationship_between_the_United_Kingdom_and_the_European_Union_120319.pdf*

Greenlink Interconnector Limited (2019) *Greenlink Marine Environmental Impact Assessment Report – Ireland*

Greenlink Interconnector Limited (2019) *Greenlink Marine Environmental Statement – Wales*

Greenlink Interconnector Limited (2020) *Greenlink [Onshore Wales] - Environmental Statement*

BEIS (2019) www.gov.uk/brexit (accessed 08 October 2019 at 16:09)

Commission for Energy Regulation (2018) *Greenlink Electricity Interconnector Determination reference: CRU/18/216 https://mk0cruiefjep6wj7niq.kinstacdn.com/wp-content/uploads/2018/10/CRU18216-Greenlink-determination-paper-1.pdf*

Department of Communications, Climate Action and Environment (2018) *Draft National Policy on Electricity Interconnection in Ireland: Public Consultation.*

Department of Communications Climate Action and Environment, *Ireland's Transition to a Low Carbon Energy Future 2015-2030.* (DCCAE) Dec. 2015. Dublin Ireland.

Department of Communications, Climate Action and Environment, *National Mitigation Plan.* (DCCAE) 19/07/2017.

Department of Public Expenditure and Reform (2018) *National Development Plan 2018 - 2027*

European Commission (2017) Communication from the Commission to the European Parliament, the Council, the European Economic and Social

Committee, the Committee of the Regions and the European Investment Bank *Third Report on the State of the Energy Union Energy Union Fact Sheets – Ireland https://ec.europa.eu/commission/sites/beta-political/files/ga_factsheet_20180611_dc_v01.pdf*

EC (2013) *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).*

Government of Ireland (2019) *Climate Action Plan 2019 to Tackle Climate Breakdown*

Government of Ireland (2011) *Irish Foreshore Acts 1933 - 2011.*

Government of Ireland (2000) *Planning and Development Act 2000, as amended.*

Government of Ireland (2018) *Project Ireland 2040 National Planning Framework*

Southern Regional Assembly (2020) *Regional Spatial & Economic Strategy for the Southern Region*

Wexford County Council (2013) *Wexford County Development Plan 2013 – 2019*

Wexford County Council (2020) Website Search for a Planning Application Available at: https://www.wexfordcoco.ie/planning/search-planning-applications .

An Bord Pleanála (2020) Website search for Strategic Infrastructure Development applications. Available at: http://www.pleanala.ie/sid/index.htm

An Bord Pleanála (2020) Website search for Strategic Housing Development applications. Available at: http://www.pleanala.ie/shd/general/index.htm

Appendix A

Consultation Report (Ireland)

Greenlink Interconnector Limited
Consultation Report (Ireland)

3 August 2020

Greenlink
INTERCONNECTOR

ARUP

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1 Introduction

1.1 About the Project

1.1.1 Greenlink is a proposed subsea and underground electricity interconnector cable between the existing electricity grids in Ireland and Great Britain (GB), with a nominal capacity of 500 megawatts (MW). Greenlink will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales). The power will be able to flow in either direction, depending on supply and demand in each country.

1.1.2 Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland and GB with onward connections to continental Europe. The construction and development of Greenlink will deliver increased energy security, regional investment and value for money to consumers; and will enable the further integration of low carbon renewable energy sources.

1.1.3 Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

1.1.4 Greenlink will consist of two converter stations - one located close to the Great Island substation in County Wexford and the other close to the Pembroke substation in Pembrokeshire - connected by two High Voltage Direct Current (HVDC) cables under the Irish Sea. A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa.

1.1.5 DC electricity is typically used for the transmission of electricity over long distances because it has lower losses, negligible heating effects and is therefore suitable to be buried underground. Accordingly, there will be no overhead lines between the two converter stations. Onshore, the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

1.1.6 Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built.

1.2 About us

1.2.1 Greenlink is being developed by Greenlink Interconnector Limited ("GIL"), which is owned jointly by Element Power Holdings, part of Hudson Sustainable Investment, and Partners Group on behalf of its clients. Hudson Sustainable Investment is an independent investment management firm with a strong track record and expertise in investing in and developing sustainable energy infrastructure projects in Ireland, the UK and internationally.

1.2.2 Partners Group is a global private markets investment management firm with €73 billion in investment programs under management in private equity, private real estate, private infrastructure and private debt.

1.3 Consultation requirements and responsibilities

1.3.1 Greenlink has been designated as a European Union Project of Common Interest (PCI) under European Union Regulation 347/2013 on guidelines for Trans-European Network for Energy (the TEN-E Regulations). As such GIL was required to prepare a Concept of Public Participation (CoPP) outlining how meaningful public consultation would be delivered throughout the development of Greenlink. The CoPP prepared by GIL, in line with the requirements of the Manual of Permit Granting Process Procedures for Projects of Common Interest, was approved by An Bord Pleanála in December 2019. The approved CoPP can be found in Appendix 1.

1.3.2 This Consultation Report aims to demonstrate compliance with the CoPP and outlines the public consultation strategy we have undertaken during the development process in Ireland.

Consultation strategy

1.3.3 Developers must proactively engage the public in order to facilitate a meaningful and genuine consultation.

1.3.4 Public consultation is an important part of the development process. In the context of infrastructure development, its key goals are to increase transparency and a wider involvement in large-scale projects by creating a dialogue with key stakeholders with the aim of improving these projects with stakeholder input.

1.3.5 GIL recognises that as the developer it is responsible for ensuring public consultation forms a core part of the development process and that the public has access to relevant information and can influence the decision-making process as appropriate.

1.3.6 GIL has fully complied with, and has gone beyond, the requirements of the TEN-E Regulation in designing and carrying out its consultation strategy.

Our approach

1.3.7 The Greenlink project team has aimed to ensure that the local community is consulted and involved throughout the development process of Greenlink and that the public has visibility of the proposal and the opportunity to input as it has evolved. The consultation process has been tailored to the specific needs of the local community in Wexford and delivered in a relevant and accessible manner.

1.3.8 Statutory consultation processes have been carried out in addition to the public consultation outlined in this Report.

1.3.9 GIL recognises that any type of development can have varying degrees of impact and interest for local communities and it is committed to promoting an open and honest dialogue with the local community throughout the development process. GIL sought to commence a public dialogue during the early stages of development before detailed environmental work was carried out, enabling it to draw on input

and enabling the local community to watch the project evolve and understand the various complexities and detailed studies involved in developing and constructing an electricity interconnector of this scale.

1.3.10 By involving the local community throughout the development process and providing information as it has become available, GIL has worked to ensure that the local community is part of the development of Greenlink.

1.3.11 GIL has recognised and been steered by the principles of the consultation process set out in the Manual of Permit Granting Process for Projects of Common Interest.

1.3.12 These various regulations and elements of policy helped to shape and inform GIL's approach to consultation, which is designed to ensure early engagement prior to submission of the various planning applications for Greenlink.

Consultation Report

1.3.13 This document is the consultation report required pursuant to Article 9(4) of the TEN-E Regulation. This document sets out GIL's approach to consultation and the steps it took to ensure public participation. This document also sets out the results of activities related to consultation with the public prior to the submission of the application file, including those activities that took place before the start of the permit granting process.

2 Consultation Delivery

2.1 Resourcing

2.1.1 Members of the Greenlink development and corporate teams have the expertise to engage and communicate with a variety of stakeholders on a range of development issues. This includes the Chief Executive Officer, Planning & Permitting Manager, Communications Adviser, Community Liaison Officer, Legal Counsel and planning and PR consultants as the key representatives for the consultation programme.

2.1.2 Throughout the consultation process GIL has ensured that this expertise has been made available consistently, and consultation has also been supported by GIL's consultants - Arup and Intertek. Where appropriate, additional third-party consultants have been brought in to support the Greenlink team to ensure that GIL has been able to cope flexibly with the peaks and troughs in consultation and to respond adequately to topic specific issues.

2.2 Contact details and availability

2.2.1 GIL has sought to ensure that it is easy for local stakeholders to contact and engage with the development team, publicising who the key representatives are for the project and ensuring there are named local contacts (the Planning and Permitting Manager and the Community Liaison Officer) who are available to respond to detailed enquiries and meet with representatives and individuals as required.

2.2.2 Contact details are publicised on the project website and a general email account has been set up to deal with enquiries: info@greenlink.ie. This is monitored regularly, and enquiries are responded to in a timely and appropriate manner.

2.3 Consultation tools used and resources produced

2.3.1 GIL has employed a number of different consultation tools during the consultation programme, publishing information to stakeholders in a variety of formats and in an accessible way. The precise deployment of the tools has reflected the requirements of stakeholders and feedback as the consultation progressed. The tools and resources have included:

- Project information leaflet (or "brochure") as required by the TEN-E Regulation.
- Project website as required by the TEN-E Regulation, including summary.
- Public exhibitions
- Meetings with local councillors
- One-to-one engagement with stakeholders
- Roundtable meetings
- House visits
- Local and social media
- Public notices and adverts for consultation published in the media
- FAQs document

Project information leaflet (brochure)

2.3.2 GIL has produced four editions of the brochure to date: in May 2018, November 2018, June 2019 and December 2019. These provide a summary (15 pages or fewer) of the project details, with updates as the design and development has evolved. GIL has sought to make the information accessible and engaging through the use of images, illustration and infographics to accompany the text.

2.3.3 Copies of the brochure were made available at public exhibitions held in both Ireland and Wales between May 2018 and the present day. They have also been distributed to individual stakeholders, at industry events and meetings and a digital copy of each is available to view and/or download from the project website. Copies of the brochures are included in Appendices 2, 3,4 and 5.

2.3.4 The brochure satisfies the requirements of Annex 6(5)(a) of the TEN-E Regulation.

Project website

2.3.5 The project website was published on 21st April 2016 and is available to view here: www.greenlink.ie. It includes comprehensive information on the proposal, presented in a deliberately accessible way. The content is regularly updated as the development progresses and has recently undergone a refresh to ensure it continues to meet the needs of the company, the project and stakeholders.

2.3.6 As well as an overview of the project proposal, news of milestones, and downloadable resources, the website includes a dedicated section on Planning and Consultation, where visitors can view and download planning documents, find a list of exhibitions and consultation events and read a comprehensive set of Frequently Asked Questions. The website has clear information on how to contact the Greenlink team and engagement is explicitly encouraged. A website screenshot can be found in Figure 1.

2.3.7 The website satisfies the requirements of Annex 6(5)(b) and Annex 6(6) of the TEN-E Regulation, including clear access to the latest information brochure and summary of the project.

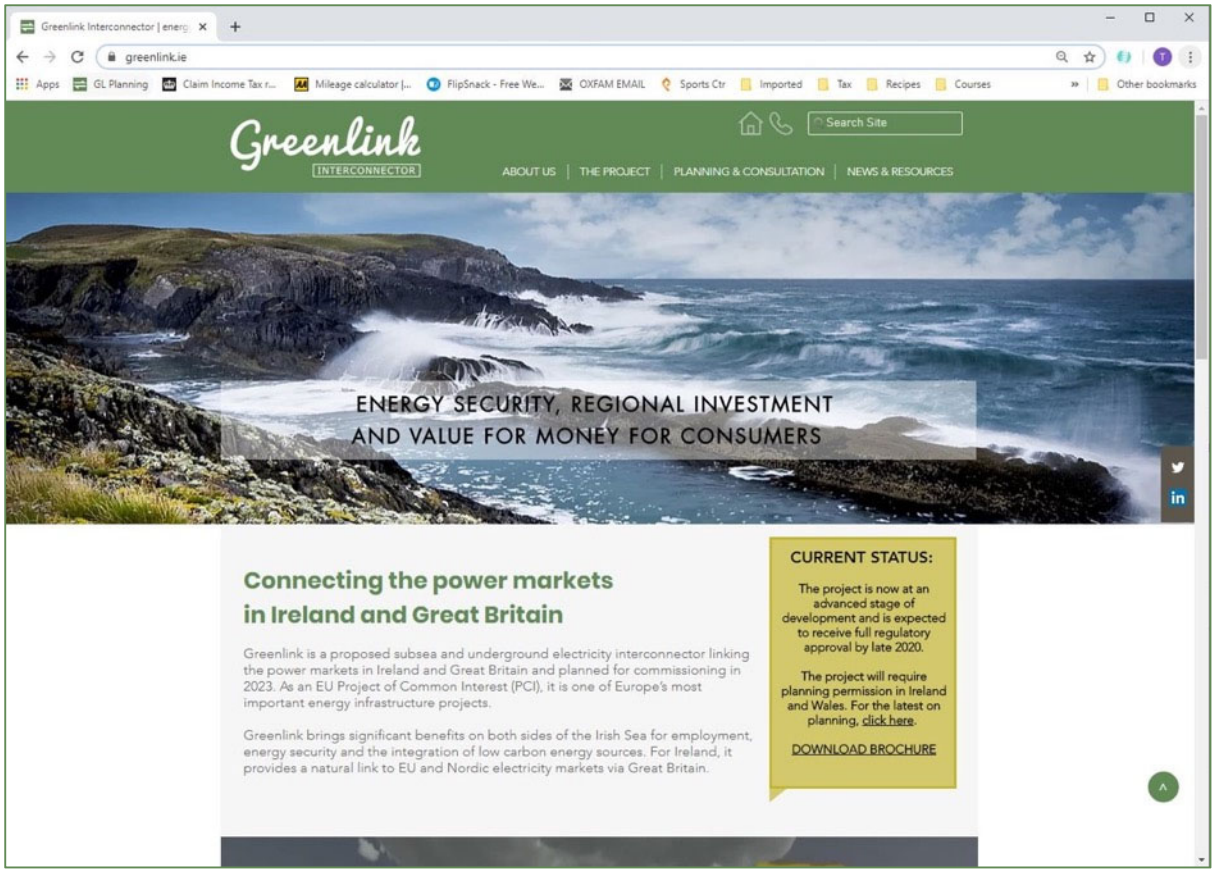


Figure 1: Project website screenshot

Public exhibitions

2.3.8 Four rounds of public exhibitions have so far been held in County Wexford. These have been designed to take place at key stages of the development programme to present the latest details of the project as the design has evolved. The exhibitions have enabled members of the local community to meet the project team in person, to ask questions and to feed back their views, many of which have influenced the design of the project. They have been held in public locations and at times of the day convenient for the local community.

2.3.9 A full list of public exhibitions held so far is presented in table 1 found in 3.1.

2.3.10 The materials at the exhibitions included display boards, brochures, maps and preliminary environmental and technical reports. The exhibitions were attended by the Planning and Permitting Manager and representatives from our consultants, along with other members of the Greenlink team, to ensure that the right level of expertise was available to the public.

2.3.11 Exhibitions have been publicised in advance through the local papers (see list in Local Media section below) with paid adverts and a press release for editorial coverage.

2.3.12 Stakeholder organisations and individuals, including elected representatives, have been invited to each round of exhibitions by letter and/or email.

2.3.13 The exhibition boards and advert for each round of public exhibition can be found in Appendices 6, 7, 8 and 9.

Meetings with New Ross District Councillors

2.3.14 Roundtable meetings took place with Wexford County Council's New Ross Councillors on 20th June 2018 and 11th September 2019.(See Appendices 14 and 15.)

One-to-one engagement with stakeholders

2.3.15 One-to-one engagement has been useful for discussing specific areas of concern with individuals – either local residents or leaders of local stakeholder groups. These have either been contacted by us proactively early on or have contacted us during the development process (for example through the website contact form, by email, or by leaving their details at public exhibitions with a request to be kept updated).

2.3.16 Stakeholders are invited to the public exhibitions and, if they cannot attend, offered alternative meetings or directed to the website, so that they can be kept updated on the project and have an opportunity to discuss any concerns.

House visits and direct engagement with nearby residents

2.3.17 Residents living near a proposed project often have a number of concerns pertaining to issues of residential amenity and construction impacts. Specific households may require additional consultation care due to perceived high impacts from a proposal.

GIL has therefore placed a high priority on early and comprehensive engagement with residents near the proposal, particularly those living along the onshore cable route and near the converter station site. Accordingly, during the early stages of the project, consultation centred on landowners and residents neighbouring the project site. Once an understanding had been developed of the environmental and technical constraints facing the project, wider public consultation began (with the first round of exhibitions in June 2018, as detailed below).

2.3.18 As the project moves into planning and then the construction phase GIL will continue to liaise with nearby residents to ensure that any impacts during construction are minimised and ensure that they have a direct point of contact within the project. The appointment of a local Community Liaison Consultant has enabled us to maintain direct contact with local residents and other stakeholders nearby, for example by in-person house visits.

2.3.19 This, together with the actions described throughout Sections 2.3, satisfies the requirements of Annex 6(3) and Annex 6(5)(c) of the TEN-E Regulation.

Media relations

2.3.20 Local media have been kept informed of the project throughout the development process, including news of project milestones, upcoming exhibitions and other consultation opportunities. GIL has used the media as an additional source of information to raise awareness within the community.

2.3.21 GIL has engaged regularly with the national and business media, and in particular with the following local media:

- New Ross Standard
- Wexford People

2.3.22 Press coverage to date related to the project in Ireland can be found in Appendix 12. Copies of all press releases issued during development of the project can be found on the Greenlink website www.greenlink.ie

2.3.23 Social media is an important channel for engaging with stakeholders, allowing us to communicate news and updates on the project and also respond to questions and comments directly, given its interactive nature. We manage a Twitter account @Greenlink_IC and a LinkedIn account 'Greenlink Interconnector Limited' and both are monitored daily by the Communications Adviser. Screenshots are in Figures 2 and 3 below.

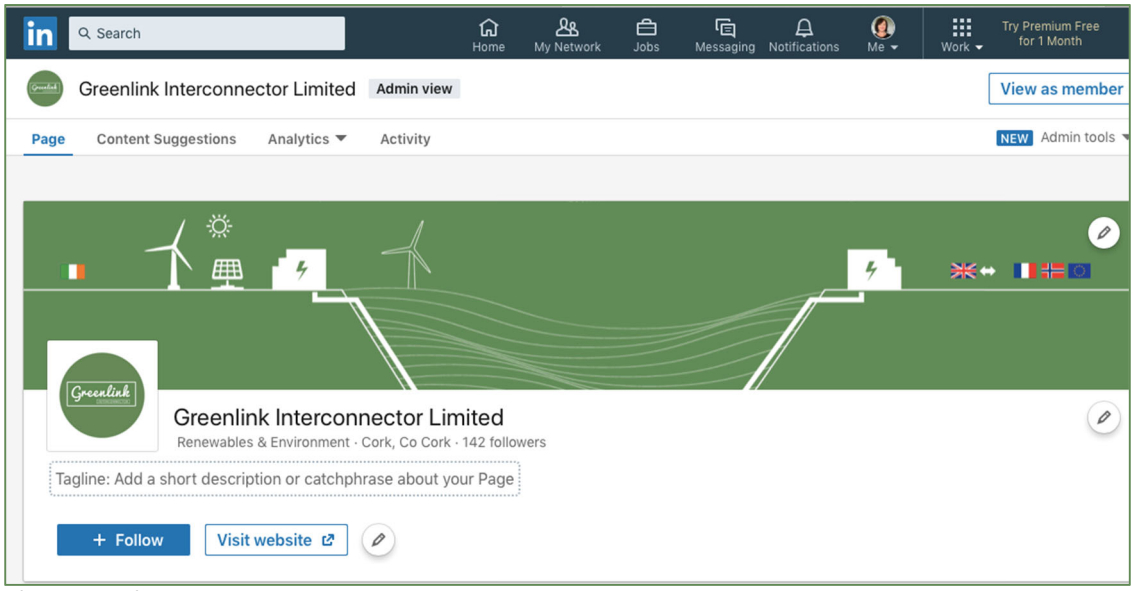


Figure 2: LinkedIn page screenshot

Figure 3: Twitter page screenshot

Adverts and public notices

2.3.24 Advertisements were placed in local newspapers prior to each round of public exhibitions. See Appendices 6, 7, 8 and 9 for copies including examples of published placements as they appeared in the newspapers.

2.3.25 Public notices have been published in local, national and industry media as required. For example, notices were issued at the time of: Application for a Foreshore Consent; Application for Foreshore Licence for marine surveys; Notice to Mariners at commencement of offshore and nearshore surveys. See Appendix 10 for copies.

Frequently Asked Questions

2.3.26 A comprehensive set of Frequently Asked Questions (FAQs) are published on the project website and have been made available at public exhibitions. These have been regularly updated in response to questions raised by the public during the development process.

2.4 Responding to feedback

2.4.1 During the public consultation process, we have established a number of channels for stakeholders to submit feedback on the project, including by email, in person (at exhibitions or meetings), via their elected representatives and on feedback forms that we provide at public exhibitions. An example of the feedback form can be found in Appendix 11.

2.4.2 Such feedback has been useful in identifying key areas of concern and has influenced the design of the project.

2.5 Stakeholders

2.5.1 As part of the consultation, GIL has engaged with a comprehensive range of stakeholders during the Greenlink development process. These were identified as key stakeholders when GIL were planning the consultation strategy and were set out in the CoPP. They have evolved as GIL has progressed through the development and consultation process and new stakeholders have been added.

2.5.2 In addition to the statutory consultees, the categories of key stakeholders for Greenlink have included:

- elected representatives
- neighbouring residents
- commercial and recreational users

Elected representatives

2.5.3 The local community is represented by elected officials at a local and national level. Elected representatives have been consulted to ensure that they can influence how the development progresses by representing the views of the electorate.

2.5.4 Details of how GIL has consulted both local and national elected representatives is set out in the following sections.

Local authority councillors

2.5.5 County Councillors have been contacted at each project milestone to ensure that they have accurate project information and contact details should they have any queries. The level of engagement with each councillor has varied depending on their interest in Greenlink and the proximity of their wards. Key examples of contact and correspondence are as follows:

- 13th June 2018: roundtable launch of the project - invitees included Wexford County Councillors (and TDs), hosted by the British Irish Chamber of Commerce in Dublin (see Appendix 13)
- 20th June 2018: presentation to Wexford County Council in Wexford (see Appendix 14)
- June 2018: email to councillors with update on project and inviting them to the first round of public exhibitions (Fethard on Sea (June) and Duncannon (August))
- January 2019: email to councillors with update on project and inviting them to the second round of public exhibitions (Fethard on Sea and Duncannon)
- March 2019: two emails to councillors: i) update on project, including the announcement of new private investment by Partners Group and ii) invitation to public exhibition in Ramsgrange
- May 2019: correspondence with Councillor Michael Whelan addressing concerns raised with him about the impact of cables on nearby residents. Expert opinion and data on Electromagnetic Fields supplied.
- September 2019: presentation to Wexford County Council New Ross District's Councillors (see Appendix 15)
- December 2019: email to councillors with update on project and inviting them to fourth round of public exhibitions (Ramsgrange, Duncannon and Fethard on Sea)

Engagement with Wexford Councillors has been extremely useful in identifying stakeholders at the start of the consultation, in identifying potential local issues and benefits and in acting as a channel for constituents' views.

For example, we have had frequent discussions with Councillor Michael Whelan, of New Ross District, who is local to the project. Councillor Whelan attended the public exhibition in March 2019 in Ramsgrange and we discussed ways in which the design of the project could improve local infrastructure. In May he passed on concerns raised by some local residents about the potential adverse effects of the cables. This prompted us to commission a report from an expert on Electromagnetic Fields in order to allay health and safety fears.

This information was provided to Councillor Whelan, added to our Frequently Asked Questions on our website and included in the next round of public exhibition information. We also arranged for the EMF expert to attend the exhibition to answer questions from local residents.

Nationally elected representatives

2.5.6 All local TDs identified in the CoPP were contacted at the early stages of the development process. Key constituency TDs have been contacted at each project milestone to ensure that they have accurate project information and contact details should they have any queries. Key examples of contact and correspondence are as follows:

- 13th June 2018: roundtable launch of the project: all Wexford TDs were invited to the discussion, hosted by the British Irish Chamber of Commerce in Dublin (see Appendix 13)
- June 2018: email to Wexford TDs with update on project and inviting them to the first round of public exhibitions (Fethard on Sea (June) and Duncannon (August))
- January 2019: email to Wexford TDs with update on project and inviting them to the second round of public exhibitions (Fethard on Sea and Duncannon)
- March 2019: two emails to Wexford TDs: i) update on project, including the announcement of new private investment by Partners Group and ii) invitation to public exhibition in Ramsgrange
- December 2019: email to Wexford TDs with update on project and inviting them to fourth round of public exhibitions (Ramsgrange, Duncannon and Fethard on Sea)

2.5.7 From the outset of the project, regular updates were provided to the following nationally elected politicians as identified initially in the CoPP:

- Paul Kehoe TD
- Michael W D'Arcy TD
- Brendan Howlin TD
- Malcolm Byrne TD
- James Browne TD
- Mick Wallace MEP

Following the announcement of the 2020 election, we contacted all candidates to update them on the project and are in the process of planning engagement with the newly-elected TDs for Wexford:

- Johnny Mythen TD
- Brendan Howlin TD
- Verona Murphy TD
- James Browne TD
- Paul Kehoe TD
- Mick Wallace MEP

Neighbouring residents

2.5.8 GIL contacted all landowners at the beginning of the development process to identify key constraints and opportunities to consider when designing the cable route. As the cable options became apparent a dialogue with residents along the cable route and near to potential converter station sites commenced.

2.5.9 Residents along the proposed cable route received letters in March 2019 to outline the project and invite them to present their views either by email or by attending the upcoming public exhibition. A further letter was sent in December 2019 with an update on the project, encouragement to share views on traffic impacts, safety and local infrastructure improvements and an invitation to the next round of exhibitions. Both letters can be found in Appendix 16. Residents have had a direct input into the design as the development has progressed and we will continue to liaise with them throughout the construction phase to minimise any disruption.

2.5.10 One key area where this influence is demonstrated is on the plans for cable routing and installation through the village of Ramsgrange. Concerns were raised by two residents about the impact of the work on local businesses and on access to properties. This emphasised the importance of designing and managing cable installation in a way that minimises disruption wherever possible.

2.5.11 For example, GIL's contractors will install cables in pre-installed plastic ducts, a method selected to minimise the impact and to improve traffic flow management, and where possible the cable route was selected to provide suitable property access. Detailed plans to minimise disruption were communicated directly by email to those residents who raised concerns.

Commercial and recreational users

2.5.12 To fully assess potential constraints and impacts GIL has sought the views of local and commercial users of the area around the proposed Greenlink infrastructure. These consultations have directly shaped the delivery of the project and survey work. A non-exhaustive list of interested parties is provided below along with details of how they have influenced the delivery of Greenlink.

- Beach users
- Commercial and recreational users
- Farmers

Beach users

2.5.13 Concerns regarding the potential for the installation of the cable to disrupt beach access and the environment at Baginbun has been clearly highlighted by beach users and other stakeholders during consultation.

2.5.14 Recognising the importance of Baginbun, GIL has worked throughout the development process to ensure that installation could be completed via the use of Horizontal Directional Drilling, taking the cable under the cliff face and avoiding disruption to beach users. Consistent with GIL's commitment to honest dialogue it retained the potential of trenching through the beach until it had confidence that an HDD was deliverable. Once the relevant survey work had been concluded GIL were able to make a firm commitment to using an HDD.

A commitment has also been made to avoid restricting access to the beach throughout construction and to complete installation work at Baginbun outside of the peak months of July and August.

Commercial fishing interests

2.5.15 It is recognised that subsea survey and installation work can impact ongoing commercial fishing interests. Prior to the commencement of subsea survey work in Ireland GIL worked to identify commercial fishing interests in the area and established a dialogue directly with the interests via the appointed fisheries liaison officer (MarineSpace). Liaison aimed to ensure survey work and the commercial fishing was coordinated and resulted in commercial fishing and survey work in Ireland being completed without impact on either activity.

2.5.16 It is proposed that this approach is repeated during the construction phase.

Other commercial interests

2.5.17 Concerns were raised during consultation (particularly at public exhibitions in January 2019) about the impact on tourism during the construction period, namely from cable laying work along the proposed route. A commitment was subsequently made by GIL to time the works outside of peak tourism season.

Farmers

2.5.18 The onshore cable route is predominantly being laid along the public road but does cross agricultural land at Baginbun Beach and at Great Island. During the route selection process, we consulted landowners and farmers to minimise impacts on field drainage and future land use plans. Where possible GIL has followed field boundaries. GIL has also routed the cable through existing field entrances whenever possible to minimise environmental and farming impacts.

2.6 Subject areas

2.6.1 During the development process GIL has consulted on a number of subject areas. Subject areas consulted on included:

- Environmental
- Local supply chain
- Logistics and construction programme
- Existing land use

Environmental

2.6.2 As part of the project development process Environmental Scoping Reports were prepared and issued to stakeholders for both the marine and onshore elements of the project in Ireland. The feedback received was then incorporated into the final assessment methodologies and planning documentation.

Onshore Scoping

2.6.3 Onshore Environmental Scoping Reports included the following topic areas:

- Approach to environmental assessment;
- Biodiversity;
- Population and human health;
- Historic environment;
- Landscape and visual impact;
- Water, hydrology, flooding and surface water quality;
- Soils, geology and hydrogeology;
- Noise and vibration;
- Land use;
- Air quality and climate change;
- Material assets, major incidents and disasters; and
- Cumulative and transboundary effects.

2.6.4 Organisations consulted included:

- Wexford County Council;
- Port of Waterford Company;
- Department of Culture, Heritage and the Gaeltacht;
- National Parks and Wildlife Service;
- National Monuments Service;
- Sea Fisheries Protection Authority;

- Inland Fisheries Ireland;
- Failte Ireland;
- Office of Public Works; and
- Heritage Council.

2.6.5 The community was also consulted with the Environmental Scoping Report and details being available to the public at the first round of public exhibitions in June 2018 and all future public exhibition events.

2.6.6 Following the completion of the scoping exercise dialogue continued with all key environmental stakeholders and information was made available to the community and answers provided to queries.

Marine Scoping

2.6.7 Marine Environmental Scoping Reports included the following topic areas:

- Physical conditions and marine processes;
- Intertidal and benthic ecology;
- Fish and shellfish;
- Birds;
- Marine mammals and reptiles;
- Protected sites;
- Commercial fisheries;
- Shipping and navigation;
- Offshore infrastructure and other marine users; and
- Marine archaeology.

2.6.8 Organisations consulted included:

- Department of Housing, Planning and Local Government (DHPLG) – Foreshore Unit;
- Department of Arts, Heritage and the Gaeltacht (DAHG) – Underwater Archaeology Unit;
- National Parks and Wildlife Service (NPWS);
- Marine Institute;
- Inland Fisheries Ireland;
- Department of Agriculture, Food and the Marine – Aquaculture and Fisheries Division;
- South East Regional Inshore Fisheries Forum
- Irish South and East Fish Producers Organisation
- Irish South and West Fish Producers Organisation
- Irish Sea Fisheries Board
- Irish Whale and Dolphin Society
- National Monuments Service;
- Port of Waterford; and
- Local fishing interests.

2.6.9 Copies of the Environmental Scoping Report and details were made available to the public at the first round of public exhibitions in June 2018 and all future public exhibition events.

2.6.10 Following the completion of the scoping exercise dialogue continued with all key environmental stakeholders and information was made available to the community and answers provided to queries.

Local supply chain

2.6.11 The development of significant infrastructure entails substantial capital outlay from developers and their investors, the majority of which is spent during the construction period. Most of this outlay is spent purchasing equipment and materials (e.g. converter stations and subsea cables) with the rest mainly spent on contractors for the construction of the infrastructure. The construction works will be coordinated by a main contractor who will sub-contract various components to specialist companies, e.g. cable laying, pouring foundations, etc.

2.6.12 Construction work on the Greenlink Interconnector is expected to lead to notable expenditure in Ireland. A significant amount of work will require skills and experience available from contractors found in the local area.

2.6.13 The types of services that could be locally sourced include:

- Transportation equipment and personnel;
- Materials: e.g. supplying and pouring concrete;
- Electrical connection;
- Civil engineering activities and earthworks e.g. tracks and hard-standing, foundations, trench digging for cables, etc.;
- Hospitality and catering;
- Office and cleaning supplies;
- Site services: e.g. portacabins and portaloos;
- Site security;
- Fencing; and
- Waste disposal.

2.6.14 GIL is committed to maximising the use of locally based contractors and personnel during the construction and operational phases of the project and this will also be a commitment by the main EPC contractor, once selected. As a part of this commitment GIL has engaged with local suppliers and liaised with local economic bodies to ensure that a dialogue is established with local businesses.

2.6.15 Throughout the development process GIL has ensured that interested businesses can register an interest in being part of the supply chain through the website and by contacting GIL directly.

2.6.16 GIL has committed to run a ‘meet the buyer event’ in the local area once a main contractor is selected so that they can have easy direct access to the local supply chain.

Logistics and construction programme

2.6.17 The construction phase of a major project includes numerous vehicle movements including workers travelling to and from site and equipment and material deliveries. A Transport Assessment has been completed as part of the suite of planning documentation alongside an Outline Construction Traffic Management

Plan. These have been produced incorporating consultation responses received during the consultation process.

2.6.18 Consultation responses have centred on concerns regarding speeding construction vehicles and transport routes through Wexford.

2.6.19 As noted above, installation of the underground cables also has the potential to cause disruption and GIL will continue to work with the local community throughout the installation process to minimise any impacts.

Existing land use

2.6.20 GIL is keen to avoid any negative impacts on existing users of the local land and marine locations where the project is proposed to be located. Through consultation with landowners, and users of the land, including the beach at Baginbun, GIL has developed a good understanding of the existing use of the land hosting Greenlink.

3 Public consultation undertaken

3.1.1 An overview of the consultation undertaken as the development process progressed is outlined and described in this section of the Consultation Report.

3.2 Consultation programme

3.2.1 GIL commenced informal consultation with landowners and key stakeholders prior to the commencement of the formal consultation detailed in the CoPP. The aim of this consultation was to gain an understanding of the key constraints facing the development of Greenlink in Wexford.

3.2.2 This consultation fulfilled the requirements of the TEN-E Regulation. To the extent that consultation pre-dated the formal approval of the CoPP, it was taken into account in the CoPP in accordance with Article 9(3) of the TEN-E Regulation.

3.2.3 As required by Article 9(4) of the TEN-E Regulation, GIL has carried out at least one public consultation prior to submission of the final and complete application file. The public consultations were designed to inform stakeholders about the project at an early stage in order to allow meaningful stakeholder engagement throughout the pre-application process. Undertaking public consultation at an early stage has ensured that potential concerns by the public could be taken into account in an open and transparent manner.

3.2.4 The first public consultation in Wales and Ireland took place within a period of one month of each other (during May 2018 and June 2018 respectively) and satisfied the requirement of Article 9(5) of the TEN-E Regulation.

3.2.5 A summary of key formal public consultation dates in both Ireland and Wales is detailed below in Table 1.

Table 1: Programme of consultation

Public Exhibitions		Ten-E Regulation Information Brochure	Additional Points of Note (Ireland)
Pembrokeshire (Wales)	County Wexford (Ireland)		
May 2018 – Pembroke Dock, Hundleton and Angle	June 2018 – Fethard on Sea, New Ross	Issue 1 - May 2018	Options for cable route, landfall and converter station. Project benefits including job estimates. Planning and consultation process.
-	August 2018 – Duncannon	-	Options for cable route, landfall and converter station. Project benefits including job estimates. Planning and consultation process.
December 2018 – Pembroke Dock, Hundleton and Angle	January 2019 – Duncannon and , Fethard on Sea	Issue 2 - November 2018	Cable infrastructure and converter station – preferred routes and location, initial designs and assessment outputs, including environmental.
April 2019 – Pembroke in Pembrokeshire	-	-	
June 2019 – Pembroke, Pembroke Dock, Hundleton and Angle	March 2019 – Ramsgrange	Issue 3 - June 2019	Cable infrastructure and converter station – preferred routes and location, initial designs and assessment outputs, including environmental
December 2019 – Pembroke, Pembroke Dock, Hundleton and Angle	December 2019 – Ramsgrange, Duncannon and Fethard on Sea	Issue 4 - December 2019	Cable infrastructure and route detailed design. Converter station – outline design.

3.3 June/ August 2018 public exhibitions and relevant consultation milestones

3.3.1 The boards and press notice relating to this round of public exhibitions can be found in Appendix 6. The exhibitions were advertised in the press, on local noticeboards, and via direct communication with landowners, local politicians, key stakeholders, and residents and members of the public who had requested to be kept informed of progress.

3.3.2 Details of the public exhibitions are shown below:

- 27th June 2018 – St. Marys Community Hall, Fethard on Sea – 14:00 to 20:00
- 15th August 2018 – Star of the Sea Parish Centre, Duncannon – 14:00 to 20:00

Public consultation completed prior to public exhibitions

3.3.3 Key stakeholders were contacted at an early stage to introduce Greenlink and discuss potential constraints regarding the proposed sites under consideration for cable landfall and the converter station, and the potential underground cable routes. These stakeholders included key local landowners, fisheries interests and the Port of Waterford Company.

3.3.4 Elected representatives (Wexford TDs and Wexford County Councillors) were also introduced to the project and invited to comment at a roundtable discussion in Dublin on 13th June and during a formal presentation to Wexford County Council on 20th June 2018.

3.3.5 One early outcome of consultation was that alternative landfall locations including Boyce's Bay were de-selected. The Port of Waterford Company requested that any route within the estuary must avoid the main navigation channel and follow or be as close to as possible the outcropping rock on the eastern coastline. This constraint, combined with the environmental sensitivities of the River Barrow estuary (ie reef habitat and important twaite shad spawning habitat), led to the recommendation that Baginbun Beach should be considered the preferred landfall for cable route survey.

3.3.6 Commercial fishing interests in the area had been contacted regarding the upcoming subsea surveys and consultation had commenced to coordinate surveys with planned commercial fishing.

Details of project development presented

3.3.7 Exhibition boards for consultation events in June and August 2018 can be found in Appendix 6. The boards included were:

- Project benefits
- The proposal
- Why Greenlink?
- Greenlink components
- Consultation
- Local supply chain
- Site assessment – overview
- Landscape and visual impact
- Agricultural land
- Electromagnetic fields
- Socio economics
- Air quality
- Marine surveys
- Marine environmental assessments
- Project timeline
- The planning process

- Water and soil
- Noise and vibration
- Biodiversity
- Historic environment
- Traffic and transport
- Offshore Ireland route options
- Offshore Wales route options
- Optioneering plan – regional
- Irish landfalls

3.3.8 Comments were welcomed on all subject areas.

3.3.9 Members of the public were informed of the proposed planning process for the converter station and cable routes.

3.3.10 Detailed maps showing the possible cable routes and converter stations were presented at the public exhibition and comments welcomed. The potential onshore cable routes and potential converter sites discussed can be found in Figure 4.

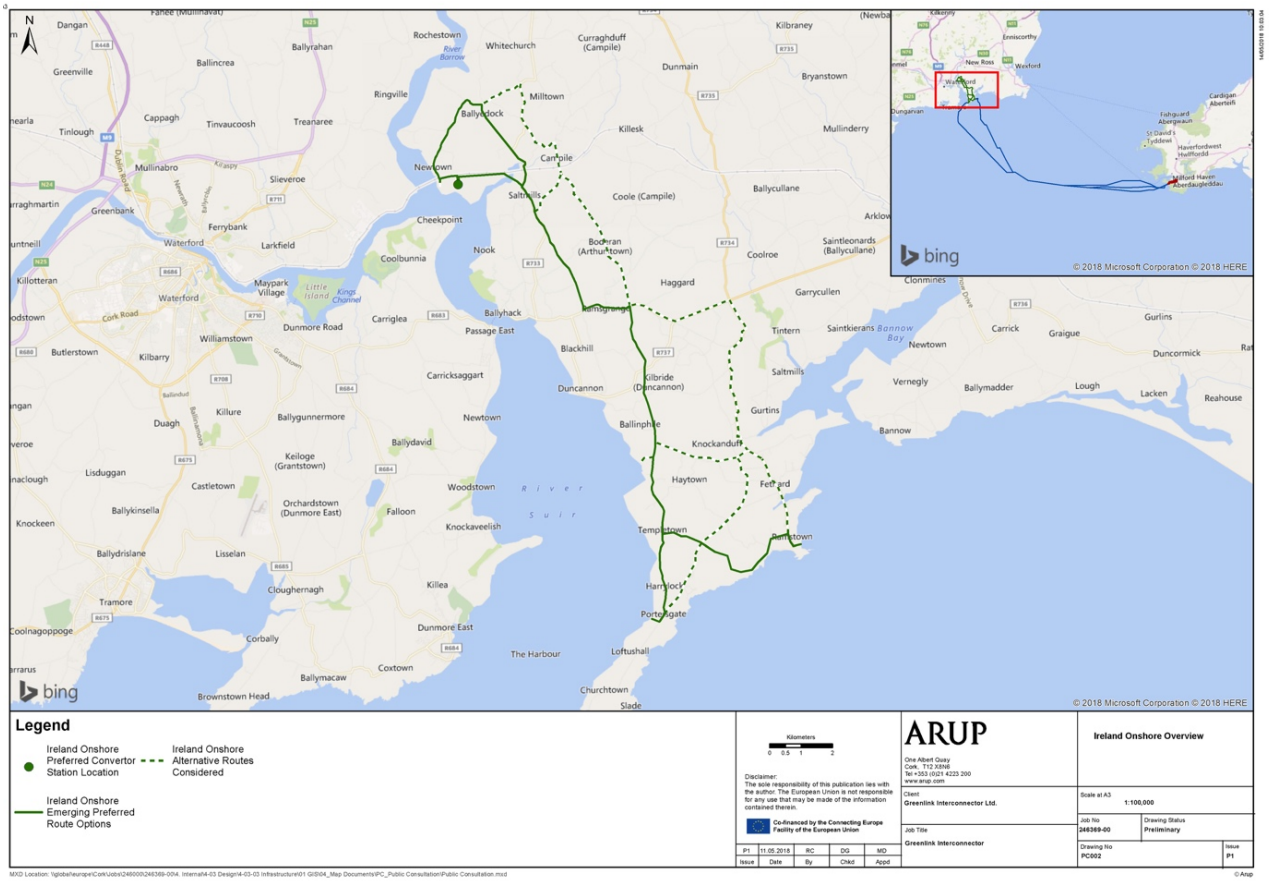


Figure 4: Onshore project plan presented at public exhibitions in June and August 2018

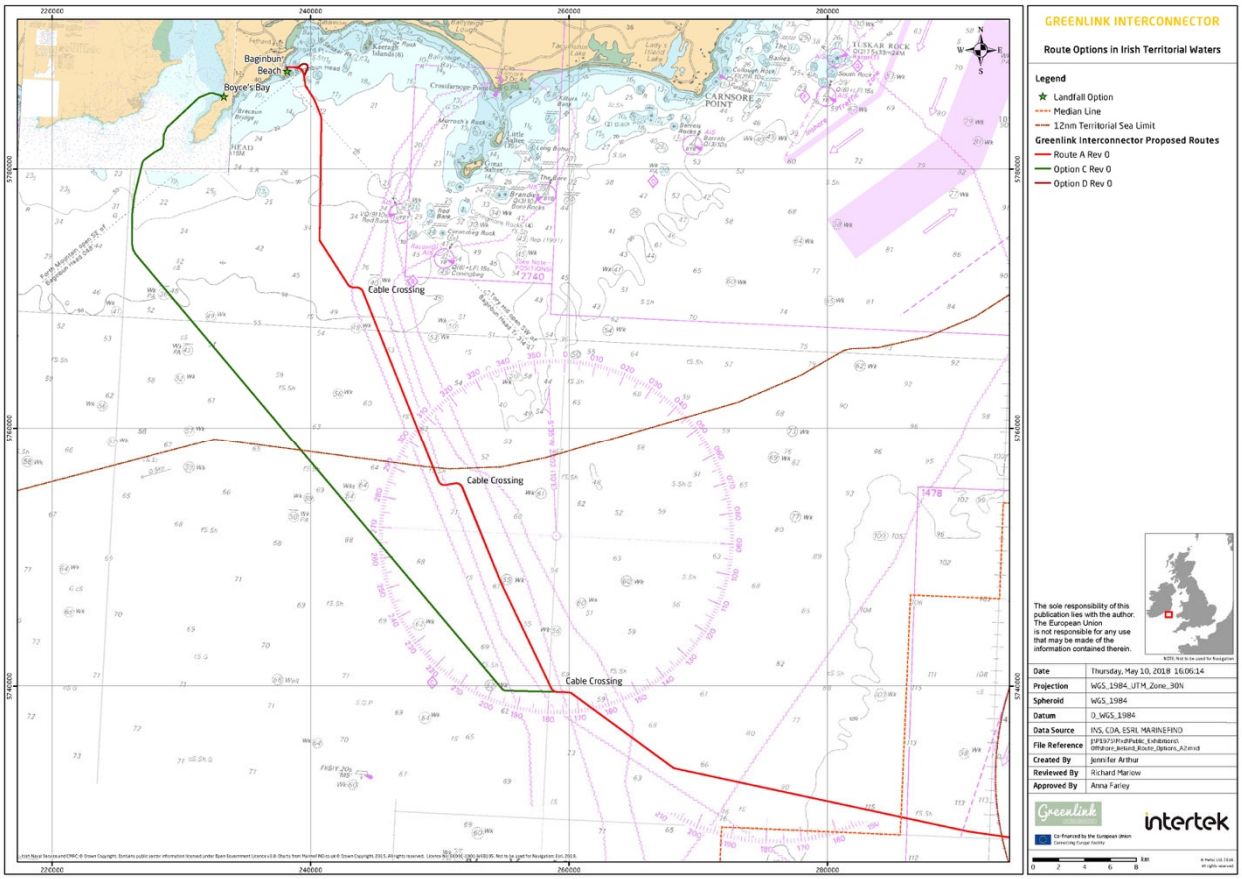


Figure 5: Offshore project plan presented at public exhibitions June and August 2018

3.3.11 The two potential offshore cable routes were also presented for discussion. These are shown in Figure 5.

3.3.12 The two preferred options for the cable landfall, along with other sites that had been considered, were presented. These are shown in Figure 6.

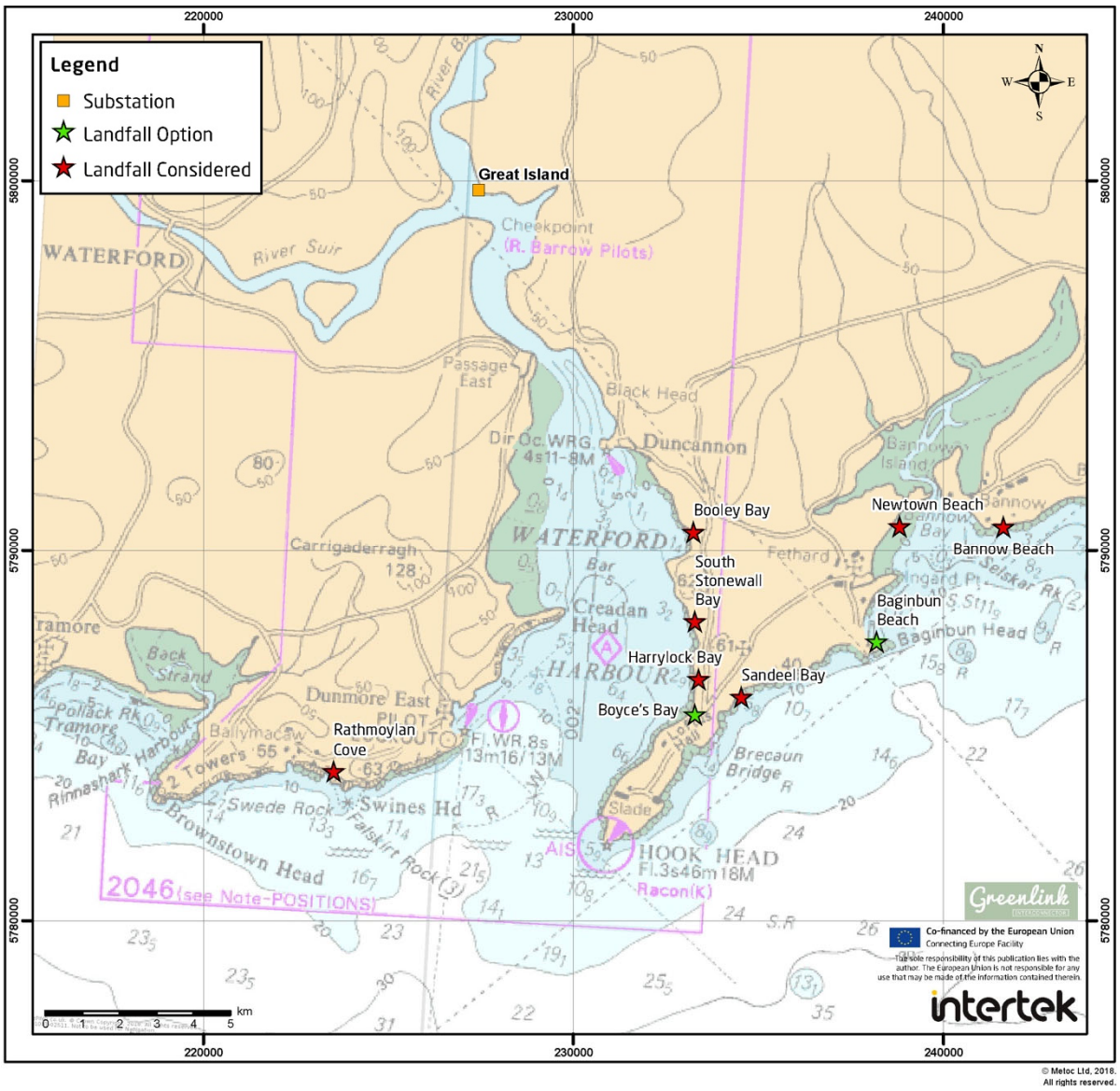


Figure 6: Landfall options presented at public exhibitions June and August 2018.

3.3.13 The May 2018 project brochure, found in Appendix 2, was distributed at the public exhibitions.

Issues raised during consultation

3.3.14 Comments received were positive towards Greenlink. However, the majority of these were with the disclaimer that GIL had to ensure that the local road network remained open and Baginbun Beach not be damaged.

3.3.15 Comments were made regarding the importance of the cable route being designed to minimise any environmental impact.

3.3.16 Commitments were requested that overhead lines would not be used between the beach and the converter station. GIL gave this commitment.

3.3.17 No concerns were raised regarding converter station locations.

3.4 January 2019 public exhibitions and relevant consultation milestones

3.4.1 The boards and press notice relating to this round of public exhibitions can be found in Appendix 7. The exhibitions were advertised in the press, on local noticeboards and via direct communication with landowners, local politicians, key stakeholders and residents and members of the public who had requested to be kept informed of progress.

3.4.2 Details of the public exhibitions are shown below:

- 16th January 2019 – St Mary's Community Hall, Fethard on Sea – 14:00 to 18:30
- 17th January 2019 – Star of the Sea Parish Centre, Duncannon – 14:00 to 20:00

Public consultation completed prior to public exhibitions

3.4.3 Consultation continued with landowners and environmental stakeholders to refine cable routes and converter station locations. This resulted in a preferred cable route and converter station option being identified. Final selection would require the completion of technical and environmental feasibility work.

3.4.4 Liaison with commercial fishing interests continued throughout the subsea survey period from September 2018 to March 2019. Information was issued to all key stakeholders including members of the public who had requested to be kept updated on project progress and also to local councillors and TDs.

3.4.5 The provision of community benefit for local residents along the cable route had been raised by a member of the public and GIL began discussions on options.

Details of project development presented

3.4.6 Boards presented at the January 2019 exhibitions can be found in Appendix 7. The boards included were:

- Project benefits
- The proposal
- Why Greenlink?
- Converter station sites
- Greenlink in Ireland
- Greenlink components
- Indicative converter station
- Consultation
- Local supply chain
- Site assessment – overview
- Landscape and visual impact
- Viewpoint locations
- Biodiversity
- Historic environment
- Traffic and transport
- Transport routes
- Socio economics
- Marine surveys
- Marine environmental assessments
- Project timeline
- Offshore Ireland route options
- Offshore Wales route options
- Planning
- Irish landfalls

3.4.7 Comments were welcomed on all subject areas.

3.4.8 GIL were able to present more project specific information at this round of public exhibitions following the selection of preferred onshore and subsea cable routes and the converter station site.

These were identified following consultation with stakeholders and analysis of the results of ongoing environmental and technical work, including early subsea surveys. Information presented included the maximum potential converter station dimensions, potential transport routes and management plan and proposed viewpoint locations to be assessed in the landscape and visual impact assessment. A specific board was prepared explaining the selection of the preferred converter station site and an indicative diagram was presented. The selection of Baginbun Beach for landfall was explained and the preferred subsea cable route was presented.

3.4.9 Members of the public were also informed that GIL had made the decision to undertake a voluntary Environmental Impact Assessment (EIA) in support of Greenlink. While it was recognised that Greenlink did not require an EIA, GIL decided to undertake a voluntary EIA in recognition of the length of the permitting process and the evolving interpretation of the EIA regulations within Ireland. As a result of this decision the onshore cable routes would now seek planning permission rather than be developed using permitted development rights.

3.4.10 The preferred cable route and converter station site presented at the public exhibitions can be found in Figure 7.

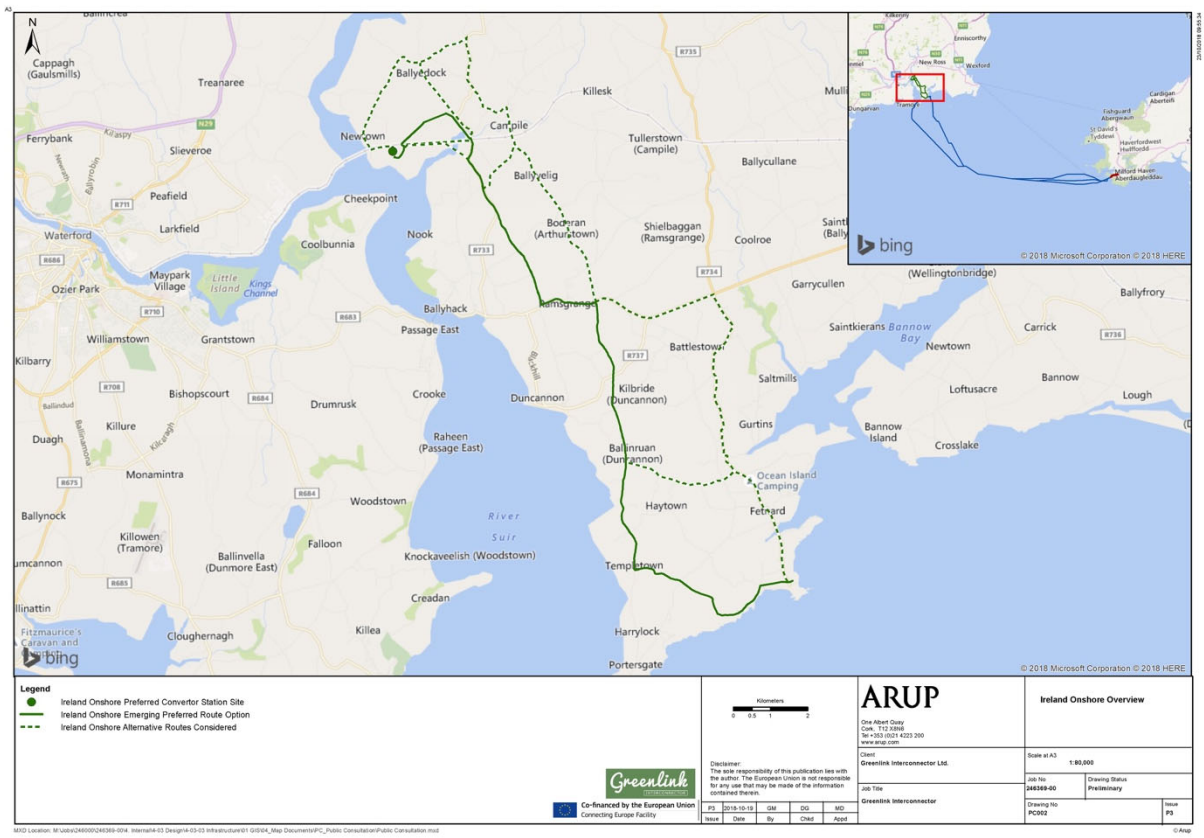


Figure 7: Onshore project plan presented at public exhibitions January 2019

3.4.11 The selected offshore cable route was also presented for discussion. This is shown in Figure 8.

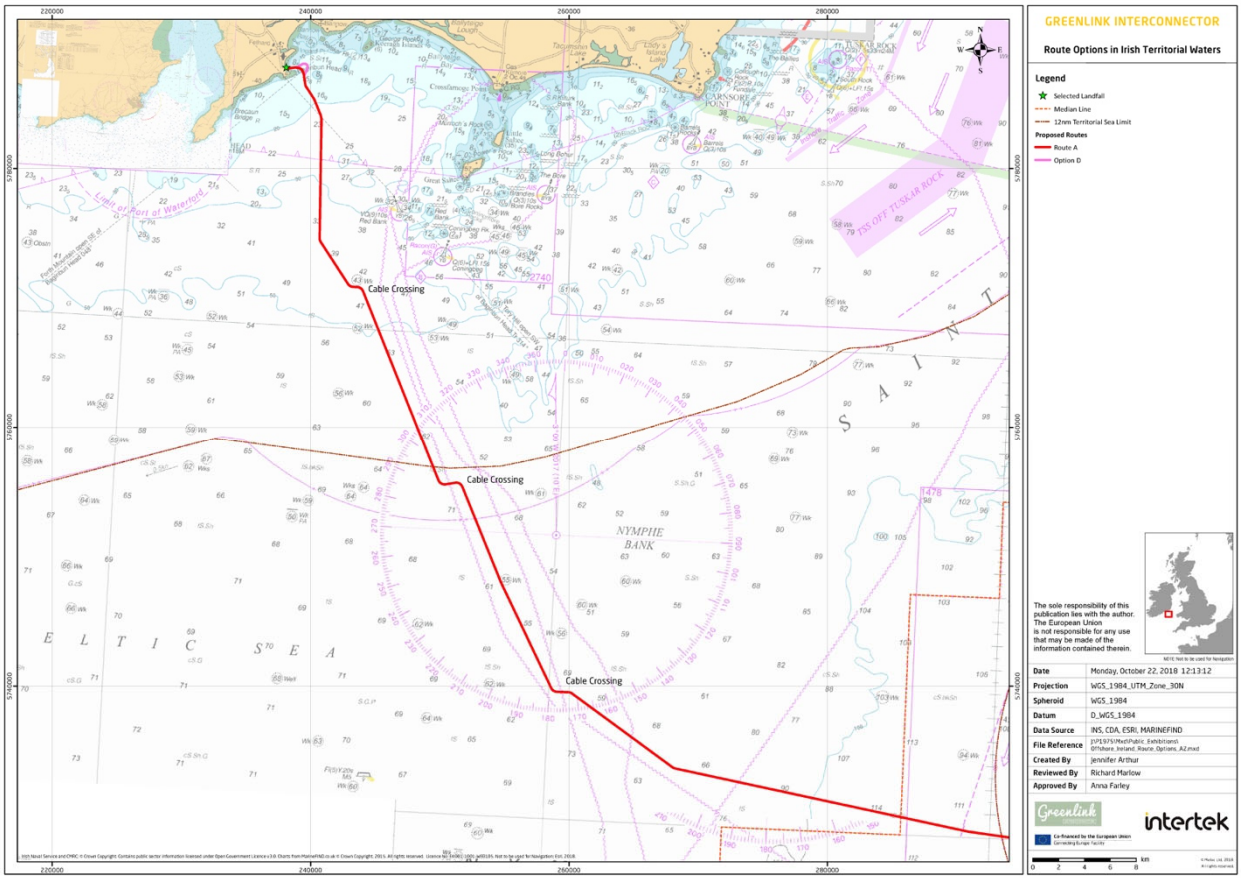


Figure 8: Offshore project plan presented at public exhibitions January 2019

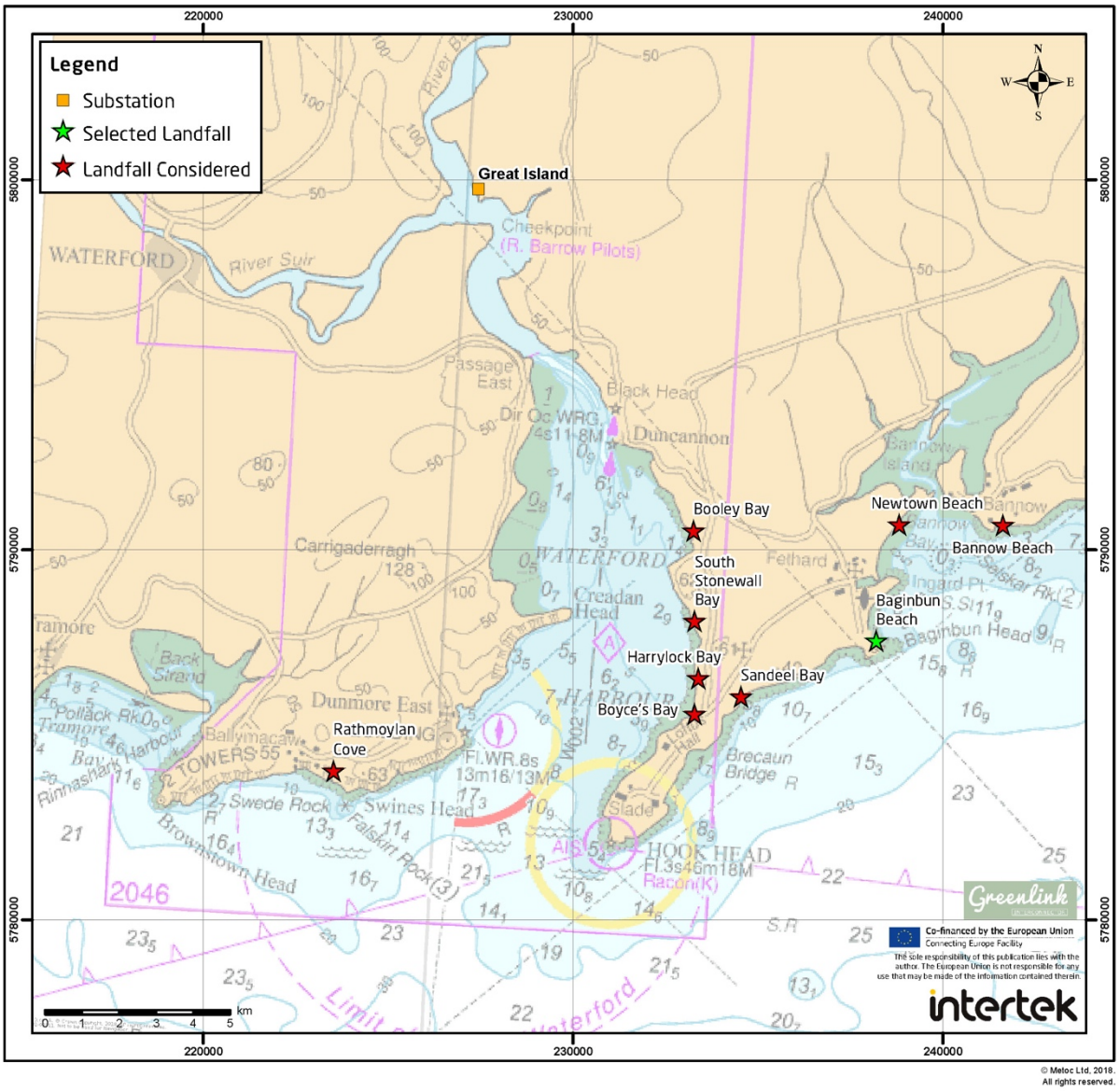


Figure 9: Preferred landfall location presented at public exhibitions January 2019.

3.4.12 It was also confirmed that Baginbun Beach had been identified as the preferred landfall location and this was presented on an exhibition board as shown in Figure 9.

3.4.13 The November 2018 project brochure, found in Appendix 3, was distributed at the public exhibitions.

Issues raised during consultation

3.4.14 The two days of public exhibitions were well attended. Many were coming to find out more about the project – where will it be located, why is it needed and what the impacts might be.

3.4.15 A number of residents living along the proposed cable route attended to voice concerns about potential adverse impacts: during construction and from the cable itself.

Issues raised including the health and safety impact of Electromagnetic Fields (EMF), devaluation of property and impacts on tourism, particularly potential negative impacts on Baginbun Beach.

3.4.16 The importance of GIL avoiding any impact on coastal processes was raised - requesting that GIL avoid introducing large artificial features close to the shore - i.e. avoid large rock placement at the HDD exit point in the sea. **Note**: the marine licence application made a commitment to avoid this.

3.4.17 The importance of coordinating construction traffic and cable installation with local residents was raised.

3.4.18 The only concern regarding the potential converter station location was regarding potential issues around noise.

3.4.19 It was requested that GIL consider what community gain might be provided as a result of the project. A suggestion was made to improve car parking provision at Baginbun Beach.

3.5 March 2019 public exhibition and relevant consultation milestones

3.5.1 The boards for this exhibition are as above and the press notice can be found in Appendix 8. The exhibition was advertised in the press, on local noticeboards and via direct communication with landowners, local politicians, key stakeholders and members of the public who had requested to be kept informed of progress. A letter was delivered to all residences on the proposed cable route (c 200 houses) inviting them to the exhibition (or to contact GIL with comments or questions if unable to attend). The letter is included in Appendix 15.

3.5.2 Details of the public exhibition are shown below:

- 28th March 2019 – Parochial Hall, Ramsgrange – 14:00 to 20:00

Public consultation completed prior to public exhibitions

3.5.3 Ramsgrange was chosen as the location for another public exhibition following selection of the landfall and onshore cable route, which would run through Ramsgrange village. Consultation had identified concerns from residents along the cable route.

3.5.4 Consultation had been undertaken with residents neighbouring the development to discuss noise issues, gain readings from properties and incorporate results into noise models to ensure properties would not be impacted by operational noise from the converter station site.

Details of project development presented

3.5.5 Boards and maps were as listed in 3.4 above.

Issues raised during consultation

3.5.6 Around 30 people attended during the course of the day. Many wanted to discuss Greenlink's potential impact on those living along the cable route in Ramsgrange, in particular health and safety concerns from Electromagnetic Fields. As these concerns had been raised before, GIL had commissioned a study on EMF and invited an EMF expert to attend the exhibition. He was able to discuss and allay many of the concerns.

3.6 December 2019 public exhibition and relevant consultation milestones

3.6.1 The boards and the press notice can be found in Appendix 9. The exhibition was advertised in the press, on local noticeboards and via direct communication with landowners, local politicians, key stakeholders and residents and members of the public who had requested to be kept informed of progress.

3.6.2 Details of the public exhibition are shown below:

- 10th December 2019 – Parochial Hall, Ramsgrange – 16:00 to 20:00
- 11th December 2019 – Star-of-the-Sea Pastoral Centre, Duncannon – 16:00 to 20:00
- 12th December 2019 – St Mary's Hall, Fethard on Sea – 13:30 to 18:30

Public consultation completed prior to public exhibitions

3.6.3 Consultation with all key stakeholders had continued since the last round of public exhibitions in March to prepare draft planning documentation to be submitted for pre-application planning consultation.

3.6.4 Public consultation had focussed on potential impacts from disruption during onshore cable laying, in particular traffic impact on tourism and other local businesses. GIL responded to email enquiries with detailed information on measures that would be taken to minimise disruption, including proposed cable-laying process, managing the timing of works, ensuring property access and road reinstatement. In September, GIL met with New Ross District County Councillors to provide an update on the proposal, preferred routes and designs and to seek further feedback.

Details of project development presented

3.6.5 Boards presented at the December 2019 exhibitions can be found in Appendix 9. The boards included were:

- Project benefits
- The proposal
- Why Greenlink?
- Consultation
- Biodiversity
- Greenlink components
- Greenlink in Ireland
- Historic Environment
- Indicative converter station
- Marine Surveys
- Noise and Vibration
- Offshore Ireland Route
- Planning
- Proposed Development Marine
- Project Timeline
- Site Assessment Overview
- Socio-economics
- Traffic and Transport

- Irish landfall
- Landscape and visual impact
- Viewpoint locations
- Local Supply Chain
- Horizontal Directional Drill Installation
- Installation at Baginbun Beach
- Foreshore Licence Application Consultation

3.6.6 Comments were welcomed on all subject areas.

3.6.7 GIL were able to present more detailed information on the design of the project likely to be submitted to pre-planning. Preliminary environmental assessment and reports were made available to view, along with detailed maps and diagrams.

3.6.8 Following concerns raised about the impact on Baginbun Beach, further information was provided on the installation of the cables at the landfall site, including the use of Horizontal Directional Drilling to minimise impacts on the beach. The diagrams presented at the exhibitions can be seen in Figures 10 and 11.

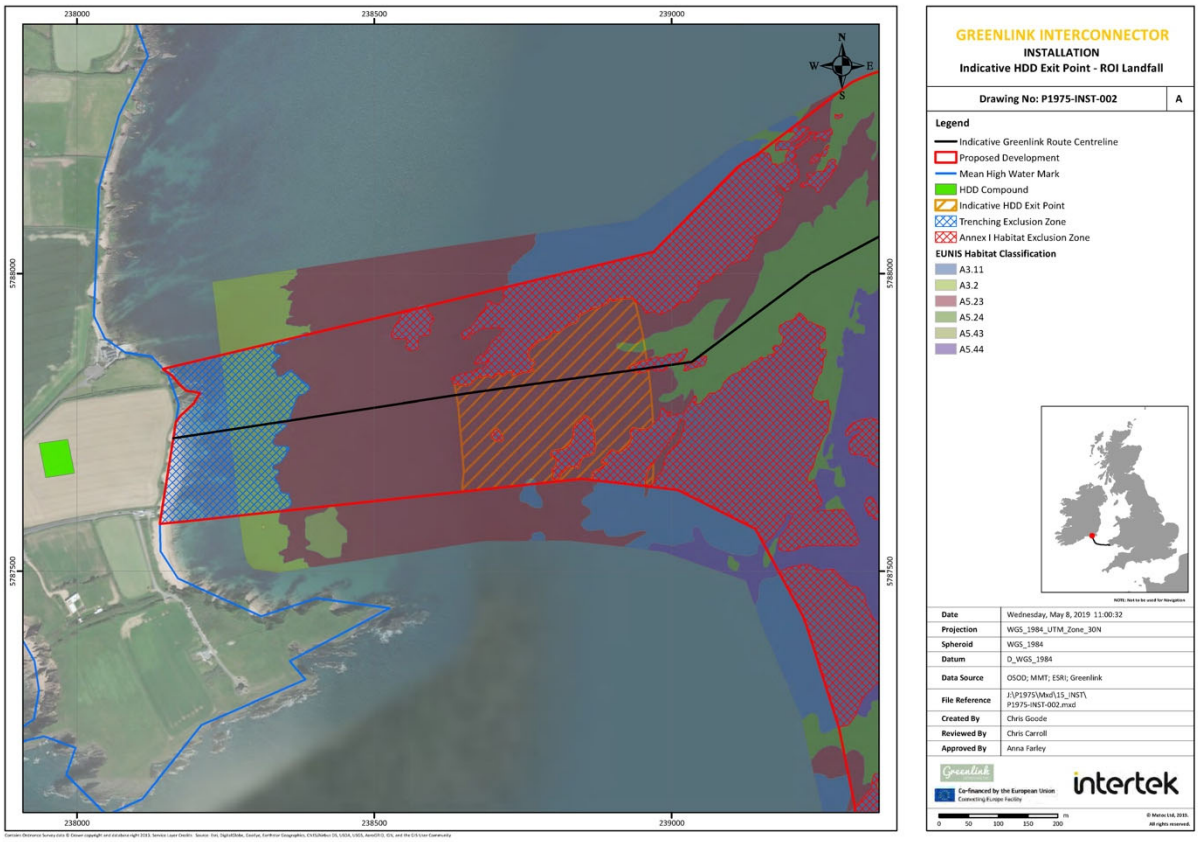


Figure 10: Nearshore plan showing likely HDD cable exit point below low water mark presented at public exhibitions in December 2019

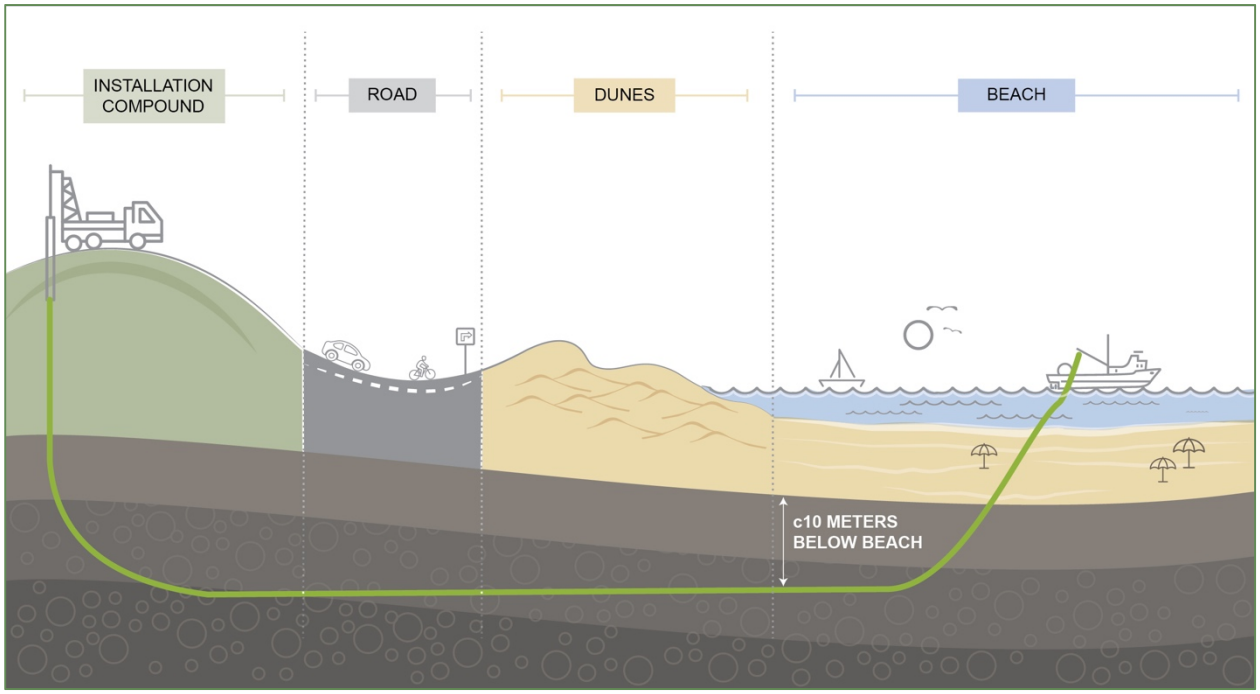


Figure 11: Plan illustrating an HDD cable installation presented at public exhibitions in December 2019

3.6.9 The preferred onshore cable route and converter site was presented. This is shown in figure 12.

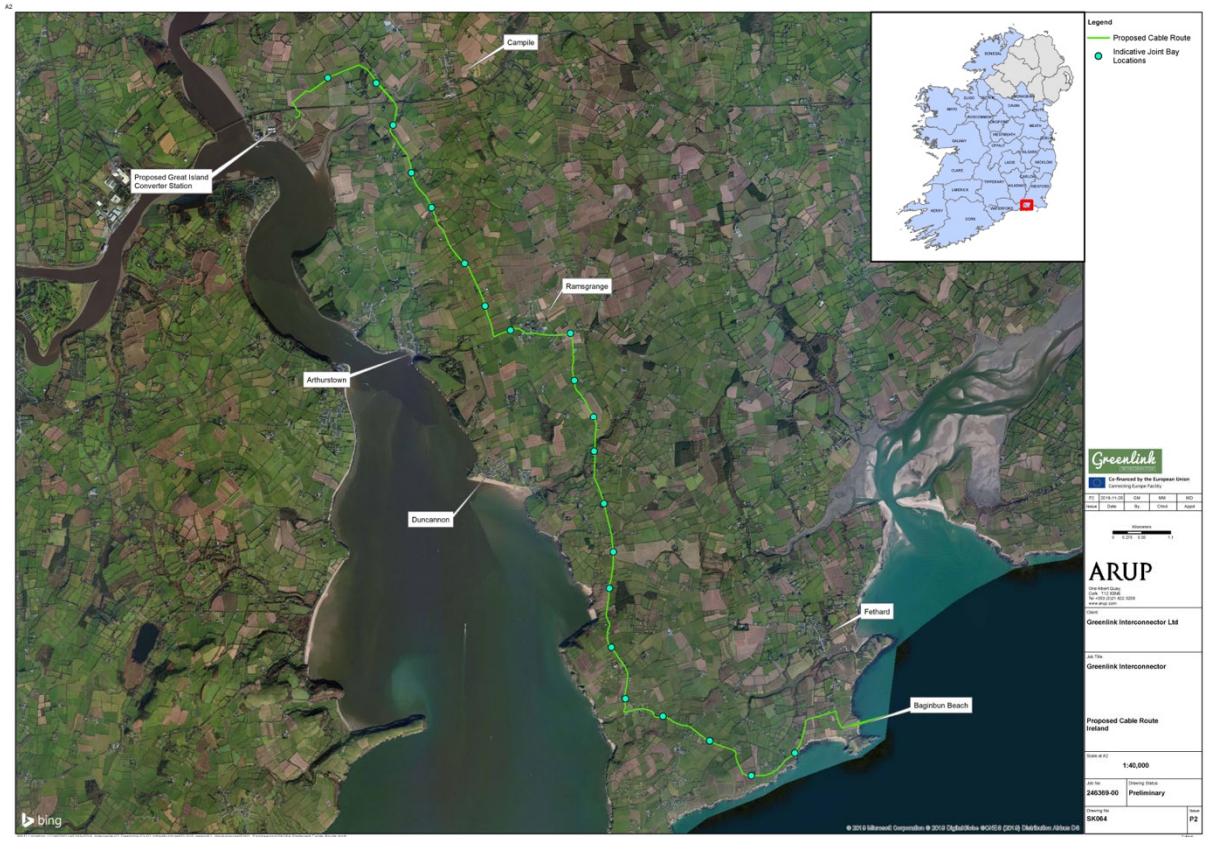


Figure 12: Preferred onshore cable route presented at public exhibitions in December 2019

3.6.10 Following the completion of the subsea surveys the preferred offshore cable route was confirmed, as shown above in Figure 10.

3.6.11 The June 2019 project brochure, found in Appendix 4, was distributed at these public exhibitions.

3.6.12 Since the Marine Licence Applications had been submitted just prior to the exhibitions, the full suite of Marine Licence application documentation was available to view, and details were made available of the live consultation (running from 13th November 2019 to 8th January 2020) and how members of the public could submit comments. See Figure 13 below.

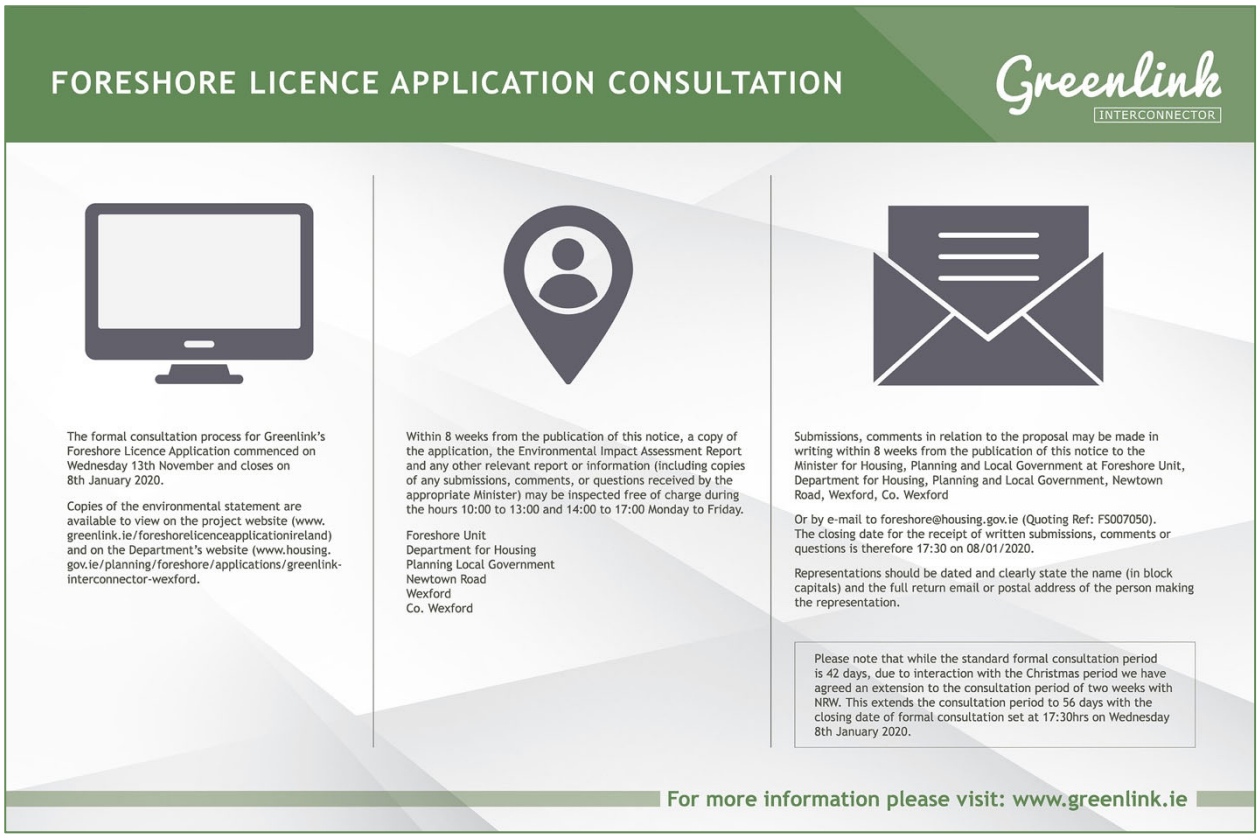


Figure 13: Details of Marine Licence Application Consultation presented at public exhibitions in December 2019

Issues raised during consultation

3.6.13 The exhibitions were well-attended and constructive discussions took place. There were positive comments on the need for interconnection and on the quality of the exhibition and materials provided.

3.6.14 Key issues raised by members of the public were similar to before, namely the impact on residents along the cable route during installation, particularly in the village of Ramsgrange, and on Hook Head during holiday season. The GIL team explained measures that have been agreed to minimise disruption during construction and agreed to continue to engage with the business community.

3.6.15 Community benefit for those most affected by the project was discussed and is being explored.

3.6.16 The GIL team was able to address concerns about EMF and to explain why the preferred cable route was selected.

3.7 Consultation since December 2019 public exhibitions

3.7.1 The formal consultation has concluded on the Marine Licence Application. The consultation period was extended for some key stakeholders to reflect the pressures of the winter break. No material public issues have been raised and GIL will continue to work with local commercial fishing interests throughout the delivery of Greenlink.

3.7.2 In light of government advice in Ireland on the Coronavirus pandemic, GIL adapted its public engagement and consultation activities in March 2020 and suspended face-to-face meetings and public events. However, dialogue with stakeholders has continued by email and GIL has provided updates on the project website, where it also encourages local residents and others to contact the team directly by email or telephone with any questions or comments. The project's Community Liaison Consultant remains available and has recently updated residents in the vicinity of the ground investigations site on the works being carried out.

3.7.3 GIL is currently planning its publicity and information activities with all the above stakeholders for when the final planning application documents are submitted.

4 Conclusion

4.1 Consultation programme

4.1.1 The public consultation undertaken to support the Greenlink development process in Ireland has followed the methodology set out in the Concept of Public Participation and played an important role in shaping the design and delivery of the project.

5 Appendices

- Appendix 1 – Concept of Public Participation (Ireland) Rev 2 (07/01/2020)
- Appendix 2 – TEN-E Regulation Information Brochure – May 2018
- Appendix 3 - TEN-E Regulation Information Brochure – November 2018
- Appendix 4 – TEN-E Regulation Information Brochure – June 2019
- Appendix 5 - TEN-E Regulation Information Brochure – December 2019
- Appendix 6 – Public Exhibition – June and August 2018
- Appendix 7 – Public Exhibition – January 2019
- Appendix 8 – Public Exhibition – March 2019
- Appendix 9 – Public Exhibition – December 2019
- Appendix 10 – Public Notices
- Appendix 11 – Feedback Form
- Appendix 12 – Press articles
- Appendix 13 – Presentation to BICC Roundtable June 2018
- Appendix 14 – Presentation to Wexford County Council June 2018
- Appendix 15 – Presentation to Wexford County Council September 2019
- Appendix 16 – Letters to cable route residents

Appendix 1

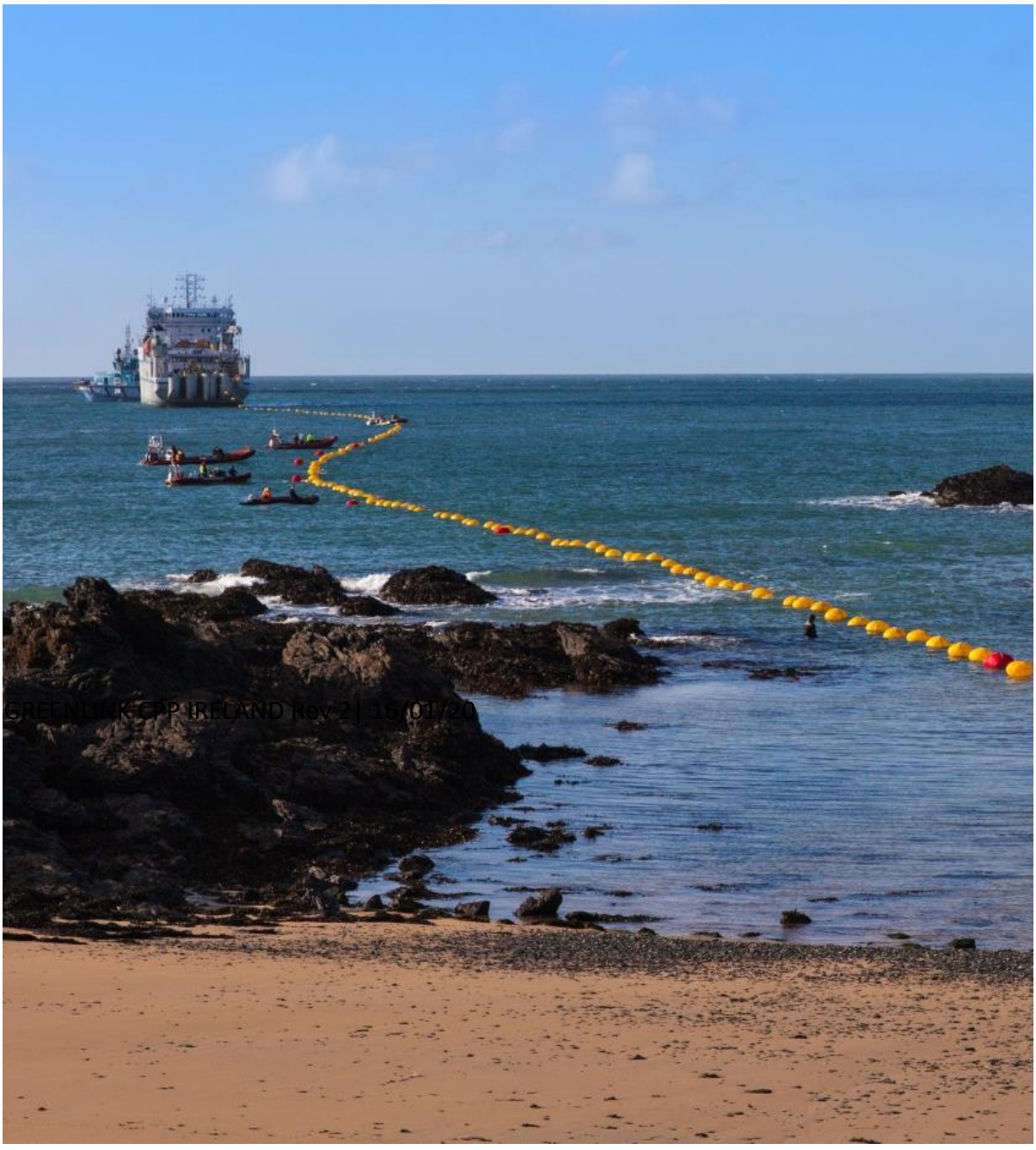
Concept of Public Participation (Ireland)

Rev 2 (16/01/2020)

GREENLINK

GREENLINK INTERCONNECTOR

CONCEPT OF PUBLIC PARTICIPATION (IRELAND)



Greenlink Interconnector Ltd, South Bank House, Barrow Street, Dublin 4, D04 TR29

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2.7. Consultation Programme and Timeline 17

Appendices

Appendix 1 – European Guidelines

Appendix 2 – Irish Guidelines

Appendix 3 – UK Guidelines

0. DOCUMENT RELEASE FORM

Greenlink

Greenlink CPP IRELAND Rev 2

Greenlink Interconnector

CONCEPT OF PUBLIC PARTICPATION (IRELAND)

Project Manager	Authoriser
Nigel Beresford	Nigel Beresford

Rev No	Date	Reason	Author	Checker	Authoriser
Rev0	12/03/18	Initial document	Tom Brinicombe		
Rev1	7/10/2019	Update on project	Rónán ÓhÓgartaigh	Tom Brinicombe	Angus Norman
Rev 2	16/1/2020	Update on project	Rónán ÓhÓgartaigh	Tom Brinicombe	Nigel Beresford

1. INTRODUCTION

The Greenlink Interconnector project has been designated as a Project of Common Interest (PCI) under European Regulation 347/2013 and as such the application has to be accompanied by a Concept of Public Participation to ensure that consultation with the public is of an appropriate standard, and is meaningful and central to the development of the PCI project.

The relevant European, Irish and UK guidelines can be found in Appendices 1, 2 and 3.

This document will provide an introduction to the Greenlink Interconnector project and outline the public consultation strategy to be undertaken during the development process in Ireland.

The public consultation strategy aims to ensure that the public has visibility of the Greenlink proposal as it develops and input into the project as it evolves.

CONTENTS

- Project Overview
- The Developer
- Project Need
- Consultation
  - Our Approach
  - Identification of Stakeholders
  - Subject Areas
  - Consultation Tools
  - Resourcing
  - Consultation Programme
- Appendices

1.1 PROJECT OVERVIEW

Greenlink is a proposed electricity interconnector with a nominal capacity of 500MW linking the existing electricity grids in Ireland and Great Britain (Fig 1-1). It will consist of two converter stations, one close to the existing substation at Great Island in County Wexford (Ireland) and one close to the existing Pembroke substation in Pembrokeshire (Wales), connected by electricity cables running underground (onshore) and under the sea (offshore).

The onshore project elements in Ireland will consist of a landfall site at Baginbun Beach in County Wexford, a converter station close to the existing power station at Great Island in County Wexford and high voltage direct current (HVDC) electricity cables with a fibre optic cable for control and communication purposes running underground from the landfall site to this converter station.

The onshore project elements in Wales will consist of a landfall site at Freshwater West, a converter station close to the existing Pembroke power station in Pembrokeshire (and an associated permanent access road) and HVDC electricity cables running underground from the landfall site to this converter station.

The offshore project element will consist of HVDC electricity cables and a fibre optic cable running under the sea between the landfall sites in Ireland and Wales.

The Greenlink interconnector will link the Irish and Welsh/GB electricity networks and the markets that they serve. The project is independent from the power generation sources that will generate the power to be transmitted through the interconnector; the interconnector will utilise whatever sources

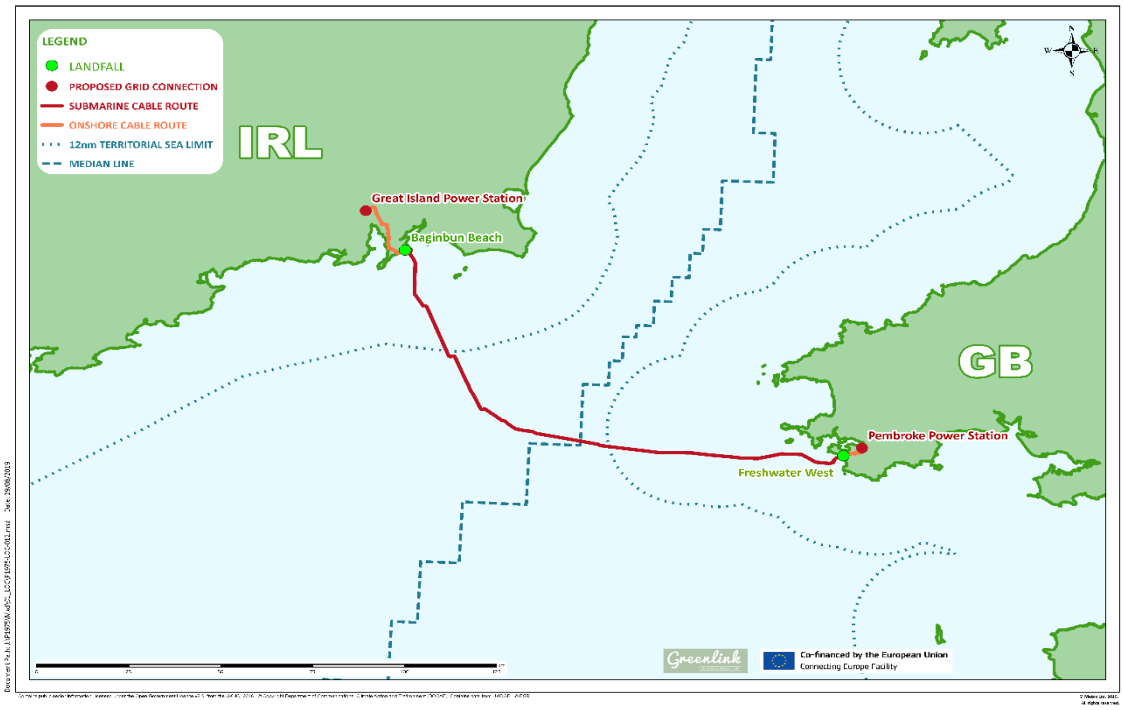
of power are supplied to those networks from time to time. The interconnector will facilitate power transfer in both directions.

The design of the project has evolved to date through constraints assessments, options appraisal, environmental and technical surveys and consultation with relevant stakeholders.

Greenlink will be of key strategic importance providing significant additional interconnection between Ireland, Great Britain and onwards to mainland Europe. It will provide additional transmission network capacity, reinforcing the existing electricity grids in south-east Ireland and southern Wales and contributing to each country's strategic interconnection objectives. The development and construction of Greenlink will deliver increased security of supply, facilitate fuel diversity and greater competition and will ultimately provide significant benefits to consumers in Ireland, Wales, Great Britain as a whole and mainland Europe. It is recognised that there are significant benefits to be accrued both in Ireland and Great Britain from the provision of additional interconnection of the two national electricity grids.

In Wales, a connection agreement has been signed with National Grid for a grid connection at the Pembroke substation, and in Ireland with EirGrid for a connection at the Great Island substation in Wexford.

Figure 1-1 Greenlink Overview



1.2 THE DEVELOPER

The Greenlink project is being developed by Greenlink Interconnector Limited, which is owned jointly by Element Power Holdings, part of Hudson Sustainable Investment, and Partners Group on behalf of its clients. Hudson Sustainable Investment is an independent investment management firm with a strong track record and expertise in investing in and developing sustainable energy projects. The Greenlink project is being developed by Greenlink Interconnector Limited, energy infrastructure projects in Ireland, the UK and internationally. Partners Group is a global private markets investment management firm with €73 billion in investment programs under management in private equity, private real estate, private infrastructure and private debt.

1.3 PROJECT NEED

Ireland is currently connected to the UK by two 'two-way' electricity interconnectors, which provide a means of transferring electricity between the two countries – the East West Interconnector (EWIC), which connects County Dublin to North Wales, and an interconnector between Moyle, County Antrim, Northern Ireland and Ayrshire, Scotland. However, the challenges faced by the British, Irish and wider European energy systems are driving the need for additional interconnectors between Ireland and the UK and within Europe as a whole. There is strong support within Europe for additional interconnection.

The 'Energy Union' is a strategy launched by the European Commission on 25th February 2015 with the aim of ensuring that European countries have access to secure, affordable and climate-friendly energy. This strategy is driving a fundamental transition towards more innovative ways to produce, transport and consume energy, and towards different approaches in the design and implementation of energy policy.

A key aim of the strategy is to increase the physical interconnectedness of the energy grids (both gas and electricity) of European and neighbouring countries. This includes building more energy interconnectors between European countries, with the target of meeting 10% interconnectedness by 2020 and to reach 15% by 2030.

An interconnected European energy grid is vital for Europe's energy security, for more competition in the internal market resulting in more competitive prices as well as for better achieving the decarbonisation and climate policy targets which the European Union has committed to. An interconnected grid will help deliver the ultimate goal of the Energy Union, i.e. to ensure affordable, secure and sustainable energy, and also growth and jobs across the EU.

Greenlink has been given the status of a European Union 'Project of Common Interest' (PCI), making it one of Europe's priority energy infrastructure projects.

Greenlink will have key strategic importance providing significant additional interconnection between the electricity grids of Ireland, the UK and mainland Europe. As well as at the European level, Greenlink is also expected to provide benefits at the national level. For both Ireland and the UK, it will provide additional transmission network capacities, reinforcing the existing electricity grids in south-east Ireland and south Wales by creating an increasingly meshed network, and thus improving security of supply, as well as contributing to each country's strategic interconnection objectives.

The construction of Greenlink will also deliver increased security of supply by diversifying energy sources in both Ireland and the UK, and greater competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, the UK and mainland Europe.

Greenlink's location in respect of the existing EWIC and Moyle interconnectors will also enable EirGrid and National Grid to increase the use of these connections to manage power flows on their networks, reduce network constraints and hence reduce costs of operating their transmission systems, benefiting consumers both in Ireland and the UK.

Greenlink is privately financed and will provide significant capital for a large infrastructure project that will generate jobs and wider economic benefits along the local and regional supply chains. In Co. Wexford there will be around 250 jobs during construction and around 20 permanent jobs once the project is operational. Knock-on benefits to the region will be through contracts for a range of services and products and we will be looking to maximise the benefits to the local supply chain (see section 2.3.2 below).

The Greenlink interconnector will support the achievement of the Government's goals on

decarbonisation and green growth, which offer significant economic and environmental benefits to Ireland. While the interconnector is technology agnostic, greater interconnection will be valuable in facilitating the build-out of renewable energy generation on both sides, particularly the growth of offshore wind, as it will allow surplus renewable power to be exported between Ireland and Great Britain. Infrastructure like Greenlink is therefore essential to facilitate the growth of the low carbon economy and attract green investment.

Greenlink will therefore support the Irish government's Climate Action Plan and its target to achieve 70% of electricity from renewable sources by 2030.

In summary, the main benefits from the Greenlink Interconnector are expected to be:

- Strategically placed to reinforce the transmission grid in the south of Ireland by its connection to Wales, creating synergy with existing EWIC and Moyle interconnectors, and by connecting the centre and north of Ireland to the UK;
- Providing reinforcement to transmission boundaries in south Wales;
- Providing additional import and export capacity for the island of Ireland and the UK;
- Greater market integration;
- Greater sharing of reserve, generation capacity and ancillary services between the UK and the island of Ireland;
- Jobs and regional economic benefits from private investment in a large infrastructure project; and
- Reduction of carbon emissions and integration of high levels of renewable energy generation.

2. CONSULTATION

Consultation is the process by which the input of various stakeholders is sought on matters affecting them. It is an important part of the development process. In the context of infrastructure development, its key goals are to increase transparency and a wider involvement in large-scale projects, by creating a dialogue with key stakeholders with the aim of improving these projects with stakeholder input.

Developers are responsible for ensuring public consultation forms a core part of their development projects and that the public has access to relevant information and can influence the decision-making process as appropriate. They must proactively engage the public in order to facilitate a meaningful and genuine consultation.

The Greenlink project team intends to ensure that the local community is consulted and involved throughout the development process of the Greenlink project. The consultation process will be tailored to the specific needs of the local community and delivered in a relevant and accessible manner.

2.1 OUR APPROACH

Greenlink recognises that any type of development can have varying degrees of impact and interest for local communities and is committed to promoting an open and honest dialogue with the local community throughout the development process.

Greenlink has sought to commence a public dialogue during the early stages of development, before detailed environmental work has been carried out. This will enable the local community to watch the project evolve and understand the various complexities and detailed studies involved in developing and constructing a subsea interconnector.

By involving the local community throughout the development process and providing information as it becomes available, Greenlink will work to ensure that the local community is part of the development process.

2.2 IDENTIFICATION OF STAKEHOLDERS

A key part of planning any consultation is to identify the relevant key stakeholders. Key stakeholders can include community groups, local residents, local interest groups, constituency politicians, councillors and local media.

It is expected that the list of stakeholders will grow throughout the consultation process, as more groups and stakeholders become aware of the project. We will ensure that project information is provided to these groups in a timely and transparent manner.

Due to the Concept of Public Participation (CPP) concentrating on public consultation, the considerable consultation activities to be undertaken with statutory consultees will not be included in this document, although for reference the statutory consultees are included in the list of stakeholders in Section 2.3.3 below. Input from statutory consultees will be captured within the documentation forming the final planning application.

Greenlink recognises that different stakeholders will have varying levels of interest in the project. To assist in developing a meaningful consultation strategy, stakeholders will be assigned a different 'consultation level', based on expected/perceived impacts and levels of interest in the project. Consultation levels are explained below:

- **Consultation Level 1** – must be informed and proactively engaged throughout, high level of interest expected
- **Consultation Level 2** – must be kept informed and engaged as per responses, medium level of interest expected
- **Consultation Level 3** – must be kept informed and engaged as per responses, low level of interest expected

2.2.1 ELECTED REPRESENTATIVES

A number of elected representatives have been and will continue to be consulted as part of the Greenlink consultation programme in Ireland.

Relevant county councils and county councillors from the local planning authority are key local stakeholders, directly representing local communities at the local political level, including:

- Local authority – county councillors (listed below); and
- Nationally elected representatives – TDs and MEP (listed below).

2.2.1.1 LOCAL AUTHORITY - COUNTY COUNCILLORS

The local authority for the region is Wexford County Council. Greenlink believes that it is important that county councillors from relevant districts have access to accurate project information and a clear

point of contact within the project team to raise queries and make suggestions regarding the development of the project.

Figure 2-1 New Ross Municipal District

Source: Wexford County Council website

The councillors within the New Ross Municipal District will be proactively and directly consulted.

Table 2-1 Priority district councillors within Wexford County Council for consultation

District	Consultation Level	Notes
New Ross Municipal District	1	Relevant district for landfall, cable route and converter station
Gorey Municipal District	3	Not expected to be affected but will have an interest in a major project taking place in the area
Enniscorthy Municipal District	3	Not expected to be affected but will have an interest in a major project taking place in the area
Borough District of Wexford	3	Not expected to be affected but will have an interest in a major project taking place in the area

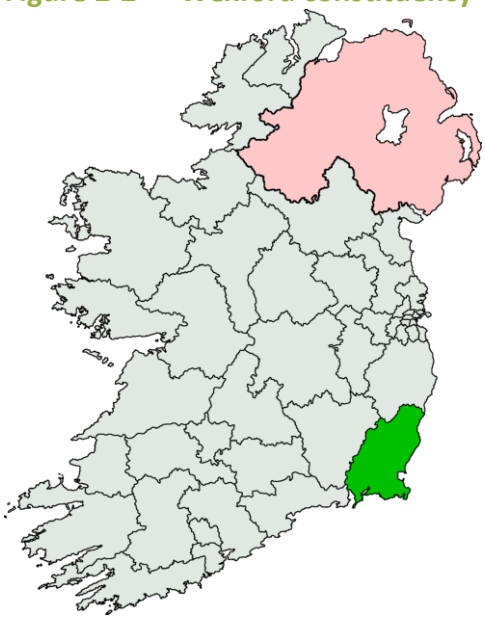
Table 2-2 Wexford County Councillors - New Ross Municipal District (as at December 2019)

Councillor	Consultation Level	Notes
Michael Sheehan	1	Fianna Fáil
John Fleming	1	Fianna Fáil
Anthony Connick	1	Non-Party
Pat Barden	1	Non-Party
Bridin Murphy	1	Fine Gael
Michael Whelan	1	Fianna Fáil

2.2.1.2 NATIONALLY ELECTED REPRESENTATIVES

Greenlink is a major project offering national as well as regional and local benefits and constituents will regularly look to their nationally elected representatives for guidance, support and advice. With this in mind, elected representatives at the national level will also be consulted, with representatives from the Wexford constituency being included in the Greenlink consultation programme.

Figure 2-2 Wexford constituency



Source: Wikipedia

Table 2-3 National elected representatives for consultation

TD	Consultation Level	Notes
Paul Kehoe	2	Fine Gael
Michael W. D'Arcy	2	Fine Gael

TD	Consultation Level	Notes
Brendan Howlin	2	Labour
Malcolm Byrne	2	Fianna Fáil
James Browne	2	Fianna Fáil
MEP		
Mick Wallace	2	Independents 4 Change

2.2.2 NEIGHBOURING RESIDENTS

The input of neighbouring residents is considered by Greenlink to be vitally important. Residents living in the vicinity of the proposed converter station location, the landfall site and those living along the underground cable route (between the landfall site and the converter station site) will be consulted.

Consultation will be carried out in the local area with information being made available to all residents along the potential cable and transport routes, and landfall and converter station sites. This amounts to c. 195 properties and includes local businesses as well as households.

Consultation activities include:

- Direct visits to / meetings with individual residents and local businesses
- Letter drops to households with local representative contact details
- Advertising of exhibitions in the vicinity (eg posters, local media)
- Invitations to the residents to attend exhibition
- Availability of industry experts to explain and communicate items of interest at key project milestones or all other times, as appropriate

2.2.3 COMMERCIAL AND RECREATIONAL USERS

Greenlink recognises that there are numerous members of the local community who are commercial and/or recreational users of the area in which Greenlink is looking to install the cables and converter station. Greenlink is keen to understand any concerns and opportunities arising from the project in respect of these users. In order to fully assess potential impacts, Greenlink will seek views from local commercial and recreational users to understand the current baseline and identify the assessment and development work required to ensure that the project is designed to incorporate the interests of existing users.

Commercial/recreational users include:

- tourism and other recreational business interest;
- landowners;
- fishermen;
- anglers;
- walkers;
- transport users;
- environmental and heritage interest.

We have identified the following organisations (statutory and non-statutory) to consult directly:

- Port of Waterford Company;
- Department of Culture, Heritage and the Gaeltacht (DCHG);
- Department of Housing, Planning and Local Government (DHPLG);
- Department of Communications, Climate Action and Environment (DCCAE);
- Department of Agriculture, Food and the Marine (DAFM);
- Southern Regional Assembly;
- National Parks and Wildlife Service (NPWS);
- National Monuments Service (NMS);
- Irish Rail;
- Transport Infrastructure Ireland (TII);
- National Transport Authority (NTA);
- Commission for Railway Regulation;
- Gas Networks Ireland (GNI);
- Office of Public Works (OPW);
- Health and Safety Authority;
- Geological Survey of Ireland (GSI);
- Sea Fisheries Protection Authority;
- Inland Fisheries Ireland (IFI);
- Irish South East Fish Producers Organisation (ISEFPO);
- Irish South and West Fish Producers Organisation (ISWFPO);
- South East Regional Inshore Fisheries Forum;
- Local fishermen as identified through surveys and public exhibitions;
- Bord Iascaigh Mhara (BIM);
- Marine Institute (MI);
- Heritage Council;
- Wexford Local Enterprise Office;
- Fáilte Ireland;
- An Chomhairle Ealaíon (The Arts Council);
- Environmental NGOs including: An Taisce; Birdwatch Ireland; Irish Whale and Dolphin Group; Irish Peatland Conservation Council; Irish Wildlife Trust; and Bat Conservation Ireland.
- An Garda Síochána

This list is not exhaustive and further users are likely to be identified and consulted as the consultation progresses. Some of the above stakeholder organisers will also be relevant to the interests of neighbouring residents (as described in section 2.2.2).

2.3 SUBJECT AREAS

Greenlink will seek input into several key subject areas to incorporate into the development process moving forward and ensure that the Greenlink proposal is being developed to the highest standard. Subject areas to be consulted on will include:

- environmental;
- local supply chain;
- logistics and construction programme; and
- existing land use.

Further subject areas will be included as they arise during the consultation process.

2.3.1 ENVIRONMENTAL

As part of the project development process, Environmental Scoping Reports have been sent out to relevant stakeholders for the Marine and Onshore components of the project. These reports outline the proposed scope and methodology of assessment and survey work to be carried out during the development of the project. The feedback from stakeholders is then incorporated into the survey and assessment programme.

Local stakeholders are included within the circulation of the report and Greenlink will seek an ongoing dialogue with all stakeholders throughout the development process. Greenlink will also seek to identify additional local environmental interest groups and is open to additional specific environmental issues throughout the public consultation (see list of stakeholders in section 2.2.3). Greenlink will seek to continually engage with these groups to ensure that the environmental work carried alongside the application is as robust as possible and considers all environmental issues and concerns raised.

As the design evolves, Greenlink will be seeking feedback from the public on relevant changes, including the visual appearance of the converter station and the proposed landscaping and screening planting.

2.3.2 LOCAL SUPPLY CHAIN

The development of significant infrastructure projects entails substantial capital outlay from developers and their investors, the majority of which is spent during the construction period. Most of this outlay is spent on purchasing equipment and materials (e.g. converter stations and subsea cables) with the rest mainly spent on contractors for the construction of the infrastructure. The construction works will be coordinated by one main contractor who will sub-contract various components to specialist companies, e.g. cable laying, pouring foundations etc.

Construction work on the Greenlink Interconnector is expected to lead to notable expenditure in Ireland. A significant amount of work due to take place at the landfall, cable and converter station sites will require skills and experience available from contractors found in the local area.

The types of services that could be locally sourced include:

- transportation – equipment and personnel;
- materials, e.g. supplying and pouring concrete;
- electrical connection;
- civil engineering activities and earthworks, e.g. tracks and hard-standing, foundations, trench digging for cables etc;
- accommodation and catering;
- office and cleaning supplies;
- site services, e.g. portacabins and portaloos;
- site security;
- fencing; and
- waste disposal.

Greenlink is committed to maximising the use of locally based contractors and personnel during the construction and operational phases of the project. In order to deliver this, Greenlink will develop a Local Business Support Scheme, which will be aimed at maximising the potential for local business involvement during the construction and operation of the project. As a part of this we will work to engage with local suppliers during the consultation programme and liaise with local economic bodies to ensure that a dialogue is established with local businesses.

2.3.3 LOGISTICS AND CONSTRUCTION PROGRAMME

The construction phase of a major project includes numerous vehicle movements including workers travelling to site and equipment and material deliveries. A transport impact assessment will be completed as part of the planning application and Greenlink will seek input on potential issues of road safety and traffic disruption with the aim of minimising local impacts.

Installation of the underground cables also has the potential to cause disruption and Greenlink will work with the local community to develop a programme to minimise any impacts.

As part of the planning application process, an outline **Traffic Management Plan (TMP)** will be put together that will outline measures for managing and mitigating the construction traffic caused by Greenlink. We will consult the local community on a draft TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

2.3.4 EXISTING LAND USE

Greenlink will seek to build a thorough understanding of the current commercial and recreational users of the sites and develop and maintain a dialogue with them to ensure that their interests are incorporated into the design and construction programme as the development progresses.

2.4 CONSULTATION TOOLS

Greenlink will use a variety of consultation tools throughout the consultation programme. The precise deployment of the tools will reflect the requirements of stakeholders, the most appropriate and effective ways of consulting at any given time and feedback as the consultation progresses.

Our consultation tools will include:

- project information brochure/leaflet/non-technical summary;
- project website;
- email;
- public exhibitions;
- one-to-one engagement;
- roundtable meetings and presentations;
- house visits;
- newsletters;
- field trips;
- local and social media; and
- national media.

2.4.1 PROJECT INFORMATION BROCHURE/LEAFLET AND NON-TECHNICAL SUMMARY

In accordance with PCI guidance Greenlink will produce a series of information brochures of no more than 15 pages to provide a short non-technical summary of the project purpose, timetable, studies, route options, opportunities, project evolution, possible project impacts and mitigation measures as well as other relevant background information as appropriate.

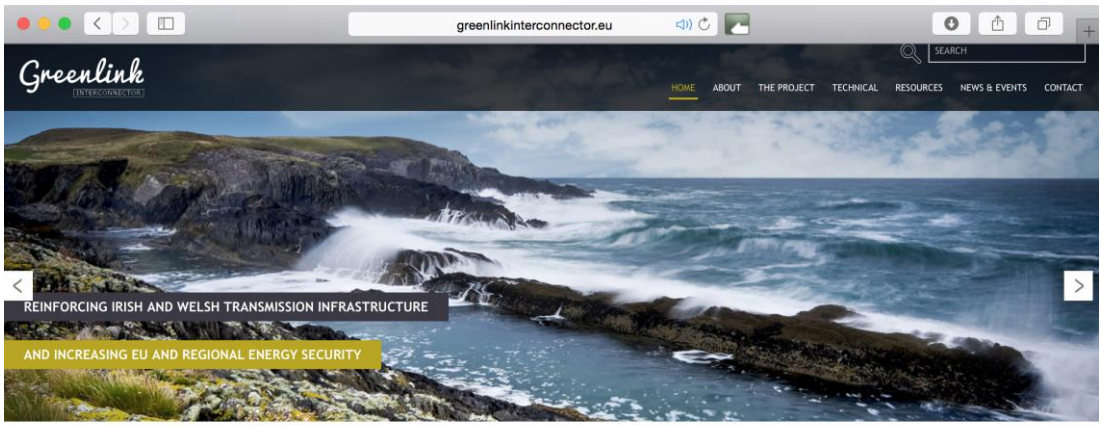
These will be made available to all stakeholders in hard copy format and also published on the project website in a downloadable format. They will be updated at regular intervals to coincide with key phases of the development. The project website also provides a non-technical summary of the project with further detail on the project and this is updated regularly.

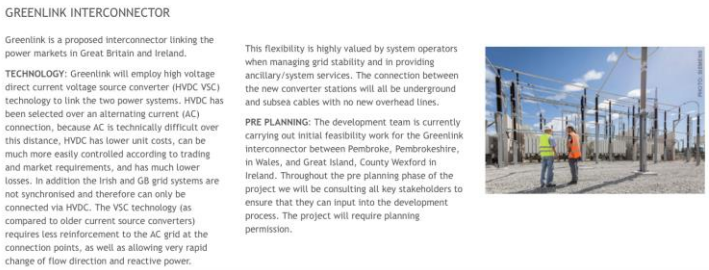
2.4.2 PROJECT WEBSITE

A dedicated project website has been published www.greenlink.ie. The website offers stakeholders key project information and the latest development news, including details of consultation events and opportunities to comment through a dedicated 'Consultation' page.

All planning application documents are available to view and download from the 'Planning' page and the website also includes full contact details, including an online contact form, for stakeholders to convey comments and objections during consultations. In addition, the website contains all press announcements and a comprehensive set of Frequently Asked Questions (FAQs). The project information brochure is displayed prominently on the Home Page and available to download as a pdf; and a non-technical summary of the project is available on the 'Project: Summary' page. Both are regularly updated.

The website will play a central role in the consultation plan, as it provides all key project information in one accessible location and creates a basis for discussion between different stakeholders. Regular communication via the project website will help boost awareness and transparency among stakeholders.





GREENLINK INTERCONNECTOR

Greenlink is a proposed interconnector linking the power markets in Great Britain and Ireland.

TECHNOLOGY: Greenlink will employ high voltage direct current voltage source converter (HVDC VSC) technology to link the two power systems. HVDC has been selected over an alternating current (AC) connection, because AC is technically difficult over this distance, HVDC has lower unit costs, can be much more easily controlled according to trading and market requirements, and has much lower losses. In addition the Irish and GB grid systems are not synchronised and therefore can only be connected via HVDC. The VSC technology (as compared to older current source converters) requires less reinforcement to the AC grid at the connection points, as well as allowing very rapid change of flow direction and reactive power.

This flexibility is highly valued by system operators when managing grid stability and in providing ancillary/system services. The connection between the new converter stations will all be underground and subsea cables with no new overhead lines.

PRE PLANNING: The development team is currently carrying out initial feasibility work for the Greenlink interconnector between Pembroke, Pembrokeshire, in Wales, and Great Island, County Wexford in Ireland. Throughout the pre planning phase of the project we will be consulting all key stakeholders to ensure that they can input into the development process. The project will require planning permission.

2.4.3 COMMUNITY EMAIL AND PHONE LINE

It is important for members of the community to have a direct communication route to channel their queries, comments and concerns. To facilitate this, Greenlink will ensure that contact details are clearly shown on all consultation literature and the website, and that a dedicated email address is set up: info@greenlink.ie. In addition, we will ensure that an email and phone number is provided to local residents and other stakeholders for the relevant local liaison person for Greenlink.

All email and phone calls will be responded to in a prompt and professional manner.

2.4.4 PUBLIC EXHIBITIONS

Public exhibitions will take place at key stages of the development programme to present the latest details of the project and enable members of the local community to meet the project team in person. Project information will be provided via a range of media at these consultation events – exhibition boards, leaflets and third-party materials.

Events will be held in public locations convenient for the local community and publicised locally with posters, letters to targeted stakeholders, press releases, adverts in the local media and through social media. Dates, once confirmed, will also be added to a running calendar on the project website. A list of past exhibitions and the materials available at each will be available to download on the Consultation page of the website.

The locations for the exhibitions in Wexford are listed below, along with preferred venues we have identified through discussion with local stakeholders:

- Ramsgrange: Parochial Hall
- Fethard on Sea: St Mary's Hall
- Duncannon: Star-of-the-Sea Pastoral Centre

Where these are not available on given dates, alternative nearby venues will be used, such as local hotels.

For indicative dates of rounds of exhibitions, please see the project Consultation Programme and Timeline in section 2.7.

2.4.5 ONE-TO-ONE ENGAGEMENT

One-to-one engagement will be used to discuss specific areas of interest or concern with participating parties. These meetings will be particularly useful for focused discussions with leaders of local stakeholder groups in the planning and permitting stages of development. It will also be used to address individual residents' and property-owners' concerns when requested.

2.4.6 ROUNDTABLE MEETINGS AND PRESENTATIONS

Roundtable meetings will allow formal discourse among a number of representatives from various stakeholder groups to discuss specific areas of the project and gain varied inputs. We will present information on the project and its development (using visual tools such as slides and plans) where appropriate and deemed useful.

2.4.7 HOUSE VISITS

Residents living near a proposed project often have a number of concerns pertaining to issues of residential amenity and other areas such as perceived impacts on health and house prices. Specific households may require additional consultation care due to perceived high impacts from a proposal.

Directly engaging with stakeholders via house visits is an ideal opportunity for both informational and participatory communication.

We have engaged a local representative to support the Development Manager for Ireland in visiting and engaging with local residents and businesses at their properties, when requested.

2.4.8 SITE VISITS

Site (or 'field') visits are explorative in nature and can help familiarise local stakeholders with the technical details of the project and to envisage the proposals in situ. We will routinely offer these to stakeholders such as local political representatives.

2.4.9 LOCAL AND SOCIAL MEDIA

We use the local media as a platform to inform local residents, organisations and other stakeholders of news on the project, including opportunities to comment on the development. We issue press releases at key milestones of the project and on upcoming consultation events such as public exhibitions.

Our key local media publications for Greenlink in Ireland are in the Wexford People Group, specifically the **New Ross Standard** and the **Wexford People**.

We use our Twitter account **@Greenlink_IC** to provide regular updates on the project, including news of milestones, policy developments and details of upcoming public consultation events. We use our **LinkedIn page** to provide news of the project for a more commercial and industry stakeholder audience, such as potential contractors.

2.4.10 NATIONAL AND TRADE MEDIA

We use the Irish national media and industry/trade media (such as Fishing News) in a similar way, as a platform for communicating news and information about the project, including alerting stakeholders of opportunities to provide input. We maintain a database of media publications and issue press releases and briefings at key milestones.

We have engaged an external PR specialist based in Ireland to provide support and to ensure our media relations is of the highest quality; and we monitor media coverage on a daily basis.

2.5 CONSULTATION TO DATE

Greenlink is currently in the development phase. Consultation to date has been extensive and has covered:

- Statutory consultees and key users. The aim of this work has been to understand the existing constraints and develop a broad design to form the basis of a high-value public consultation.

- Local and nationally elected representatives. We have provided regular written updates on the project and offered one-to-one and group meetings to brief them on progress. We have invited them to the local public exhibitions.

  Roundtable meetings and presentations have taken place to date with Wexford County Council's New Ross District Councillors on the following dates:
  - 20th June 2018
  - 11th September 2019

- Neighbouring residents and commercial and recreational users. We have held three rounds of public exhibitions in County Wexford to date, timed to coincide with key development milestones in the proposal:

    - June and August 2018: Fethard on Sea and Duncannon
    - January 2019: Fethard on Sea and Duncannon
    - March 2019: Ramsgrange
    - December 2019: Ramsgrange, Duncannon and Fethard on Sea

    The full list, including dates, location and materials provided at the event, can be found on our website here. These were advertised in the local media, on social media and in local locations.

    We have contacted all residents along the onshore cable route, including letters inviting them to their local exhibition and offering one-to-one meetings to address any questions. We have responded to a number of enquiries from the public received through our website or directly to our local representative.

- Consultation materials produced so far include the following, available through our dedicated Resources, Planning or News pages on our website:

    - four issues of the project brochure;
    - information boards for the public exhibitions;
    - printed maps and diagrams;
    - event adverts and public notices;
    - articles and updates in the media (including social media);
    - website content; and
    - a detailed set of FAQs.

2.5.1 WEBSITE

The www.greenlink.ie website (then named www.greenlinkinterconnector.eu) was published on 21st April 2016. The website is outlined in 2.4.2 above. The website has resulted in a number of enquiries.

2.5.2 COMMERCIAL/RECREATIONAL USERS

A dialogue has been established with the Port of Waterford to ensure that the project takes shipping and ongoing activity in the Port into consideration as the project evolves.

Dialogue is also ongoing with the list of stakeholders identified in section 2.2.3 above, which includes recreational users and fisheries interests.

2.6 RESOURCING

Members of the Greenlink development team have the expertise to engage and communicate with a variety of stakeholders on a range of development issues.

We have designated local and regional representatives in the two jurisdictions: a Development Manager for Ireland and a Planning and Permitting Manager for Wales. These manage the consultation process in their respective areas, and it allows local, regional and national stakeholders to have a clear point of contact with the requisite local knowledge.

The Development Manager for Ireland is also supported by the following:

- A local liaison officer based in Wexford – to manage dialogue with local landowners and residents.
- A Communications Manager for Greenlink – to oversee communications and ensure best practice in stakeholder and community relations and PR.
- An external communications and PR advisor based in Dublin – to provide additional communications and stakeholder engagement advice, including support on the ground in Wexford.
- Technical and environmental consultants – to provide expertise and advice on specific issues raised by stakeholders.

2.7 CONSULTATION PROGRAMME AND TIMELINE

Table 2-4 Details of full project life consultation activity

Stage	Development Details	Consultation Details	Indicative Timeline
Site development	A variety of technical and environmental assessments; commencement of the planning process: screening, scoping and assessment.	With the commencement of the official planning process, community consultation kicks off, consultation ongoing over the development period, to include at least 3 rounds of public exhibitions and all other engagement activities detailed above.	2018-2019 Website launch and press work Exhibitions: Summer 2018, Spring 2019, Autumn/Winter 2019 Three editions of information brochure/leaflet Meetings with stakeholders ongoing throughout
Planning applications - marine	Applications submitted for the marine components of the Greenlink project. In Ireland, applications are submitted to Department of Housing, Planning and Local Government (DHPLG) Foreshore Unit.	Stakeholders are fully aware of the content of the planning applications due to thorough consultation taking place prior to submission. Details are provided (through activities detailed above) of how stakeholders can comment during the formal period of consultation.	November 2019 Exhibitions: December 2019 Fourth edition of information brochure/leaflet Website updates and press work Ongoing meetings and written contact
Planning applications - onshore	Applications submitted for the onshore components of the Greenlink project. In Ireland, applications are submitted to An Bord Pleanála for the converter station and cable route.	Stakeholders are fully aware of the content of the planning applications due to thorough consultation taking place prior to submission. Details are provided (through activities detailed above) of how stakeholders can comment during the formal period of consultation.	First quarter 2020 (estimated) Exhibitions Fifth edition of information brochure/leaflet Website updates and press work Ongoing meetings and written contact Targeted newsletters in community
Determination	Planning applications are determined. In Ireland the application will be determined by An Bord Pleanála.	Stakeholders are informed of the planning decisions.	Second half of 2020 (estimated) Direct contact (written and in-person) plus press work, website updates, press work and community newsletter
Post-planning	Pre-commencement planning conditions are discharged. Construction preparation takes place.	Community is engaged on key practical issues, such as traffic management plans and timing of works.	Second half of 2020 – 2021 Roundtables and meetings with community representatives Website updates and community newsletters
Construction	Construction and installation works take place as per the agreed construction programme.	Community is kept informed of progress; project team responds to construction-related queries and issues.	Second half of 2020 – 2023 Community newsletters and direct contact with key stakeholders; website updates and press work.
Operational	The Greenlink project becomes operational.	Stakeholders are informed of the successful completion of the project and its operational status.	2023

3. APPENDICES

3.1 APPENDIX 1 – EUROPEAN GUIDELINES

Source

REGULATION (EU) No 347/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:115:0039:0075:en:PDF

Article 9

Transparency and public participation

1. By 16 May 2014, the Member State or competent authority shall, where applicable in collaboration with other authorities concerned, publish a manual of procedures for the permit granting process applicable to projects of common interest. The manual shall be updated as necessary and made available to the public. The manual shall at least include the information specified in Annex VI.1. The manual shall not be legally binding, but it may refer to or quote relevant legal provisions.

1. Without prejudice to any requirements under the Aarhus and Espoo Conventions and relevant Union law, all parties involved in the permit granting process shall follow the principles for public participation set out in of Annex VI.3.

1. The project promoter shall, within an indicative period of three months of the start of the permit granting process pursuant to Article 10(1)(a), draw up and submit a concept for public participation to the competent authority, following the process outlined in the manual referred to in paragraph 1 and in line with the guidelines set out in Annex VI. The competent authority shall request modifications or approve the concept for public participation within three months; in so doing, the competent authority shall take into consideration any form of public participation and consultation that took place before the start of the permit granting process, to the extent that such public participation and consultation has fulfilled the requirements of this Article. Where the project promoter intends to make significant changes to an approved concept, it shall inform the competent authority thereof. In that case the competent authority may request modifications.

1. At least one public consultation shall be carried out by the project promoter, or, where required by national law, by the competent authority, before submission of the final and complete application file to the competent authority pursuant to Article 10(1)(a). This shall be without prejudice to any public consultation to be carried out after submission of the request for development consent according to Article 6(2) of Directive 2011/92/EU. The public consultation shall inform stakeholders referred to in Annex VI.3(a) about the project at an early stage and shall help to identify the most suitable location or trajectory and the relevant issues to be addressed in the application file. The minimum requirements applicable to this public consultation are specified in Annex VI.5. The project promoter shall prepare a report summarising the results of activities related to the participation of the public prior to the submission of the application file, including those activities that took place before the start of the permit granting process. The project promoter shall submit that report together with the application file to the competent authority. Due account shall be taken of these results in the comprehensive decision.

1. For projects crossing the border of two or more Member States, the public consultations pursuant to paragraph 4 in each of the Member States concerned shall take place within a period of no

more than two months from the date on which the first public consultation started.

- For projects likely to have significant adverse cross-border impacts in one or more neighbouring Member States, where Article 7 of Directive 2011/92/EU and the Espoo Convention are applicable, the relevant information shall be made available to the competent authority of the neighbouring Member States. The competent authority of the neighbouring Member States shall indicate, in the notification process where appropriate, whether it, or any other authority concerned, wishes to participate in the relevant public consultation procedures.

- The project promoter, or, where national law so provides, the competent authority, shall establish and regularly update a website with relevant information about the project of common interest, which shall be linked to the Commission website and which shall meet the requirements specified in Annex VI.6. Commercially sensitive information shall be kept confidential. Project promoters shall also publish relevant information by other appropriate information means to which the public has open access.

ANNEX VI

GUIDELINES FOR TRANSPARENCY AND PUBLIC PARTICIPATION

The manual of procedures referred to in Article 9(1) shall at least specify:

- the relevant law upon which decisions and opinions are based for the different types of relevant projects of common interest, including environmental law;
- the relevant decisions and opinions to be obtained;
- the names and contact details of the Competent Authority, other authorities and major stakeholders concerned;
- the work flow, outlining each stage in the process, including an indicative time frame and a concise overview of the decision-making process;
- information about the scope, structure and level of detail of documents to be submitted with the application for decisions, including a checklist;
- the stages and means for the general public to participate in the process.

The detailed schedule referred to in Article 10(4)(b) shall specify as a minimum the following:

the decisions and opinions to be obtained;
the authorities, stakeholders, and the public likely to be concerned;
the individual stages of the procedure and their duration;
major milestones to be accomplished and their deadlines in view of the comprehensive decision to be taken;
the resources planned by the authorities and possible additional resource needs.

- To increase public participation in the permit granting process and ensure in advance information and dialogue with the public, the following principles shall be applied:

The stakeholders affected by a project of common interest, including relevant national, regional and local authorities, landowners and citizens living in the vicinity of the project, the general public and their associations, organisations or groups, shall be extensively informed and consulted at an early stage, when potential concerns by the public can still be taken into account and in an open and transparent manner. Where relevant, the competent authority shall actively support the activities undertaken by the project promoter.
Competent authorities shall ensure that public consultation procedures for projects of common interest are grouped together where possible. Each public consultation shall cover all subject matters relevant to the particular stage of the procedure, and one subject matter

relevant to the particular stage of the procedure shall not be addressed in more than one public consultation; however, one public consultation may take place in more than one geographical location. The subject matters addressed by a public consultation shall be clearly indicated in the notification of the public consultation.
Comments and objections shall be admissible from the beginning of the public consultation until the expiry of the deadline only.

- The concept for public participation shall at least include information about:

  the stakeholders concerned and addressed;
  the measures envisaged, including proposed general locations and dates of dedicated meetings;
  the timeline;
  the human resources allocated to the respective tasks.

- In the context of the public consultation to be carried out before submission of the application file, the relevant parties shall at least:

  publish an information leaflet of no more than 15 pages, giving, in a clear and concise manner, an overview of the purpose and preliminary timetable of the project, the national grid development plan, alternative routes considered, expected impacts, including of cross-border nature, and possible mitigation measures, which shall be published prior to the start of the consultation; The information leaflet shall furthermore list the web addresses of the transparency platform referred to in Article 18 and of the manual of procedures referred to in point (1);
  inform all stakeholders affected about the project through the website referred to in Article 9(7) and other appropriate information means;
  invite in written form relevant affected stakeholders to dedicated meetings, during which concerns shall be discussed.

- The project website shall make available as a minimum the following:

  the information leaflet referred to in point (5);
  a non-technical and regularly updated summary of no more than 50 pages reflecting the current status of the project and clearly indicating, in case of updates, changes to previous versions;
  the project and public consultation planning, clearly indicating dates and locations for public consultations and hearings and the envisaged subject matters relevant for those hearings;
  contact details in view of obtaining the full set of application documents;
  contact details in view of conveying comments and objections during public consultations.

3.2 APPENDIX 2 – IRISH GUIDELINES

AN BORD PLEANÁLA GUIDELINES

5. Public Participation: The Regulation

5.1 Article 9 of Regulation 347/2013

Article 9 provides that, without prejudice to any requirements under the Aarhus and Espoo Conventions and relevant EU law, all parties involved in the permit granting process shall follow the principles for public participation set out in Annex V1.3.

Those principles are listed below:

> The stakeholders affected by a project of common interest, including relevant national, regional and local authorities, landowners and citizens living in the vicinity of the project, the general public and their associations, organisations or groups, shall be extensively informed and consulted at an early stage, when potential concerns by the public can still be taken into account and in an open and transparent manner. Where relevant, the Competent Authority shall actively support the activities undertaken by the project promoter.
> Competent authorities shall ensure that public consultation procedures for Projects of Common Interest are grouped together where possible. Each public consultation shall cover all subject matters relevant to the particular stage of the procedure, and one subject matter relevant to the particular stage of the procedure shall not be addressed in more than one public consultation; however, one public consultation may take place in more than one geographical location. The subject matters addressed by a public consultation shall be clearly indicated in the notification of the public consultation.
> Comments and objections shall be admissible from the beginning of the public consultation until the expiry of the deadline only.

An Bord Pleanála as Competent Authority for Projects of Common Interest shall operate by those principles.

5.2 The Pre-Application Procedure and Public Participation

The project promoter has an indicative period of 3 months from the start of the permit granting process to submit a public participation concept to An Bord Pleanála (Competent Authority). An Bord Pleanála (Competent Authority) must either modify or approve the concept within 3 months.

The modification or approval will be done following consultation with the other relevant authorities, as considered appropriate.

To give effect to the public participation principle that the general public, stakeholders and landowners should be extensively informed, An Bord Pleanála (Competent Authority) will be requesting project promoters to inform and consult with the general public at the earliest possible time which may include the time prior to the project promoter formally notifying An Bord Pleanála (Competent Authority) about the project under Article 10(1)(a) of the Regulation. An Bord Pleanála (Competent Authority) draws the attention of project promoters to the provisions of Article 9(3) of the Regulation which provides that An Bord Pleanála (Competent Authority) shall take into consideration any form of public participation and consultation that took place before the start of the permit granting process in arriving at any decision in relation to the public participation concept.

5.3 Public Participation Before Submission of the Application File

Annex VI (5) of the Regulation sets out what, at least, the relevant parties shall provide. These details are:

> publish an information leaflet of no more than 15 pages, giving, in a clear and concise manner, an overview of the purpose and preliminary timetable of the project, the national grid development plan, alternative routes considered, expected impacts, including of cross-border nature, and possible mitigation measures, which shall be published prior to the start of the consultation; the information leaflet shall furthermore list the web addresses of the transparency platform referred to in Article 18 and of the manual of procedures;
> inform all stakeholders affected about the project through the website referred to in Article 9(7) of the Regulation and other appropriate information means;
> invite in written form relevant affected stakeholders to dedicated meetings, during which concerns shall be discussed.

An Bord Pleanála (Competent Authority), during the pre-application procedure stage will expect the project promoter to provide details of having complied with the foregoing.

5.4 The Public Participation Concept

Article 9.3 of Regulation 347/2013 provides that a project promoter shall, within an indicative period of three months of the start of the permit granting process under Article 10(1)(a) draw up and submit a concept for public participation to An Bord Pleanála (Competent Authority). Within three months of receipt of the concept An Bord Pleanála (Competent Authority) shall request modifications or approve the concept. An Bord Pleanála (Competent Authority) will seek the opinion of other relevant authorities concerned on the concept.

Annex VI (4) of the Regulation provides details of what the concept shall at least include. These details are:

the stakeholders concerned and addressed;
the measures envisaged, including proposed general locations and dates of dedicated meetings;
the timeline;
the human resources allocated to the respective tasks.

An Bord Pleanála (Competent Authority) draws the attention of the project promoters to the requirements of the Data Protection Acts 1988 and 2003 and citizens' fundamental right to privacy in relation to any material concerning identifiable stakeholders published in a public participation concept.

Generally, An Bord Pleanála (Competent Authority) intends, where it has approved a public participation concept for a specific project, to require the project promoter to publish the approved public participation concept on the project website as a further means of enhancing transparency and public participation.

In addition, An Bord Pleanála (Competent Authority) considers that all submissions received as part of the public consultation process should be published on the project website unless the submitter has provided reasonable reasons for the consideration of An Bord Pleanála, as Competent Authority, for wishing that their submission be received in confidence. Project promoters should be aware of their responsibilities under the Data Protection Acts 1988 and 2003 in relation to personal information such as addresses and contact details.

5.5 The Project Website and Public Participation

Annex VI (6) of the Regulation sets out the information that projects websites shall make available as a minimum. The information is:

the information leaflet referred to in 8.4(a) above;
a non-technical and regularly updated summary of no more than 50 pages reflecting the current status of the project and clearly indicating, in case of updates, changes to previous versions; promoters of PCIs are free to make additional information available on their websites. However the information leaflet and the current status summary documents must be stand-alone documents which provide a compete and not misleading view of the project and its current status;
the project and public consultation planning, clearly indicating dates and locations for public consultations and hearings and the envisaged subject matters relevant for those hearings;
contact details in view of obtaining the full set of application documents;
contact details in view of convening comments and objections during public consultations.

An Bord Pleanála (Competent Authority) will expect that the website is maintained by the project promoter concerned and that all changes to the website content are documented so that An Bord

Pleanála (Competent Authority) can trace what information was made available to the general public at specific times.

5.6 The Statutory Permit Granting Procedure and Public Participation

As the Competent Authority under the Collaborative Scheme, the role of An Bord Pleanála is mainly to co-ordinate the issuing of the comprehensive decision and to ensure that it is made within the period set out in the Regulation. The comprehensive decision being the decision or set of decisions not including courts or tribunals that determines whether or not a project promoter is to be granted authorisation to build the energy infrastructure to realise a project.

Public participation within the individual consent granting processes operated by other authorities in the Republic of Ireland, therefore, remains within the competence of these authorities at this statutory permit granting stage. Insofar as a project comes before An Bord Pleanála as a planning application, An Bord Pleanála will follow its own public participation procedures.

5.6.1 Public Participation and An Bord Pleanála

A Guide to Public Participation in Strategic Infrastructure Development is available here.

5.6.2 Public Participation and the EPA

Information relating to EPA statutory public participation in the licensing and permitting process may be found here.

5.6.3 Public Participation and Foreshore Applications

The Department of Environment, Community and Local Government (DECLG) places a high priority on public participation during the assessment of foreshore applications.

Information relating to DECLG public participation in relation to foreshore applications may be found here.

Source

Projects of Common Interest: Manual of Permit Granting Process Procedures
http://www.pleanala.ie/publications/2014/pocimanual.pdf

3.3 APPENDIX 3 – UK GUIDELINES

4.23. Within 3 months of the written notification to the NCA, the developer is required to submit a "concept for public participation" according to the principles in Annex VI (4). This is to ensure that the developer carries out proper public consultation on the project. In approving a concept for public participation, the NCA may take into consideration any form of public participation and consultation that took place before the start of the consenting process, to the extent that it fulfils the requirements of Article 9 of the TEN-E Regulation. Although it enumerates principles for consultations in Annex VI(3) the TEN-E Regulation does not prescribe rigid rules.

4.24. The "concept for public consultation" must include, as a minimum, the following information:

the stakeholders concerned and addressed;
the measures envisaged, including proposed general locations and dates of dedicated meetings;
the timeline;
the human resources allocated to the respective tasks.

4.25. It may be that the overall concept would be for consultation on a specific route for a linear PCI or specific location for the site of a sub- station, but because the specific site will be subject to more detailed assessments, it is not possible to specify exact dates or locations for any dedicated meetings. In such circumstances, it may be acceptable for the concept to set out in general terms what is proposed and use an indicative timescale in which consultations would be undertaken. It should be noted however, that for PCIs that are in more than one MS, consultations on the PCI in each MS must be held within two months of the first consultation.

4.26. The TEN-E Regulation sets out the minimum requirements for "public participation" that would meet the consultation requirements in Article 9(3) and Annex VI (3). Annex VI(5) also specifies that for the required public consultation, the relevant parties shall at least:

publish an information leaflet of no more than 15 pages, giving, in a clear and concise manner, an overview of the purpose and preliminary timetable of the project, the national grid development plan, alternative routes considered, expected impacts, including of cross-border nature, and possible mitigation measures, which shall be published prior to the start of the consultation. The information leaflet shall furthermore list the web addresses of the transparency platform referred to in Article 18 and of the manual of procedures referred to in point (1);
inform all stakeholders affected about the project through the website referred to in Article 9(7) and other appropriate information means;
invite in written form relevant affected stakeholders to dedicated meetings, during which concerns shall be discussed."

4.27. The concept for public participation should be proportionate to the nature of the infrastructure proposed, but must include at least one public consultation. Developers should consider how best to engage with the public, considering the likely stakeholders and issues that might be of concern. A "concept for public participation" could follow the pattern of a stakeholder engagement plan that developers often prepare as part of project planning for a proposal that requires an EIA4. It should include some indication of where in the project timetable any proposed information events might occur. It is not expected, however, that all concepts for public participation would be able to state the precise day, hour or location of any putative information event.

4.28. In indicating the "human resources" to be allocated to specific consultation tasks, it may not be possible to state explicitly the number of persons allocated to each part of a consultation process, nor the precise timing of potential consultation events. Further, some developers may use professional public relations consultants to manage public information and consultation on a project. However developers will be expected to indicate the type of resources expected to be committed to consultation tasks (for example a project engineer and environmental specialist to explain the project and any potential significant effects) and an indication of the timing of consultations to demonstrate that the TEN- E obligations and any UK obligations will have been met before an application is submitted.

4.29. Some UK consenting regimes set out specific requirements for consultation. For example, the Planning Act 2008 and its implementing regulations have statutory obligations to consult statutory bodies, including environmental bodies such as Natural England and local authorities before submitting an application. Prospective applicants for a DCO must prepare a "Statement of Community Consultation" (SOCC), having first consulted relevant local authorities on a draft of this and carry out consultations as set out in the SOCC. The developer is required to submit a report on all the statutory

consultation and publicity they have undertaken with an application for an order grating development consent and show how the outcome of the consultation has been taken account.

4.30. There is a process for consultation on applications for a Marine Licence that takes place during the examination period and the concept for public participation would take into this into account. There are also consultation requirements in regulations implementing the environmental impact assessment (EIA) directive in the UK.

4.31. Under the Town and Country Planning Act 1990, local planning authorities are required to carry out consultations as prescribed in Article 13 of The Town and Country Planning (Development Management Procedure) (England) Order 2010. In considering a proportionate concept for public participation for PCIs that may only require TCPA planning permission, developers should ensure that the concept takes account of the statutory obligations on local authorities. It should be noted that such consultations will take place after the formal application file has been accepted, i.e. in the 18 month examination and determination period. It is recommended that developers have discussions with the NCA and relevant local authorities on the timing of such consultations, which may also be reflected in the schedule of permit-granting process. Guidance on consultations under the TCPA is available on the Planning Portal at:
http://planningguidance.planningportal.gov.uk/blog/guidance/consultation-and-pre-decision-matters/

4.32. In drafting a concept for public participation, developers should include any statutory requirements for consultation and how they will comply with these requirements. Note, however, that any statutory consultations required by UK consenting regimes during the examination of an application do not over-ride or substitute for the requirement in the TEN-E Regulation to hold at least one public consultation before submission of the "draft application file" – which should be accompanied by a report on the consultation. It is recommended that developers discuss any proposed "concept for public participation" with the NCA at an early stage. This would avoid rejection of an inadequate plan later.

Submission of a "draft application file"

4.33. Article 10(4)(c) of the TEN-E Regulation requires the NCA to review the developer's "draft application file" and request any missing information. In the UK, there is no requirement to submit draft applications for approval by consenting authorities before a formal application is made for consent of an infrastructure project. Moreover, in respect of an application for a DCO under the Planning Act 2008, there is no provision during the acceptance period under section 55 of the Act to require or allow submission of additional information once an application has been made. The application must be accepted or rejected within 28 days.

4.34. However, it is normal for developers to have informal discussions with consenting or examining authorities prior to submitting an application. In the context of the TEN-E Regulation, the developer may ask the NCA to co-ordinate these discussions and the "draft application file" could be the compendium of information compiled from such discussions on formal consent applications identified in the schedule of consents drawn up in the pre-application procedure. For DCOs, such discussions should take place with PINS within two months of the intended formal application, as set out in the developer's implementation plan.

4.35. The NCA must consider whether any information is missing according to the details identified in the pre-application stage and, if so, request it from the applicant. Under the TEN-E Regulation, the NCA has 3 months in which to confirm whether the application is accepted for examination. To avoid unnecessary duplication of material, if consenting authorities require missing information, they should consult the NCA so that the NCA can make a co-ordinated request to the developer.

Source

THE TEN- E REGULATION EU347/2013 Manual of Procedures: The permitting process for Projects of Common Interest in the UK
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/311184/uk_manual_procedures_ten_e_regulation.pdf

Appendix 2

TEN-E Regulation Information Brochure – May 2018

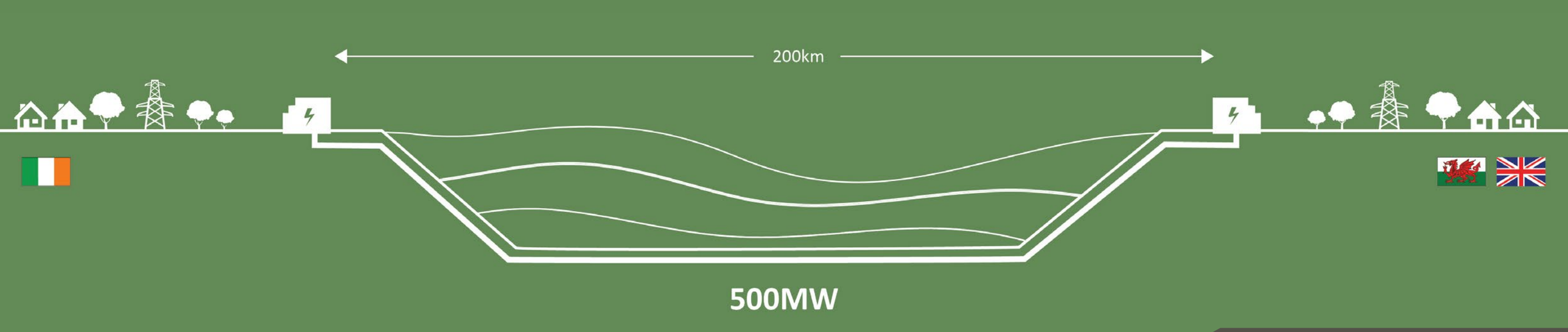
CONNECTING THE POWER MARKETS IN IRELAND AND GREAT BRITAIN

FOR ENERGY SECURITY, INWARD INVESTMENT AND VALUE FOR MONEY FOR CONSUMERS

TEN-E Regulation Information Brochure

Greenlink

INTERCONNECTOR



GREENLINK INTERCONNECTOR

Consents required to construct the projects are expected to include:

	Wales	Ireland
Converter station	Planning permission - major development – Pembrokeshire County Council	Planning permission - Strategic Infrastructure Development - An Bord Pleanála Authorisation to construct – Commission for the Regulation of Utilities
Onshore cable route	Lawful Development Certificate	Planning permission - Strategic Infrastructure Development - An Bord Pleanála Consent to lay electricity lines across lands - Commission for the Regulation of Utilities Consent to lay electricity lines under the public road - Commission for the Regulation of Utilities
Marine cable	Marine Licence – Natural Resources Wales Marine Works Licence - Milford Haven Port Authority	Foreshore Licence - Department of Housing, Planning and Local Government (Foreshore Unit)

STATUS OF THE PROJECT: The project is in the pre-planning phase. Throughout this phase of the project we will be consulting all key stakeholders, including the public, to ensure that they can input into the development process.

Co-financed by the Connecting Europe Facility of the European Union

The sole responsibility of this publication lies with the author. The European Union is not responsible for any use that may be made of the information contained therein.

Greenlink is a proposed 500 megawatt (MW) subsea and underground cable electricity interconnector (with associated converter stations) between the existing electricity grids in Ireland and Great Britain (GB), allowing for electricity to flow both ways between the two countries. The project will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland, GB and continental Europe. The construction and development of Greenlink will deliver: increased energy security; inward investment and value for money to consumers; and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

Greenlink will consist of two converter stations, each located close to the Great Island substation in County Wexford and Pembroke substation in Pembrokeshire. The converter stations will be connected by two high voltage direct current (HVDC) cables under the Irish Sea. A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa.

DC electricity is typically used for the transmission of electricity over long distances because it has lower losses, negligible heating effects and is therefore suitable to be buried underground. Accordingly, there will be no overhead lines between the two converter stations. Onshore the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built. The Greenlink interconnector is planned for commissioning in 2023.

The project will require planning permission in Ireland and in Wales.

380,000

Potential to power 380,000 homes*

€400m

of private capital investment for Ireland and Wales

Energy

Supports the growth and integration of low carbon energy

Security

Enhances the security of supply for electricity consumers

Value FOR Money

Downward pressure on electricity bills

Jobs

Jobs and knock-on economic benefits during construction

Inward investment and jobs

Greenlink represents €400m (£350m) of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid

Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply

The construction of Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy

Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition

Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

*Figure for number of homes is based on typical annual household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

Great Britain

National Grid is the Electricity System Operator for the whole of GB and operates the electricity transmission network in Wales and England including the 400kV network and substation at Pembroke. In its role as System Operator for GB, National Grid publishes plans and assessments for the economic and efficient development of the GB electricity transmission networks:

- In Future Energy Scenarios (FES), National Grid considers different potential future impacts on the electricity system. In the 2017 FES the amount of interconnection capacity could reach 19GW by 2030 compared to 4GW today.
- In the Network Options Assessment (NOA), National Grid carries out economic analyses to determine which transmission investments are efficient. The 2017/18 NOA recommends additional interconnection from GB to Ireland, beyond the 1.5GW capacity provided by Greenlink and the existing interconnectors (East West Interconnector (EWIC) and Moyle).
- The Electricity Ten Year Statement (ETYS) includes data on the existing and planned transmission networks in GB and the ETYS 2017 references Greenlink as one of the planned interconnectors that has a connection agreement with National Grid.

Ireland

EirGrid is the Electricity System Operator for Ireland and with its subsidiary, SONI, operates the island of Ireland's electricity system. In its role as System Operator for Ireland, EirGrid publishes a ten year transmission development plan.

- Greenlink is part of Transmission Development Plan 2016-2026, is referenced as part of the European Ten Year Network Plan 2016 (ENTSO-E TYNDP 2016) and as a PCI. The document notes that interconnection assists in increasing Security of Supply and Competition and has been addressed in the plan.

Offshore studies and assessments

The subsea cable route is expected to be up to 170km long. The final length of the cable will depend on the findings of subsea surveys as well as ongoing consultation with key stakeholders. Initial cable route selection has centred on desk-based work and the assessment of known data and constraints. Environmental and technical constraints will be assessed and the route that offers the best solution to challenges identified while maintaining the shortest route solution will be chosen as the preferred route.

Subsea surveys are intended to take place in 2018 in order to identify constraints facing the subsea cable routes and enable a preferred option to be selected.

The results of the subsea surveys will not only aid the selection of the preferred cable route but also the appropriate installation and protection methods to be adopted.

Technical and environmental assessment

As part of the project development, a series of technical and environmental assessment studies are being carried out to establish the viability of all the proposed converter sites and cable routes and to consider any potential impacts and opportunities arising from the project development. Greenlink is a cross-border project and no adverse cross-border impacts are expected.

Onshore studies and assessments

Biodiversity

Surveys will be carried out and the data assessed to ensure that the final onshore elements of Greenlink are designed sympathetically to the local environment and wildlife and where possible enhancement measures will be employed.

Surveys will cover the landfall sites, the various cable routes under consideration and the possible converter station locations.

As well as birds, wildlife to be considered by these assessments also include badgers, bats, otters, water voles, reptiles, great crested newts and dormice. Consideration is also being given to local vegetation, including hedgerows, trees and important habitats.

Our surveys and assessments will be verified and consulted on by Natural Resources Wales and the National Parks and Wildlife Service in Ireland. Consideration is also being made of local vegetation, including hedgerows, trees and important habitats.

Historic environment

The potential effects of Greenlink on local archaeology and cultural heritage will be assessed by seeking to identify, predict and evaluate the significance of potential effects on designated and non-designated heritage assets.

To mitigate any potential impacts, Greenlink will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects. Wherever possible, mitigation will be designed to deliver benefits, such as enhancing the visual setting of historic assets.

Greenlink will aim to avoid undisturbed archaeological remains and preserve them in situ. Where this is not possible, preservation by record will be proposed as mitigation.

Landscape & visual impact

This assessment relates to changes in the physical landscape, brought about by the proposed development, which may alter its character and how this is experienced.

Greenlink will produce visualisations of the converter stations from viewpoints that will be selected to represent the character of the area and particularly important landscape and heritage sites. Suitable mitigation, such as landscaping, building finishes and design layout, will be proposed.

Flooding and hydrology

This assessment considers the existing surface and ground water resources in the proximity to Greenlink. It will assess potential impacts to water bodies, surface water drainage and flood risk due to the proposed scheme during the construction and operational phases. The results of this assessment will be incorporated into the final design.

Geology & hydrogeology

This assessment considers the existing ground conditions present in the vicinity of the various scheme components and addresses the potential effects that the construction and operation of the project may have on the geological and hydrogeological characteristics of the study area.

ILLUSTRATION: WSP

The assessment will include consideration of possible effects on the superficial geology (soils), solid geology and geomorphology, including mineral resources beneath the proposed route of the scheme. The groundwater beneath the site and surrounding area will be considered. The results of this assessment will be incorporated into the final design and delivery of the proposal to mitigate any potential impact.

ILLUSTRATION: WSP

Noise & vibration

This assessment will address potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station. The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors will be determined via noise surveys.

Noise sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship, etc) and open public spaces (including public footpaths).

The results of this assessment will be incorporated into the final design.

Traffic & transport

The traffic impact assessment will address the traffic impacts on the local road network from the construction and operation of the Greenlink project.

The assessment will include the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce will also be addressed.

A Transport Assessment or Transport Statement will be produced in accordance with best practice.

As part of the planning application process a Traffic Management Plan (TMP) will be put together that will outline measures for managing and mitigating the construction traffic caused by Greenlink. Greenlink will consult the local community on a draft TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

Electromagnetic fields (EMFs)

The Greenlink electrical infrastructure (converter station and underground cables) will be designed to comply with the EC Directive relating to Occupational Exposure to Public Health and the EU 1999 recommendation on Public Exposure.

Use of agricultural land

Construction of the converter station will result in the permanent loss of land from agricultural use. Land disturbed during the construction of the landfall and cable will be reinstated and therefore there will be no permanent loss of agricultural land associated with the landfall or cable route.

Socio-economics & human health

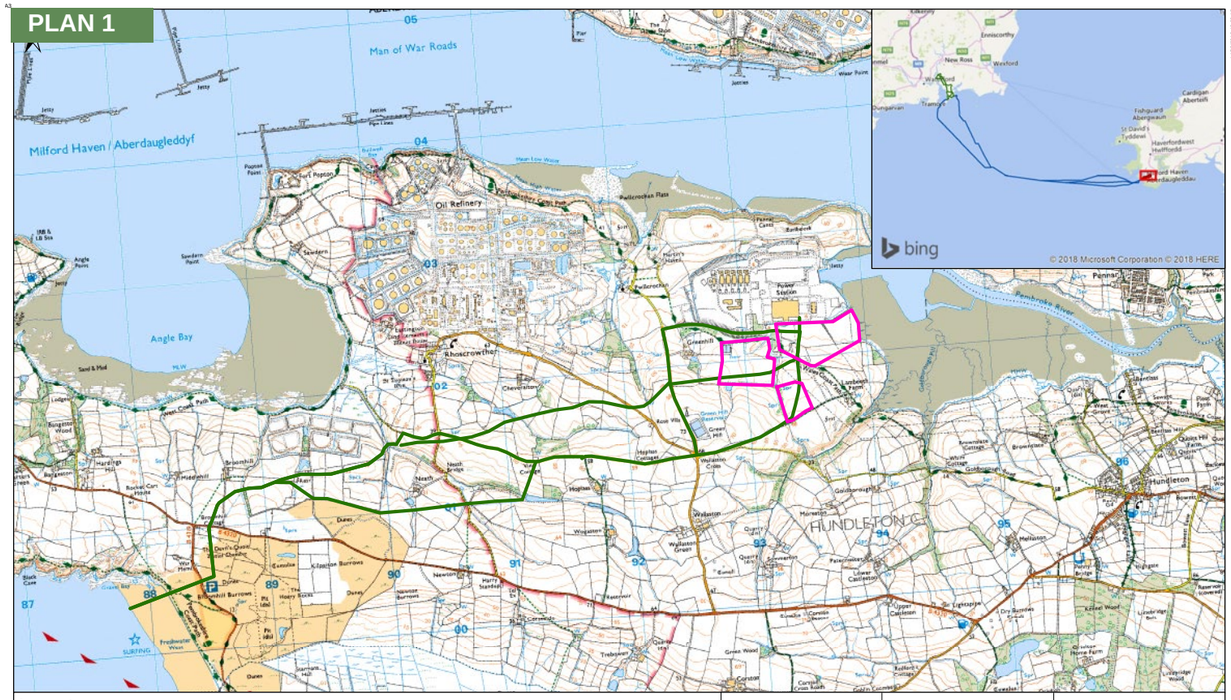
This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects on the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy. The results of this assessment will be incorporated into the final design and delivery of the proposal to mitigate any potential impact and maximise benefits.

Air quality & climate change

This assessment considers the potential impacts on air quality during construction, including dust emissions, on- site machinery and construction traffic travelling to and from the site. The potential impacts on air quality during the operational phase will also be addressed.

Following the assessment of air quality effects during the construction phase, mitigation measures will be recommended to minimise the impact from dust. These measures, including dust suppressant measures, will be considered for both human and ecological receptors.

PLAN 1



Legend

- UK Onshore Converter Station Site Options
- UK Onshore Route Options

Kilometers 0 0.15 0.3 0.6

Disclaimer: The sole responsibility of this publication lies with the author. The European Union is not responsible for any use that may be made of the information contained therein.

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ARUP
One Albert Quay
Cork, T12 X8N6
Tel +353 (0)21 4223 200
www.arup.com

Client: Greenlink Interconnector Ltd.

Job Title: Greenlink Interconnector

UK Onshore Overview

Scale at A3: 1:25,000

Job No: 246369-00

Drawing Status: Preliminary

Drawing No: PC003

Issue: P1

MXD Location: \\globaleuropeICork\Jobs\246000\246369-00\4. Internal\4-03 Design\4-03-03 Infrastructure\01 GIS\04_Map Documents\PC_Public Consultation\Public Consultation.mxd

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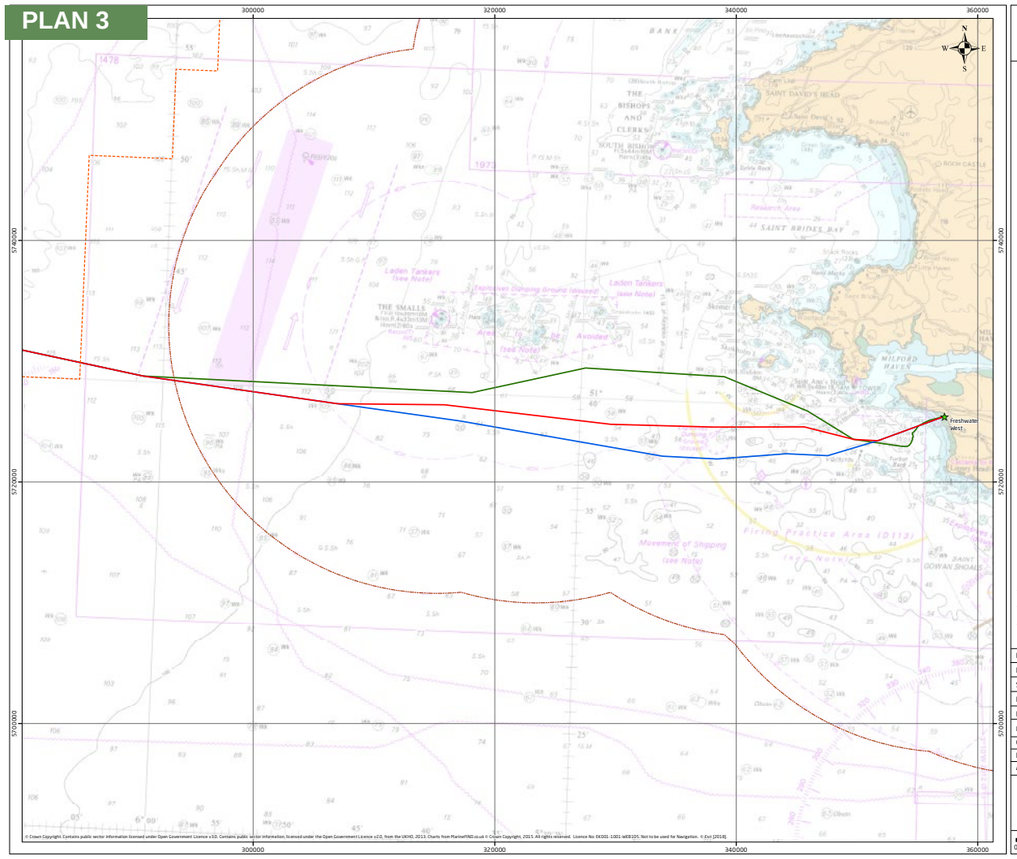
PLAN 3



GREENLINK INTERCONNECTOR

Route Options in Welsh Territorial Waters

Legend

- Landfall Option
- Median Line
- 12nm Territorial Sea Limit

Greenlink Proposed Route Option

- Route A Rev 0
- Route B Rev 0
- Route E Rev 1

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Spheroid	WGS_1984
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Data Source	CDA, UKHO, ESRI, MARINEFIND
File Reference	J:\P1975\Mxd\Public_Exhibitions\Offshore_Wales_Route_Options_A2.mxd
Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Greenlink

Co-financed by the European Union Connecting Europe Facility

intertek

0 2.5 5 7.5 10 km

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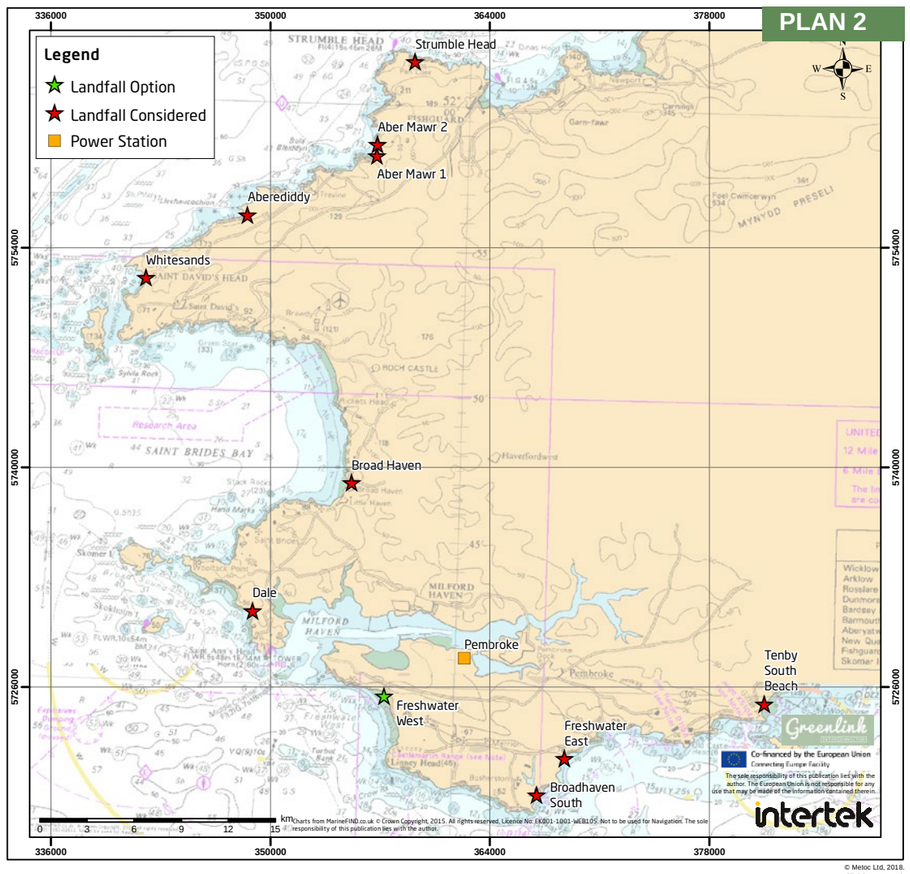
PLAN 2



Greenlink

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intertek

0 3 6 9 12 15 km

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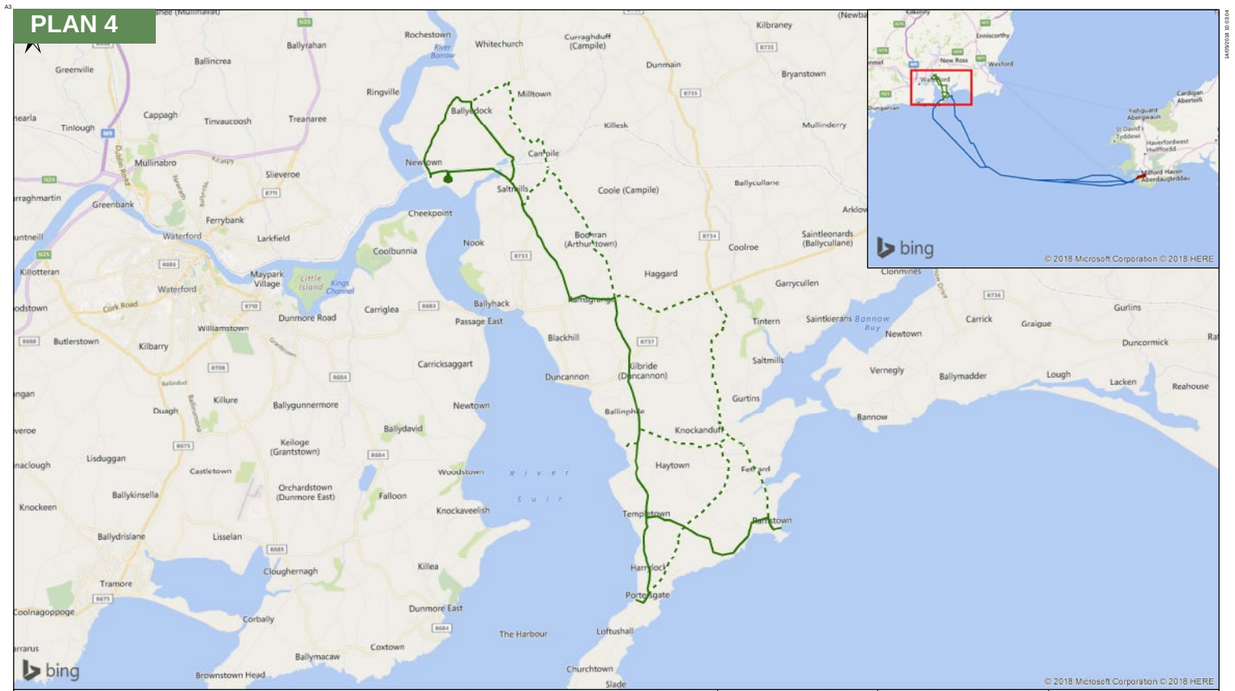
In Wales, Greenlink will connect to the Pembroke 400kV substation in Pembrokeshire. The substation at Pembroke was identified as the connection point for Greenlink following the completion of assessments and consultation with National Grid. AC cables will connect the HVDC converter station to the substation. Three sites, in close proximity to the substation, are currently being assessed as potential locations to locate the HVDC converter station. The sites under investigation are shown in Plan 1 along with potential onshore underground cable routes linking the proposed landfall site at Freshwater West with the converter station sites.

The final converter station site and cable route will be selected following environmental and technical assessments and consultation with key stakeholders. The length of the onshore cable route could be circa. 7km. The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in Plan 2.

It is currently proposed that the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the dunes and beach at Freshwater West. HDD is a trenchless method of installing underground cables. Further technical assessment work will be undertaken before the installation methodology is finalised.

There are currently three subsea routes being assessed off the Welsh coast. The routes under assessment are shown in Plan 3. The final route will be selected following the conclusion of subsea surveys and consultation with stakeholders.

PLAN 4



Legend

- Ireland Onshore Preferred Convertor Station Location
- Ireland Onshore Alternative Routes Considered
- Ireland Onshore Emerging Preferred Route Options

Kilometers 0 0.5 1 2

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Issue	Date	By	Chkd	Appd
P1	11.05.2018	RC	DG	MD

ARUP
One Albert Quay
Cork, T12 X8N6
Tel +353 (0)21 4223 200
www.arup.com

Client: **Greenlink Interconnector Ltd.**

Job Title: **Greenlink Interconnector**

Ireland Onshore Overview

Scale at A3: **1:100,000**

Job No: **246369-00**

Drawing Status: **Preliminary**

Drawing No: **PC002**

Issue: **P1**

MXD Location: \\globaleurope\Cork\Jobs\246000\246369-00\4. Internal\4-03 Design\4-03-03 Infrastructure\01 GIS\04_Map Documents\PC_Public Consultation\Public Consultation.mxd
© Arup

In Ireland, Greenlink will connect into the Great Island 220kV substation in County Wexford. The substation at Great Island was identified as the connection point for Greenlink following the completion of assessments and consultation with EirGrid. A high voltage AC conductor will connect the HVDC converter station to the substation. A site adjacent to the substation is currently being assessed as a potential location to locate the HVDC converter station. The site under investigation is shown in Plan 4 along with potential onshore underground cable routes linking the two potential landfall sites, at Boyce's Bay and Baginbun Beach.

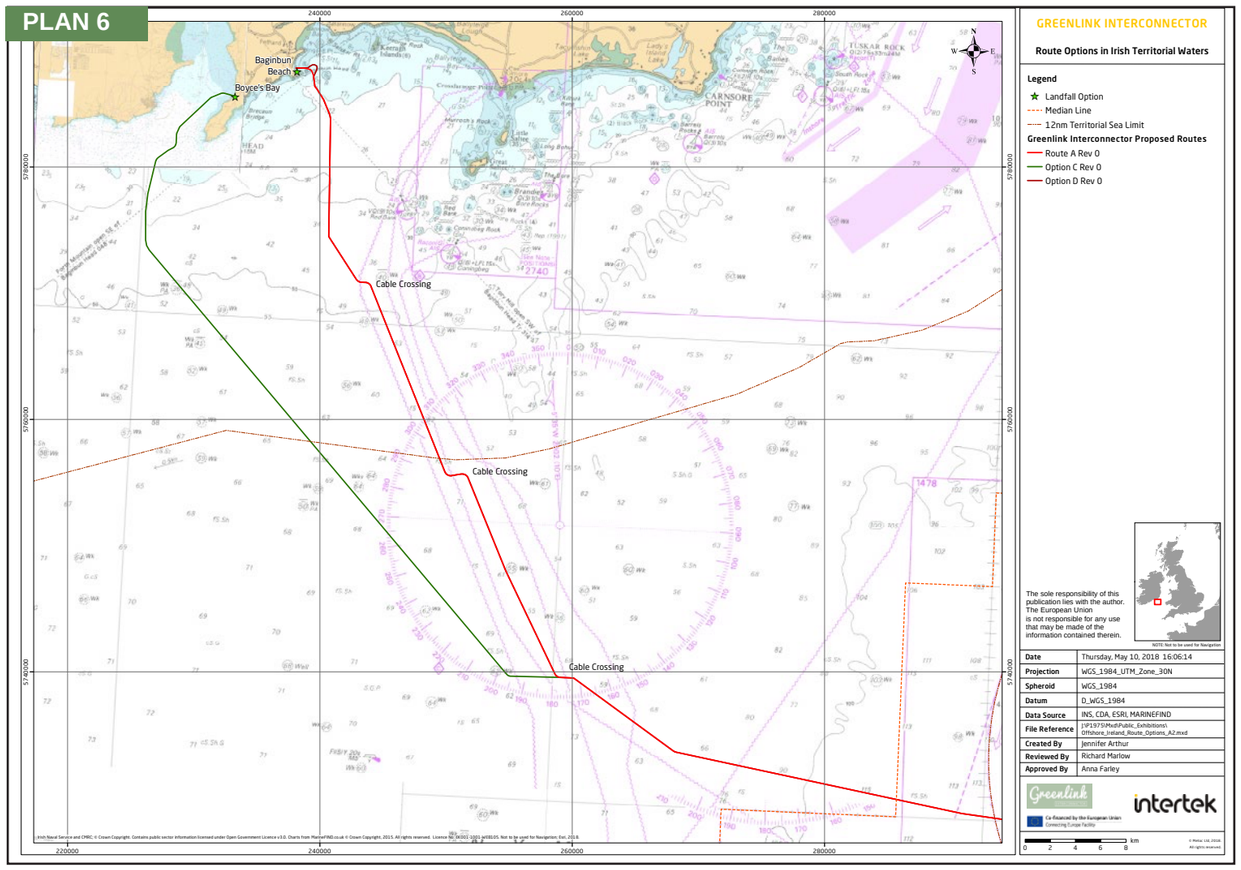
The final converter station site and cable route will be selected following environmental and technical assessments and consultation with key stakeholders. The length of the onshore cable route could be circa. 28km.

The landfalls at Boyce's Bay and Baginbun Beach were selected for further investigation following a review of potential landfall sites in the region. The landfalls assessed are shown in Plan 5.

It is currently proposed that the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the cliff edge and beach at both potential landfalls. Further technical assessment work will be undertaken before landfall site and installation methodology are finalised.

There are currently two subsea routes being assessed off the Irish coast. The routes under assessment are shown in Plan 6. The final route will be selected following the conclusion of subsea surveys and consultation with stakeholders.

PLAN 6



GREENLINK INTERCONNECTOR

Route Options in Irish Territorial Waters

Legend

- Landfall Option
- Median Line
- 12nm Territorial Sea Limit

Greenlink Interconnector Proposed Routes

- Route A Rev 0
- Option C Rev 0
- Option D Rev 0

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Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Greenlink — intertek

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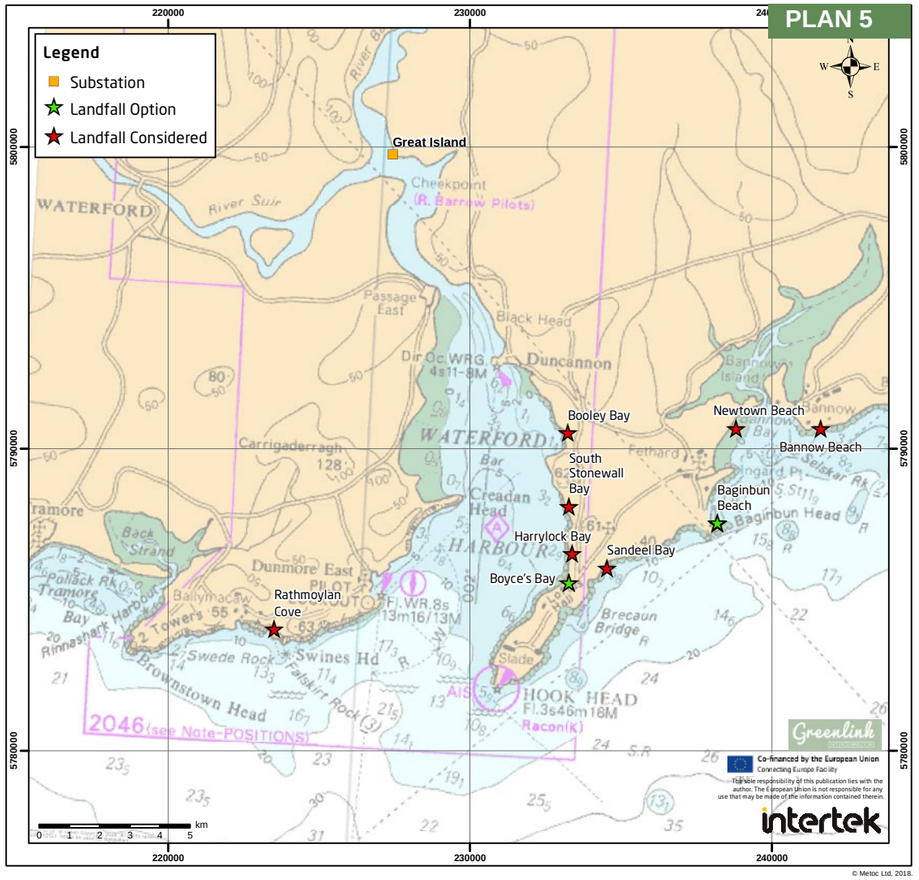
PLAN 5



Greenlink

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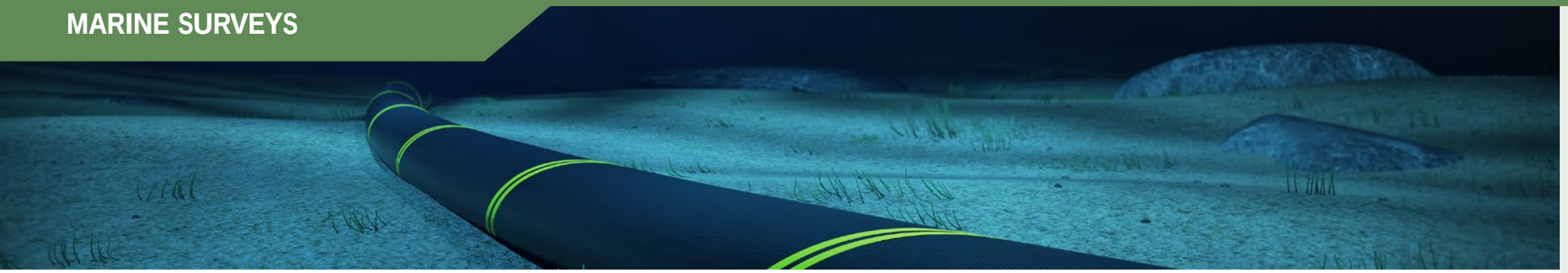


Technical viability
Marine surveys are taking place in the summer of 2018 and will include geophysical and geotechnical surveys.

Geophysical
The geophysical survey will look to map the seabed and sub-surface geology along the proposed routes to identify marine habitats, optimise cable routing within the survey corridor and to enable assessment of cable target burial depth along the route. It will also look to provide the geophysical data from which a marine archaeological assessment can be undertaken as part of the consenting process.

Geotechnical
The purpose of the geotechnical survey is to evaluate the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This will be done using a number of techniques, including drilling boreholes and digging trial pits.

Environmental impacts
The initial marine survey aims to map the distribution and extent of marine habitats within the proposed cable corridor. Data from this survey will then be used to inform the environmental assessment.

Marine environmental assessments
Greenlink will cross a number of European Marine Protected Sites; Special Areas of Conservation designated for the protection of habitats and species, and Special Protection Areas designated for the protection of wild birds. To determine if the project is likely to have a significant effect on the conservation objectives of the sites, Habitat Regulations Assessment will be carried out. The process identifies any potential impacts the project may have on the site and assesses whether it is likely that the feature of the site will be affected. Where the project is likely to undermine the conservation objectives of the site e.g. it is possible that condition, characteristics, or distribution of the feature cannot be maintained, then mitigation measures are proposed to manage or reduce the potential negative impacts identified.

In accordance with best practice, Environmental Reports will be completed for the marine components of the project in both the Ireland and Wales. The Habitats Regulation Assessment will form part of this larger environmental appraisal.

Topics covered by the environmental assessment will include:

- Coastal processes
- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and unexploded ordnance
- Fisheries
- Shipping and navigation
- Recreation and other sea users
- Cumulative effects

The potential impacts to be assessed include:

- Penetration and/or disturbance of the substrate below the surface of the seabed and effects on benthic communities and fish spawning
- Disturbance e.g. to birds, fish and marine mammals
- Transient underwater noise changes because of cable installation equipment and project vessels
- Temporary siltation rate changes from trenching activity
- Permanent, local, hydrological changes resulting from cable protection rock berms
- Physical loss (permanent change) of localised areas of marine habitat
- Localised electromagnetic changes and potential effects on fish, marine mammals and shipping
- Temporary, localised displacement of fishing activity and disruption to shipping routes.
- Possible in-combination effects

Most of the environmental impacts from cable installation are temporary and transient. For example, temporary disturbance of sea birds through the presence of project vessels, temporary increases in suspended sediment levels associated with trenching.

Steps are taken during the design of the project to ensure that environmental impacts are minimised where possible e.g. HDD under sensitive coastal features, routing around sensitive offshore habitats, avoiding known marine archaeology features such as wrecks. Best practice will also be followed to further reduce the significance of any potential impacts.

The proposed cable route crosses two Special Areas of Conservation which protect stony and bedrock reef. High resolution bathymetry data has been obtained by Greenlink in nearshore areas to assist routeing through features.

The proposed marine survey will also provide essential information to assist in confirming the presence/absence of features offshore, allow routeing around and if possible through features e.g. using sand channels between patches of reef, and in identifying suitable installation techniques that minimise effect on the habitat.

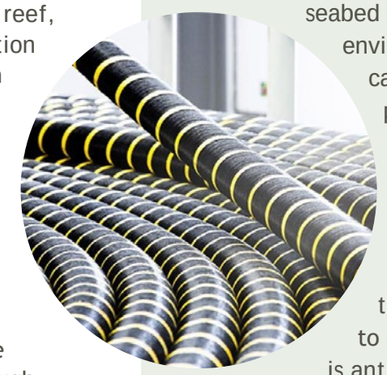
Mitigation
Where a potential impact is established, the environmental appraisal will recommend mitigation measures to be taken to reduce or remove the significance of the effect. Suitable mitigation will be established through consultation with stakeholders.

Greenlink will use high voltage direct current voltage source converter (HVDC VSC) technology to link the two power systems. HVDC has been selected over an AC connection, because AC is technically difficult over this distance. VSC technology has the main benefit that it reduces the size of the converters (when compared to similar technologies).

The Greenlink Interconnector converter station
The indicative converter station site footprint would be circa. 1.85 hectares (185m x 100m).

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonics filters, lightning towers, ancillary plant such as cooling bank and diesel generators, and a control building. Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. The converter hall and main building are usually one continuous building with height difference. The layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

OFFSHORE CABLES
Approximately 170km of the Greenlink cable route will be laid offshore. The final routes will be selected following a detailed assessment of the marine environment and technical challenges.



The cables will predominantly be buried in the seabed however where the geology or marine environment does not lend itself to this a cable may be laid on the seabed with protection added. Protection could be in the form of concrete mattress or rock dumping on top of the cable.

ONSHORE CABLES
One of the benefits of HVDC cables is the relatively small footprint required to install them underground onshore. It is anticipated that the Greenlink onshore cables will be buried within the road network or in private or agricultural land as appropriate.

PHOTOS - TOP: SIEMENS. BOTTOM: ABB

Onshore cable technology and installation techniques

The two onshore HVDC cables will be buried underground in a single trench with a typical depth of cover of 850mm. These will be installed in plastic duct to simplify the construction process. It is usual for the two ducts to be positioned close together (approximately 300mm). A protective cover and warning tape will also be buried along with marker posts at regular intervals at ground level.
This arrangement is shown in Figure 1.

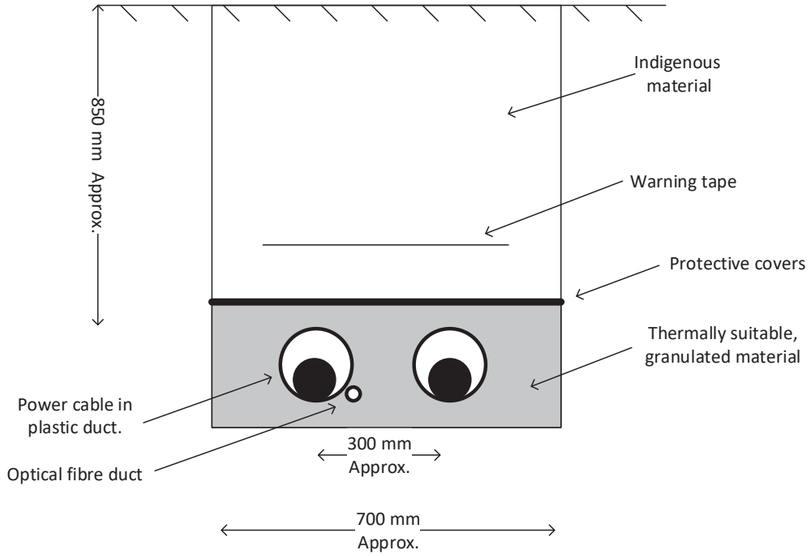


Figure 1 - Indicative underground cable arrangement

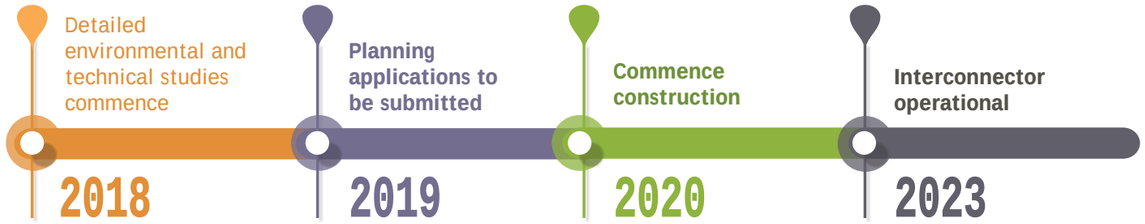
It is usual to increase the depth of cover in agricultural land to around 1050mm (increase from 850mm). The width of the trench may also vary with depth of cover (the deeper the cables are buried the wider the trench may become). A specific design would need to be engineered for utility crossings, crossing watercourses or other areas where the ordinary depth of cover cannot be achieved.

PHOTO: Deep Ocean

Onshore Cable Installation

PHOTOS: WSP

Project Timeline



A large infrastructure project such as Greenlink takes several years from concept to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018. This follows the completion of desk-based assessments and consultation with statutory consultees. Once a detailed proposal and design are completed, permits and licences will need to be obtained from: Pembrokeshire County Council, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales; and An Bord Pleanála and the Department of Housing, Planning and Local Government – Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland.

Once the appropriate permits and licences have been obtained, the scheme will be constructed, which is expected to be approximately 36 months from start to finish.

The project is envisaged to commence on-site construction in 2020 and be fully operational in 2023.

An important energy infrastructure project

The “Energy Union” launched by the European Commission on 25th February 2015 is driving a fundamental transition towards more innovative ways to produce, transport and consume energy, and to address different approaches to the design and implementation of energy policy.

Facilitating the Union requires a range of actions, chief amongst them being an increase in the physical interconnectedness of the EU and surrounding country energy grids (both gas and electricity) to meet a 10% interconnection target by 2020 and to reach 15% by 2030.

An interconnected European energy grid is vital for Europe’s energy security, for more competition in the internal market resulting in more competitive prices as well as for better achieving the decarbonisation and climate policy targets that the European Union has committed to. An interconnected grid will help deliver the ultimate goal of the Energy Union, i.e. to ensure affordable, secure and sustainable energy, and also growth and jobs across the EU.

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe’s most important energy infrastructure projects.

- For information regarding the infrastructure transparency platform referred to in Article 18 of the TEN-E Regulation, please visit: http://ec.europa.eu/energy/infrastructure/transparency_platform/map-viewer/main.html
- For information regarding the manual of procedures for each of UK and Ireland https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/311184/uk_manual_procedures_ten_e_regulation.pdf and www.pleanala.ie/publications/2014/pocimanual.pdf

Greenlink

INTERCONNECTOR

GREENLINK INTERCONNECTOR LIMITED

The Greenlink Interconnector is being developed by Greenlink Interconnector Limited.

Greenlink Interconnector Limited is 100% owned by Element Power Holdings, a leading global developer of renewable energy, energy storage, flexible generation and interconnection projects.

Element Power has significant experience in developing energy infrastructure projects, with established teams of experienced engineers, environmental and financial professionals covering both the UK and Ireland.

For more information on Greenlink, please visit our website: www.greenlinkinterconnector.eu

For more information on Element Power, please visit our website: www.elpower.com

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Version 1 | May 2018

Printed on paper from sustainable sources

Appendix 3

TEN-E Regulation Information Brochure – November 2018

Greenlink

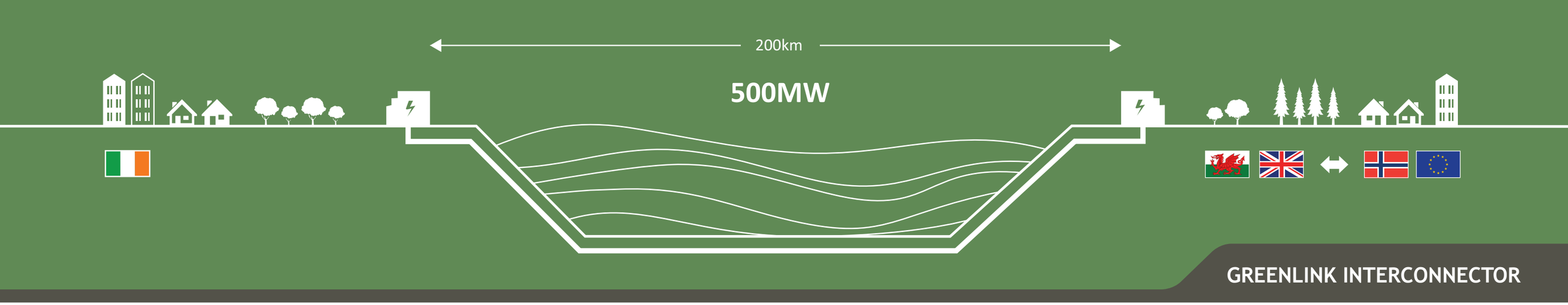
INTERCONNECTOR

CONNECTING THE POWER MARKETS IN IRELAND AND GREAT BRITAIN

for energy security, regional investment and value for money for consumers

TEN-E REGULATION INFORMATION BROCHURE

Issue 2 - November 2018



GREENLINK INTERCONNECTOR

This Greenlink brochure provides an update of the project information contained within the first brochure published in May 2018 and forms part of the ongoing stakeholder consultation process.

Consents required to construct Greenlink are expected to include:

	Wales	Ireland
Converter station	**Major Development** - Pembrokeshire County Council	**Strategic Infrastructure Development** - An Bord Pleanála **Authorisation to construct** - Commission for the Regulation of Utilities
Onshore cable route	**Major Development** - Pembrokeshire County Council - Pembrokeshire Coast National Park Authority	**Strategic Infrastructure Development** - An Bord Pleanála **Consent to lay electricity lines across lands** - Commission for the Regulation of Utilities **Consent to lay electricity lines under the public road** - Commission for the Regulation of Utilities
Marine cable	**Marine Licence** - Natural Resources Wales **Marine Works Licence** - Milford Haven Port Authority	**Foreshore Licence** - Department of Housing, Planning and Local Government (Foreshore Unit)

IMPORTANT PLANNING UPDATE: ENVIRONMENTAL IMPACT ASSESSMENT

Since the previous round of public consultations Greenlink Interconnector Limited has decided to undertake a voluntary Environmental Impact Assessment (EIA) in support of the Greenlink project. This will result in the application documents facing an increased level of scrutiny from stakeholders. While it is recognised that Greenlink does not require an EIA, we have decided to undertake a voluntary EIA in recognition of the length of the permitting process and the evolving interpretation of the EIA regulations within Ireland. As a result of this decision the onshore cable route in Wales will now seek planning permission rather than being developed as permitted development.

Co-financed by the Connecting Europe Facility of the European Union

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Greenlink is a proposed 500 megawatt (MW) subsea and underground cable electricity interconnector (with associated converter stations) between the existing electricity grids in Ireland and Great Britain (GB), allowing for electricity to flow both ways between the two countries. Greenlink will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland and GB with onward connections to continental Europe. The construction and development of Greenlink will deliver: increased energy security; regional investment and value for money to consumers; and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

Greenlink will consist of two converter stations - one located close to the Great Island substation in County Wexford and the other close to the Pembroke substation in Pembrokeshire - connected by two High Voltage Direct Current (HVDC) cables under the Irish Sea. A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa.

DC electricity is typically used for the transmission of electricity over long distances because it has lower losses, negligible heating effects and is therefore suitable to be buried underground. Accordingly, there will be no overhead lines between the two converter stations. Onshore, the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built.

Greenlink is planned for commissioning in 2023.

The project will require planning permission in Ireland and in Wales.

STATUS OF THE PROJECT: The project is in the pre-planning phase. Throughout this phase of the project we will be consulting all key stakeholders, including the public, to ensure that they can input into the development process.

380,000
Potential to power 380,000 homes*

Investment
€400m/£350m of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Regional investment and jobs
Greenlink represents around €400m/£350m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
The construction of Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

*Figure for number of homes is based on typical annual Irish household use of 4,200 kWh (CER, Review of Typical Consumption Figures - Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

Great Britain
National Grid is the Electricity System Operator for the whole of GB and operates the electricity transmission network in Wales and England including the 400kV network and substation at Pembroke. In its role as System Operator for GB, National Grid publishes plans and assessments for the economic and efficient development of the GB electricity transmission networks:

- In Future Energy Scenarios (FES), National Grid considers different potential future impacts on the electricity system. In the 2017 FES the amount of interconnection capacity could reach 19GW by 2030 compared to 4GW today.
- In the Network Options Assessment (NOA), National Grid carries out economic analyses to determine which transmission investments are efficient. The 2017/18 NOA recommends additional interconnection from GB to Ireland, beyond the 1.5GW capacity provided by Greenlink and the existing interconnectors (East West Interconnector (EWIC) and Moyle).
- The Electricity Ten Year Statement (ETYS) includes data on the existing and planned transmission networks in GB and the ETYS 2017 references Greenlink as one of the planned interconnectors that has a connection agreement with National Grid.

Ireland
EirGrid is the Electricity System Operator for Ireland and with its subsidiary, SONI, operates the island of Ireland's electricity system. In its role as System Operator for Ireland, EirGrid publishes a ten year transmission development plan.

- Greenlink is part of Transmission Development Plan 2016-2026, is referenced as part of the European Ten Year Network Development Plan 2018 (ENTSO-E TYNDP 2018) and as a PCI. The documents note that interconnection assists in increasing security of supply and competition.
- The Irish regulator determined, in October 2018, that Greenlink passed the test to be part of the Irish transmission system paving the way for Greenlink to move to the permitting phase.

Offshore studies
The subsea cable route is expected to be up to 170km long. The final length of the cable will depend on the completion of subsea surveys as well as ongoing consultation with key stakeholders. Initial cable route selection centred on desk-based work and the assessment of known data and constraints. This work identified several route corridor options that are currently being surveyed.

Subsea surveys commenced in September 2018 in order to identify and confirm the presence of any constraints facing the subsea cable routes. The environmental and technical constraints will be assessed in conjunction with the Irish and Welsh foreshore authorities. **The route that offers the best solution to challenges identified while maintaining the shortest route solution will be chosen as the preferred route.**

The results of the subsea surveys not only support the selection of the preferred cable route but also the appropriate installation and protection methods to be adopted.

Technical and environmental assessment
As part of the project development, a series of technical and environmental assessment studies are being carried out to establish the viability of the proposed converter sites and cable routes and to consider any potential impacts and opportunities arising from the project development. Greenlink is a cross-border project and no adverse cross-border impacts are expected.

Onshore studies and assessments

Biodiversity

Surveys are currently being carried out and the data assessed to ensure that the final onshore elements of Greenlink are designed sympathetically to the local environment and wildlife. Where possible enhancement measures will be employed.

Surveys cover the landfall sites, the cable routes under consideration and the possible converter station locations.

As well as birds, wildlife to be considered include badgers, bats, otters, water voles, reptiles, great crested newts and dormice. Consideration is also being given to local vegetation, including hedgerows, trees and important habitats.

Our surveys and assessments will be verified and consulted on by Natural Resources Wales and the National Parks and Wildlife Service in Ireland.

Historic environment

The potential effects of Greenlink on local archaeology and cultural heritage are being assessed by identifying, predicting and evaluating the significance of potential effects on designated and non-designated heritage assets.

To mitigate any potential impacts we will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects. Wherever possible, mitigation will be designed to deliver benefits, such as maintaining the visual setting of historic assets. We will aim to avoid undisturbed archaeological remains and preserve them in situ. Where this is not possible, preservation by record will be proposed as mitigation.

Landscape & visual impact

This assessment relates to changes in the physical landscape, brought about by the proposed development, which may alter its character and how this is experienced.

We will produce visualisations of the converter stations from viewpoints that will be selected to represent the character of the area and particularly important landscape and heritage sites. Suitable mitigation, such as landscaping, building finishes and design layout, will be proposed.

Flooding and hydrology

This assessment considers the existing surface and ground water resources in proximity to Greenlink. It will assess potential impacts to water bodies, surface water drainage and flood risk due to the proposed scheme during the construction and operational phases. The results of this assessment will be incorporated into the final design.

Geology & hydrogeology

This assessment considers the existing ground conditions present in the vicinity of the various scheme components and addresses the potential effects that the construction and operation of the project may have on the geological and hydrogeological characteristics of the study area.

ILLUSTRATION: WSP

The assessment will include consideration of possible effects on the superficial geology (soils), solid geology and geomorphology, including mineral resources beneath the proposed route of the scheme. The groundwater beneath the site and surrounding area will be considered. The results of this assessment will be incorporated into the final design and delivery of the proposal to mitigate any potential impact.

ILLUSTRATION: WSP

Noise & vibration

This assessment will address potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors will be determined via noise surveys.

Noise sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship, etc) and open public spaces (including public footpaths).

The results of this assessment will be incorporated into the final design.

Traffic & transport

The traffic impact assessment will address the traffic impacts on the local road network from the construction and operation of Greenlink.

The assessment will include the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce will also be addressed.

A transport assessment will be carried out in accordance with best practice.

An outline Traffic Management Plan (TMP) will be put together that will detail measures for managing and mitigating the construction traffic caused by Greenlink. We will consult the local community on the outline TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

Electromagnetic fields (EMFs)

The Greenlink electrical infrastructure (converter station and underground cables) will be designed to comply with the EC Directive relating to Occupational Exposure to Public Health and the EU 1999 recommendation on Public Exposure.

Use of agricultural land

Construction of the converter station will result in the permanent loss of land from agricultural use. Land disturbed during the construction of the landfall and cable will be reinstated and therefore there will be no permanent loss of agricultural land associated with the landfall or cable route.

Socio-economics & human health

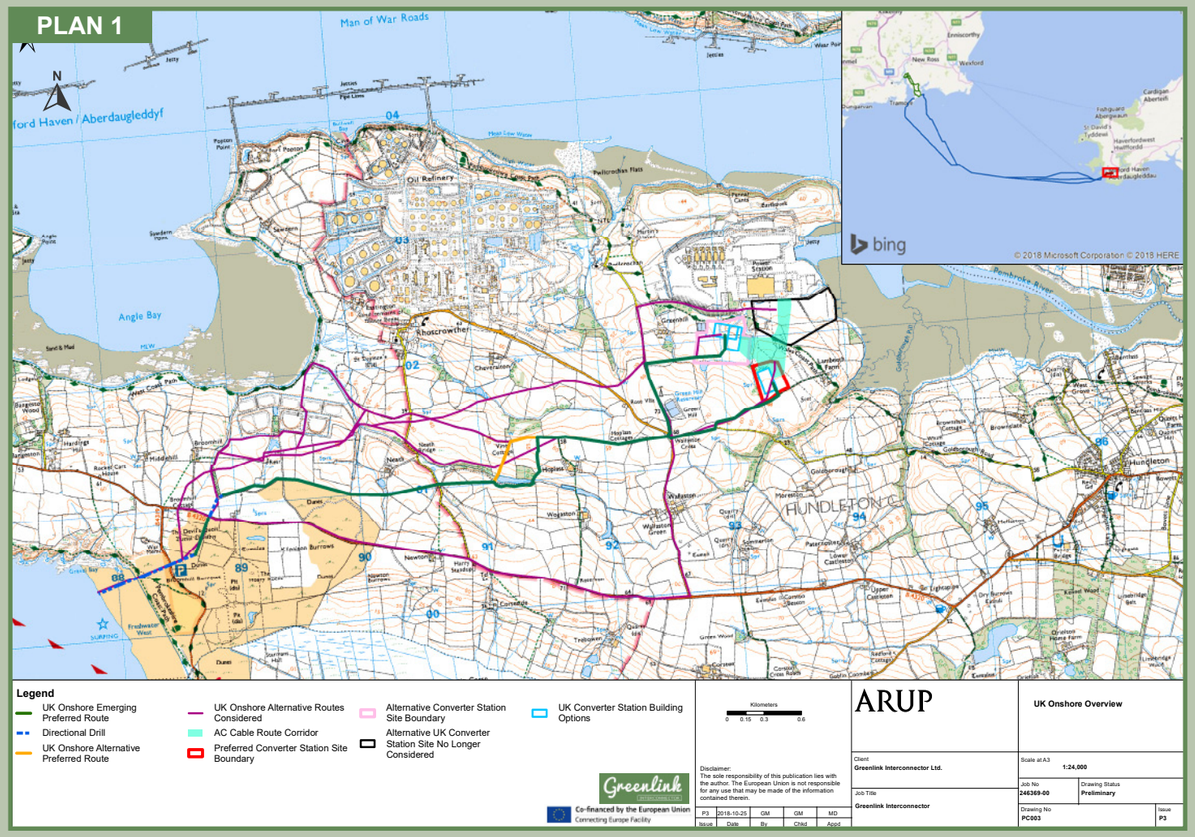
This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects on the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy. The results of this assessment will be incorporated into the final design and delivery of the proposal to mitigate any potential impact and maximise benefits.

Air quality

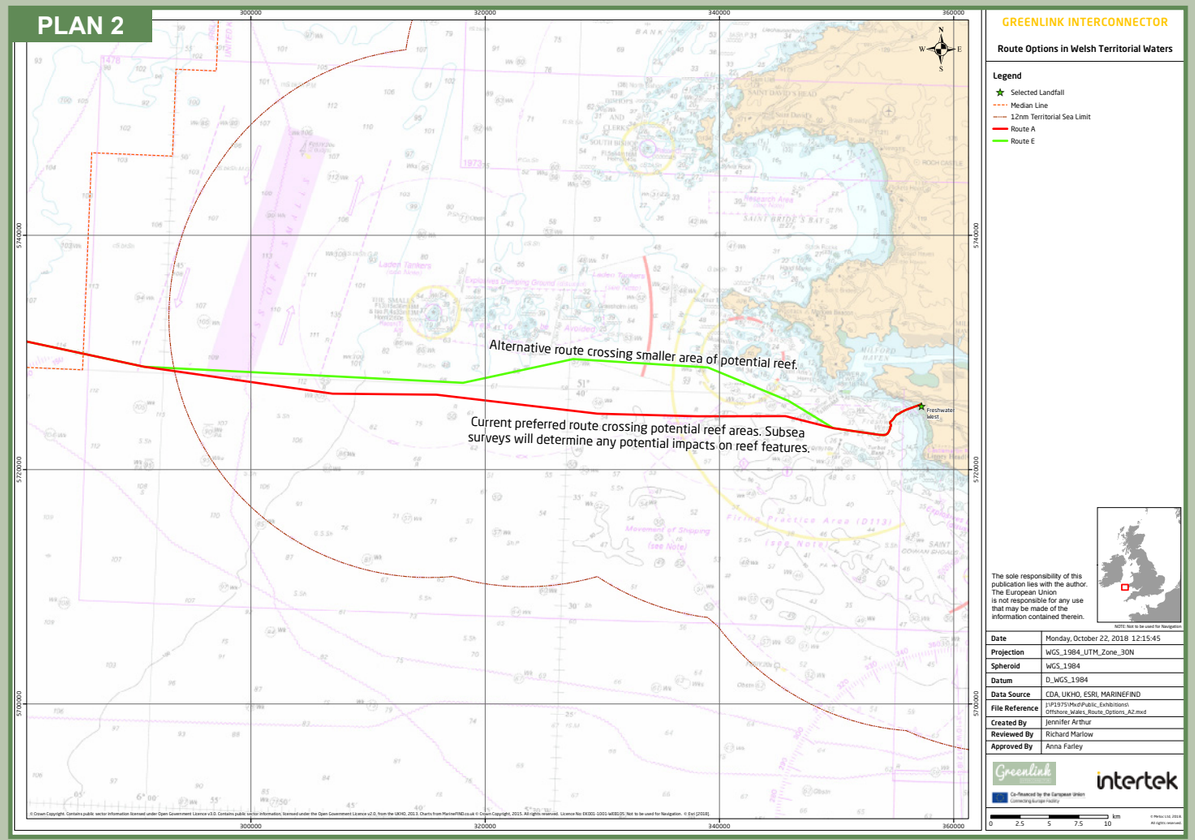
This assessment considers the potential impacts on air quality during construction, including dust emissions, on-site machinery and construction traffic travelling to and from the site. The potential impacts on air quality during the operational phase will also be considered.

Following the assessment of air quality effects during the construction phase, mitigation measures will be recommended to minimise the impact from dust. These measures, including dust suppressant measures, will be considered for both human and ecological receptors.

PLAN 1



PLAN 2



Greenlink in Wales

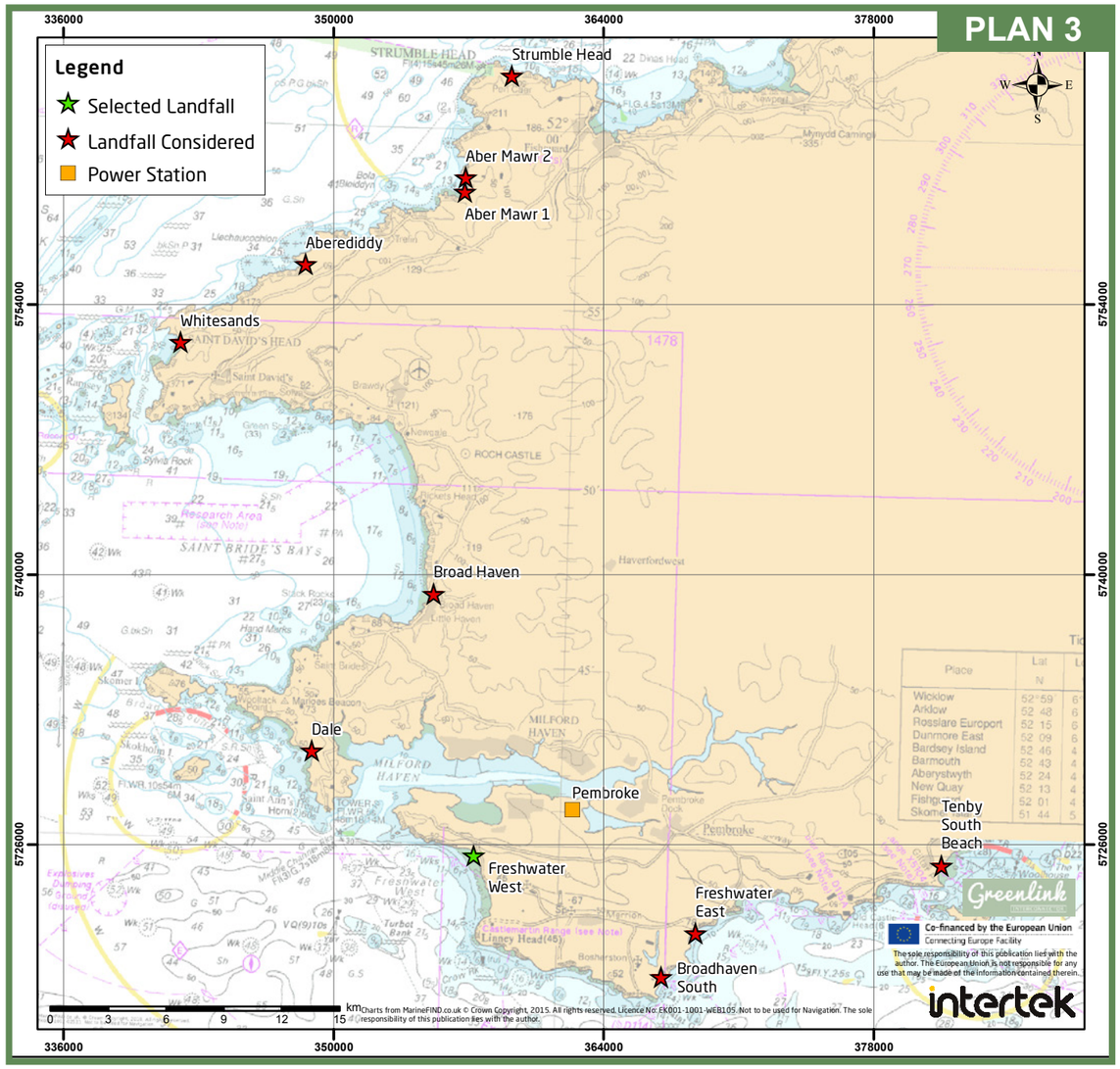
In Wales, Greenlink will connect to the Pembroke 400kV substation in Pembrokeshire. The Pembroke substation was identified as the connection point for Greenlink following the completion of assessments and consultation with National Grid. AC cables will connect the HVDC converter station to the substation. Three sites, in close proximity to the substation, have been assessed as potential locations to locate the HVDC converter station. The site immediately to the south of the substation is no longer being considered as an option. This is following consultation with RWE Npower and analysis of the constraints placed on a future development by existing infrastructure crossing the site.

A preferred cable route and converter station site have been identified following consultation with stakeholders and analysis of the results of ongoing environmental and technical work. The preferred cable route and converter station site are shown in Plan 1 along with alternatives still under consideration.

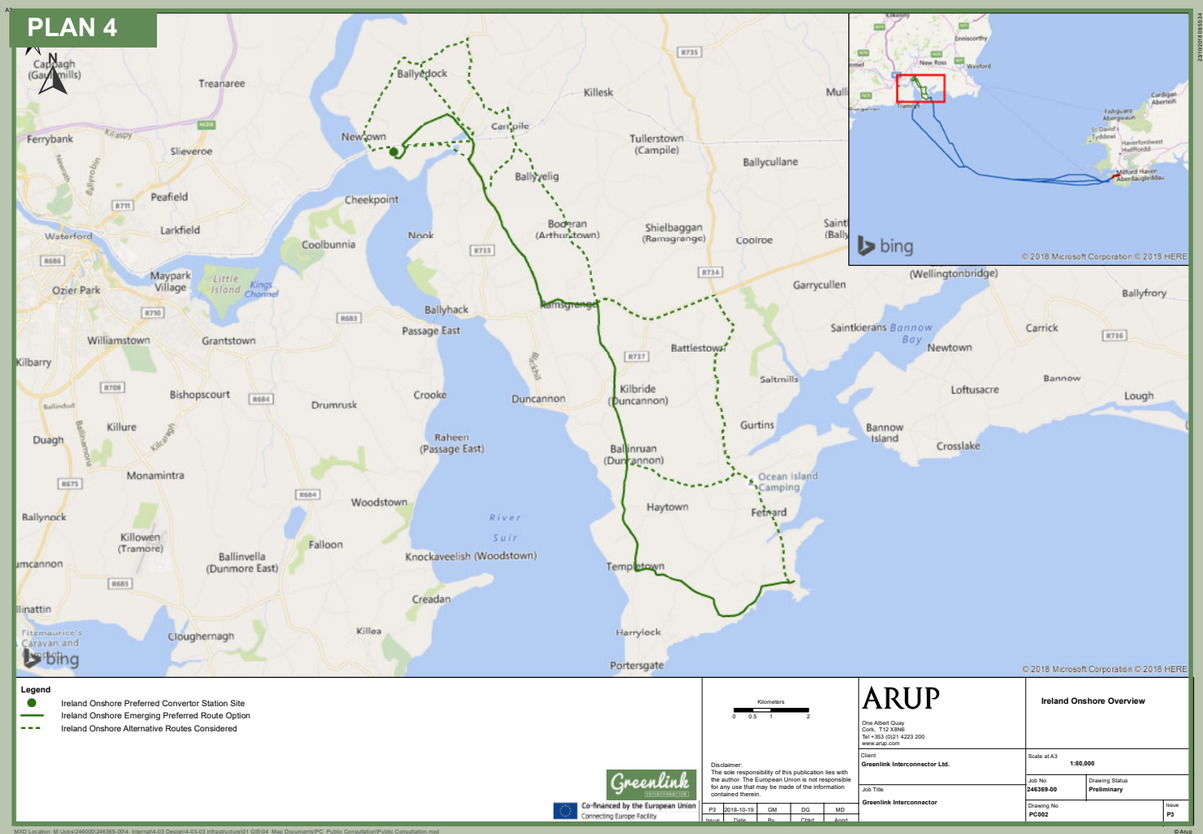
To minimise environmental impact, it is currently proposed that the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the dunes and beach at Freshwater West. HDD is a trenchless method of installing underground cables. Further technical assessment work will be undertaken before the installation methodology is finalised.

There are currently two subsea routes being assessed off the Welsh coast. The red and green routes under assessment are shown in Plan 2. Initial survey data suggests that both routes have environmental constraints and consultation and additional survey work is being undertaken to see if there is an alternative route between the two options. The final route will be selected following the conclusion of subsea surveys and consultation with stakeholders. The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in Plan 3.

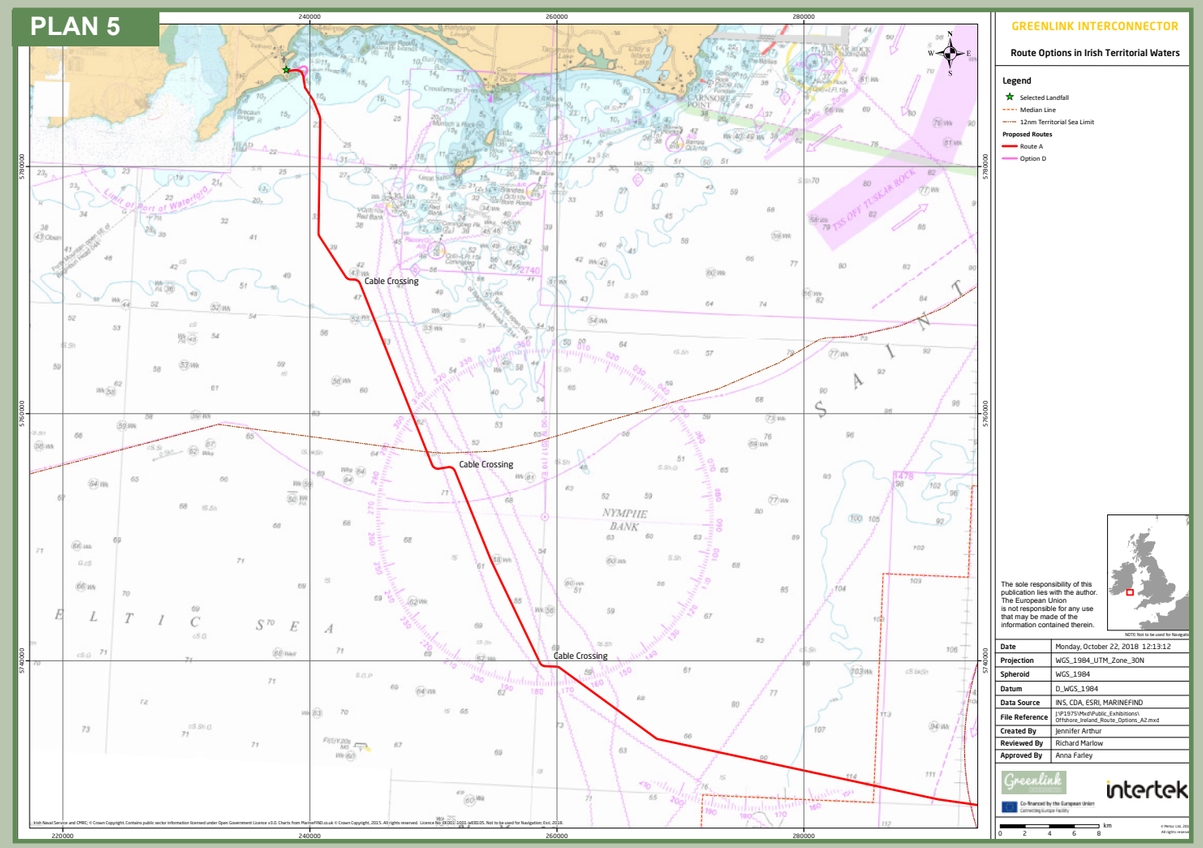
PLAN 3



PLAN 4



PLAN 5



Greenlink in Ireland

In Ireland, Greenlink will connect into the Great Island 220kV substation in County Wexford. The substation at Great Island was identified as the connection point for Greenlink following the completion of assessments and consultation with EirGrid.

A high voltage AC conductor will connect the HVDC converter station to the substation. A site adjacent to the substation has been identified as the most suitable location to construct the HVDC converter station.

The proposed converter station site is shown in Plan 4 along with potential onshore underground cable routes linking the landfall at Baginbun Beach.

The preferred converter station site and cable route options were identified following environmental and technical assessments and consultation with key stakeholders. The length of the onshore cable route could be circa 22km.

To minimise environmental impact, it is currently proposed that the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the cliff edge and sand at Baginbun Beach.

A preferred subsea route has been identified following desk-based assessments supported by the results of early subsea surveys. The preferred route is shown in Plan 5.

The landfall at Baginbun Beach was selected as the landfall site following a review of potential landfalls in the region. The landfalls assessed are shown in Plan 6.

The detailed design of final onshore and subsea cable routes will be carried out following the conclusion of the subsea and onshore survey programmes and consultation with stakeholders.

PLAN 6

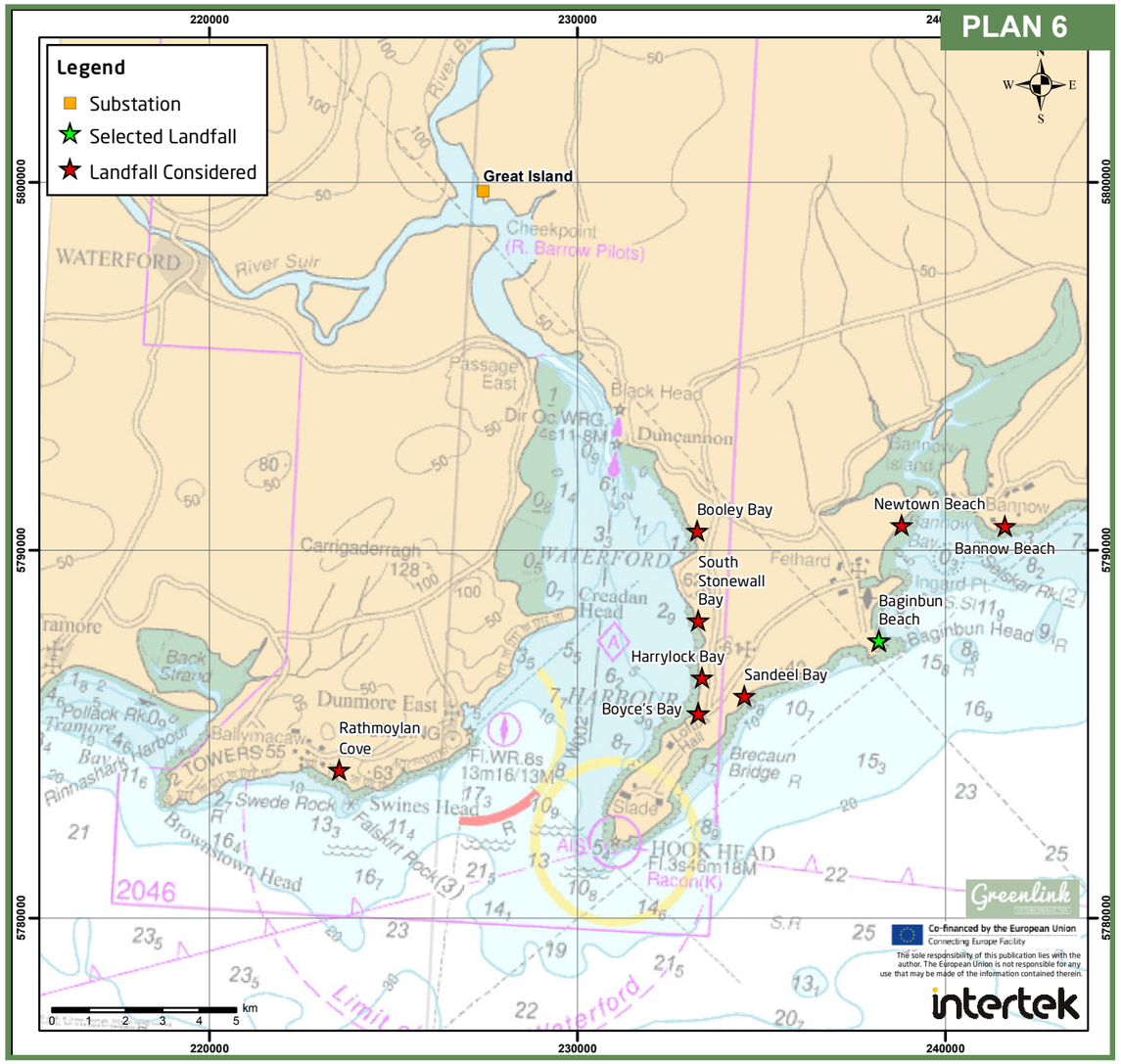


PHOTO COURTESY OF MMT

Technical viability

Marine surveys commenced in September 2018 and include geophysical and geotechnical surveys.

Geophysical

The geophysical survey maps the seabed and sub-surface geology along the survey route corridors to identify marine habitats, optimise cable routing within the survey corridor and enable the assessment of cable target burial depth. It also provides the geophysical data from which a marine archaeological assessment will be undertaken as part of the consenting process.

Geotechnical

The geotechnical surveys evaluate the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This is done using a number of techniques, including drilling boreholes and taking shallow core samples.

Marine environmental assessments

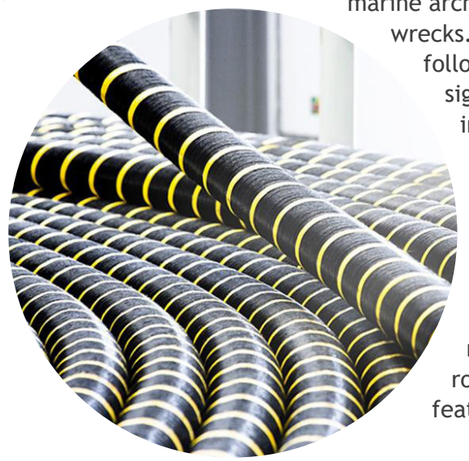
Greenlink will cross a number of European Marine Protected Sites: Special Areas of Conservation designated for the protection of habitats and species, and Special Protection Areas designated for the protection of wild birds. To determine if the project is likely to have a significant effect on the conservation objectives of the sites, Habitat Regulations Assessment will be carried out. The process identifies any potential impacts Greenlink may have on the site and assesses whether it is likely that the feature of the site will be affected.

Where Greenlink is likely to undermine the conservation objectives of the site e.g. it is possible that condition, characteristics, or distribution of the feature cannot be maintained, then mitigation measures are proposed to manage or reduce the potential negative impacts identified.

We are voluntarily undertaking an Environmental Impact Assessment for Greenlink. An Environmental Statement will be completed for the marine components of the project in Wales and an Environmental Impact Assessment Report will be completed for marine components in Ireland. The Habitats Regulation Assessment will form part of this larger environmental appraisal.

Topics covered by the environmental assessment will include:

- Coastal processes
- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and unexploded ordnance
- Fisheries
- Shipping and navigation
- Recreation and other sea users
- Cumulative effects



The potential impacts to be assessed include:

- Penetration and/or disturbance of the substrate below the surface of the seabed and effects on benthic communities and fish spawning
- Disturbance to birds, fish and marine mammals
- Transient underwater noise changes because of cable installation equipment and project vessels
- Temporary siltation rate changes from trenching activity
- Permanent, local, hydrological changes resulting from cable protection rock berms
- Physical loss (permanent change) of localised areas of marine habitat
- Localised electromagnetic changes and potential effects on fish, marine mammals and shipping
- Temporary, localised displacement of fishing activity and disruption to shipping routes.
- Possible in-combination effects. Most of the environmental impacts from cable installation are temporary and transient. For example, temporary disturbance of sea birds through the presence of project vessels, temporary increases in suspended sediment levels associated with trenching.

Mitigation

Steps are taken during the design of the project to ensure that environmental impacts are minimised where possible e.g. HDD under sensitive coastal features, routing around sensitive offshore habitats, avoiding known marine archaeology features such as wrecks. Best practice will also be followed to further reduce the significance of any potential impacts.

The proposed cable route crosses two Special Areas of Conservation that protect stony and bedrock reef. High resolution bathymetry data has been obtained for nearshore areas to assist routing through and around features.

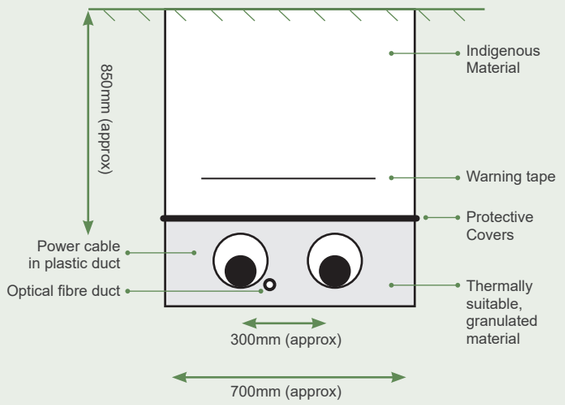
Onshore cable technology and installation techniques

The two onshore HVDC cables will be buried underground in a single trench with a typical depth of cover of 850mm. These will be installed in plastic ducts to simplify the construction process. It is usual for the two ducts to be positioned close together (approximately 300mm). A protective cover and warning tape will also be buried along with marker posts at regular intervals at ground level. This arrangement is shown in Figure 1.

It is usual to increase the depth of cover in agricultural land to around 1050mm (from 850mm). The width of the trench may also vary with depth of cover (the deeper the cables are buried the wider the trench may become). A specific design would need to be engineered for utility crossings, crossing watercourses or other areas where the ordinary depth of cover cannot be achieved.

[Picture (top right): 250kV HVDC cable - courtesy of Prysmian]

Figure 1 : Indicative underground cable arrangement



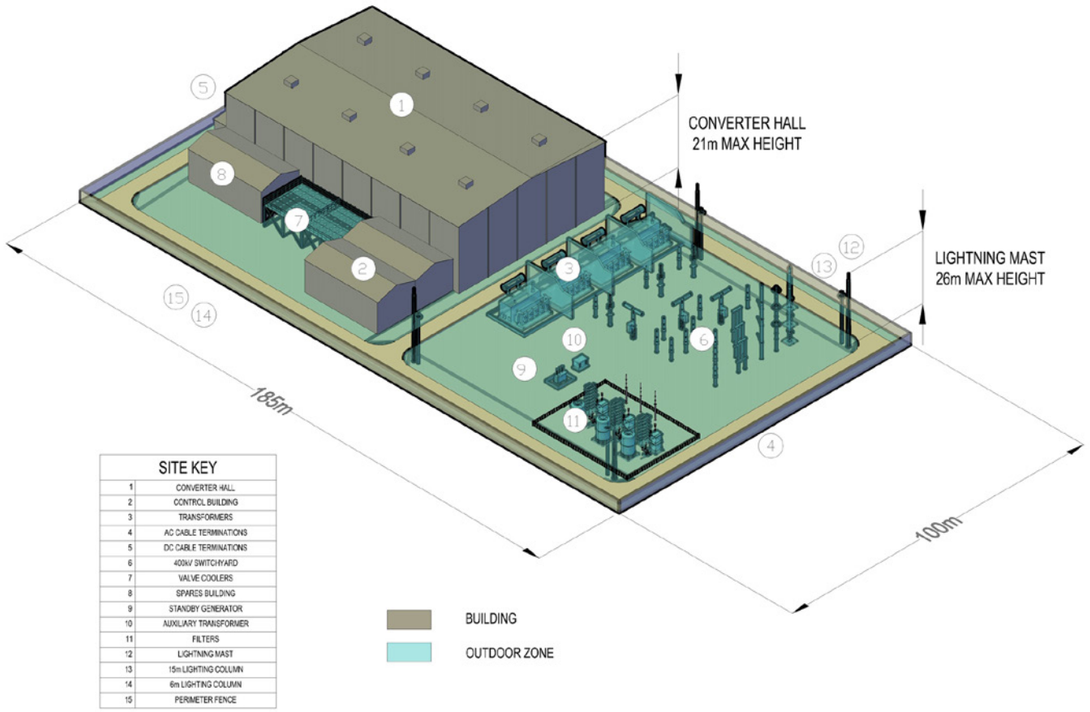
Greenlink will use High Voltage Direct Current Voltage Source Converter (HVDC VSC) technology to link the two power systems. In Ireland and GB, HVDC has been selected over an AC connection because AC is technically difficult over this distance. VSC technology has the benefit that it reduces the size of the converter stations (when compared to similar technologies).

The Greenlink Interconnector Converter Station

The indicative converter station site footprint would be circa 1.85 hectares (185m x 100m).

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonic filters (if required), lightning towers, ancillary plant such as cooling bank and stand-by back-up emergency generators, and a control building. Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. The converter hall and main building are usually one continuous building with height difference. The layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

A TYPICAL CONVERTER STATION LAYOUT



SITE KEY	
1	CONVERTER HALL
2	CONTROL BUILDING
3	TRANSFORMERS
4	AC CABLE TERMINATIONS
5	DC CABLE TERMINATIONS
6	400kV SWITCHYARD
7	VALVE COOLERS
8	SPARES BUILDING
9	STANDBY GENERATOR
10	AUXILIARY TRANSFORMER
11	FILTERS
12	LIGHTNING MAST
13	15m LIGHTING COLUMN
14	6m LIGHTING COLUMN
15	PERIMETER FENCE

Tail Station

A tail station is a substation built adjacent to infrastructure such as a converter station and remote generation plant. Following consultation, EirGrid may require a tail station to be developed alongside the converter station in Ireland. While the need for a tail station has not been confirmed we will now incorporate one within the design to be assessed within the final planning application in Ireland.

We are using a 60m x 70m footprint for the potential tail station.

Project Timeline

A large infrastructure project such as Greenlink takes several years from concept to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018. This follows the completion of desk-based assessments and consultation with statutory consultees.

Once a detailed proposal and design are completed, permits and licences will need to be obtained from: Pembrokeshire County Council, Pembrokeshire Coast National Park Authority, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales; and An Bord Pleanála and the Department of Housing, Planning and Local Government - Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland.

Once the appropriate permits and licences have been obtained, the scheme will be constructed, which is expected to take approximately three years from start to finish.

The project is envisaged to commence on-site construction in 2020 and be fully operational in 2023

An important energy infrastructure project

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

The "Energy Union" launched by the European Commission on 25th February 2015 is driving a fundamental transition towards more innovative ways to produce, transport and consume energy, and to address different approaches to the design and implementation of energy policy.

Facilitating the Union requires a range of actions, chief amongst them being an increase in the physical interconnection of the EU and surrounding country energy grids (both gas and electricity) to meet a 10% interconnection target by 2020 and to reach 15% by 2030.

The EU, Irish and UK governments all agree that even after Brexit, an interconnected grid will help to ensure affordable, secure and sustainable energy, and also growth and jobs across Europe.

- For information regarding the infrastructure transparency platform referred to in Article 18 of the TEN-E Regulation, please visit: http://ec.europa.eu/energy/infrastructure/transparency_platform/map-viewer/main.html
- For information regarding the manual of procedures for each of UK and Ireland https://assets.publishing.service. gov.uk/government/uploads/system/uploads/attachment_data/file/311184/uk_manual_procedures_ten_e_regulation.pdf and www.pleanala.ie/publications/2014/pocimanual.pdf

Greenlink

INTERCONNECTOR

Greenlink is being developed by Greenlink Interconnector Limited.

Greenlink Interconnector Limited is 100% owned by Element Power Holdings, a leading global developer of renewables, storage, flexible generation and interconnection projects and is experienced in the development of energy infrastructure projects in the UK, Ireland and internationally.

Greenlink Interconnector Limited is bringing private capital to the project and will assume the majority of the project risks.

For more information on Greenlink, please visit our website: **www.greenlinkinterconnector.eu**

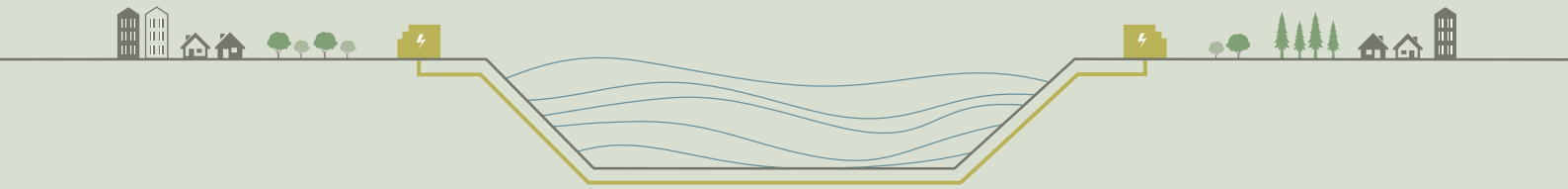
Printed on paper from sustainable sources

Appendix 4

TEN-E Regulation Information Brochure – June 2019

Greenlink

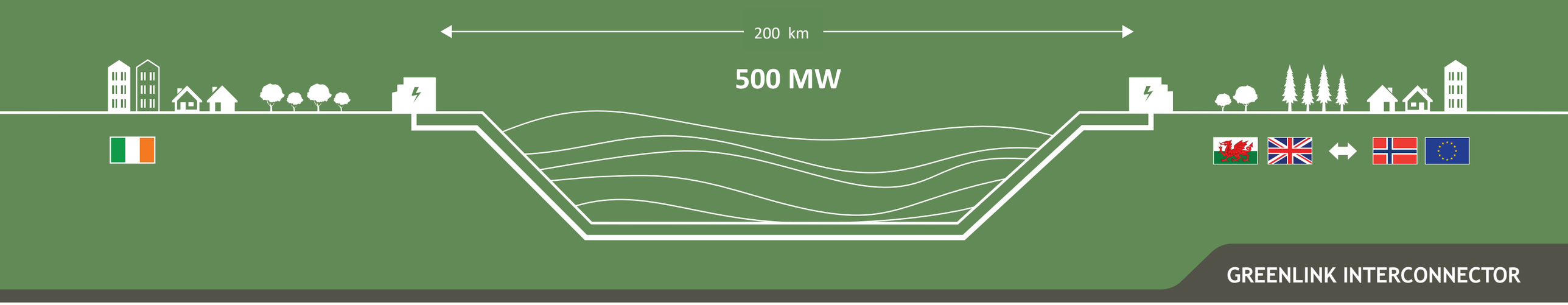
INTERCONNECTOR



TEN-E REGULATION INFORMATION BROCHURE

Issue 3 - June 2019

Connecting the power markets in Ireland and Great Britain for energy security, regional investment and value for money for consumers



GREENLINK INTERCONNECTOR

This Greenlink brochure provides an update of the project information contained within the brochures published in May 2018 and November 2018 and forms part of the ongoing stakeholder consultation process.

Consents required to construct Greenlink are expected to include:

	Wales	Ireland
Converter station	**Major Development** - Pembrokeshire County Council	**Strategic Infrastructure Development** - An Bord Pleanála **Authorisation to construct** - Commission for the Regulation of Utilities
Onshore cable route	**Major Development** - Pembrokeshire County Council - Pembrokeshire Coast National Park Authority	**Strategic Infrastructure Development** - An Bord Pleanála **Consent to lay electricity lines across lands** - Commission for the Regulation of Utilities **Consent to lay electricity lines under the public road** - Commission for the Regulation of Utilities
Marine cable	**Marine Licence** - Natural Resources Wales **Marine Works Licence** - Milford Haven Port Authority	**Foreshore Licence** - Department of Housing, Planning and Local Government (Foreshore Unit)

IMPORTANT PLANNING UPDATE: MARINE APPLICATIONS

The Marine Licence application and the Foreshore Licence application are scheduled to be submitted to Natural Resources Wales (Wales) and the Foreshore Unit (Ireland) respectively in June/July 2019.

Co-financed by the Connecting Europe Facility of the European Union

The sole responsibility of this publication lies with the author. The European Union is not responsible for any use that may be made of the information contained therein.

Greenlink is a proposed subsea and underground electricity interconnector cable between the existing electricity grids in Ireland and Great Britain (GB), with a nominal capacity of 500 megawatts (MW). Greenlink will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales). The power will be able to flow in either direction, depending on supply and demand in each country.

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland and GB with onward connections to continental Europe. The construction and development of Greenlink will deliver: increased energy security; regional investment and value for money to consumers; and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

Greenlink will consist of two converter stations - one located close to the Great Island substation in County Wexford and the other close to the Pembroke substation in Pembrokeshire - connected by two High Voltage Direct Current (HVDC) cables under the Irish Sea. A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa.

DC electricity is typically used for the transmission of electricity over long distances because it has lower losses, negligible heating effects and is therefore suitable to be buried underground. Accordingly, there will be no overhead lines between the two converter stations. Onshore, the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built.

Greenlink is planned for commissioning in 2023.

The project will require planning permission in Ireland and in Wales.

STATUS OF THE PROJECT: The project is in the pre-planning phase, with planning submissions anticipated during Q4 2019. The applications for the marine components are scheduled to be submitted in June 2019.

380,000
Potential to power 380,000 homes*

Investment
€400m/£350m of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Regional investment and jobs
Greenlink represents around €400m/£350m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
The construction of Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

*Figure for number of homes is based on typical annual Irish household use of 4,200 kWh (CER, Review of Typical Consumption Figures - Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

Great Britain
National Grid is the Electricity System Operator for the whole of GB and operates the electricity transmission network in Wales and England including the 400kV network and substation at Pembroke. In its role as System Operator for GB, National Grid publishes plans and assessments for the economic and efficient development of the GB electricity transmission networks:

- In Future Energy Scenarios (FES), National Grid considers different potential future impacts on the electricity system. In the 2017 FES the amount of interconnection capacity could reach 19GW by 2030 compared to 4GW today.
- In the Network Options Assessment (NOA), National Grid carries out economic analyses to determine which transmission investments are efficient. The 2018/19 NOA recommends additional interconnection from GB to Ireland, beyond the 1.5GW capacity provided by Greenlink and the existing interconnectors (East West Interconnector (EWIC) and Moyle).
- The Electricity Ten Year Statement (ETYS) includes data on the existing and planned transmission networks in GB and the ETYS 2017 references Greenlink as one of the planned interconnectors that has a connection agreement with National Grid.

Ireland
EirGrid is the Electricity System Operator for Ireland and with its subsidiary, SONI, operates the island of Ireland's electricity system. In its role as System Operator for Ireland, EirGrid publishes a ten year transmission development plan:

- Greenlink is part of Transmission Development Plan 2016-2026, is referenced as part of the European Ten Year Network Development Plan 2018 (ENTSO-E TYNDP 2018) and as a PCI. The documents note that interconnection assists in increasing security of supply and competition.
- The Irish regulator determined, in October 2018, that Greenlink passed the test to be part of the Irish transmission system paving the way for Greenlink to move to the permitting phase.

Offshore studies
The subsea cable route was expected to be up to 170km long. Following the completion of subsea surveys and consultation with key stakeholders the proposed cable route is circa 160km long.

Initial cable route selection centred on desk-based work and the assessment of known data and constraints. This work identified several route corridor options which required further assessment.

Subsea surveys commenced in September 2018 in order to identify and confirm the presence of any constraints facing the subsea cable routes. The environmental and technical constraints were assessed in conjunction with the Irish and Welsh foreshore authorities. **The route that offered the best solution to challenges identified while maintaining the shortest route solution was chosen as the preferred route.**

The results of the subsea surveys not only supported the selection of the preferred cable route but also the appropriate installation and protection methods to be adopted.

Technical and environmental assessment
As part of the project development, a series of technical and environmental assessment studies are being carried out to establish the viability of the proposed converter station sites and cable routes and to consider any potential impacts and opportunities arising from the project development. Greenlink is a cross-border project and no adverse cross-border impacts are expected.

Onshore studies and assessments

Biodiversity

Surveys are currently being carried out and the data assessed to ensure that the final onshore elements of Greenlink are designed sympathetically to the local environment and wildlife. Where possible, enhancement measures will be employed.

Surveys cover the landfall sites, the cable routes under consideration and the possible converter station locations.

As well as birds, wildlife being considered includes badgers, bats, otters, water voles, reptiles, great crested newts and dormice. Consideration is also being given to local vegetation, including hedgerows, trees and important habitats.

Our surveys and assessments will be verified and consulted on by Natural Resources Wales and the National Parks and Wildlife Service in Ireland.

Historic environment

The potential effects of Greenlink on local archaeology and cultural heritage are being assessed by identifying, predicting and evaluating the significance of potential effects on designated and non-designated heritage assets.

To mitigate any potential impacts we will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects. Wherever possible, mitigation will be designed to deliver benefits, such as maintaining the visual setting of historic assets. We will aim to avoid undisturbed archaeological remains and preserve them in situ. Where this is not possible, preservation by record will be proposed as mitigation.

Landscape & visual impact

This assessment relates to changes in the physical landscape, brought about by the proposed development, which may alter its character and how this is experienced.

We will produce visualisations of the converter stations from viewpoints that will be selected to represent the character of the area and particularly important landscape and heritage sites. Suitable mitigation, such as landscaping, building finishes and design layout, will be proposed.

Flooding and hydrology

This assessment considers the existing surface and ground water resources in proximity to Greenlink. It will assess potential impacts to water bodies, surface water drainage and flood risk due to the proposed scheme during the construction and operational phases. The results of this assessment will be incorporated into the final design.

Geology & hydrogeology

This assessment considers the existing ground conditions present in the vicinity of the various scheme components and addresses the potential effects that the construction and operation of the project may have on the geological and hydrogeological characteristics of the study area.

The assessment will include consideration of possible effects on the superficial geology (soils), solid geology and geomorphology, including mineral resources beneath the proposed route of the scheme. The groundwater beneath the site and surrounding area will be considered. The results of this assessment will be incorporated into the final design and delivery of the proposal to mitigate any potential impact.

ILLUSTRATION: WSP

Noise & vibration

This assessment will address potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors will be determined via noise surveys.

Noise sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship, etc) and open public spaces (including public footpaths).

The results of this assessment will be incorporated into the final design.

Traffic & transport

The traffic impact assessment will address the traffic impacts on the local road network from the construction and operation of Greenlink.

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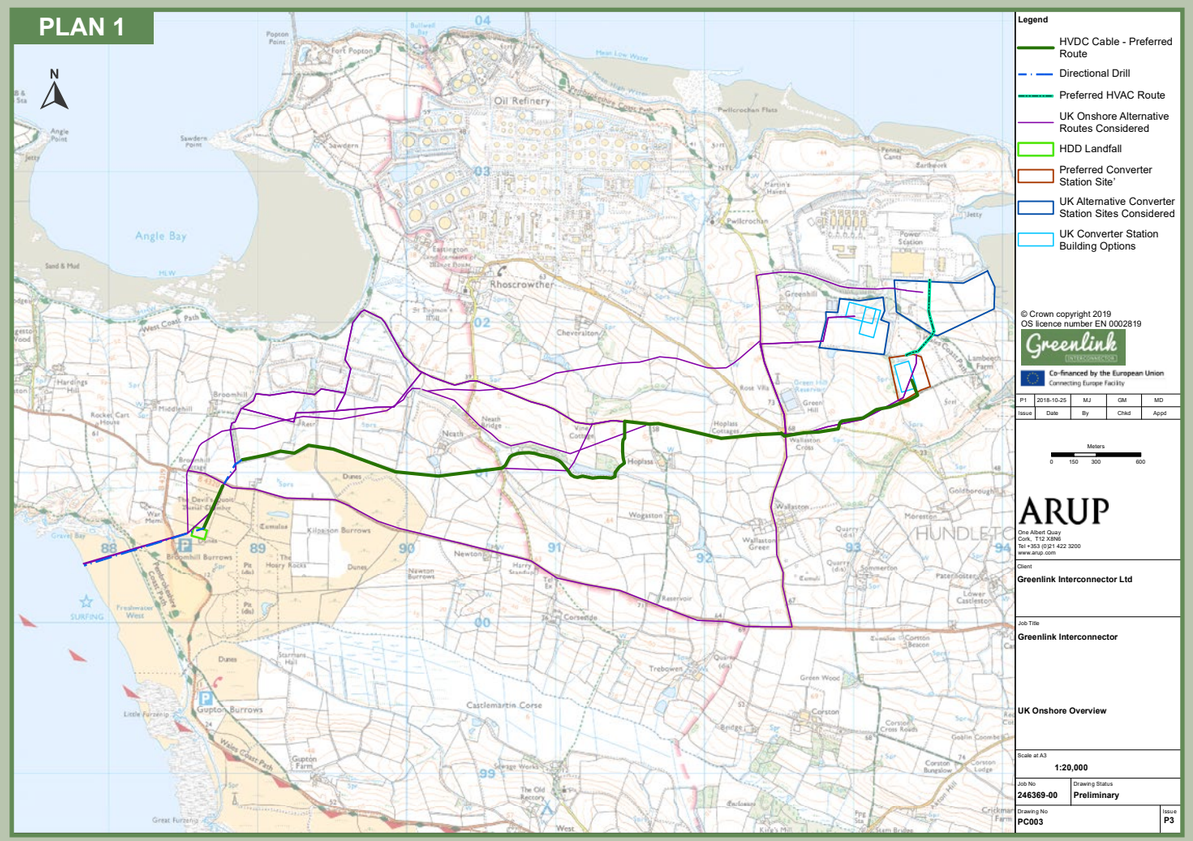
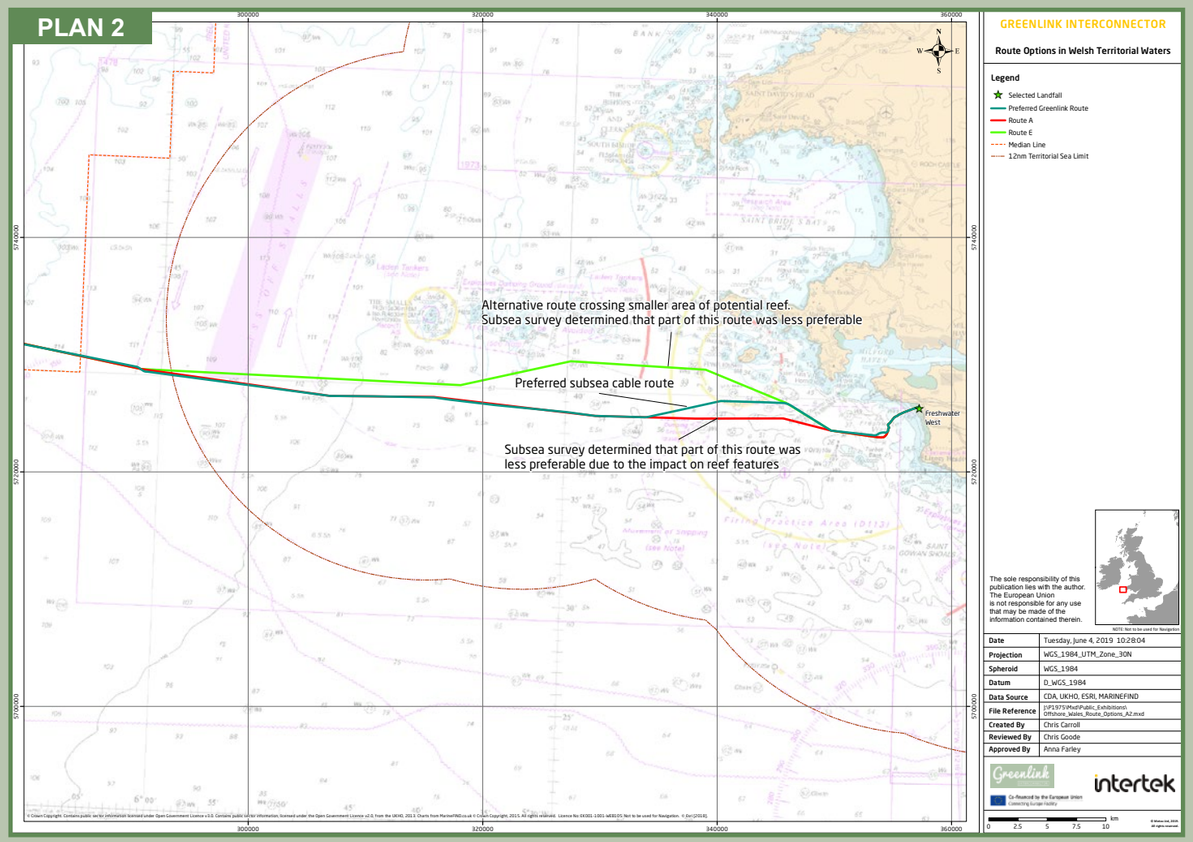
PLAN 1



PLAN 2



Greenlink in Wales

In Wales, Greenlink will connect to the Pembroke 400kV substation in Pembrokeshire. The Pembroke substation was identified as the connection point for Greenlink following the completion of assessments and consultation with National Grid. AC cables will connect the HVDC converter station to the substation. Three sites, in close proximity to the substation, were assessed as potential locations to locate the HVDC converter station.

A preferred cable route and converter station site have been selected following consultation with stakeholders and analysis of the results of environmental and technical work.

The preferred cable route and converter station site are shown in Plan 1 along with alternatives that were considered.

To minimise environmental impact, it is proposed that the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the dunes and beach at Freshwater West.

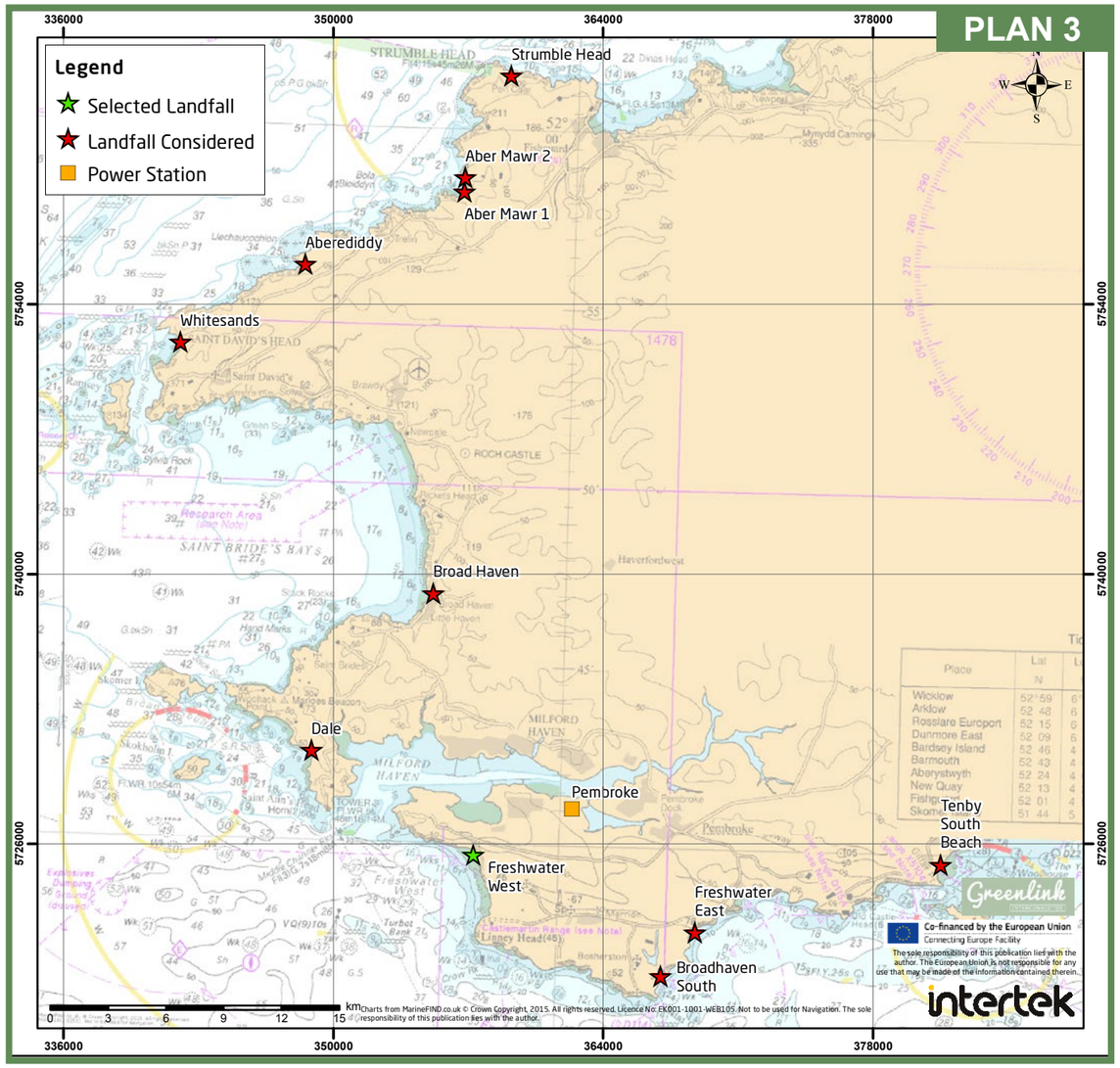
HDD is a trenchless method of installing underground cables, as detailed on page 13.

The final subsea route was selected following the conclusion of subsea surveys and consultation with stakeholders.

Two initial routes were subject to subsea surveys. Following the results of surveys confirming the presence of reef habitats a third route was identified and assessed in partnership with Natural Resources Wales. The third route assessed has been confirmed as the preferred subsea cable route. The final subsea route and the two other routes assessed are shown in Plan 2.

The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in Plan 3.

PLAN 3



Greenlink in Ireland

In Ireland, Greenlink will connect into the Great Island 220kV substation in County Wexford. The substation at Great Island was identified as the connection point for Greenlink following the completion of assessments and consultation with EirGrid.

AC cables will connect the HVDC converter station to the substation. A site adjacent to the substation has been identified as the most suitable location to construct the HVDC converter station.

The proposed converter station site is shown in Plan 4 along with potential onshore underground cable routes linking the landfall at Baginbun Beach.

The preferred converter station site and cable route options were identified following environmental and technical assessments and consultation with key stakeholders.

The length of the underground onshore cable route could be circa 22km.

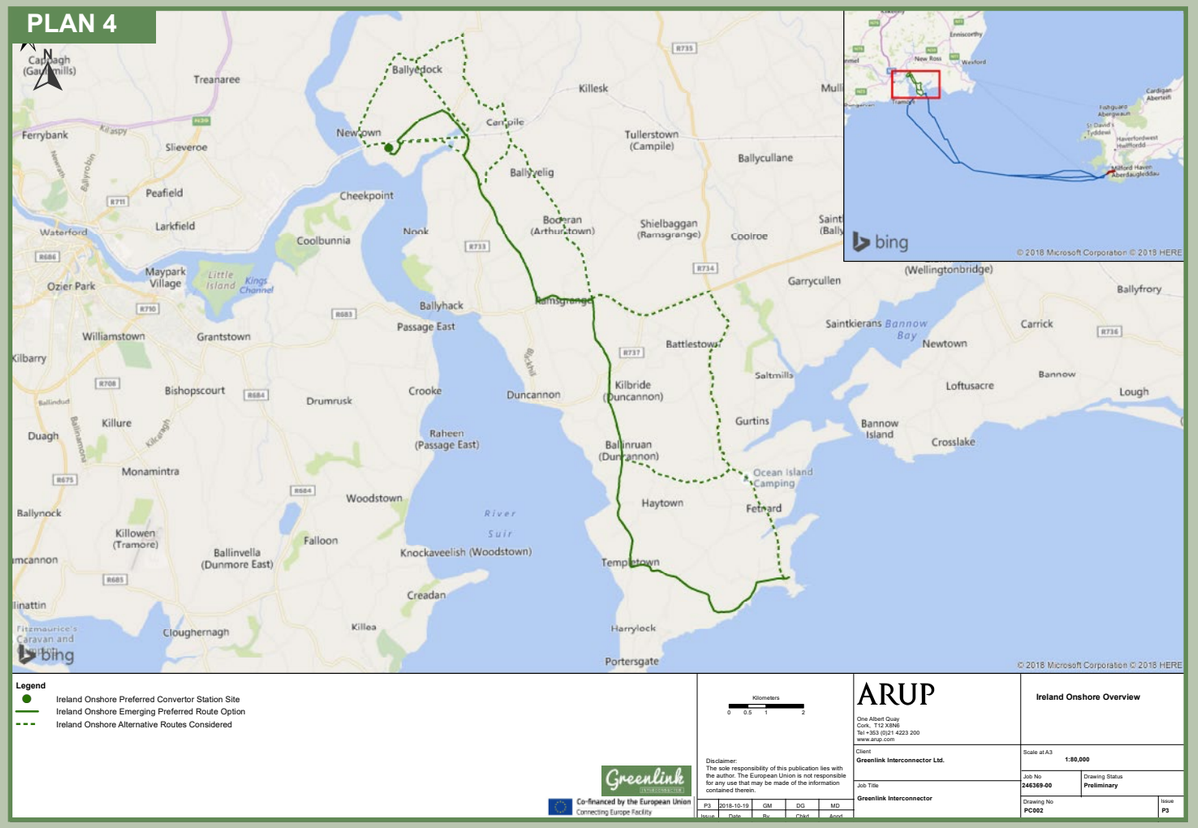
To minimise environmental impact, it is proposed that the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the cliff edge and sand at Baginbun Beach.

HDD is a trenchless method of installing underground cables, as detailed on page 13.

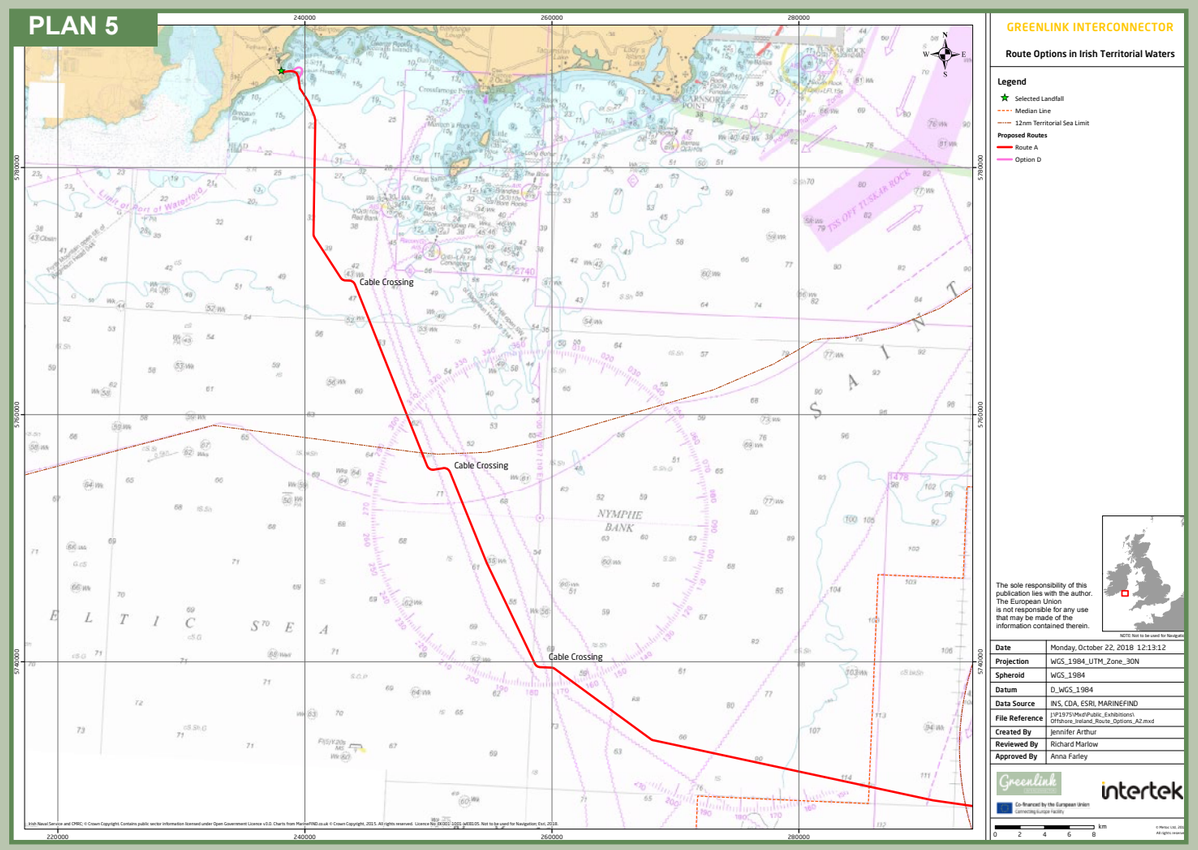
A preferred subsea route has been identified following desk-based assessments supported by the results of subsea surveys. The preferred route is shown in Plan 5.

The landfall at Baginbun Beach was selected as the landfall site following a review of potential landfalls in the region. The landfalls assessed are shown in Plan 6.

PLAN 4



PLAN 5



PLAN 6

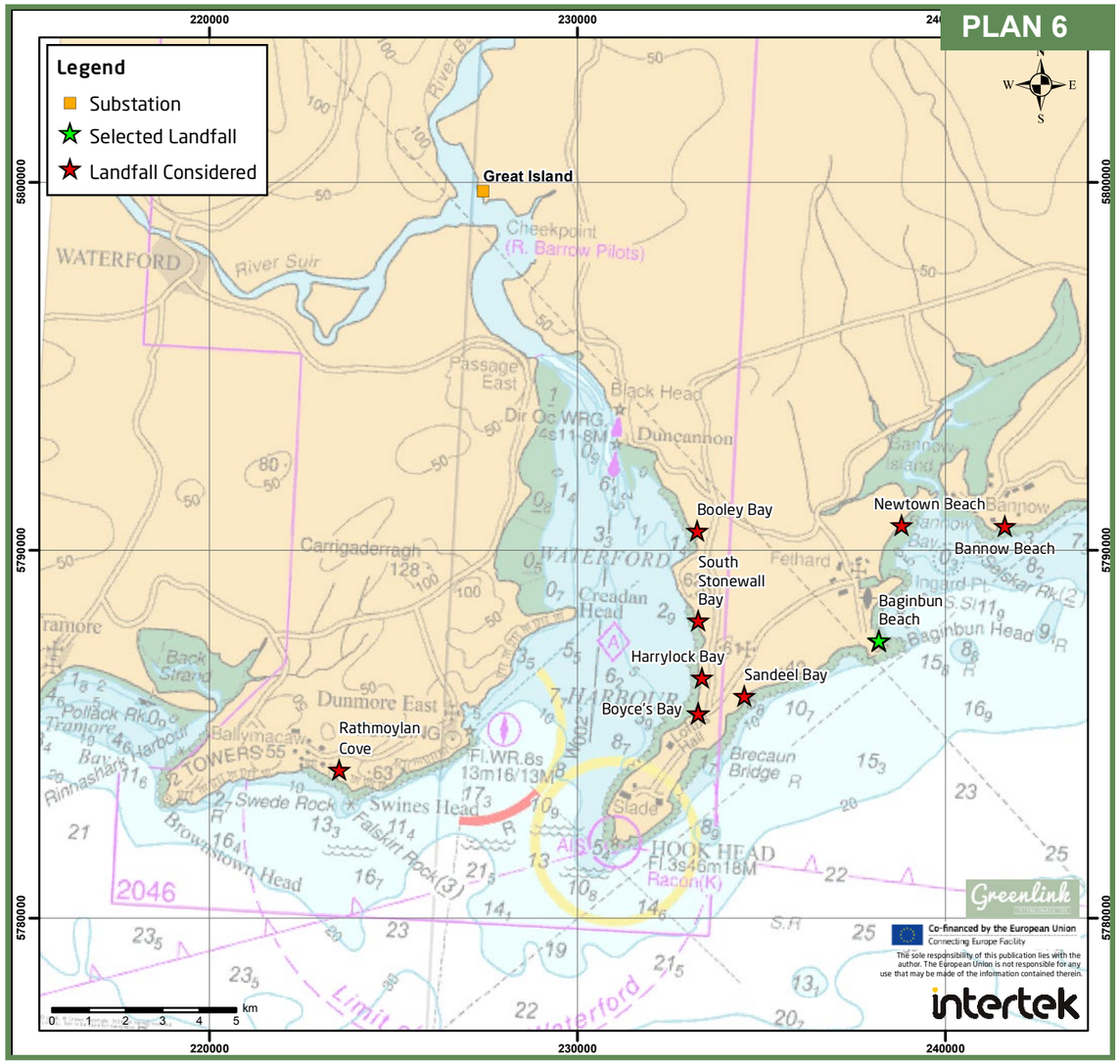


PHOTO COURTESY OF MMT

Technical viability

Marine surveys which commenced in September 2018 and included geophysical and geotechnical surveys, have now all been completed.

Geophysical

The geophysical survey mapped the seabed and sub-surface geology along the survey route corridors to identify marine habitats, optimise cable routing within the survey corridor and enable the assessment of cable target burial depth. It also provided the geophysical data from which a marine archaeological assessment was undertaken as part of the consenting process.

Geotechnical

The geotechnical surveys evaluated the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This was done using a number of techniques, including drilling boreholes and taking shallow core samples.

Marine environmental assessments

Greenlink will cross a number of European Marine Protected Sites: Special Areas of Conservation designated for the protection of habitats and species, and Special Protection Areas designated for the protection of wild birds. To determine if the project is likely to have a significant effect on the conservation objectives of the sites, a Habitats Regulations Assessment is being carried out in Wales and a Natura Impact Statement is being carried out in Ireland. These processes identify any potential impacts Greenlink may have on designated sites and assesses whether it is likely that the feature of the site will be affected.

Where Greenlink is likely to undermine the conservation objectives of the site e.g. it is possible that condition, characteristics, or distribution of the feature cannot be maintained, then mitigation measures are proposed to manage or reduce the potential negative impacts identified.

We are undertaking an Environmental Impact Assessment for Greenlink. An Environmental Statement will be completed for the marine components of the project in Wales and an Environmental Impact Assessment Report will be completed for marine components in Ireland. The Habitats Regulations Assessment (Wales) and Natura Impact Statement (Ireland) will form part of this larger environmental appraisal.

Topics covered by the environmental assessment will include:

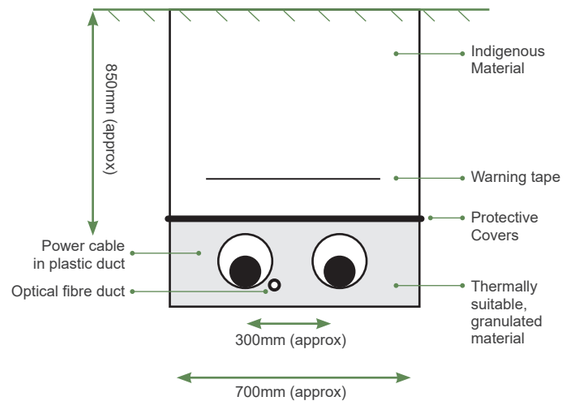
- Coastal processes
- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and unexploded ordnance
- Fisheries
- Shipping and navigation
- Recreation and other sea users
- Cumulative effects

Onshore cable technology and installation techniques

The onshore HVDC cables will be buried underground in a single trench with a typical depth of cover of 850mm. These will be installed in plastic ducts to simplify the construction process. It is usual for the two ducts to be positioned close together (approximately 300mm). A protective cover and warning tape will also be buried along with marker posts at regular intervals at ground level. This arrangement is shown in Figure 1.

It is usual to increase the depth of cover in agricultural land to around 1050mm (from 850mm). The width of the trench may also vary with depth of cover (the deeper the cables are buried the wider the trench may become).

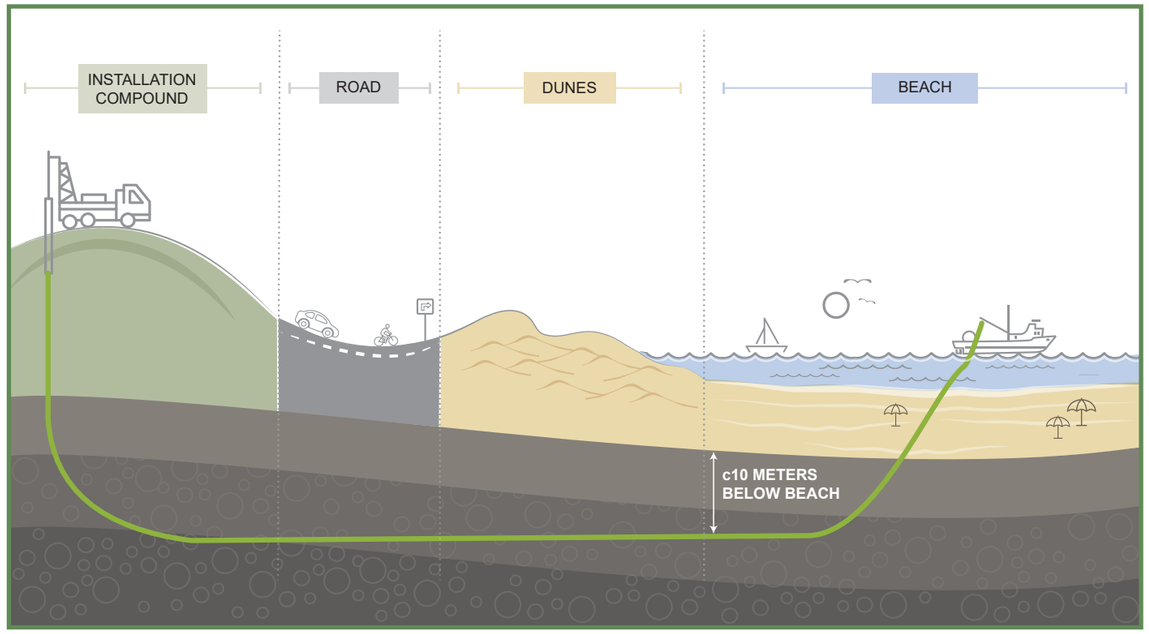
Figure 1 : Indicative underground cable arrangement



A specific design would need to be engineered for utility crossings, crossing watercourses or other areas where the ordinary depth of cover cannot be achieved.

Installation of Cables at Landfalls

We are proposing to use a Horizontal Directional Drill to install the cables at both Baginbun Beach (Ireland) and Freshwater West (Wales). Using this method of installation will ensure that cables can be installed without any impact on the beaches at both locations and will avoid any impact on the dune system at Freshwater West. The cable will emerge below the low water mark so no work will take place on either beach. While the construction programme for the full project is anticipated to take around three -years construction work around each landfall would last for approximately 3 months and be scheduled to avoid the most popular periods of use. Below is an illustration of how an HDD might work.



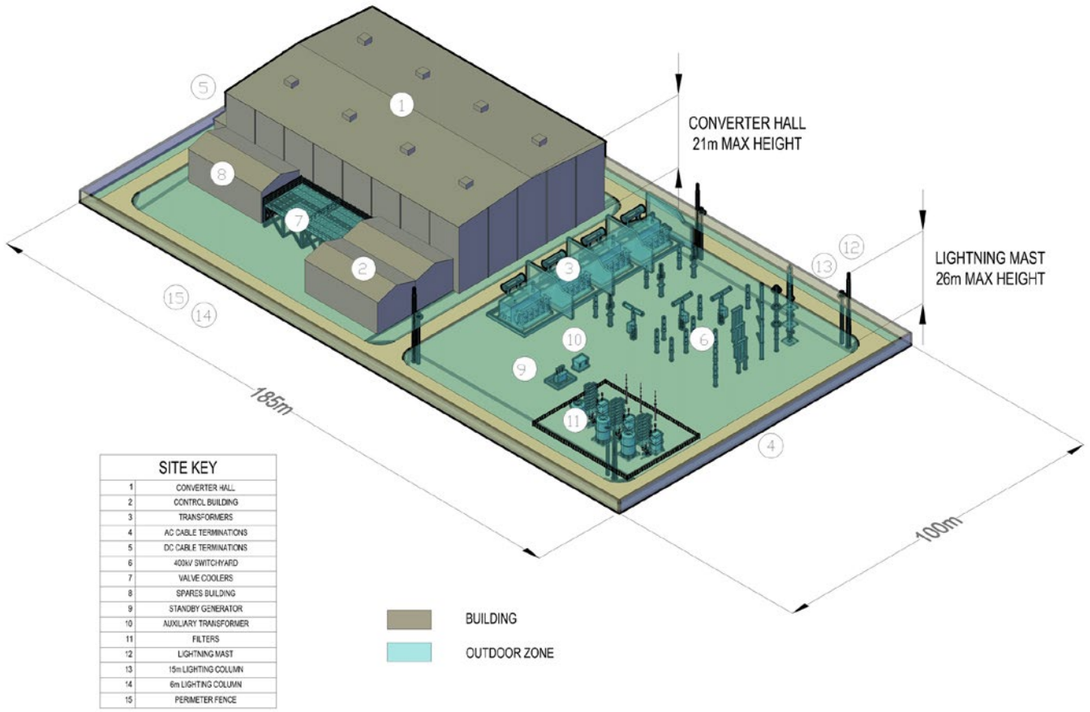
Greenlink will use High Voltage Direct Current Voltage Source Converter (HVDC VSC) technology to link the two power systems. In Ireland and GB, HVDC has been selected over an AC connection because AC is technically difficult over this distance. VSC technology has the benefit that it reduces the size of the converter stations (when compared to similar technologies).

The Greenlink Interconnector Converter Station

The indicative converter station site footprint would be circa 1.85 hectares (185m x 100m).

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonic filters (if required), lightning towers, ancillary plant such as cooling bank and stand-by back-up emergency generators, and a control building. Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. The converter hall and main building are usually one continuous building with height difference. The layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

A TYPICAL CONVERTER STATION LAYOUT



Tail Station

A tail station is a substation built adjacent to infrastructure such as a converter station and remote generation plant. Following consultation, EirGrid has confirmed that a tail station will need to be developed alongside the converter station in Ireland. We will now incorporate a tail station within the design to be assessed within the final planning application in Ireland.

We are using a 60m x 70m footprint for the potential tail station, however consultations are taking place with EirGrid to reduce the footprint of the tail station to minimise environmental and landscape impacts.

Project Timeline

A large infrastructure project such as Greenlink takes several years from concept to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018. This followed the completion of desk-based assessments and consultation with statutory consultees.

Once a detailed proposal and design are completed, permits and licences will need to be obtained from: Pembrokeshire County Council, Pembrokeshire Coast National Park Authority, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales; and An Bord Pleanála and the Department of Housing, Planning and Local Government - Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland.

Once the appropriate permits and licences have been obtained, the scheme will be constructed, which is expected to take approximately three years from start to finish.

The project is envisaged to commence on-site construction in 2020 and be fully operational in 2023.

An important energy infrastructure project

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

The "Energy Union" launched by the European Commission on 25th February 2015 is driving a fundamental transition towards more innovative ways to produce, transport and consume energy, and to address different approaches to the design and implementation of energy policy.

Facilitating the Union requires a range of actions, chief amongst them being an increase in the physical interconnection of the EU and surrounding country energy grids (both gas and electricity) to meet a 10% interconnection target by 2020 and to reach 15% by 2030.

The EU, Irish and UK governments all agree that even after Brexit, an interconnected grid will help to ensure affordable, secure and sustainable energy, and also growth and jobs across Europe.

- For information regarding the infrastructure transparency platform referred to in Article 18 of the TEN-E Regulation, please visit: http://ec.europa. eu/energy/ infrastructure/ transparency_ platform/map- viewer/main.html
- For information regarding the manual of procedures for each of UK and Ireland https:// assets. publishing.service. gov.uk/ government/uploads/ system/ uploads/attachment_ data/ file/311184/uk_manual_ procedures_ten_e_regulation. pdf and www.pleanala.ie/ publications/2014/pocimanual. pdf

Greenlink

INTERCONNECTOR

Greenlink is being developed by Greenlink Interconnector Limited.

Greenlink Interconnector Limited is owned jointly by Element Power Holdings, part of Hudson Sustainable Investment, and Partners Group on behalf of its clients. Hudson Sustainable Investment is an independent investment management firm with a strong track record and expertise in investing in and developing sustainable energy infrastructure projects in Ireland, the UK and internationally. Partners Group is a global private markets investment management firm with €73 billion in investment programs under management in private equity, private real estate, private infrastructure and private debt.

Greenlink Interconnector Limited is bringing private capital to the project and will assume the majority of the project risks.

For more information on Greenlink, please visit our website: **www.greenlink.ie**

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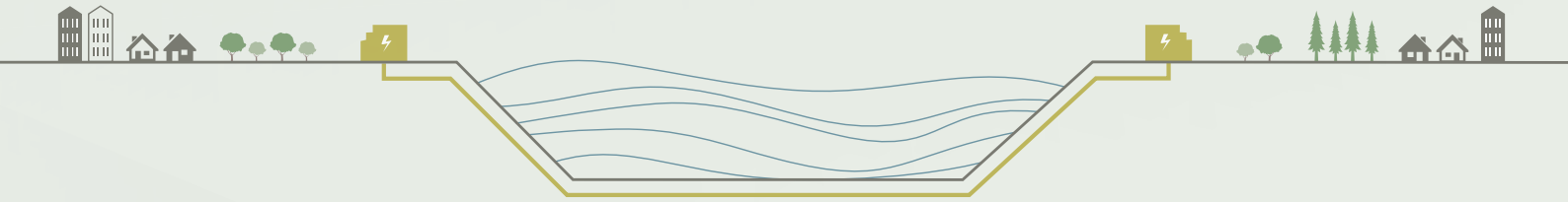
Appendix 5

TEN-E Regulation Information Brochure – December 2019

Greenlink

INTERCONNECTOR

TEN-E REGULATION
INFORMATION BROCHURE



Connecting the power markets in Ireland and Great Britain for energy security, regional investment and value for money for consumers

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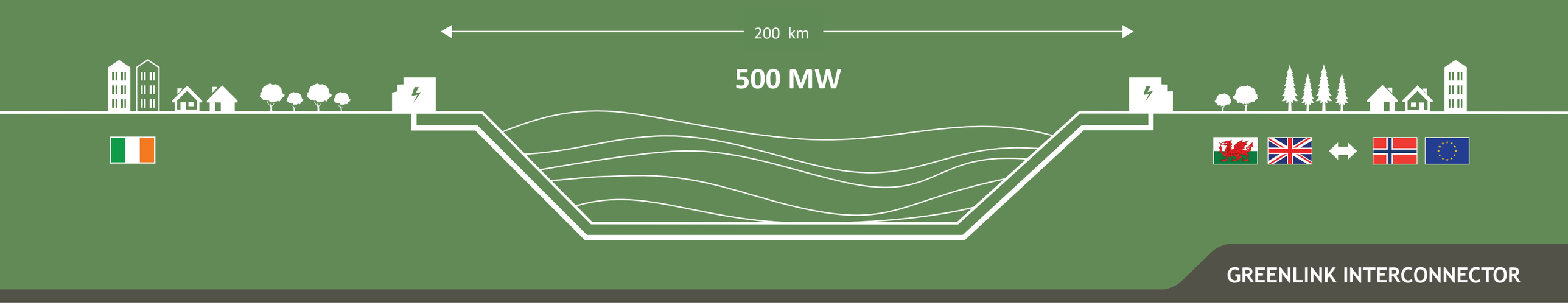
Issue 4 - December 2019



GREENLINK INTERCONNECTOR

This Greenlink brochure provides an update of the project information contained within the brochures published in May 2018, November 2018 and June 2019 and forms part of the ongoing stakeholder consultation process.

Consents required to construct Greenlink are expected to include:

	Wales	Ireland
CONVERTER STATION	**Major Development (Outline)** - Pembrokeshire County Council	**Strategic Infrastructure Development** - An Bord Pleanála **Authorisation to construct** - Commission for the Regulation of Utilities
ONSHORE CABLE ROUTE	**Major Development (Full)** - Pembrokeshire County Council - Pembrokeshire Coast National Park Authority	**Strategic Infrastructure Development** - An Bord Pleanála **Consent to lay electricity lines across lands** - Commission for the Regulation of Utilities **Consent to lay electricity lines under the public road** - Commission for the Regulation of Utilities
MARINE CABLE	**Marine Licence** - Natural Resources Wales - **Submitted** **Marine Works Licence** - Milford Haven Port Authority - **Submitted**	**Foreshore Licence** - Department of Housing, Planning and Local Government (Foreshore Unit) - **Submitted**

IMPORTANT PLANNING UPDATE: MARINE APPLICATIONS SUBMITTED

Formal consultation has commenced on Greenlink's Marine Licence application (Wales) and Foreshore Licence application (Ireland). The consultation ends on 8th January 2020. The applications and details of how to respond can be found on the Greenlink website: **www.greenlink.ie/marinelicenceapplicationwales** and **www.greenlink.ie/foreshorelicenceapplicationireland**.

Co-financed by the Connecting Europe Facility of the European Union

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Greenlink is a proposed subsea and underground electricity interconnector cable between the existing electricity grids in Ireland and Great Britain (GB), with a nominal capacity of 500 megawatts (MW). Greenlink will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales). The power will be able to flow in either direction, depending on supply and demand in each country.

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland and GB with onward connections to continental Europe. The construction and development of Greenlink will deliver: increased energy security; regional investment and value for money to consumers; and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

Greenlink will consist of two converter stations - one located close to the Great Island substation in County Wexford and the other close to the Pembroke substation in Pembrokeshire - connected by two High Voltage Direct Current (HVDC) cables under the Irish Sea. A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa.

DC electricity is typically used for the transmission of electricity over long distances because it has lower losses, negligible heating effects and is therefore suitable to be buried underground. Accordingly, there will be no overhead lines between the two converter stations. Onshore, the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built.

Greenlink is planned for commissioning in 2023.

The project will require planning permission in Ireland and in Wales.

STATUS OF THE PROJECT:

The onshore components of the project are in the pre-planning phase, with planning submissions anticipated during Q1 2020. The applications for the marine components have now been submitted.

380,000
Potential to power 380,000 homes*

Investment
€400m/£350m of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Regional investment and jobs
Greenlink represents around €400m/£350m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
The construction of Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

*Approximate figure, based on value and conversion rate: €1=£0.88, November 2018

**Figure for number of homes is based on typical annual Irish household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

Great Britain
National Grid is the Electricity System Operator for the whole of GB and operates the electricity transmission network in Wales and England including the 400kV network and substation at Pembroke. In its role as System Operator for GB, National Grid publishes plans and assessments for the economic and efficient development of the GB electricity transmission networks:

- In Future Energy Scenarios (FES), National Grid considers different potential future impacts on the electricity system. In the 2017 FES the amount of interconnection capacity could reach 19GW by 2030 compared to 4GW today.
- In the Network Options Assessment (NOA), National Grid carries out economic analyses to determine which transmission investments are efficient. The 2018/19 NOA recommends additional interconnection from GB to Ireland, beyond the 1.5GW capacity provided by Greenlink and the existing interconnectors (East West Interconnector (EWIC) and Moyle).
- The Electricity Ten Year Statement (ETYS) includes data on the existing and planned transmission networks in GB and the ETYS 2017 references Greenlink as one of the planned interconnectors that has a connection agreement with National Grid.

Ireland
EirGrid is the Electricity System Operator for Ireland and with its subsidiary, SONI, operates the island of Ireland's electricity system. In its role as System Operator for Ireland, EirGrid publishes a ten year transmission development plan:

- Greenlink is part of Transmission Development Plan 2016-2026, is referenced as part of the European Ten Year Network Development Plan 2018 (ENTSO-E TYNDP 2018) and as a PCI. The documents note that interconnection assists in increasing security of supply and competition.
- The Irish regulator determined, in October 2018, that Greenlink passed the test to be part of the Irish transmission system paving the way for Greenlink to move to the permitting phase.

Offshore studies
The subsea cable route was expected to be up to 170km long. Following the completion of subsea surveys and consultation with key stakeholders the proposed cable route is circa 160km long.

Initial cable route selection centred on desk-based work and the assessment of known data and constraints. This work identified several route corridor options which required further assessment.

Subsea surveys commenced in September 2018 in order to identify and confirm the presence of any constraints facing the subsea cable routes. The environmental and technical constraints were assessed in conjunction with the Irish and Welsh foreshore authorities. **The route that offered the best solution to challenges identified while maintaining the shortest route solution was chosen as the preferred route.**

The results of the subsea surveys not only supported the selection of the preferred cable route but also the appropriate installation and protection methods to be adopted.

Technical and environment assessment
As part of the project development, a series of technical and environmental assessment studies have been completed to establish the viability of the proposed converter station sites and cable routes and to consider any potential impacts and opportunities arising from the project development. Greenlink is a cross-border project and no adverse cross-border impacts are expected.

Onshore studies and assessments

The following areas have been or are being assessed for potential impacts and mitigation measures, and the results will be set out in the onshore planning applications expected to be submitted during 2020

Biodiversity

Surveys have been completed to ensure that the final onshore elements of Greenlink are designed sympathetically to the local environment and wildlife. Where possible, enhancement measures will be employed.

Surveys cover the landfall sites, the cable routes under consideration and the possible converter station locations.

As well as birds, wildlife being considered includes badgers, bats, otters, water voles, reptiles, great crested newts and dormice. Consideration is also being given to local vegetation, including hedgerows, trees and important habitats.

Our surveys and assessments will be verified and consulted on by Natural Resources Wales and the National Parks and Wildlife Service in Ireland.

Historic environment

The potential effects of Greenlink on local archaeology and cultural heritage have been assessed by identifying, predicting and evaluating the significance of potential effects on designated and non- designated heritage assets.

To mitigate any potential impacts we will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects. Wherever possible, mitigation will be designed to deliver benefits, such as maintaining the visual setting of historic assets. We will aim to avoid undisturbed archaeological remains and preserve them in situ. Where this is not possible, preservation by record will be proposed as mitigation.

Landscape and visual impact

This assessment relates to changes in the physical landscape, brought about by the proposed development, which may alter its character and how this is experienced.

We are producing visualisations of the converter stations from viewpoints that will be selected to represent the character of the area and particularly important landscape and heritage sites. Suitable mitigation, such as landscaping, building finishes and design layout, will be proposed.

Flooding and hydrology

This assessment considers the existing surface and ground water resources in proximity to Greenlink. It assesses potential impacts to water bodies, surface water drainage and flood risk due to the proposed scheme during the construction and operational phases. The results of this assessment are being incorporated into the final design.

Geology and hydrogeology

This assessment considers the existing ground conditions present in the vicinity of the various scheme components and addresses the potential effects that the construction and operation of the project may have on the geological and hydrogeological characteristics of the study area.

The assessment includes consideration of possible effects on the superficial geology (soils), solid geology and geomorphology, including mineral resources beneath the proposed route of the scheme. The groundwater beneath the site and surrounding area is also considered. The results of this assessment are being incorporated into the final design and delivery of the proposal to mitigate any potential impact.

ILLUSTRATION: WSP

Noise and vibration

This assessment addresses potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors have been determined via noise surveys.

Noise sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship, etc) and open public spaces (including public footpaths).

The results of this assessment are being incorporated into the final design.

Traffic and transport

This assessment will address the traffic impacts on the local road network from the construction and operation of Greenlink.

The assessment includes the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce are also addressed.

Mitigation measures will be proposed to minimise any impacts on the local road network and users.

Electromagnetic fields (EMFs)

The Greenlink electrical infrastructure (converter stations and underground cables) are being designed to comply with the EC Directive relating to Occupational Exposure to Public Health and the EU 1999 recommendation on Public Exposure.

Use of agricultural land

Construction of the converter stations will result in the permanent loss of land from agricultural use. Land disturbed during the construction of the landfall and cable will be reinstated and therefore there will be no permanent loss of agricultural land associated with the landfall or cable route.

Socio-economics and human health

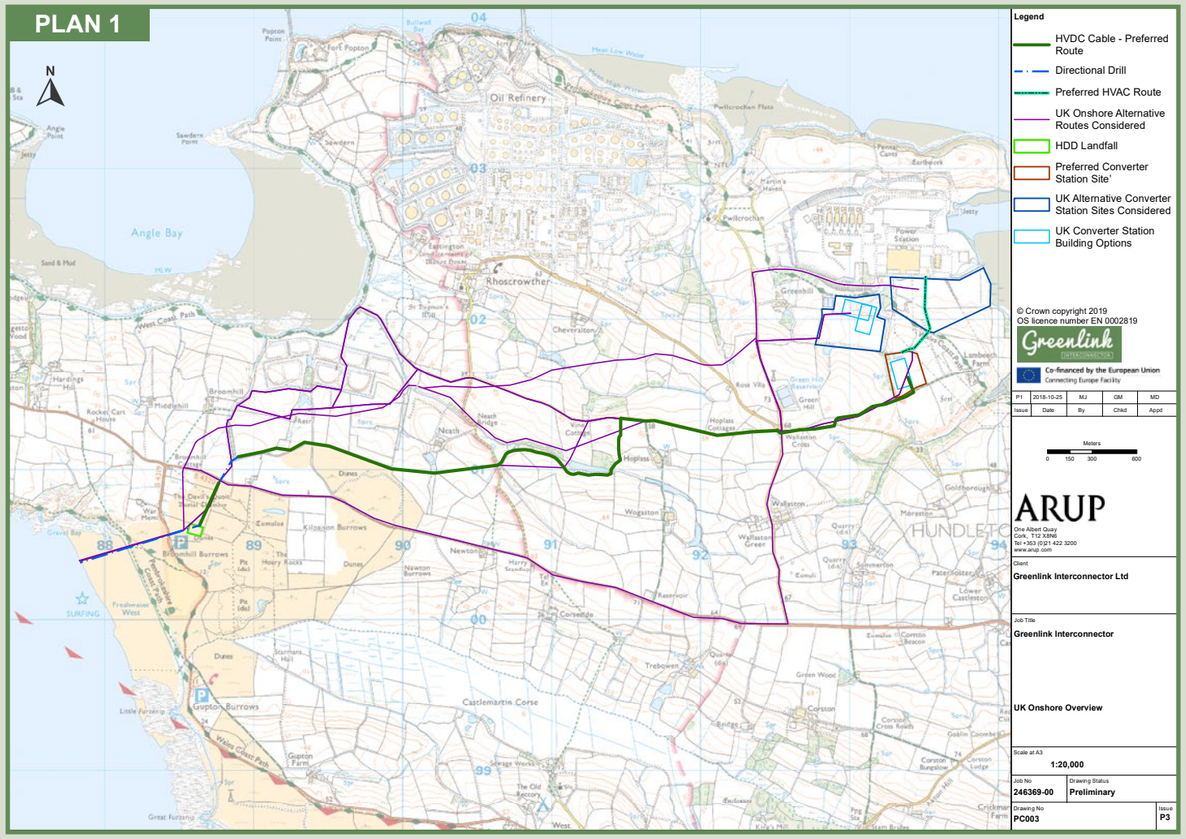
This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects on the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy. The results of this assessment are being incorporated into the final design and delivery of the proposal to mitigate any potential impact and maximise benefits.

Air quality

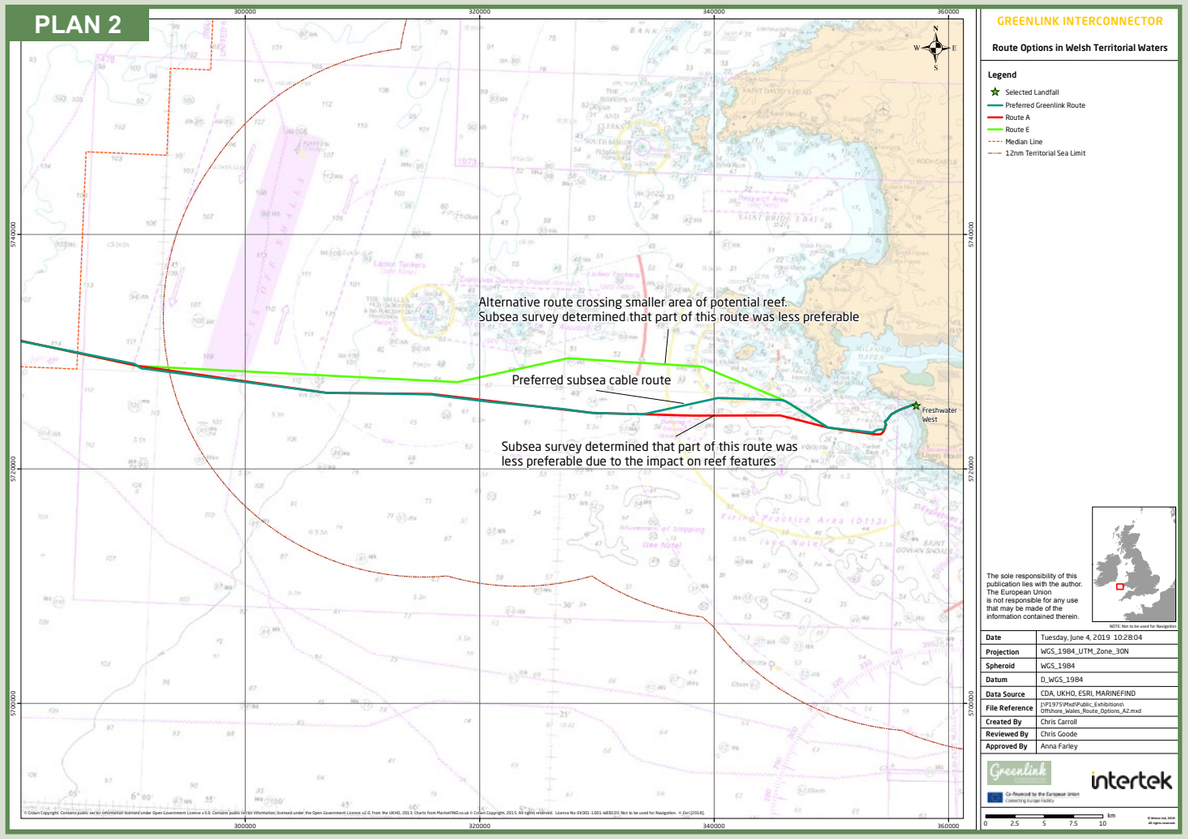
This assessment considers the potential impacts on air quality during construction, including dust emissions, on- site machinery and construction traffic travelling to and from the site. The potential impacts on air quality during the operational phase has also been considered.

Following the assessment of air quality effects during the construction phase, mitigation measures are being recommended to minimise the impact from dust. These measures, including dust suppressant measures, have been considered for both human and ecological receptors.

PLAN 1



PLAN 2



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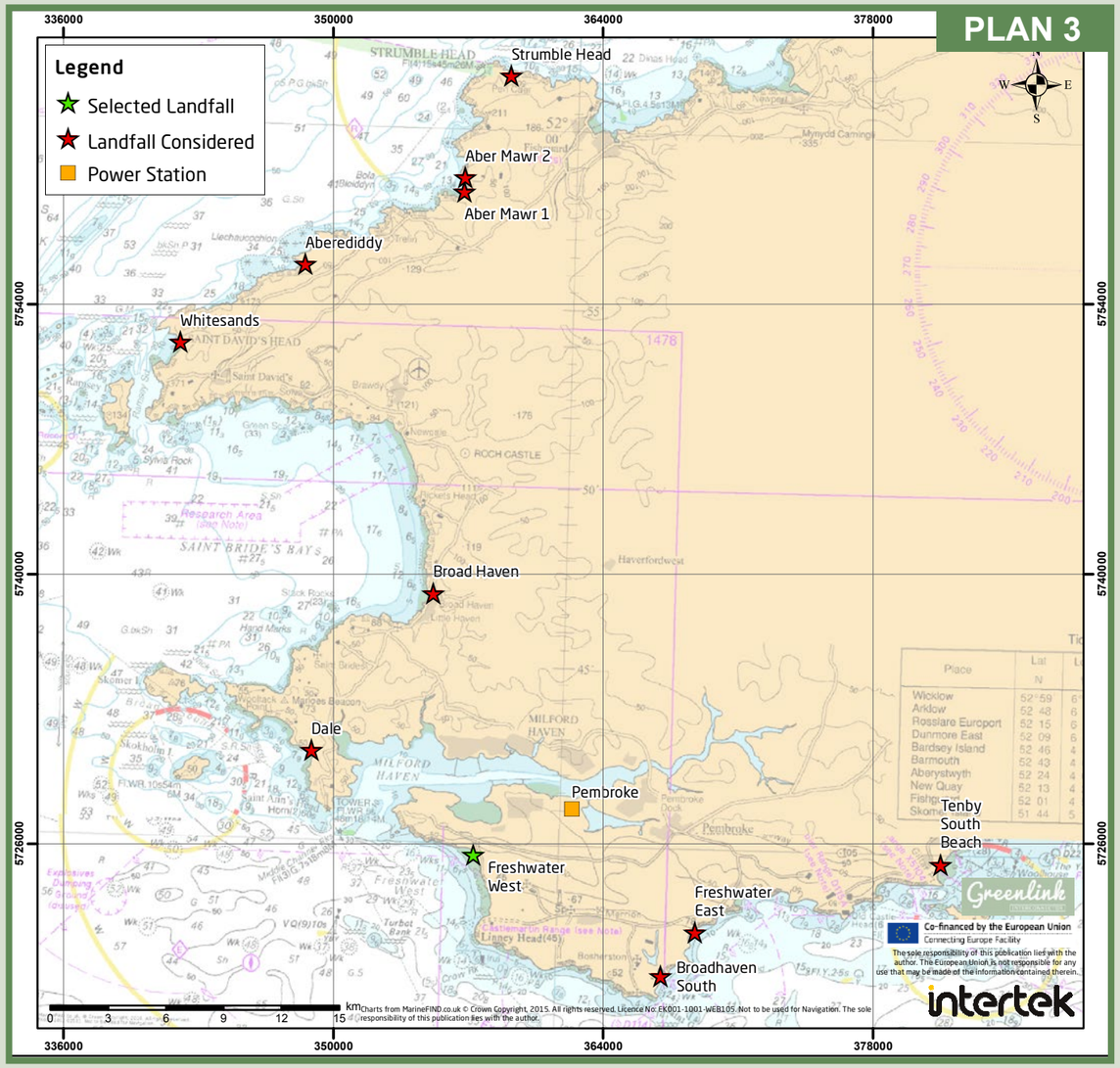
The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in Plan 3.

PLAN 3



Greenlink in Ireland

In Ireland, Greenlink will connect into the Great Island 220kV substation in County Wexford. The substation at Great Island was identified as the connection point for Greenlink following the completion of assessments and consultation with EirGrid.

AC cables will connect the HVDC converter station to the substation. A site adjacent to the substation has been identified as the most suitable location to construct the HVDC converter station.

The proposed converter station site is shown in Plan 4 along with potential onshore underground cable routes linking the landfall at Baginbun Beach.

The preferred converter station site and cable route options were identified following environmental and technical assessments and consultation with key stakeholders.

The length of the underground onshore cable route could be circa 22km.

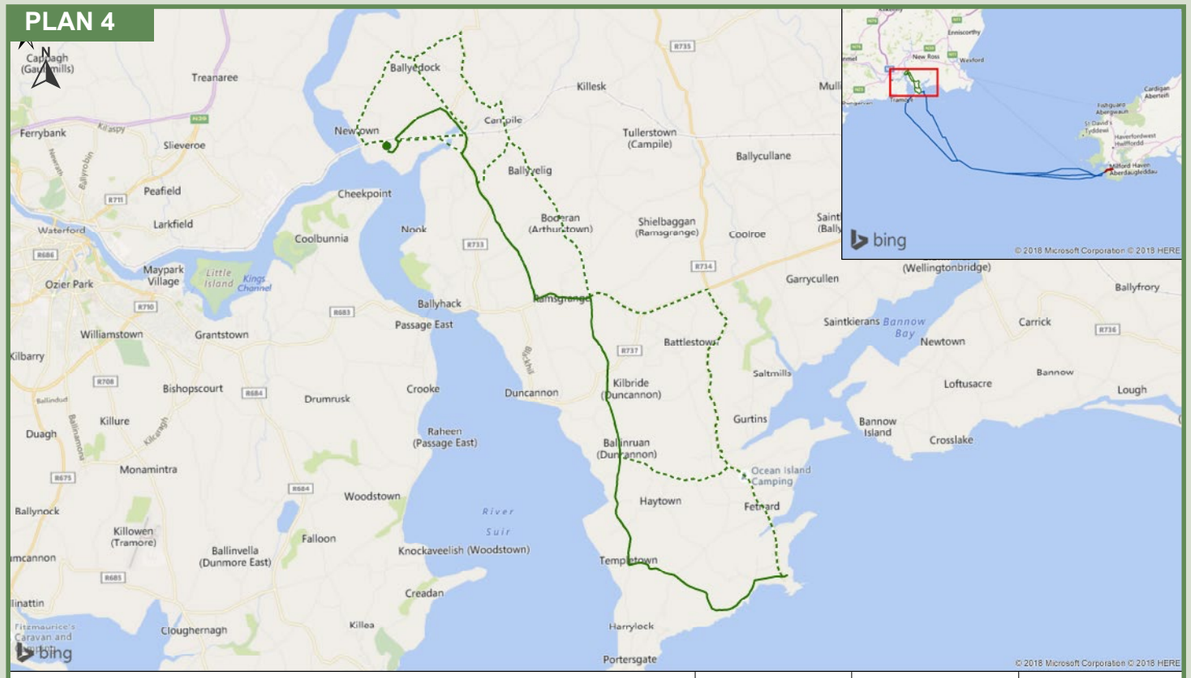
To minimise environmental impact, the cables between the landfall and the sea will be installed using a Horizontal Directional Drill (HDD) underneath the cliff edge and sand at Baginbun Beach.

HDD is a trenchless method of installing underground cables, as detailed on page 13.

The preferred subsea route was identified following desk-based assessments supported by the results of subsea surveys. The preferred route is shown in Plan 5.

The landfall at Baginbun Beach was selected as the landfall site following a review of potential landfalls in the region. The landfalls assessed are shown in Plan 6.

PLAN 4



Legend
- Ireland Onshore Preferred Convertor Station Site
- Ireland Onshore Emerging Preferred Route Option
- Ireland Onshore Alternative Routes Considered

Co-financed by the European Union Connecting Europe Facility

Disclaimer: The sole responsibility of this publication lies with the author. The European Union is not responsible for any use that may be made of the information contained therein.

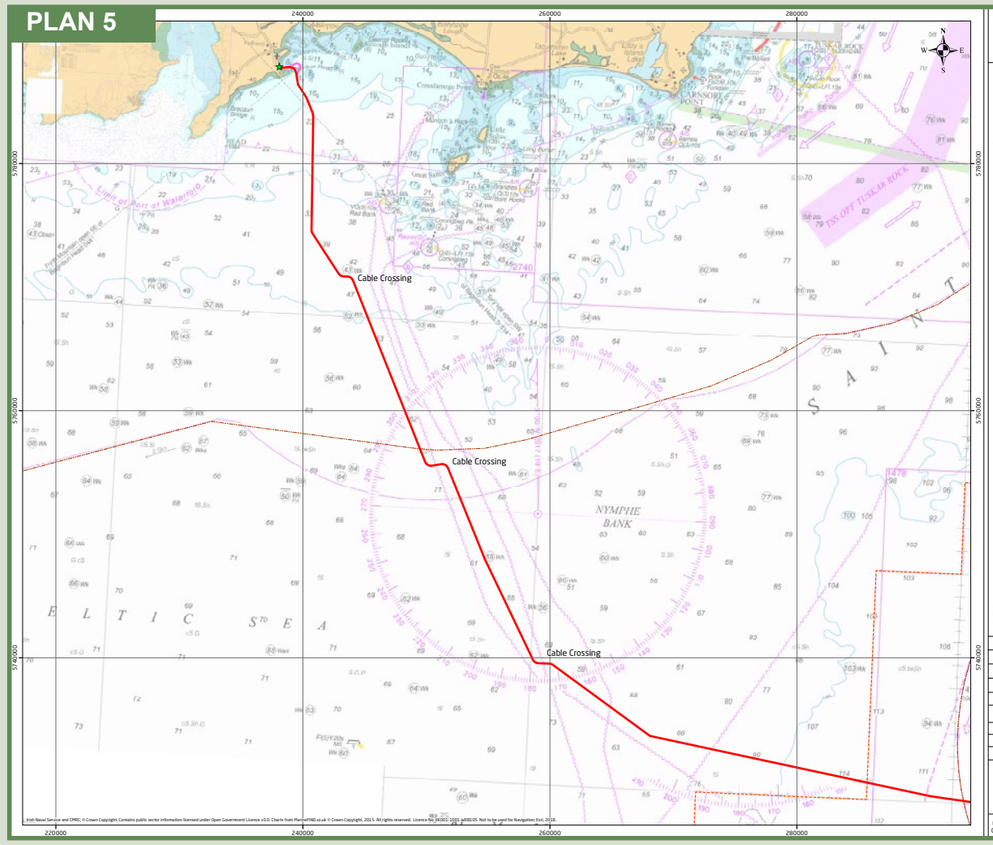
ARUP
One Albert Quay
Cork, T12 X8N6
Tel +353 (0)21 4223 200
www.arup.com

Client: **Greenlink Interconnector Ltd.**
Job Title: **Greenlink Interconnector**
Drawing No: **PC002**
Issue: **P3**
Scale at A3: **1:80,000**
Job No: **246369-00**
Drawing Status: **Preliminary**

Ireland Onshore Overview

Issue	Date	By	Chkd	Apprd
P3	2018-10-19	GM	DG	MD

PLAN 5



GREENLINK INTERCONNECTOR

Route Options in Irish Territorial Waters

Legend
- Selected Landfall
- Median Line
- 12nm Territorial Sea Limit

Proposed Routes
- Route A
- Option D

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Date	Monday, October 22, 2018 12:13:12
Projection	WGS_1984_UTM_Zone_30N
Spheroid	WGS_1984
Datum	D_WGS_1984
Data Source	INS, CDA, ESRI, MARINEFIND
File Reference	I:\P\19751\Mxd\Public_Exhibition\Offshore_Ireland_Route_Options_A2.mxd
Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

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PLAN 6

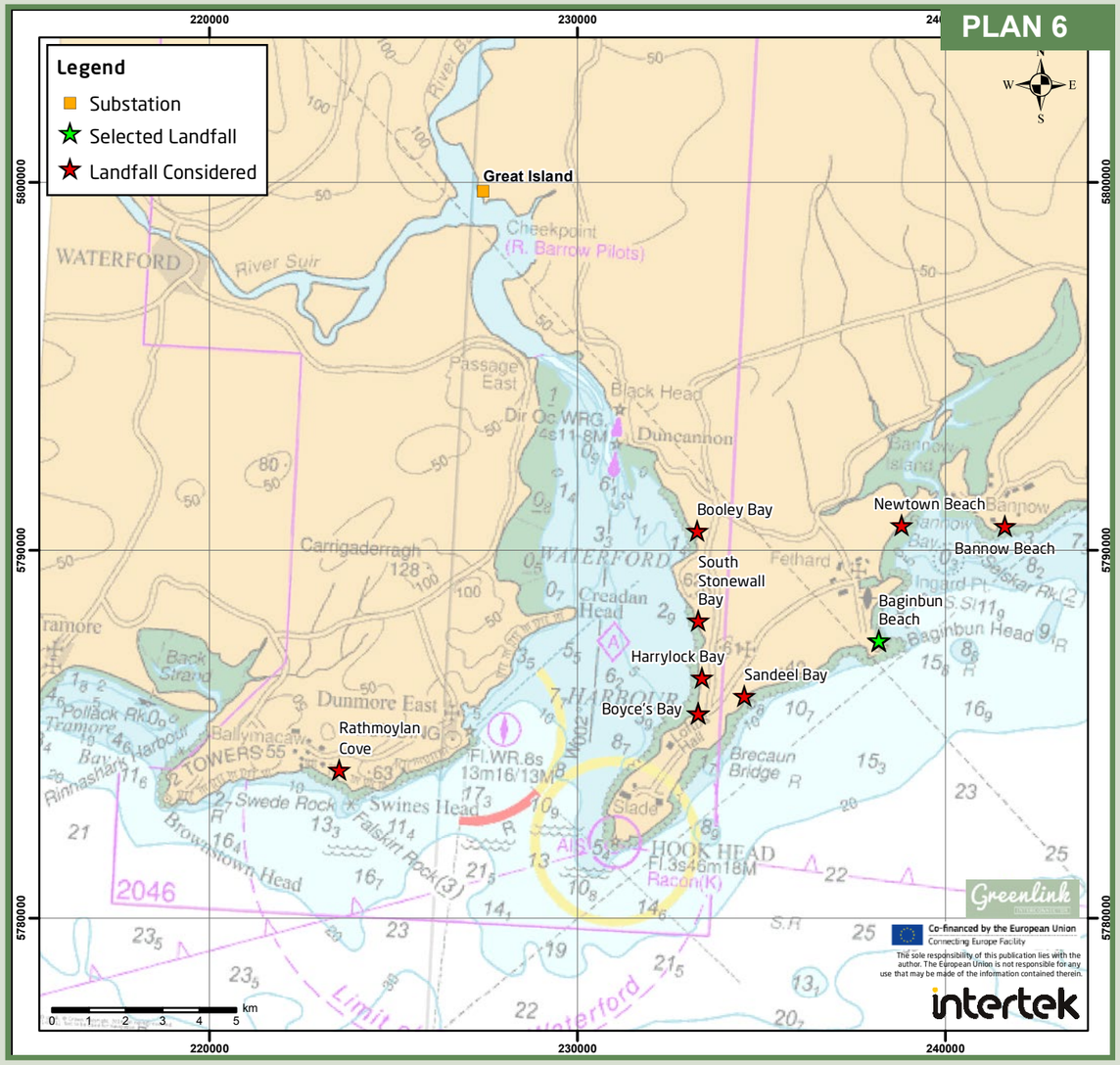

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PHOTO COURTESY OF MMT

Technical viability

Marine surveys, which commenced in September 2018 and included geophysical and geotechnical surveys, have now all been completed.

Geophysical

The geophysical survey mapped the seabed and sub-surface geology along the survey route corridors to identify marine habitats, optimise cable routing within the survey corridor and enable the assessment of cable target burial depth. It also provided the geophysical data from which a marine archaeological assessment was undertaken as part of the consenting process.

Geotechnical

The geotechnical surveys evaluated the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This was done using a number of techniques, including drilling boreholes and taking shallow core samples.

Marine environmental assessments

Greenlink will cross a number of European Marine Protected Sites: Special Areas of Conservation designated for the protection of habitats and species, and Special Protection Areas designated for the protection of wild birds. To determine if the project is likely to have a significant effect on the conservation objectives of the sites, a Habitats Regulations Assessment (HRA) has been carried out in Wales and a Natura Impact Statement (NIS) has been carried out in Ireland. These processes aim to identify any potential impacts Greenlink may have on designated sites and assesses whether it is likely that the feature of the site will be affected.

Where Greenlink is likely to undermine the conservation objectives of the site e.g. it is possible that condition, characteristics, or distribution of the feature cannot be maintained, then mitigation measures have been proposed to manage or reduce the potential negative impacts identified.

We have completed an Environmental Impact Assessment for Greenlink. An Environmental Statement has been completed for the marine components of the project in Wales and an Environmental Impact Assessment Report has been completed for marine components in Ireland.

The HRA and NIS form part of this larger environmental appraisal. To date, the HRA and NIS conclude that for sites screened as ‘significant effects are likely’, ‘uncertain’ or ‘cannot be ruled out’, that through the implementation of mitigation measures (prescribed at Appropriate Assessment stage) Greenlink will not affect the integrity of the designated sites, either alone or in combination with other plans or projects.

Topics covered by the environmental assessment have included:

- Coastal processes
- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and unexploded ordnance
- Shipping and navigation
- Recreation and other sea users
- Cumulative effects

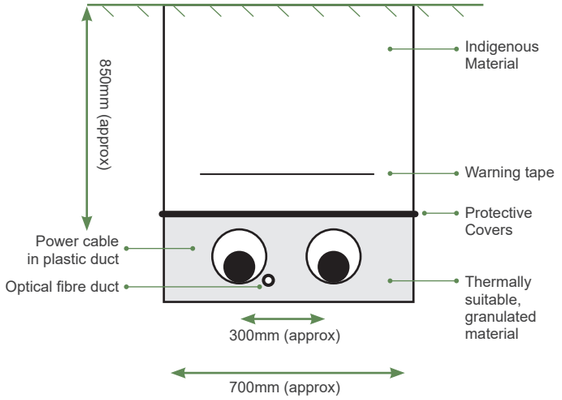
Onshore cable technology and installation techniques

The onshore HVDC cables will be buried underground in a single trench with a typical depth of cover of 850mm. These will be installed in plastic ducts to simplify the construction process. It is usual for the two ducts to be positioned close together (approximately 300mm). A protective cover and warning tape will also be buried along with marker posts at regular intervals at ground level. This arrangement is shown in Figure 1.

It is usual to increase the depth of cover in agricultural land to around 1050mm (from 850mm). The width of the trench may also vary with depth of cover (the deeper the cables are buried the wider the trench may become).

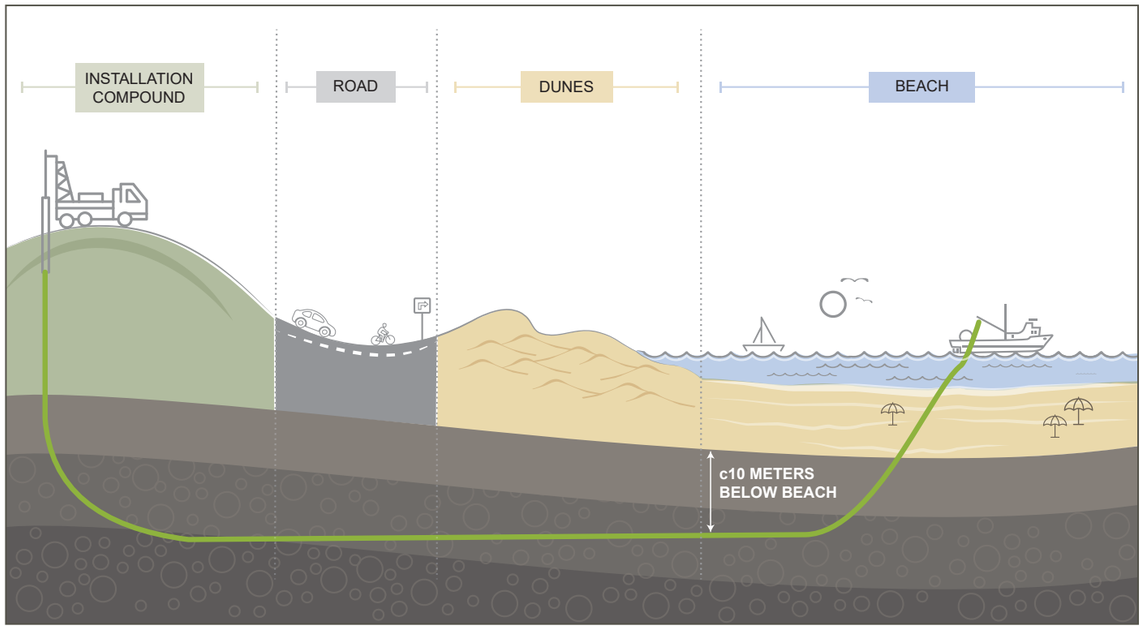
A specific design would need to be engineered for utility crossings, crossing watercourses or other areas where the ordinary depth of cover cannot be achieved.

Figure 1 : Indicative underground cable arrangement



Installation of Cables at Landfalls

We are proposing to use a Horizontal Directional Drill to install the cables at both Baginbun Beach (Ireland) and Freshwater West (Wales). Using this method of installation will ensure that cables can be installed without any impact on the beaches at both locations and will avoid any impact on the dune system at Freshwater West. The cable will emerge below the low water mark so no work will take place on either beach. While the construction programme for the full project is anticipated to take around three years, construction work around each landfall would last for approximately 3 months and be scheduled to avoid the most popular periods of use. Below is an illustration of how an HDD might work.



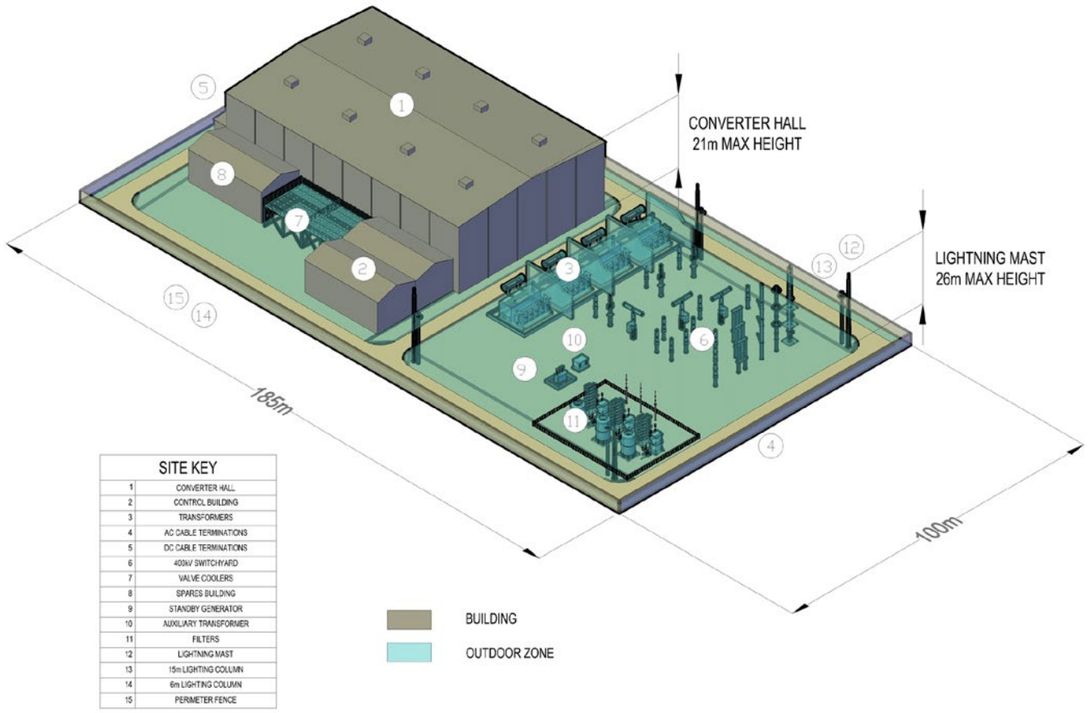
Greenlink will use High Voltage Direct Current Voltage Source Converter (HVDC VSC) technology to link the two power systems. In Ireland and GB, HVDC has been selected over an AC connection because AC is technically difficult over this distance. VSC technology has the benefit that it reduces the size of the converter stations (when compared to similar technologies).

The Greenlink Interconnector Converter Station

The indicative converter station site footprint would be circa 1.85 hectares (185m x 100m).

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonic filters (if required), lightning towers, ancillary plant such as cooling bank and stand-by back-up emergency generators, and a control building. Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. The converter hall and main building are usually one continuous building with height difference. The layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

A TYPICAL CONVERTER STATION LAYOUT



Tail Station

A tail station is a substation built adjacent to infrastructure such as a converter station and remote generation plant. Following consultation, EirGrid has confirmed that a tail station will need to be developed alongside the converter station in Ireland. We will now incorporate a tail station within the design to be assessed within the final planning application in Ireland.

We are using a 60m x 70m footprint for the potential tail station. However consultations are taking place with EirGrid to reduce the footprint of the tail station to minimise environmental and landscape impacts.

Project Timeline

A large infrastructure project such as Greenlink takes several years from concept to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018 and were completed in 2019. This followed the completion of desk-based assessments and consultation with statutory consultees.

Permits and licences will need to be obtained from: Pembrokeshire County Council, Pembrokeshire Coast National Park Authority, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales; and An Bord Pleanála and the Department of Housing, Planning and Local Government - Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland.

Once the appropriate permits and licences have been obtained, the scheme will be constructed, which is expected to take approximately three years from start to finish.

The project is expected to commence on-site construction in 2020 and be fully operational in 2023.

An important energy infrastructure project

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

The "Energy Union" launched by the European Commission on 25th February 2015 is driving a fundamental transition towards more innovative ways to produce, transport and consume energy, and to address different approaches to the design and implementation of energy policy.

Facilitating the Union requires a range of actions, chief amongst them being an increase in the physical interconnection of the EU and surrounding country energy grids (both gas and electricity) to meet a 10% interconnection target by 2020 and to reach 15% by 2030.

The EU, Irish and UK governments all agree that even after Brexit, an interconnected grid will help to ensure affordable, secure and sustainable energy, and also growth and jobs across Europe.

- For information regarding the infrastructure transparency platform referred to in Article 18 of the TEN-E Regulation, please visit: http://ec.europa. eu/energy/ infrastructure/ transparency_ platform/map- viewer/main.html
- For information regarding the manual of procedures for each of UK and Ireland https:// assets. publishing.service. gov.uk/ government/uploads/ system/ uploads/attachment_ data/ file/311184/uk_manual_ procedures_ten_e_regulation. pdf and www.pleanala.ie/ publications/2014/pocimanual. pdf

Appendix 6

Public Exhibition – June and August 2018

WELCOME TO THE EXHIBITION

Greenlink
INTERCONNECTOR

Welcome

Welcome and thank you for taking the time to come to the first public exhibition for the Greenlink Interconnector project (Greenlink).

We have prepared the information on display here today to help you find out more about our work on Greenlink.

Members of the project team are here to answer your questions.

About the developer

Greenlink is being developed by Greenlink Interconnector Limited. Greenlink Interconnector Limited is 100% owned by Element Power Holdings, a leading global developer of renewable energy, energy storage, flexible generation and interconnection projects.

Element Power has significant experience in developing energy projects, in the UK and Ireland.

For more information on Element Power, please visit our website: www.elpower.com

Your Views

We are very interested to hear your views, so please feel free to fill in a comments form and drop it in the box provided before you leave

For more information please visit:
www.greenlinkinterconnector.eu

elementpower

Board 1 - Welcome - 900 x 1200.indd 1 21/05/2018 17:30:32

PROJECT BENEFITS

Greenlink
INTERCONNECTOR

380,000
Potential to power 380,000 homes*

€400m
of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Inward investment and jobs
Greenlink represents c €400m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

Benefits for Ireland and Wexford
Greenlink will provide additional transmission network capacity, reinforcing electricity grid in Ireland. It will also offer valuable inward investment to Ireland and Wexford, including jobs and knock-on economic benefits during construction.

For more information about opportunities for local businesses, please see our 'Local Supply Chain' board later in this exhibition

*Figure for number of homes is based on typical annual household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

IRELAND

250
jobs in Ireland during construction

Jobs
20 permanent Irish jobs

Grid
Reinforce electricity grid

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IRELAND

250
jobs in Ireland during construction

Jobs
20 permanent Irish jobs

Grid
Reinforce electricity grid

THE PROPOSAL

Greenlink

INTERCONNECTOR

Greenlink is a proposed 500 megawatt (MW) subsea and underground cable electricity interconnector (with associated converter stations) between the existing electricity grids in Ireland and Great Britain, allowing for electricity to flow both ways between the two countries. The project will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland, GB and continental Europe. The construction and development of Greenlink will deliver increased energy security, inward investment and value for money for consumers and enable the further integration of low carbon renewable energy sources.

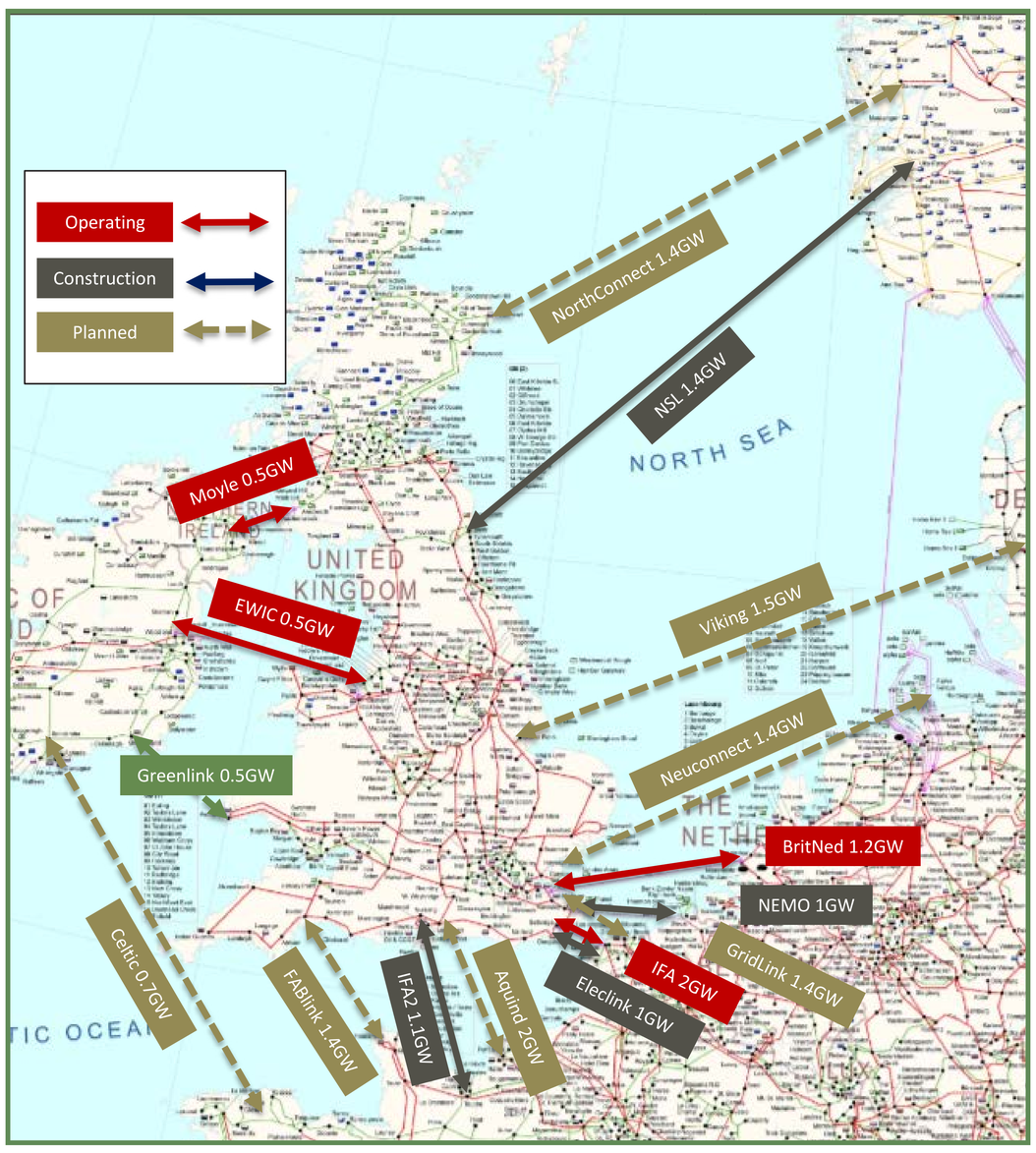
Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

Greenlink will consist of two converter stations, each located close to the identified existing substations: Great Island Substation in County Wexford (Ireland) and Pembroke Substation in Pembrokeshire (Wales).

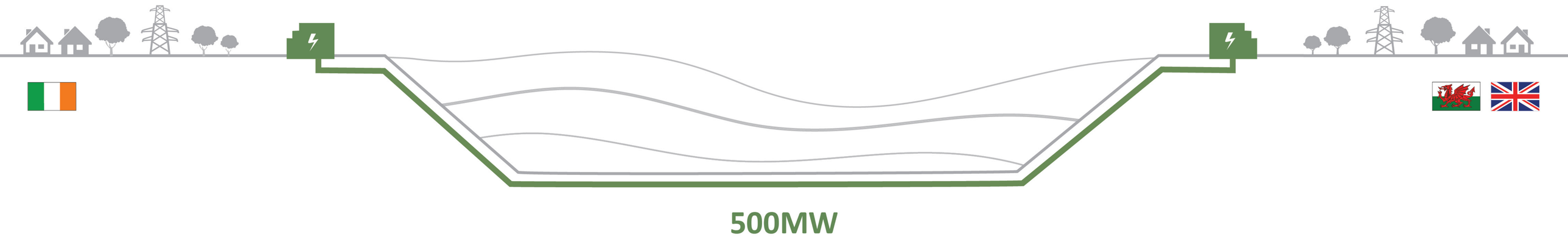
The converter stations will be connected to each other by two electricity cables and a fibre optic cable that will enable the two converter stations to communicate for control purposes.

There will be no overhead lines between the two converter stations and the respective substations. Onshore the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

The project will require planning permission in Ireland and Wales. Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built. The Greenlink interconnector is planned for commissioning in 2023.



Sources: Ofgem, TEC Register, 3rd PCI, TYNDP 2016w



WHY GREENLINK?

Greenlink
INTERCONNECTOR

Greenlink is a new 500 MW interconnector between Ireland and Wales

Ireland is currently connected to Great Britain by two electricity interconnectors, which provide a means of transferring electricity between the two countries – the East West Interconnector (EWIC), which connects County Dublin to North Wales, and the Moyle interconnector between County Antrim, Northern Ireland and Ayrshire, Scotland.

However, the challenges faced by the British, Irish and wider European energy systems are driving the need for additional interconnectors between Ireland and Great Britain, and within Europe as a whole. This will allow electricity to flow more easily between where it is generated and where it is needed, improving the security and reliability of our energy supplies and supporting the integration of greener, low carbon energy sources in an affordable way.

There is a strong need and significant support within Europe for additional interconnection. The 'Energy Union' is a strategy launched by the European Commission in 2015 with the aim of ensuring that European countries have access to secure, affordable and climate-friendly energy.

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

{ supporting the integration of greener, low carbon energy sources in an affordable way }

Supporting Renewable Energy

Improving Energy Security

Fighting Climate Change

Benefitting Consumers

For more information please visit: **www.greenlinkinterconnector.eu**

GREENLINK COMPONENTS

Greenlink
INTERCONNECTOR

The key components of the scheme are:

- **Two converter stations** – one near the Great Island Substation in County Wexford (Ireland) and one near the Pembroke Substation in Pembrokeshire (Wales)
- **Two subsea HVDC cables and a fibre optic cable** – the onshore cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

What is an HVDC cable?

- High Voltage Direct Current (HVDC) cables allow for efficient transportation of electricity over large distances and in particular for subsea cables.
- HVDC cables have lower electricity losses than comparable AC cables.
- HVDC cables are suitable for undergrounding both onshore and offshore. There will be no overground cables between the two converter stations.
- One of the benefits of HVDC cables is the relatively small footprint required to install them underground onshore.

PHOTO: ABB

What is a converter station?

A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa. DC electricity is used for the transmission of electricity over long distances between two converter stations and AC electricity is used within the national transmission and distribution networks.

What is a fibre optic cable?

A fibre optic cable is installed to provide communication between the converter stations for system monitoring and safety purposes.

For more information please visit: **www.greenlinkinterconnector.eu**

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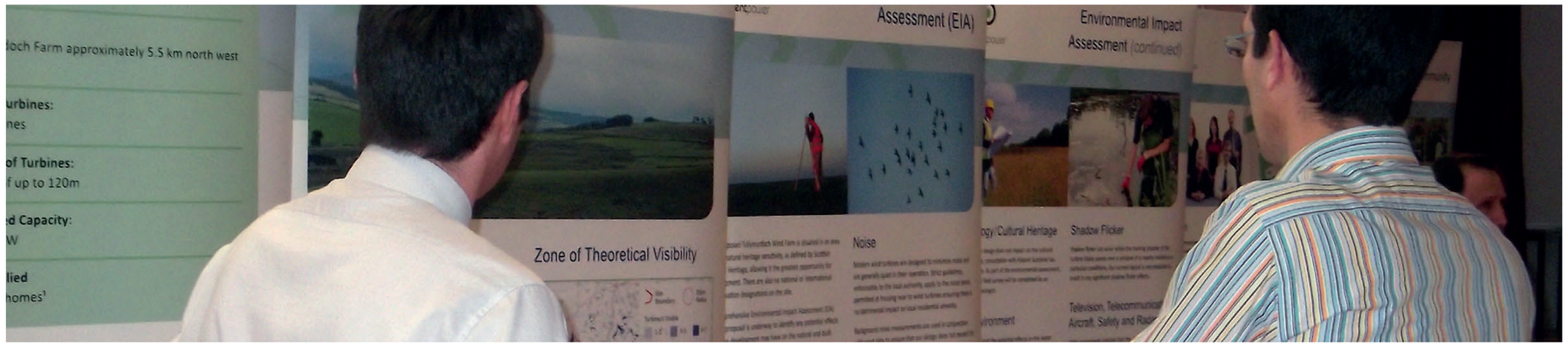
CONSULTATION



Public consultation is a core part of the development process and ensures that communities in the vicinity of a new proposal have timely and transparent access to information and can engage with developers to influence the final proposal coming forward. We would like to hear what your thoughts and views are on this proposal.

The Greenlink project team wants to ensure that the local community is consulted and involved throughout the development process of the interconnector project.

During the development process we will be looking to fully engage with local residents, councillors, businesses and members of the local community to discuss the proposal and any potential impacts and to obtain feedback on key issues.

We intend to make sure the local community can see that its views have been fully considered and incorporated within the final proposal.

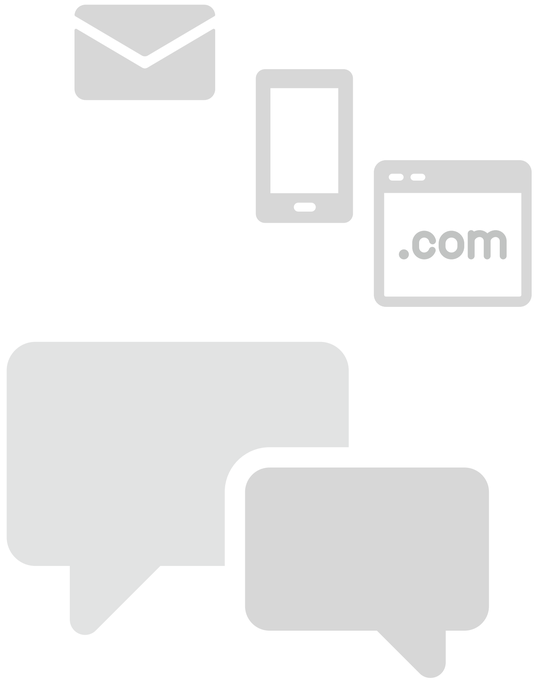
This public exhibition is to allow local residents and stakeholders to view our initial plans, share their views with us, meet the project team and ask questions. We would welcome any feedback that you have now or in the future.

Additional events will be held in due course as the project progresses.

Greenlink
INTERCONNECTOR

Contact details

If you would like the Greenlink team to keep you directly updated on project news and future consultation events, please leave us your name and contact details on the comment sheet provided.



For more information please visit:**www.greenlinkinterconnector.eu**

Board 5 - Consultation 900 x 600.indd 1 21/05/2018 18:21:41

LOCAL SUPPLY CHAIN

Greenlink
INTERCONNECTOR

Greenlink is committed to maximising the use of locally-based contractors and personnel during the construction and operational phases of the project.

Construction work on Greenlink is expected to lead to significant expenditure in both Ireland and Wales. A significant amount of work is due to take place at the landfall, cable and converter station sites and will require skills and experience available from contractors found in the local area.

The types of services that could be locally sourced include:

- Transportation – equipment and personnel
- Materials, e.g. supplying and pouring concrete
- Electrical connection
- Hospitality and catering for civil engineering activities and earthworks.
- Office and cleaning supplies
- Site security
- Site services, e.g. portacabins and portaloos
- Fencing
- Waste disposal

Your Views

Do you know of a local business that could benefit from the Greenlink interconnector project?

Let us know if you want to be added to our list of local suppliers!

For more information please visit: **www.greenlinkinterconnector.eu**

Board 6 - Local Supply Chain 900 x 600v2.indd 1 21/05/2018 18:46:46

SITE ASSESSMENT - OVERVIEW

Greenlink
INTERCONNECTOR

As part of the development process, a series of environmental and technical assessment studies are being carried out to establish the viability of all the proposed sites and cable routes and to consider any potential impacts and opportunities arising from the development.

Onshore studies include assessments on:

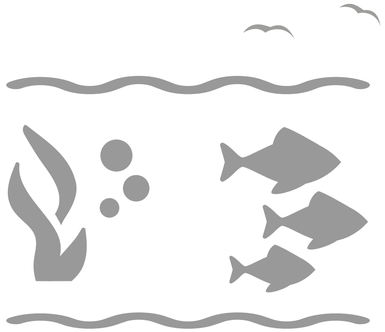
- Biodiversity
- Historic environment
- Landscape & visual impact
- Flooding & hydrology
- Geology & hydrogeology
- Noise & vibration
- Traffic & transport
- Electromagnetic fields (EMFs)
- Socio-economics & human health
- Air quality & climate change
- Cumulative & transboundary effects

Offshore studies include assessments on:

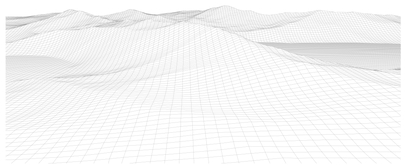
- Geophysical & geotechnical surveys
- Marine biodiversity (benthic/seabed environment, fish and shellfish, marine birds, marine mammals and reptiles etc)
- Protected designations
- Commercial fisheries
- Shipping & navigation
- Aviation & military
- Marine archaeology & UXOs

Further information on the nature of these assessments is available within the project Environmental Scoping documents.

Noise & vibration



Marine biodiversity



Landscape & visual impact

LANDSCAPE & VISUAL IMPACT

Greenlink
INTERCONNECTOR

Landscape

This assessment relates to changes in the physical landscape, brought about by Greenlink, which may alter its character and how this is experienced.

Visual

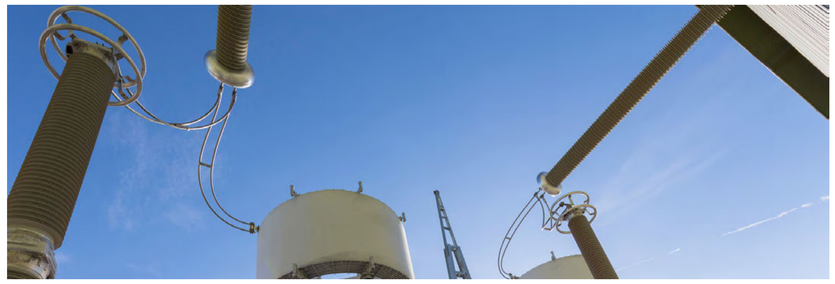
Visual impact assessment relates to changes in the composition of views as a result of changes to the landscape, how these are perceived and the effects on visual amenity.

We will produce visualisations of the converter stations.

Viewpoints will be selected to represent the character of the area and particularly important landscape and heritage sites.

Impacts and mitigation

Converter station



A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonics filters, lightning towers, ancillary plant and a control building.

Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. However, the layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

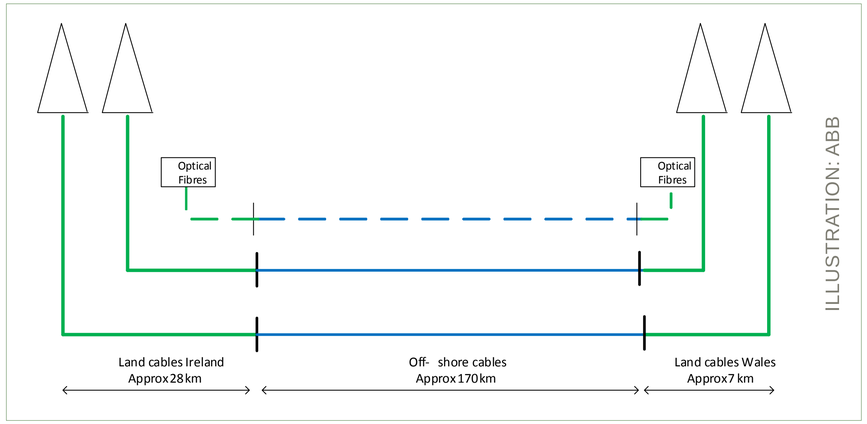
The landscape and visual impact of this will be carefully considered and suitable mitigation, such as landscaping, building finishes, among others, will be proposed.

Cable route

There is the potential for impact from the cable route from vegetation clearance during construction, particularly where the cable route diverges from the road network.

Landscape and visual impacts during cable installation are predicted to be minor and not significant due to the temporary and reversible nature of the change (vegetation clearance) which can be adequately mitigated through replanting.

Following installation and restoration there are not predicted to be any residual landscape and visual effects from the cable route.



Your views ... Do you have any suggestions for viewpoints to be assessed?
What sort of landscaping planting would you like to see in and around the converter station?

PHOTO: www.siemens.com/press

WATER AND SOIL

Greenlink
INTERCONNECTOR

Flooding & hydrology

This assessment considers the existing surface and ground water resources in the proximity of Greenlink from the landfall in Baginbun or Boyce's Bay to the proposed converter station location.

It will assess potential impacts to water bodies, surface water drainage and flood risk due to Greenlink during the construction and operational phases.

Geology & hydrogeology

This assessment considers the existing ground conditions present in the vicinity of the various scheme components and addresses the potential effects that the construction and operation of the project may have on the geological and hydrogeological characteristics of the study area.

The assessment will include consideration of possible effects on the superficial geology (soils), solid geology and geomorphology, including mineral resources beneath the proposed route of the scheme. The groundwater beneath the site and surrounding area will be considered.

The assessment will also consider potential effects posed by any potentially contaminated land along the proposed route.

NOISE & VIBRATION

Greenlink
INTERCONNECTOR

This assessment will address potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The proposed underground cable routes pass through predominantly rural areas which are likely to experience low ambient existing noise levels. The converter station site is also located in a rural area but is adjacent to an existing substation with its associated operating noise levels.

Noise surveys and assessment

- The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors will be determined via noise surveys.
- Noise-sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship etc) and public open spaces.
- A study area of 300m around the cable route corridor and converter station site will be considered for potential construction noise impacts and an area of 50m will be considered for potential construction vibration impacts.
- For operational noise, an assessment will be undertaken at sensitive receptors within 300m of the converter station.

Impacts and mitigation

The construction of the converter station has the potential to give rise to temporary noise and vibration impacts. However, given the distance between the converter station location and sensitive receptors it is likely that any impact will be low.

The construction of the cable route has the potential to give rise to temporary noise and vibration impacts in isolated locations along the route, particularly where directional drilling is required at watercourses and road crossings.

There will be noise from the electrical and mechanical plant during the operation of the converter station, most of which will be located indoors in the converter hall.

Your views

Do you have concerns regarding noise and vibration you wish to be assessed?

BIODIVERSITY

Greenlink
INTERCONNECTOR

Surveys will be carried out and the data assessed to ensure that the final onshore elements of the proposal are designed sympathetically to the local environment and wildlife and where possible enhancement measures will be employed.

Studies will cover the landfall site and the various cable routes under consideration and the possible converter station location.

Studies commenced in 2018 include:

- Extended Phase 1 Habitat Survey
- Breeding Bird Surveys

As well as birds, wildlife to be considered by these assessments also include badgers, bats, otters, water voles and amphibians.

Consideration is also being given to local vegetation, including hedgerows, trees, important habitats and invasive species.

The surveys will be used to avoid, reduce and offset any impacts on biodiversity through sensitive design and mitigation measures as required.

Your views

Do you know of any local environmental groups that Greenlink should consult? Are there specific issues you feel should be assessed that aren't currently being assessed?

HISTORIC ENVIRONMENT

Greenlink
INTERCONNECTOR

The potential effects of Greenlink on local archaeology and cultural heritage will be assessed by seeking to identify, predict and evaluate the significance of potential effects on designated and non-designated heritage assets within a study area of 1.5 km from the converter station site and within a 200m study area from the cable route corridor.

Cultural heritage encompasses valued features and remains, including buildings, monuments and archaeological remains. It can also include landscapes shaped by human occupation and design, such as historic parks and gardens.

The importance of cultural heritage is recognised in legislation and planning policy.

The converter station site is located in an area with a rich archaeological and historic heritage but is also located in such a way as to complement the existing industrial surrounds.

Sites of interest in the wider area include Kilmokea Church and Graveyard, Dunbrody Abbey and Castle, Duncannon Fort and the historic Norman landing place at Baginbun Beach.

Given the large number of sites relating to prehistoric activity in this region, there is also a potential for the development to uncover as yet unknown archaeological remains.

Impacts and mitigation

During construction the potential impact of the onshore cables, landfall site and the converter station could be the loss or interference with a site or feature of archaeological, architectural and cultural heritage significance caused by excavations or by construction related vibrations.

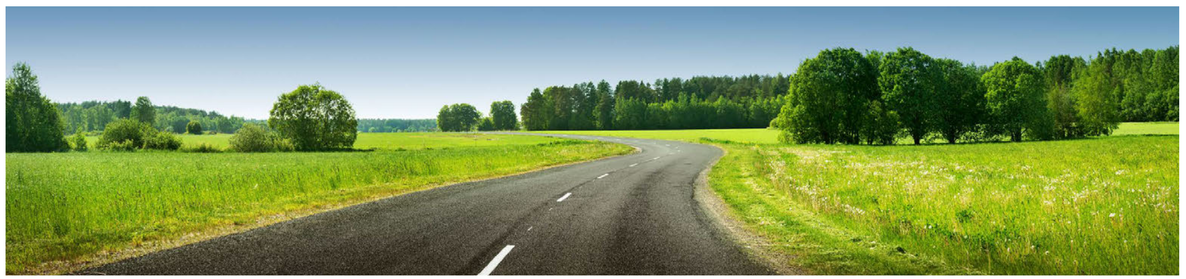
The importance of cultural heritage is recognised in legislation and planning policy

Greenlink will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects on archaeology and heritage assets within the study area. Wherever possible, mitigation will be designed to deliver benefits, such as enhancing the visual setting of historic assets.

Greenlink will aim to avoid undisturbed archaeological remains and preserve them in situ. *Where this is not possible, preservation by record will be proposed as mitigation.*

TRAFFIC & TRANSPORT

Greenlink
INTERCONNECTOR



The traffic impact assessment will address the traffic impacts on the road network from the construction and operation of the Greenlink project. The assessment will include the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce will also be addressed.

A Transport Assessment (TA) will be produced in accordance with best practice.

The methodology for the TA will be agreed with Wexford County Council. It will include a review of the existing traffic patterns and an estimation of the traffic volumes which will be generated by the construction of the onshore cable, the landfall site and the converter station. The traffic generated by the construction workforce and by the transport of materials and equipment will also be predicted.

The potential disruption to the road network during the installation of the cables and the availability of alternative routes will be assessed. The traffic distribution pattern on the local road network during construction will be examined and impacts determined.

We will work hard to limit the impact of traffic and transport on local residents and businesses as much as possible and recommendations will be made to mitigate any potential traffic impacts on the road network.

Potential impacts and mitigation

There is potential for traffic impact from Greenlink during the construction phase which will temporarily give rise to additional traffic on the road network.

Installation of the cables may require partial or full road closures and traffic may have to use alternative routes. Where the cable route diverges from the road, the impacts will be reduced.

Once the Greenlink project is in operation, the potential for a traffic impact is minimal. The level of operations and maintenance workforce will be low, so that the impact on any particular road will be insignificant.

Traffic Management Plan (TMP)

As part of the planning application process a Traffic Management Plan (TMP) will be put together that will outline measures for managing and mitigating the construction traffic caused by Greenlink.

Greenlink will consult the local community on a draft TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

Your views

Do you have any specific concerns? Are there local organisations (businesses, schools etc) that we need to involve in the Traffic Management Plan?

ELECTROMAGNETIC FIELDS

Greenlink
INTERCONNECTOR

Electric and Magnetic Fields (EMFs) are produced both naturally (Earth has both an electric and a magnetic field) and by humans – wherever electricity is used, both in the home and from the equipment that makes up the Irish electricity system.

For example, there are background EMFs present in all houses that come from the house wiring, electrical appliances, and the distribution cables that carry electricity along streets.

Electric fields depend on the operating voltage of the equipment. The operating voltage of transmission equipment is generally constant and so the electric field produced is also nearly constant. Magnetic fields, on the other hand, depend on the electrical currents flowing, which vary according to the electrical power requirement at any given time.

In order to protect members of the public, in locations where people spend significant time, the Council of the European Union passed Recommendation 1999/519/EC on limiting public exposure to electromagnetic fields.

The policy of both National Grid (UK) and ESB (Ireland) is to design and operate their equipment in compliance with the EU recommendation and subsequent legislation.

There are a number of existing sources of EMF in the vicinity of the Greenlink study area.

These include:

- The local electricity distribution system
- Wiring and appliances in nearby homes and other buildings
- Great Island Substation
- Overhead transmission lines

The Greenlink electrical infrastructure (converter station and underground cables) will be designed to comply with the EC Directive relating to Occupational Exposure to Public Health and the EU 1999 recommendation on Public Exposure.

SOCIO-ECONOMICS

Greenlink
INTERCONNECTOR

This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects to the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy.

Local tourism

The Hook Peninsula has a rich built heritage and attractive beaches, and it is an important tourist destination in Ireland's Southeast. Tourist attractions close to the cable route include Dunbrody Abbey, Loftus Hall and Baginbun Beach and Martello Tower. The Ring of Hook Coastal Drive is a popular route which may partially coincide with the cable route, and appropriate traffic management will be required to minimise disruption to tourist traffic during the cable construction within the roadway.

The cable will be horizontally drilled under the beach at the landfall, with the construction area set well back from the beach and cliffs. It is not envisaged that the construction work will have adverse effects on tourist activity at the beach.

Potential impacts

There will be temporary impacts on road traffic during the cable construction, with the requirement for partial or full road closures and diversions, for short periods.

Direct and indirect employment will be created for both the construction and operational phase.

The construction of the cables and converter station have the potential to have a negative impact on residential amenity in the immediate vicinity of the construction activities. Once the cables and converter station are operational, the potential for negative impact on residential amenity is minimal.

Your views

Please let us know of any local tourism business or group we need to consider and involve in project discussions.

Are there any particular local events that attract tourists that Greenlink needs to be aware of?

Jobs

Jobs and knock-on economic benefits during construction

AIR QUALITY

Greenlink
INTERCONNECTOR

This assessment considers the potential impacts on air quality during construction, including dust emissions, on-site machinery and construction traffic travelling to and from the site. The potential impacts on air quality during the operational phase will also be addressed.

The construction phase of Greenlink has the potential to generate dust emissions, which could give rise to nuisance for local residents. Construction plant and equipment, and the traffic generated by the construction process, have the potential to give temporary rise to emissions of oxides of nitrogen and particulate matter, which could impact on local air quality.

Following the assessment of air quality effects during the construction phase, mitigation measures will be recommended to minimise the impact from dust. These measures, including dust suppressant measures, will be considered for both human and ecological receptors.

The operational phase of Greenlink is not expected to adversely affect local air quality as no new sources of emission to air will be introduced and additional road traffic associated with maintenance of the converter station is anticipated to be minimal.

Consideration of the impact of the Greenlink project on the climate (e.g. greenhouse gas emissions) and its vulnerability to climate change is also factored in.

For more information please visit: **www.greenlinkinterconnector.eu**

Board 17 – Air Quality.indd 1 21/05/2018 18:32:33

MARINE SURVEYS

Greenlink
INTERCONNECTOR

The proposed marine cable will run from the Hook Head Peninsula in County Wexford, Ireland to Freshwater West, Pembrokeshire, Wales. All routes are being assessed for technical viability and potential environmental impacts.

Technical viability

Marine surveys are taking place in the summer of 2018 and will include geophysical and geotechnical surveys.

Geophysical

The geophysical survey will look to map the seabed and sub-surface geology along the proposed route in order to be able to optimise cable routing within the survey corridor and to enable assessment of cable target burial depth along the route.

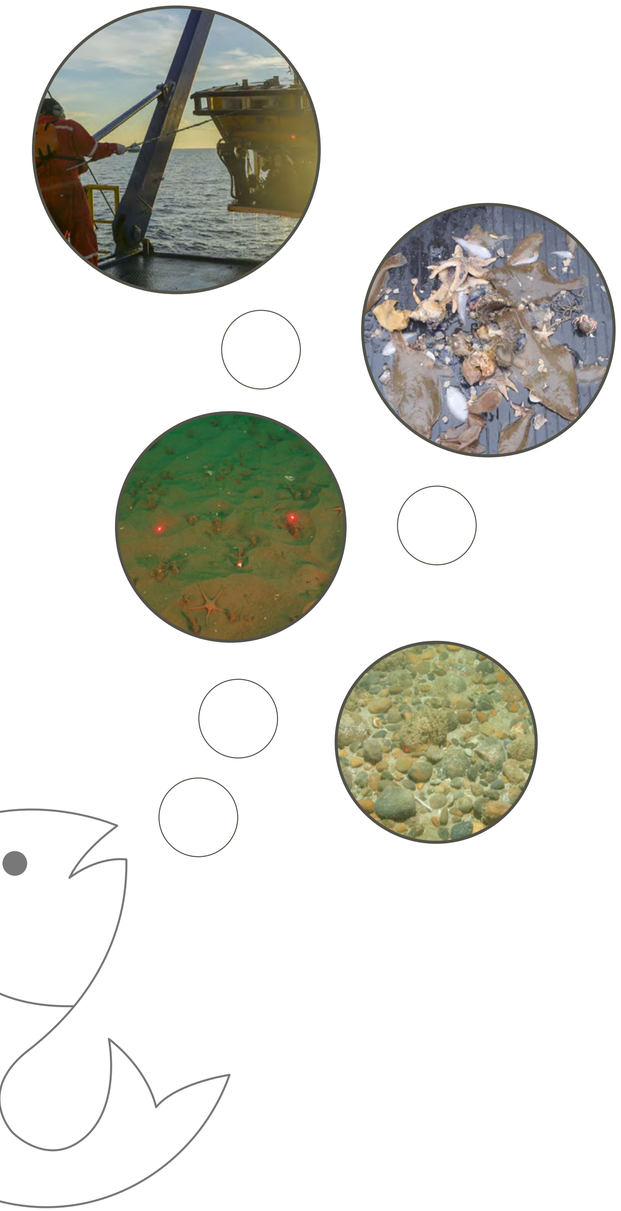
It will also look to provide the geophysical data from which a marine archaeological assessment can be undertaken as part of the consenting process.

Geotechnical

The purpose of the geotechnical survey is to evaluate the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This will be done using a number of techniques, including drilling boreholes and digging trial pits.

Environmental impacts

The initial marine survey aims to map the distribution and extent of marine habitats within the proposed cable corridor. Data from this survey will then be used to inform the environmental assessment.



MARINE ENVIRONMENTAL ASSESSMENTS

Greenlink
INTERCONNECTOR

The aims of the environmental assessment will be to identify potential impacts, including:

- Penetration and/or disturbance of the substrate below the surface of the seabed
- Visual disturbance
- Underwater noise changes
- Siltation rate changes
- Hydrological changes
- Physical loss (permanent change)
- Electromagnetic changes
- Possible in-combination effects

Mitigation

Once potential impacts have been established, mitigation measures will be proposed to ensure that impacts are minimised or removed.

Topics covered by the environmental assessment will include:

- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and UXOs
- Coastal processes
- Fisheries
- Shipping and navigation
- Recreation
- Cumulative effects

Your views

Greenlink has appointed a Fisheries Liaison officer to liaise with local fishing interests. Do you want our Fisheries Liaison officer to contact you?

For more information please visit: **www.greenlinkinterconnector.eu**

Board 19 – Marine Environmental Assessments.indd 1 21/05/2018 18:35:38

PROJECT TIMELINE

Greenlink
INTERCONNECTOR

A large infrastructure project such as the Greenlink interconnector takes several years from development to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018. This follows the completion of desk-based assessments and consultation with statutory consultees.

Once a detailed proposal and design have been put together, permits and licences will need to be obtained from: An Bord Pleanála and the Department of Housing, Planning and Local Government – Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland; and Pembrokeshire County Council, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales.

Once the appropriate permits and licences have been obtained, the scheme will need to be constructed, which could take around 36 months from start to finish.

The project is envisaged to commence on-site construction in 2020 and be fully operational in 2023

2018

Environmental Studies

Detailed environmental and technical studies commence.

2019

Planning applications to be submitted

The application for the onshore components will be submitted to An Bord Pleanála (Ireland) and Pembrokeshire County Council (Wales), the application for the marine components will be submitted to Planning and Local Government - Foreshore Unit (Ireland) and Natural Resources Wales (Wales) and the Department of Housing.

2020

Commence construction

The project is envisaged to commence on-site construction

2023

Interconnector operational

Expected to be fully operational

For more information please visit: **www.greenlinkinterconnector.eu**

THE PLANNING PROCESS (IRELAND)

Greenlink
INTERCONNECTOR

Following consultation with statutory consultees, Greenlink is of the view that the interconnector does not require the completion of an Environmental Impact Assessment (EIA).

However, Greenlink is committed to carrying out a comprehensive and thorough development process and will therefore be producing a non-statutory Environmental Report with a structure that aligns with the EIA process. This will ensure that all environmental issues are addressed effectively.

Onshore components in Ireland

Due to the nature and size of the proposed development, it is likely that it will be considered to be Strategic Infrastructure Development, as defined by the Planning and Development Act 2000, as amended.

As Strategic Infrastructure, the planning application will be made directly to An Bord Pleanála (the Board), and all planning documents, including an environmental report, will be publicly available on a dedicated website.

Any person or body may make submissions to the Board in relation to the proposed development, and the Board may decide to hold an oral hearing, having regard to the issues arising.

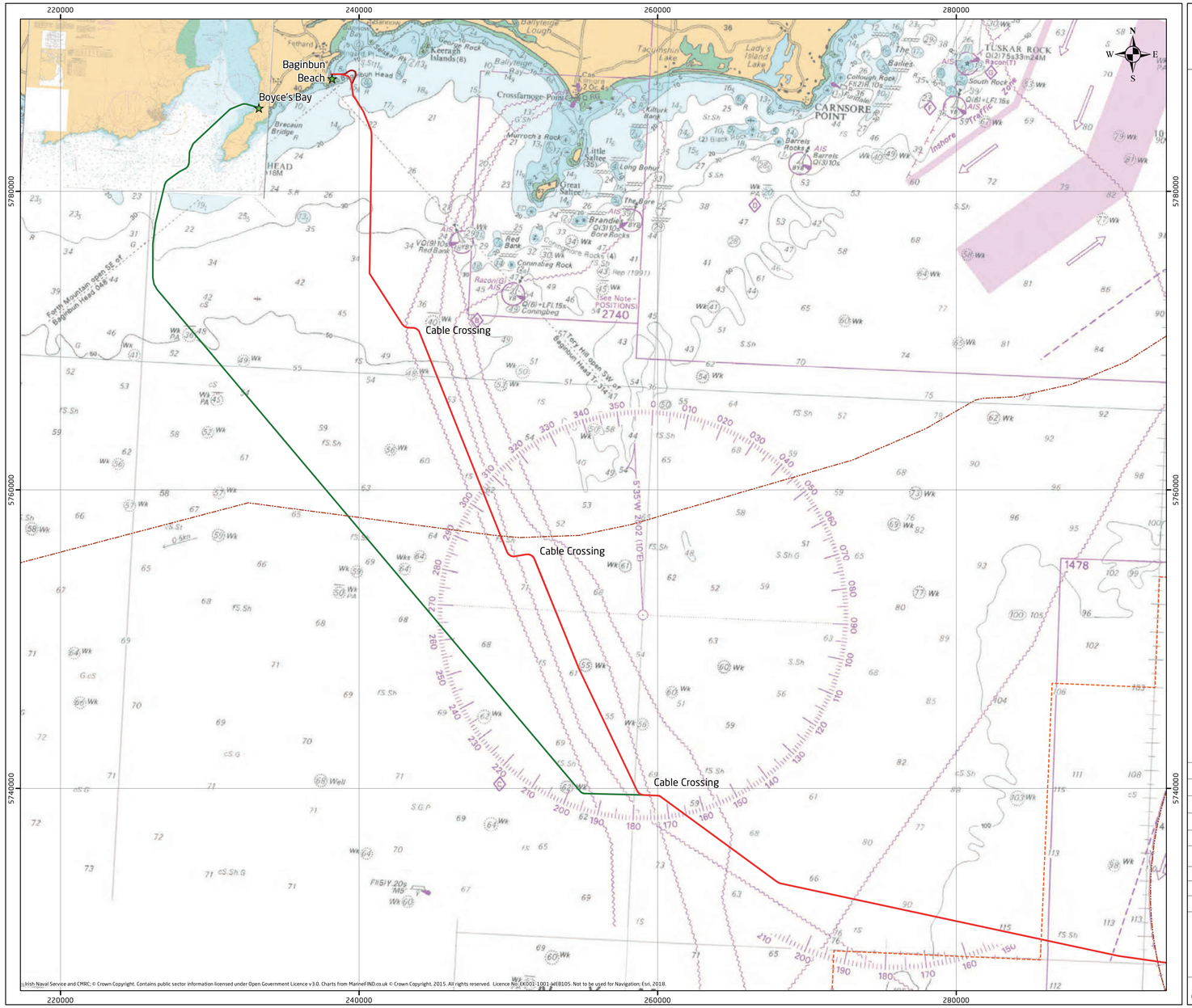
The planning application is expected to be submitted in March 2019, once all the technical and environmental assessments have been completed and the choice of sites / cable routes and the designs finalised. The planning application will address all of the onshore elements of the project in Ireland, including the converter station, the on-road cable, and the off-road sections of cable.

Marine components in Ireland

Subsea surveys are scheduled to be undertaken during the summer of 2018. The results of these surveys will be used to finalise the subsea cable route and be incorporated into a Foreshore Licence application submitted to the Foreshore Unit of the Department of Housing, Planning and Local Government. This application is expected to be submitted in April 2019.

OFFSHORE IRELAND ROUTE OPTIONS

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Irish Territorial Waters

Legend

- Landfall Option
- Median Line
- 12nm Territorial Sea Limit

Greenlink Interconnector Proposed Routes

- Route A Rev 0
- Option C Rev 0
- Option D Rev 0

NOTE: Not to be used for Navigation

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Datum	D_WGS_1984
Data Source	INS, CDA, ESRI, MARINEFIND
File Reference	J:\P1975\Mxd\Public_Exhibitions\Offshore_Ireland_Route_Options_A2.mxd
Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Greenlink INTERCONNECTOR

intertek

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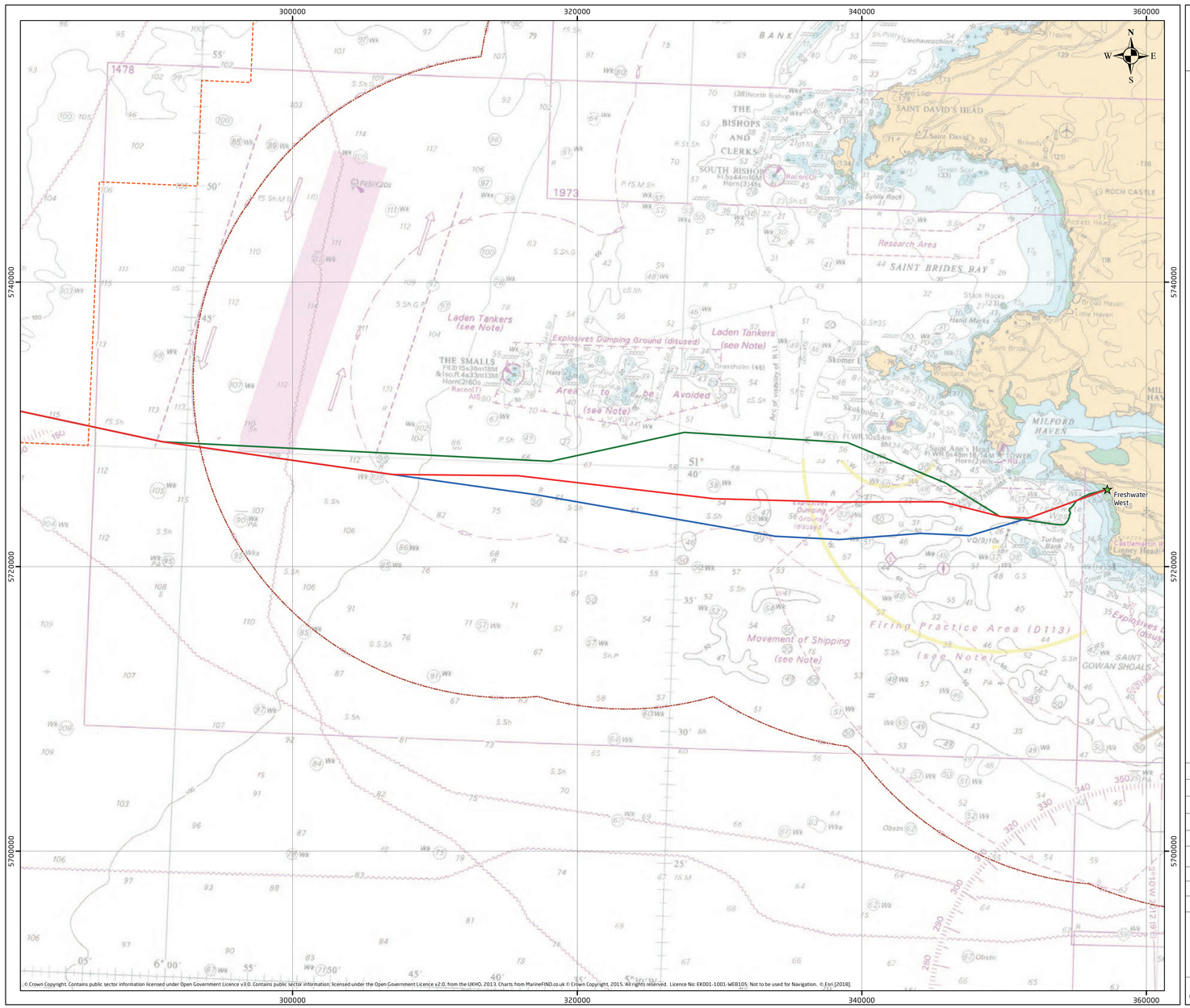
There are currently two subsea routes being assessed off the Irish coast. The routes under assessment are shown in this plan.

The final route will be selected following the conclusion of subsea surveys and consultation with stakeholders.

For more information please visit: **www.greenlinkinterconnector.eu**

OFFSHORE WALES ROUTE OPTIONS

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Welsh Territorial Waters

Legend

- Landfall Option
- Median Line
- 12nm Territorial Sea Limit

Greenlink Proposed Route Option

- Route A Rev 0
- Route B Rev 0
- Route E Rev 1

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Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

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There are currently three subsea routes being assessed off the Welsh coast. The routes under assessment are shown in his plan.

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For more information please visit:**www.greenlinkinterconnector.eu**

Board 23 - Offshore_Wales_Route_Options_A2 2|20926|.indd 1
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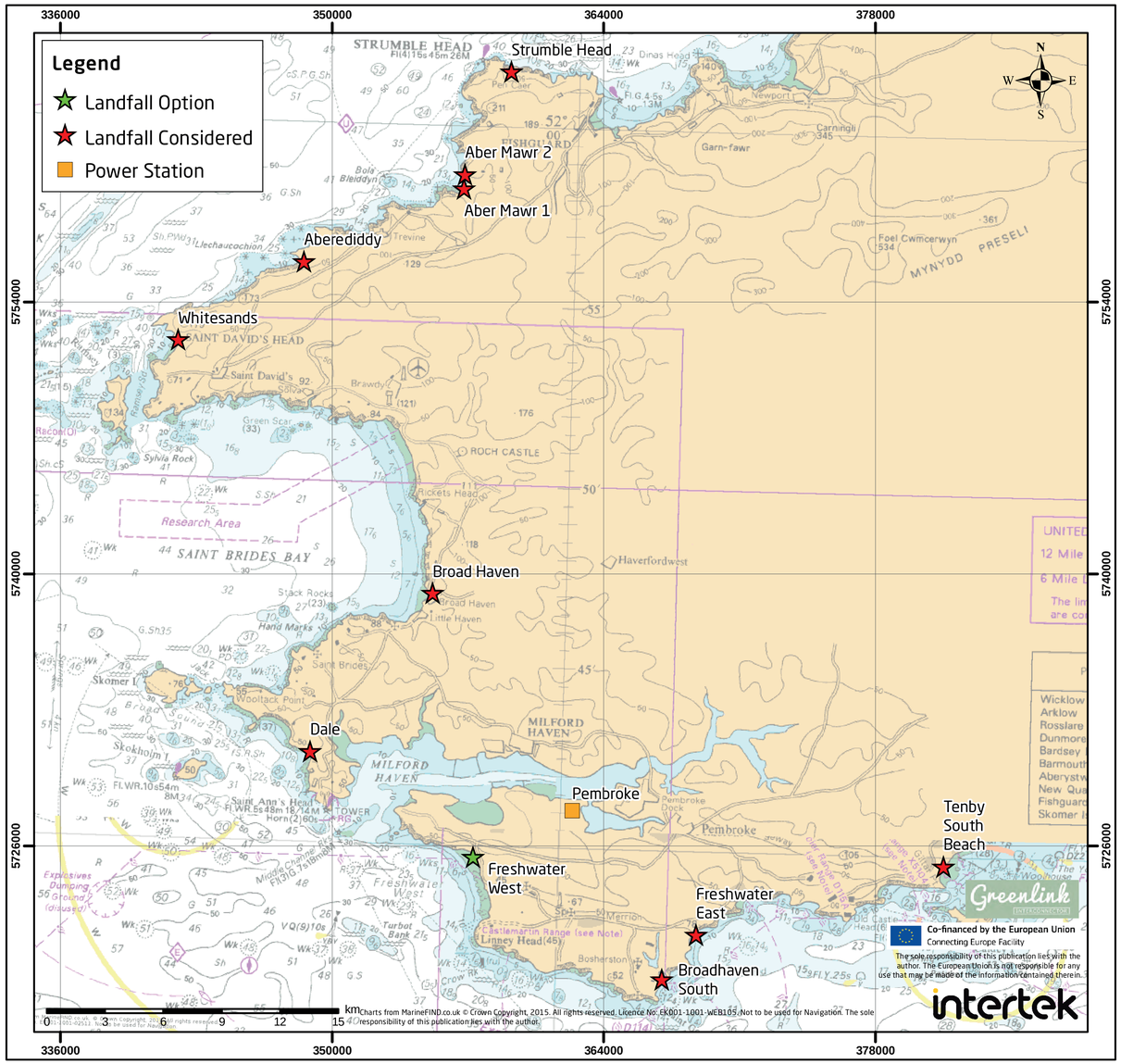
WELSH LANDFALLS

Greenlink
INTERCONNECTOR



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The final converter station site and cable route will be selected following environmental and technical assessments and consultation with key stakeholders. The length of the onshore cable route could be circa. 7km.

The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

Board 25 - Welsh Landfalls.indd 1
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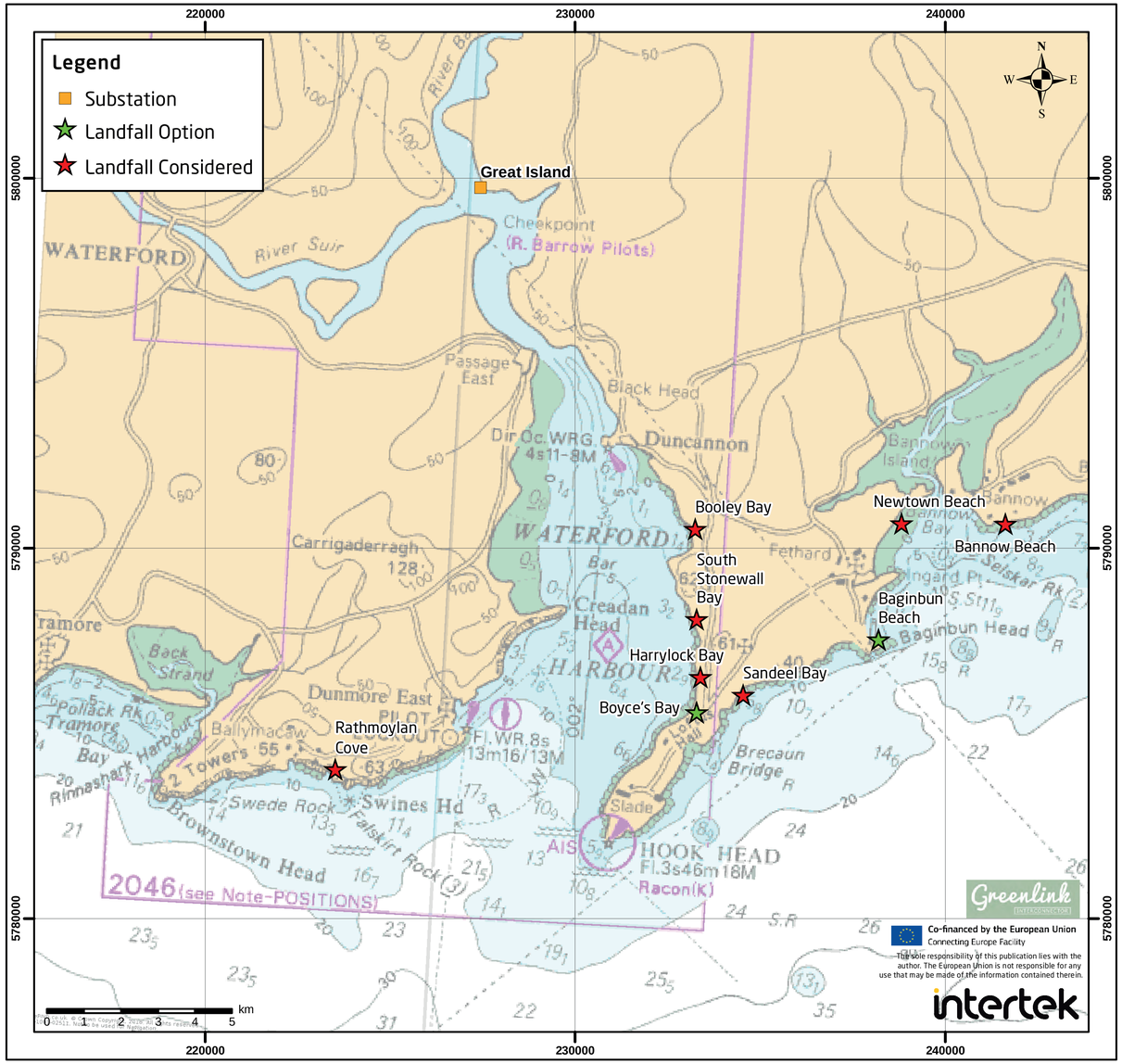
IRISH LANDFALLS

Greenlink
INTERCONNECTOR



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The final converter station site and cable route will be selected following environmental and technical assessments and consultation with key stakeholders. The length of the onshore cable route could be circa. 28km.

The landfalls at Boyce's Bay and Baginbun Beach were selected for further investigation following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

For more information please visit: **www.greenlinkinterconnector.eu**

Greenlink
INTERCONNECTOR

Greenlink Interconnector Project

PUBLIC EXHIBITION

Greenlink is a proposed electricity interconnector that will link the Irish electricity transmission system in Wexford with that of GB via underground and subsea cables.

It is proposed that the subsea cables will come onshore underground at either Baginbun Beach or Boyce's Bay (under the existing beach), carry on underground in the direction of Great Island Substation, where they will connect to a new purpose-built converter station located nearby.

Greenlink brings significant benefits on both sides of the Irish Sea for employment, energy security and the integration of low carbon energy sources.

We are committed to working with local residents and stakeholders to design and develop a project that is of the highest standard. To that end we would welcome your input throughout the development process.

Further information is available on the project website: **www.greenlinkinterconnector.eu**

To find out more about the proposal, and to share your views, please come along to our public exhibition on:

27TH JUNE 2018
4PM TO 8PM

St Marys Hall,
(Corner Main St
and Ralph Road)
Fethard-on-Sea,
New Ross,
Co Wexford,
Y34 HH58

elementpower

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Connecting Europe Facility

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Greenlink
INTERCONNECTOR

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WHEN?

WEDNESDAY
15th August 2018
4pm to 8pm

WHERE?

Star of the Sea
Pastor Centre
Duncannon
Co Wexford

elementpower

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Appendix 7

Public Exhibition
– January 2019

WELCOME TO THE EXHIBITION

Greenlink
INTERCONNECTOR

Welcome

Welcome and thank you for taking the time to come to this public exhibition for the Greenlink Interconnector project (Greenlink).

We have prepared the information on display here today to help you find out more about our work on Greenlink.

Members of the project team are here to answer your questions.

About the developer

Greenlink is being developed by Greenlink Interconnector Limited. Greenlink Interconnector Limited is 100% owned by Element Power Holdings, a leading global developer of renewable energy, energy storage, flexible generation and interconnection projects.

Your Views

We are very interested to hear your views, so please feel free to fill in a comments form and drop it in the box provided before you leave.

For more information please visit:
www.greenlinkinterconnector.eu

Welcome - Portrait - 1172 x 872.indd 1 10/01/2019 21:08:52

PROJECT BENEFITS

Greenlink
INTERCONNECTOR

380,000
Potential to power 380,000 homes*

Investment
€400m of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Regional investment and jobs
Greenlink represents €400m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

Benefits for Ireland and Co. Wexford
Greenlink will provide additional transmission network capacity, reinforcing the electricity grid in Ireland. It will also offer valuable regional investment to Ireland and Co. Wexford, including jobs and knock-on economic benefits during construction.

For more information about opportunities for local businesses, please see our 'Local Supply Chain' board later in this exhibition

*Figure for number of homes is based on typical annual household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

IRELAND

250 jobs in Ireland during construction

Jobs 20 permanent Irish jobs

Grid Reinforce electricity grid

Project Benefits 1172x872.indd 1 10/01/2019 21:03:22

THE PROPOSAL

Greenlink
INTERCONNECTOR

Greenlink is a proposed 500 megawatt (MW) subsea and underground cable electricity interconnector (with associated converter stations) between the existing electricity grids in Ireland and Great Britain, allowing for electricity to flow both ways between the two countries. The project will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland, GB and continental Europe. The construction and development of Greenlink will deliver increased energy security, regional investment and value for money for consumers and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

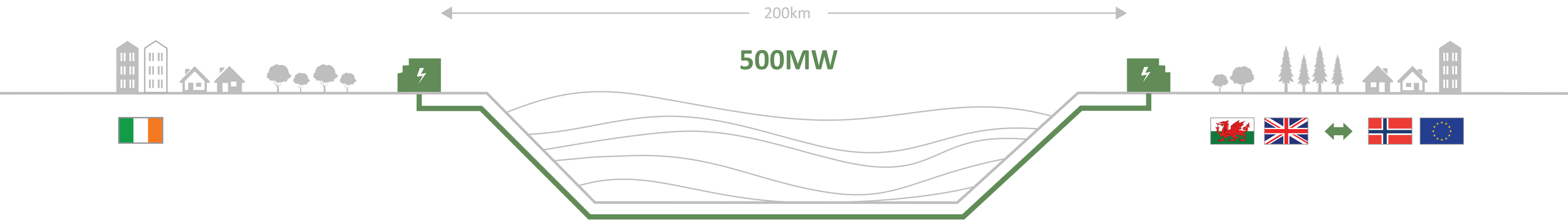
Greenlink will include two converter stations, each located close to the identified existing substations: Great Island Substation in County Wexford (Ireland) and Pembroke Substation in Pembrokeshire (Wales).

The converter stations will be connected to each other by two electricity cables and a fibre optic cable that will enable the two converter stations to communicate for control purposes.

There will be no overhead lines between the two converter stations and the respective substations. Onshore the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

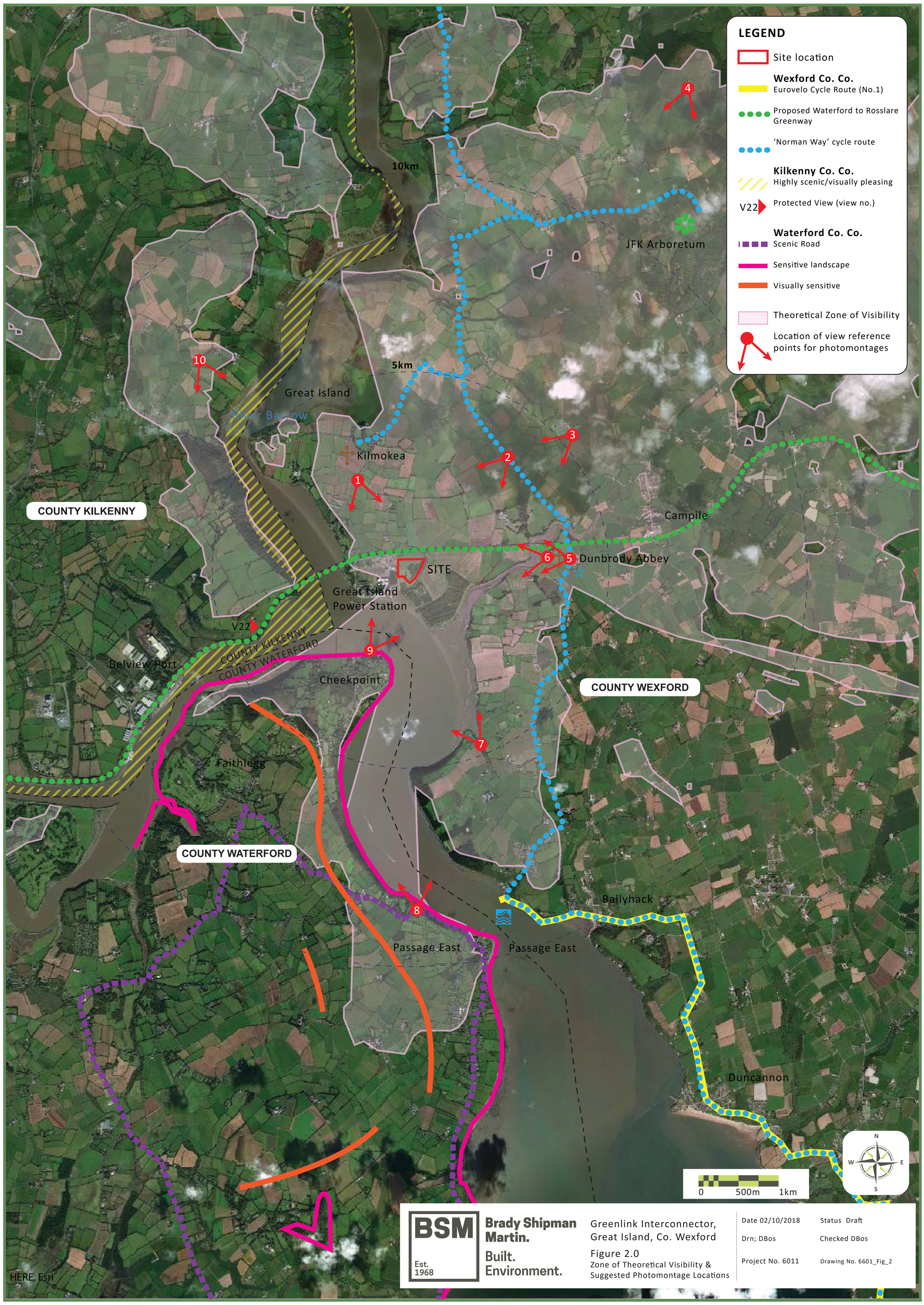
The project will require planning permission in Ireland and Wales. Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built. Greenlink is planned for commissioning in 2023.

Sources: Ofgem, TEC Register, 3rd PCI, TYNDP 2016w



VIEWPOINT LOCATIONS

Greenlink
INTERCONNECTOR



BSM Est. 1968
Brady Shipman Martin.
Built. Environment.

Greenlink Interconnector, Great Island, Co. Wexford

Figure 2.0
Zone of Theoretical Visibility & Suggested Photomontage Locations

Date 02/10/2018	Status Draft
Drn; DBos	Checked DBos
Project No. 6011	Drawing No. 6601_Fig_2

Your views

Do you have any other suggestions for a viewpoint location?

Viewpoint Locations - 1172x872.indd 1
10/01/2019 21:08:16

BIODIVERSITY

Greenlink
INTERCONNECTOR

Surveys will be carried out and the data assessed to ensure that the final onshore elements of the proposal are designed sympathetically to the local environment and wildlife and where possible enhancement measures will be employed.

Studies cover the landfall site, the preferred cable route and the possible converter station locations.

As well as birds, wildlife to be considered by these assessments also include badgers, bats, otters, water voles, and amphibians. Consideration is also being given to local vegetation, including hedgerows, trees and important habitats and invasive species.

The surveys will be used to avoid, reduce and offset any impacts on biodiversity through sensitive design and mitigation measures as required.

Your views

Do you know of any local environmental groups that Greenlink should consult?

Are there specific issues you feel should be assessed that aren't currently being assessed?

For more information please visit: **www.greenlinkinterconnector.eu**

Biodiversity.indd 1 10/01/2019 20:48:38

CONSULTATION

Greenlink
INTERCONNECTOR

Public consultation is a core part of the development process and ensures that communities in the vicinity of a new proposal have timely and transparent access to information and can engage with developers to influence the final proposal coming forward. We would like to hear what your thoughts and views are on this proposal.

The Greenlink project team wants to ensure that the local community is consulted and involved throughout the development process of the interconnector project.

During the development process we will be looking to fully engage with local residents, councillors, businesses and members of the local community to discuss the proposal and any potential impacts and to obtain feedback on key issues.

We intend to make sure the local community can see that its views have been fully considered and incorporated within the final proposal.

This public exhibition is to allow local residents and stakeholders to view our current plans, hear about project progress, share their views with us, meet the project team and ask questions. We would welcome any feedback that you have now or in the future.

Additional events will be held in due course as the project progresses.

Contact details

If you would like the Greenlink team to keep you directly updated on project news and future consultation events, please leave us your name and contact details on the comment sheet provided.

For more information please visit: **www.greenlinkinterconnector.eu**

Consultation.indd 1 10/01/2019 20:50:29

GREENLINK COMPONENTS

Greenlink
INTERCONNECTOR

The key components of the scheme are:

- **Two converter stations** – one near the Great Island Substation in County Wexford (Ireland) and one near the Pembroke Substation in Pembrokeshire (Wales)
- **Two subsea HVDC cables and a fibre optic cable** – the onshore cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

What is an HVDC cable?

- High Voltage Direct Current (HVDC) cables allow for efficient transportation of electricity over large distances and in particular for subsea cables.
- HVDC cables have lower electricity losses than comparable AC cables.
- HVDC cables are suitable for undergrounding both onshore and offshore. There will be no overground cables between the two converter stations.
- One of the benefits of HVDC cables is the relatively small footprint required to install them underground onshore.

IMAGE: PRYSMIAN

What is a converter station?

A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa. DC electricity is used for the transmission of electricity over long distances between two converter stations and AC electricity is used within the national transmission and distribution networks.

www.siemens.com/press

What is a fibre optic cable?

A fibre optic cable is installed to provide communication between the converter stations for system monitoring and safety purposes.

GREENLINK IN IRELAND

Greenlink
INTERCONNECTOR

A2

Legend

- Indicative Joint Bay Locations
- Emerging Preferred Route

Greenlink INTERCONNECTOR

Co-financed by the European Union Connecting Europe Facility

Issue	Date	By	Chkd	Appd
P0	2019-01-10	GM	MM	MD

Kilometers
0 0.275 0.55 1.1

ARUP

Client
Greenlink Interconnector Ltd

Job Title
Greenlink Interconnector

Emerging Preferred Cable Route Ireland

Scale at A2
1:40,000

Job No	Drawing Status
246369-00	**Preliminary**

Drawing No	Issue
SK064	**P0**

© Arup

`MXD Location \\global\europe\Cork\Jobs\246000\246369-00\4. Internal\4-03 Design\4-03-03 Infrastructure\01 GIS\04_Map Documents\RC_RouteCorridor\IRL\Preferred Route Corridor.mxd`

A preferred cable route and converter station site have been identified following consultation with stakeholders and analysis of the results of ongoing environmental and technical work. The preferred cable route and converter station site are shown here.

For more information please visit: **www.greenlinkinterconnector.eu**

HISTORIC ENVIRONMENT

Greenlink
INTERCONNECTOR

The potential effects of Greenlink on local archaeology and cultural heritage will be assessed by seeking to identify, predict and evaluate the significance of potential effects on designated and non-designated heritage assets within a study area of 1.5 km from the converter station site and within a 200m study area from the cable route corridor.

Cultural heritage encompasses valued features and remains, including buildings, monuments and archaeological remains. It can also include landscapes shaped by human occupation and design, such as historic parks and gardens.

The importance of cultural heritage is recognised in legislation and planning policy.

The converter station site is located in an area with a rich archaeological and historic heritage but is also located in such a way as to complement the existing industrial surrounds.

Sites of interest in the wider area include Kilmokea Church and Graveyard, Dunbrody Abbey and Castle, Duncannon Fort and the historic Norman landing place at Baginbun Beach.

Given the large number of sites relating to prehistoric activity in this region, there is also a potential for the development to uncover as yet unknown archaeological remains.

Impacts and mitigation

During construction the potential impact of the onshore cables, landfall site and the converter station could be the loss or interference with a site or feature of archaeological, architectural and cultural heritage significance caused by excavations or by construction related vibrations.

The importance of cultural heritage is recognised in legislation and planning policy

Greenlink will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects on archaeology and heritage assets within the study area. Wherever possible, mitigation will be designed to deliver benefits, such as enhancing the visual setting of historic assets.

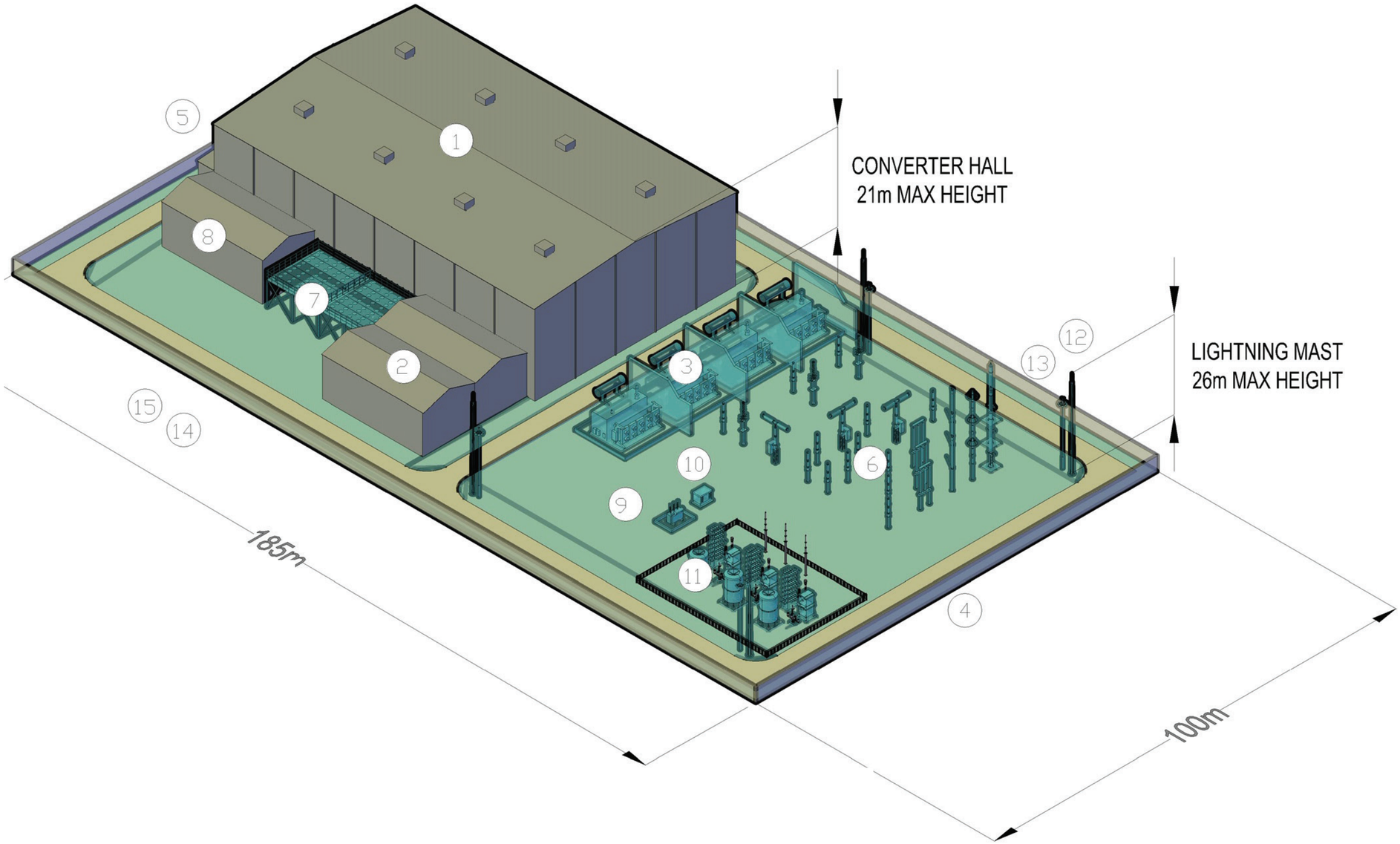
Greenlink will aim to avoid undisturbed archaeological remains and preserve them in situ. Where this is not possible, preservation by record will be proposed as mitigation.

For more information please visit: **www.greenlinkinterconnector.eu**

Historic Environment.indd 1 10/01/2019 20:52:53

INDICATIVE CONVERTER STATION

Greenlink
INTERCONNECTOR



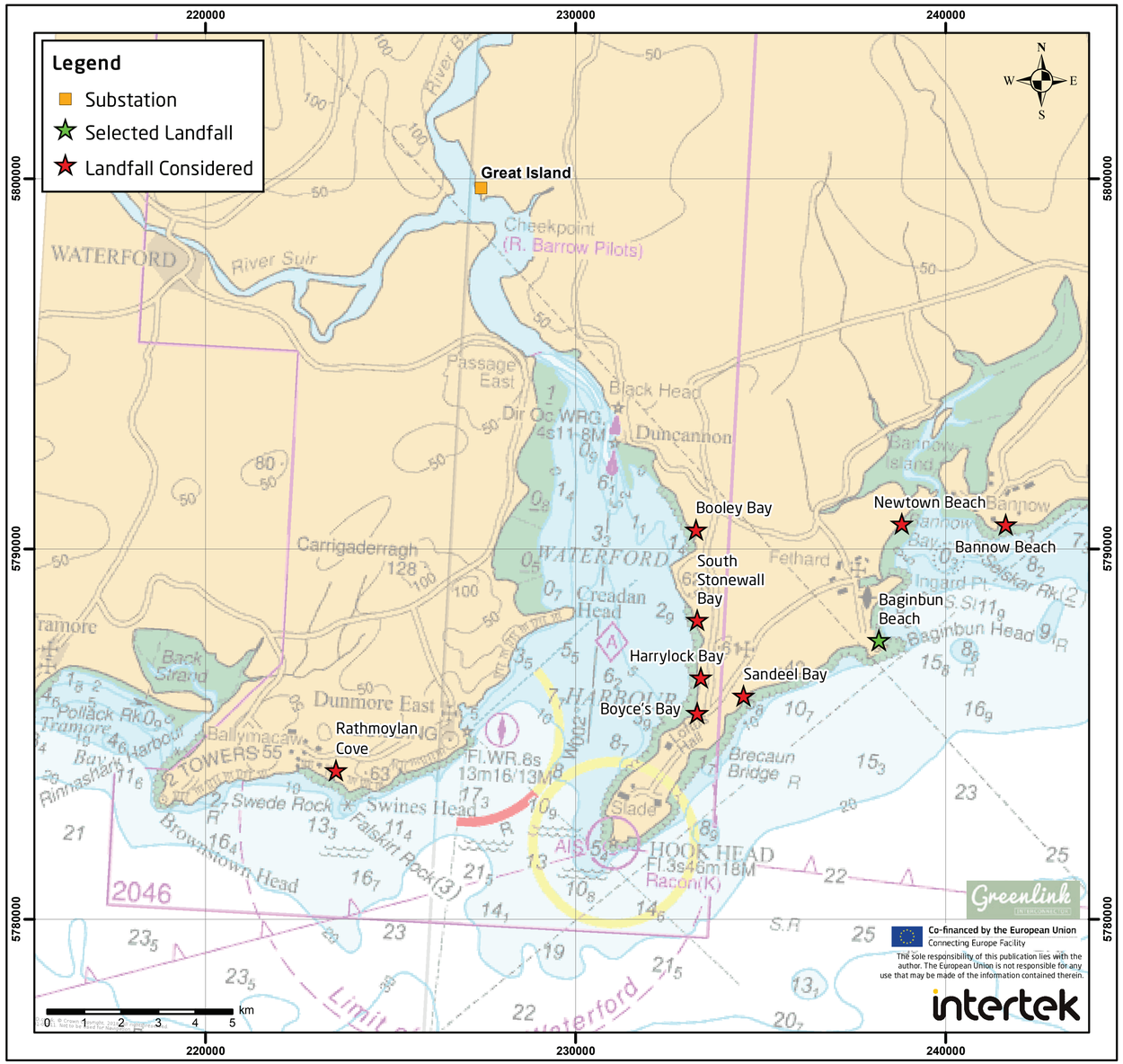
SITE KEY	
1	CONVERTER HALL
2	CONTROL BUILDING
3	TRANSFORMERS
4	AC CABLE TERMINATIONS
5	DC CABLE TERMINATIONS
6	400kV SWITCHYARD
7	VALVE COOLERS
8	SPARES BUILDING
9	STANDBY GENERATOR
10	AUXILIARY TRANSFORMER
11	FILTERS
12	LIGHTNING MAST
13	15m LIGHTING COLUMN
14	6m LIGHTING COLUMN
15	PERIMETER FENCE

For more information please visit: **www.greenlinkinterconnector.eu**

Indicative Converter Station.indd 1 10/01/2019 20:54:18

IRISH LANDFALLS

Greenlink
INTERCONNECTOR



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The landfall at Baginbun Beach was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

Irish Landfalls.indd 1 10/01/2019 20:54:50

LANDSCAPE & VISUAL IMPACT

Greenlink
INTERCONNECTOR

Landscape

This assessment relates to changes in the physical landscape, brought about by Greenlink, which may alter its character and how this is experienced.

Visual

Visual impact assessment relates to changes in the composition of views as a result of changes to the landscape, how these are perceived and the effects on visual amenity.

We will produce visualisations of the converter stations from viewpoints to be agreed with An Bord Pleanála. Viewpoints will be selected to represent the character of the area and particularly important landscape and heritage sites. Proposed locations can be seen on the 'viewpoint locations' board.

Impacts and mitigation

Converter station

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonics filters, lightning towers, ancillary plant and a control building.

Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. However, the layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

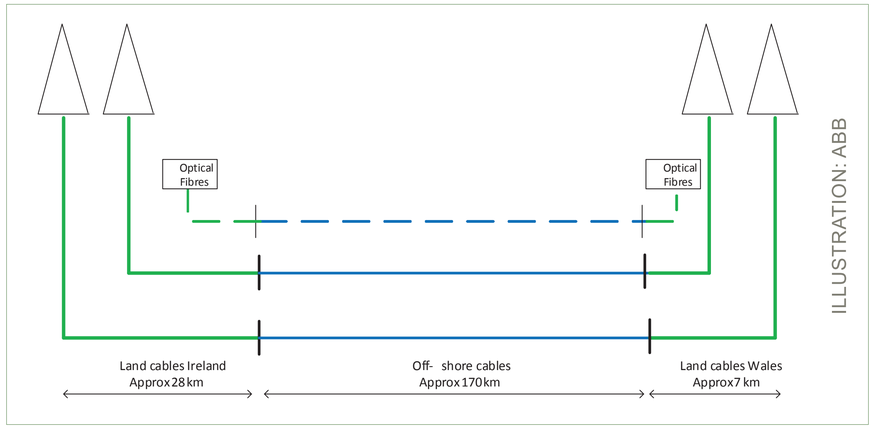
The landscape and visual impact of this will be carefully considered and suitable mitigation, such as landscaping and building finishes, among others, will be proposed.

Cable route

There is the potential for impact from the cable route from vegetation clearance during construction, particularly where the cable route diverges from the road network.

Landscape and visual impacts during cable installation are predicted to be minor and not significant due to the temporary and reversible nature of the change (vegetation clearance) which can be adequately mitigated through replanting.

Following installation and restoration there are not predicted to be any residual landscape and visual effects from the cable route.



Your views ... Do you have any suggestions for viewpoints to be assessed?
What sort of landscaping planting would you like to see in and around the converter station?

PHOTO: www.siemens.com/press

For more information please visit: **www.greenlinkinterconnector.eu**

Landscape & Visual Impact.indd 1 10/01/2019 20:55:16

LOCAL SUPPLY CHAIN

Greenlink
INTERCONNECTOR

Greenlink is committed to maximising the use of locally-based contractors and personnel during the construction and operational phases of the project.

Construction work on Greenlink is expected to lead to significant expenditure in both Ireland and Wales. A significant amount of work is due to take place at the landfall, cable and converter station sites and will require skills and experience available from contractors found in the local area.

The types of services that could be locally sourced include:

- Transportation – equipment and personnel
- Materials, e.g. supplying and pouring concrete
- Electrical connection
- Hospitality and catering for civil engineering activities and earthworks
- Office and cleaning supplies
- Site security
- Site services, e.g. portacabins and portaloos
- Fencing
- Waste disposal

Your Views

Do you know of a local business that could benefit from the Greenlink interconnector project?

Let us know if you want to be added to our list of local suppliers!

For more information please visit: **www.greenlinkinterconnector.eu**

Local Supply Chain.indd 1 10/01/2019 20:56:11

MARINE ENVIRONMENTAL ASSESSMENTS

Greenlink
INTERCONNECTOR

The aims of the Environmental Impact Assessment will be to identify potential impacts, including:

- Penetration and/or disturbance of the substrate below the surface of the seabed
- Visual disturbance
- Underwater noise changes
- Siltation rate changes
- Hydrological changes
- Physical loss (permanent change)
- Electromagnetic changes
- Possible in-combination effects

Mitigation - Once potential impacts have been established, mitigation measures will be proposed to ensure that impacts are minimised or removed.

Topics covered by the Environmental Impact Assessment will include:

- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and UXOs
- Coastal processes
- Fisheries
- Shipping and navigation
- Recreation
- Cumulative effects

Your views

Greenlink has appointed a Fisheries Liaison officer to liaise with local fishing interests. Do you want our Fisheries Liaison officer to contact you?

For more information please visit: **www.greenlinkinterconnector.eu**

Marine Environmental Assessments.indd 1 10/01/2019 20:57:24

MARINE SURVEYS

Greenlink
INTERCONNECTOR

The proposed marine cable will run from Freshwater West, Pembrokeshire, Wales to the Hook Head Peninsula in County Wexford, Ireland.

Technical viability

Marine surveys are currently being undertaken and include geophysical and geotechnical surveys.

Geophysical

The geophysical survey will map the seabed and sub-surface geology along the proposed route in order to be able to optimise cable routing within the survey corridor and to enable assessment of cable target burial depth along the route.

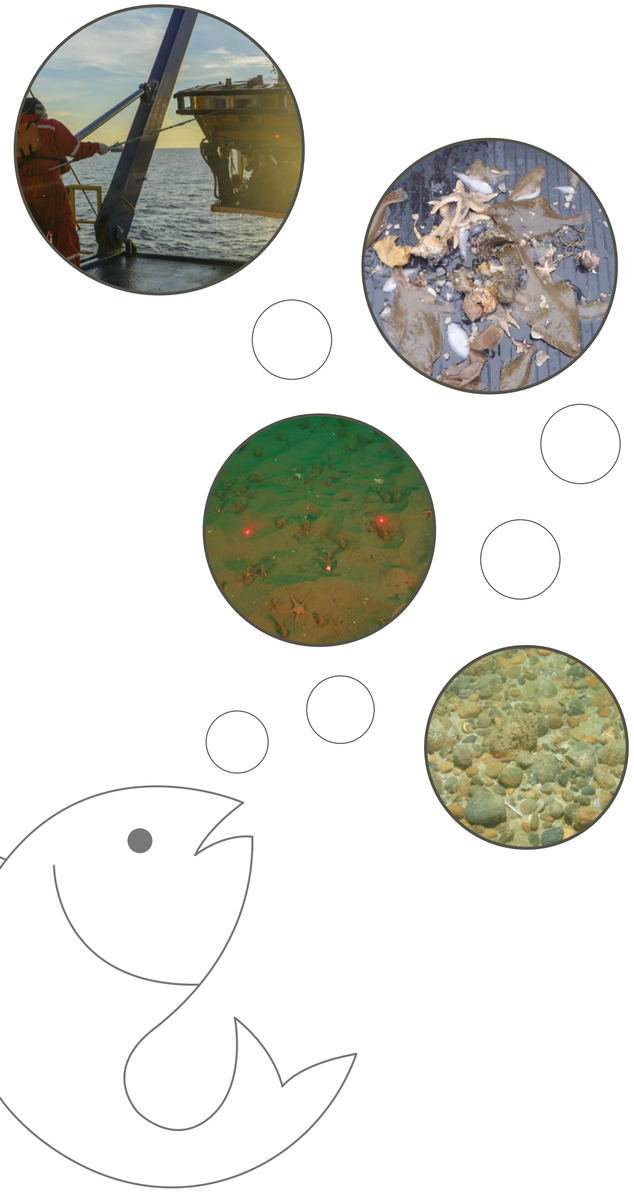
It will also provide the geophysical data from which a marine archaeological assessment can be undertaken as part of the consenting process.

Geotechnical

The purpose of the geotechnical survey is to evaluate the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This is being done using a number of techniques, including drilling boreholes.

Environmental impacts

The marine survey aims to map the distribution and extent of marine habitats within the proposed cable corridor. Data from this survey is being used to inform the Environmental Impact Assessment.



For more information please visit: **www.greenlinkinterconnector.eu**

Marine surveys.indd 1 10/01/2019 20:58:57

NOISE & VIBRATION

Greenlink
INTERCONNECTOR

This assessment will address potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The proposed underground cable routes pass through predominantly rural areas which are likely to experience low ambient existing noise levels. The converter station locations are also located in a rural area but are adjacent to an existing substation with its associated operating noise levels.

Noise surveys and assessment

- The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors will be determined via noise surveys.
- Noise-sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship etc) and public open spaces (including public footpaths).
- A study area of 300m around the cable route corridor and converter station locations will be considered for potential construction noise impacts and an area of 50m will be considered for potential construction vibration impacts.
- For operational noise, an assessment will be undertaken at sensitive receptors within 300m of the converter station.

Impacts and mitigation

The construction of the converter station has the potential to give rise to temporary noise and vibration impacts. However, given the distance between the converter station locations and sensitive receptors it is likely that any impact will be low.

The construction of the cable route has the potential to give rise to temporary noise and vibration impacts in isolated locations along the route, particularly where directional drilling is required at watercourses and road crossings.

There will be noise from the electrical and mechanical plant during the operation of the converter station, most of which will be located indoors in the converter hall.

Your views

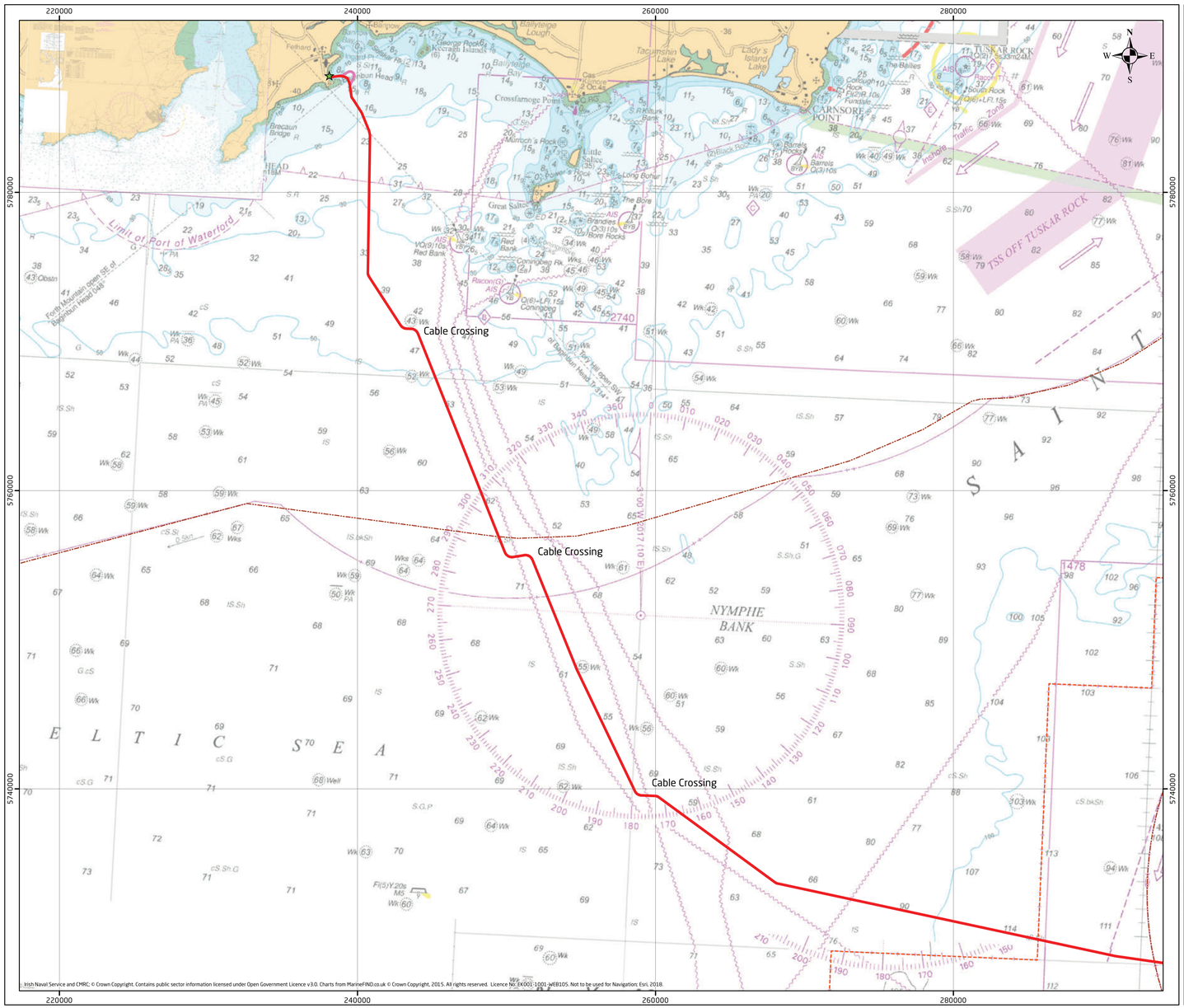
Do you have concerns regarding noise and vibration you wish to be assessed?

For more information please visit: **www.greenlinkinterconnector.eu**

Noise and Vibration.indd 1 10/01/2019 21:00:10

OFFSHORE IRELAND ROUTE OPTIONS

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Irish Territorial Waters

Legend

- Selected Landfall
- Median Line
- 12nm Territorial Sea Limit

Proposed Routes

- Route A
- Option D

NOTE: Not to be used for Navigation

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Data Source	INS, CDA, ESRI, MARINEFIND
File Reference	J:\P1975\Mxd\Public_Exhibitions\Offshore_Ireland_Route_Options_A2.mxd
Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Co-financed by the European Union
Connecting Europe Facility

intertek

0 2 4 6 8 km

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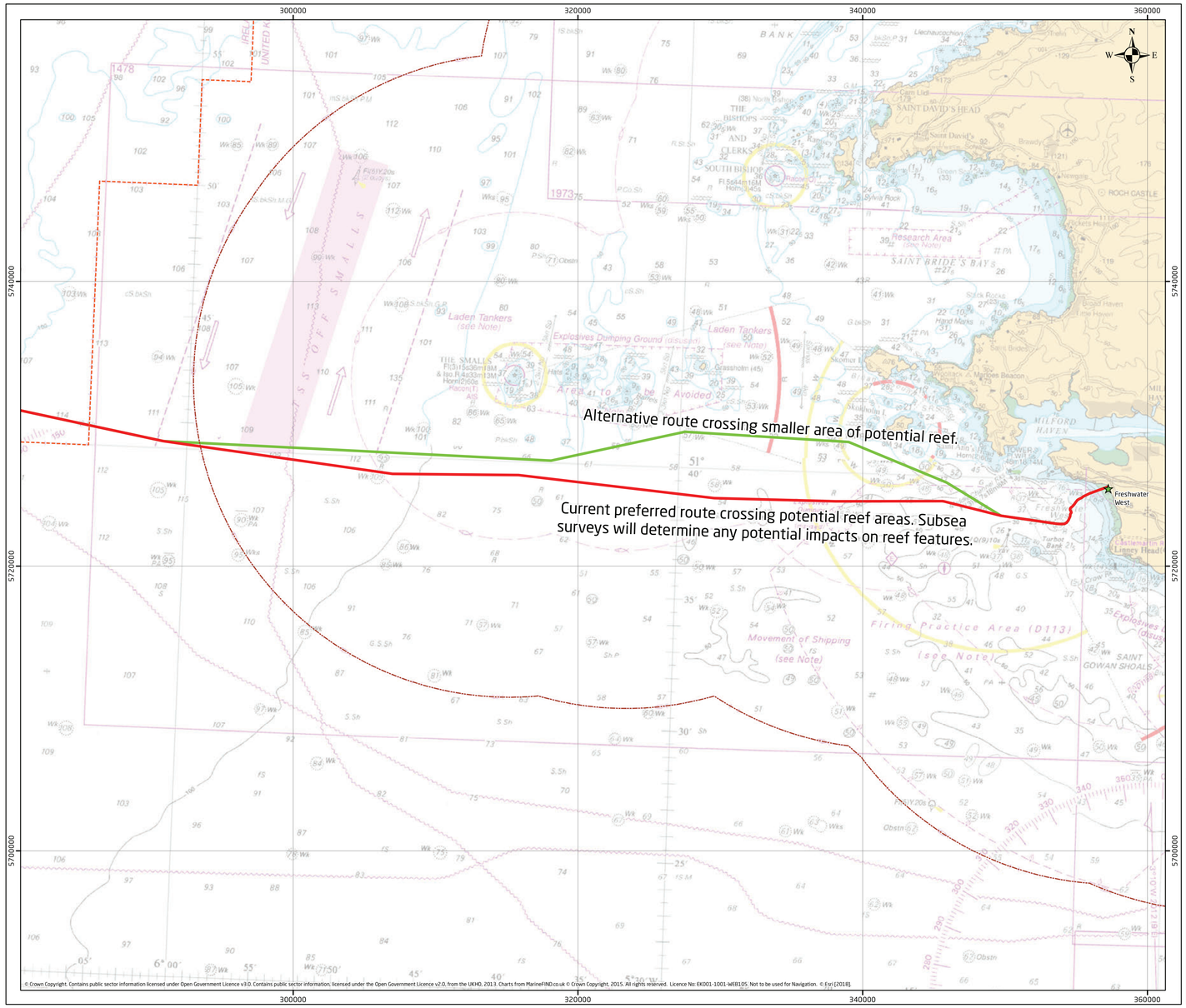
A preferred subsea route has been identified following desk-based assessments supported by the results of early subsea surveys.

For more information please visit: **www.greenlinkinterconnector.eu**

Offshore ireland route options.indd 1
10/01/2019 21:01:02

OFFSHORE WALES ROUTE OPTIONS

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Welsh Territorial Waters

Legend

- Selected Landfall
- Median Line
- 12nm Territorial Sea Limit
- Route A
- Route E

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Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Co-financed by the European Union Connecting Europe Facility

0 2.5 5 7.5 10 km

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There are currently two subsea routes being assessed off the Welsh coast. The red and green routes under assessment are shown here.

Initial survey data suggests that both routes have environmental constraints and consultation and additional survey work is being undertaken to see if there is an alternative route between the two options.

The final route will be selected following the conclusion of subsea surveys and consultation with stakeholders.

For more information please visit: **www.greenlinkinterconnector.eu**

Offshore_Wales_Route_Options.indd 1 10/01/2019 21:03:37

PLANNING

Greenlink
INTERCONNECTOR

	Wales	Ireland
Converter station	**Major Development** - Pembrokeshire County Council	**Strategic Infrastructure Development** - An Bord Pleanála **Authorisation to construct** - Commission for the Regulation of Utilities
Onshore cable route	**Major Development** - Pembrokeshire County Council - Pembrokeshire Coast National Park Authority	**Strategic Infrastructure Development** - An Bord Pleanála **Consent to lay electricity lines across lands** - Commission for the Regulation of Utilities **Consent to lay electricity lines under the public road** - Commission for the Regulation of Utilities
Marine cable	**Marine Licence** - Natural Resources Wales **Marine Works Licence** - Milford Haven Port Authority	**Foreshore Licence** - Department of Housing, Planning and Local Government (Foreshore Unit)

IMPORTANT PLANNING UPDATE:

ENVIRONMENTAL IMPACT ASSESSMENT

Since the previous round of public consultations Greenlink Interconnector Limited has decided to undertake a voluntary Environmental Impact Assessment (EIA) in support of the Greenlink project. This will result in the application documents facing an increased level of scrutiny from stakeholders. While it is recognised that Greenlink does not require an EIA, we have decided to undertake a voluntary EIA in recognition of the length of the permitting process and the evolving interpretation of the EIA regulations within Ireland.

PROJECT TIMELINE

Greenlink
INTERCONNECTOR

A large infrastructure project such as Greenlink takes several years from development to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018. This follows the completion of desk-based assessments and consultation with statutory consultees.

Once a detailed proposal and design have been put together, permits and licences will need to be obtained from: Pembrokeshire County Council, Pembrokeshire Coast National Park, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales; and An Bord Pleanála and the Department of Housing, Planning and Local Government – Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland.

Once the appropriate permits and licences have been obtained, the scheme will need to be constructed, which could take around 36 months from start to finish.

The project is envisaged to commence on-site construction in 2020 and be fully operational in 2023

2018

Environmental Studies

Detailed environmental and technical studies commence.

2019

Planning applications to be submitted

The application for the onshore components will be submitted to Pembrokeshire County Council (Wales) and An Bord Pleanála (Ireland), the application for the marine components will be submitted to Natural Resources Wales (Wales) and the Department of Housing, Planning and Local Government – Foreshore Unit (Ireland)

2020

Commence construction

The project is envisaged to commence on-site construction

2023

Interconnector operational

Expected to be fully operational

For more information please visit: **www.greenlinkinterconnector.eu**

Project Timeline.indd 1 10/01/2019 21:18:17

SITE ASSESSMENT - OVERVIEW

Greenlink
INTERCONNECTOR

As part of the development process, a series of environmental and technical assessment studies are being carried out to establish the viability of all the proposed sites and cable routes and to consider any potential impacts and opportunities arising from the development.

Onshore studies include assessments on:

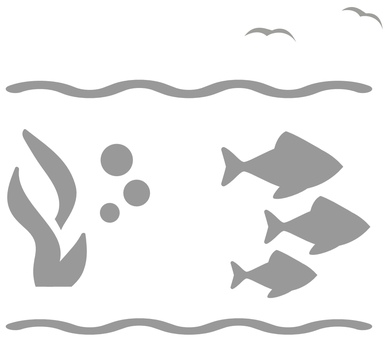
- Biodiversity
- Historic environment
- Landscape & visual impact
- Flooding & hydrology
- Geology & hydrogeology
- Noise & vibration
- Traffic & transport
- Electromagnetic fields (EMFs)
- Agricultural land
- Socio-economics & human health
- Air quality & climate change
- Cumulative & transboundary effects

Offshore studies include assessments on:

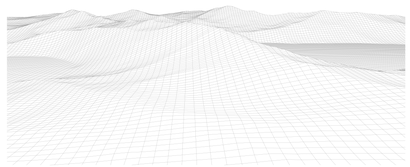
- Geophysical & geotechnical surveys
- Marine biodiversity (benthic/seabed environment, fish and shellfish, marine birds, marine mammals and reptiles etc)
- Protected designations
- Commercial fisheries
- Shipping & navigation
- Aviation & military
- Marine archaeology & UXOs

Further information on the nature of these assessments is available within the project Environmental Scoping documents.

Noise & vibration



Marine biodiversity



Landscape & visual impact

For more information please visit: **www.greenlinkinterconnector.eu**

Site assessment - Overview.indd 1 10/01/2019 21:05:15

SOCIO-ECONOMICS

Greenlink
INTERCONNECTOR

This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects to the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy.

Local tourism

The Hook Head Peninsula has a rich built heritage and attractive beaches, and it is an important tourist destination in Ireland's Southeast. Tourist attractions close to the cable route include Dunbrody Abbey, Loftus Hall and Baginbun Beach and Martello Tower. The Ring of Hook Coastal Drive is a popular route which may partially coincide with the cable route, and appropriate traffic management will be required to minimise disruption to tourist traffic during the cable construction within the roadway.

The cable will be horizontally drilled under the beach at the landfall, with the construction area set well back from the beach and cliffs. It is not envisaged that the construction work will have adverse effects on tourist activity at the beach.

Potential impacts

There will be temporary impacts on road traffic during the cable construction, with the requirement for partial or full road closures and diversions, for short periods.

Direct and indirect employment will be created for both the construction and operational phase.

The construction of the cables and converter station have the potential to have a negative impact on residential amenity in the immediate vicinity of the construction activities. Once the cables and converter station are operational, the potential for negative impact on residential amenity is minimal.

Your views

Please let us know of any local tourism business or group we need to consider and involve in project discussions.

Are there any particular local events that attract tourists that Greenlink needs to be aware of?

Jobs

Jobs and knock-on economic benefits during construction

For more information please visit: **www.greenlinkinterconnector.eu**

Socio-Economics.indd 1 10/01/2019 21:06:10

TRAFFIC & TRANSPORT

Greenlink
INTERCONNECTOR

The traffic assessment will address the traffic impacts on the road network from the construction and operation of the Greenlink project. The assessment will include the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce will also be addressed.

The traffic assessment will include a review of the existing traffic patterns and an estimation of the traffic volumes which will be generated by the construction of the onshore cable, the landfall site and the converter station. The traffic generated by the construction workforce and by the transport of materials and equipment will also be predicted.

The potential disruption to the road network during the installation of the cables and the availability of alternative routes will be assessed. The traffic distribution pattern on the local road network during construction will be examined and impacts determined.

We will work hard to limit the impact of traffic and transport on local residents and businesses as much as possible and recommendations will be made to mitigate any potential traffic impacts on the road network.

Potential impacts and mitigation

There is potential for traffic impact from Greenlink during the construction phase which will temporarily give rise to additional traffic on the road network.

Installation of the cables may require partial or full road closures and traffic may have to use alternative routes. Where the cable route diverges from the road, the impacts will be reduced.

Once the Greenlink project is in operation, the potential for a traffic impact is minimal. The level of operations and maintenance workforce will be low, so that the impact on any particular road will be insignificant.

Traffic Management Plan (TMP)

As part of the planning application process, an outline Traffic Management Plan (TMP) will be put together that will outline measures for managing and mitigating the construction traffic caused by Greenlink.

Greenlink will consult the local community on a draft TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

Your views

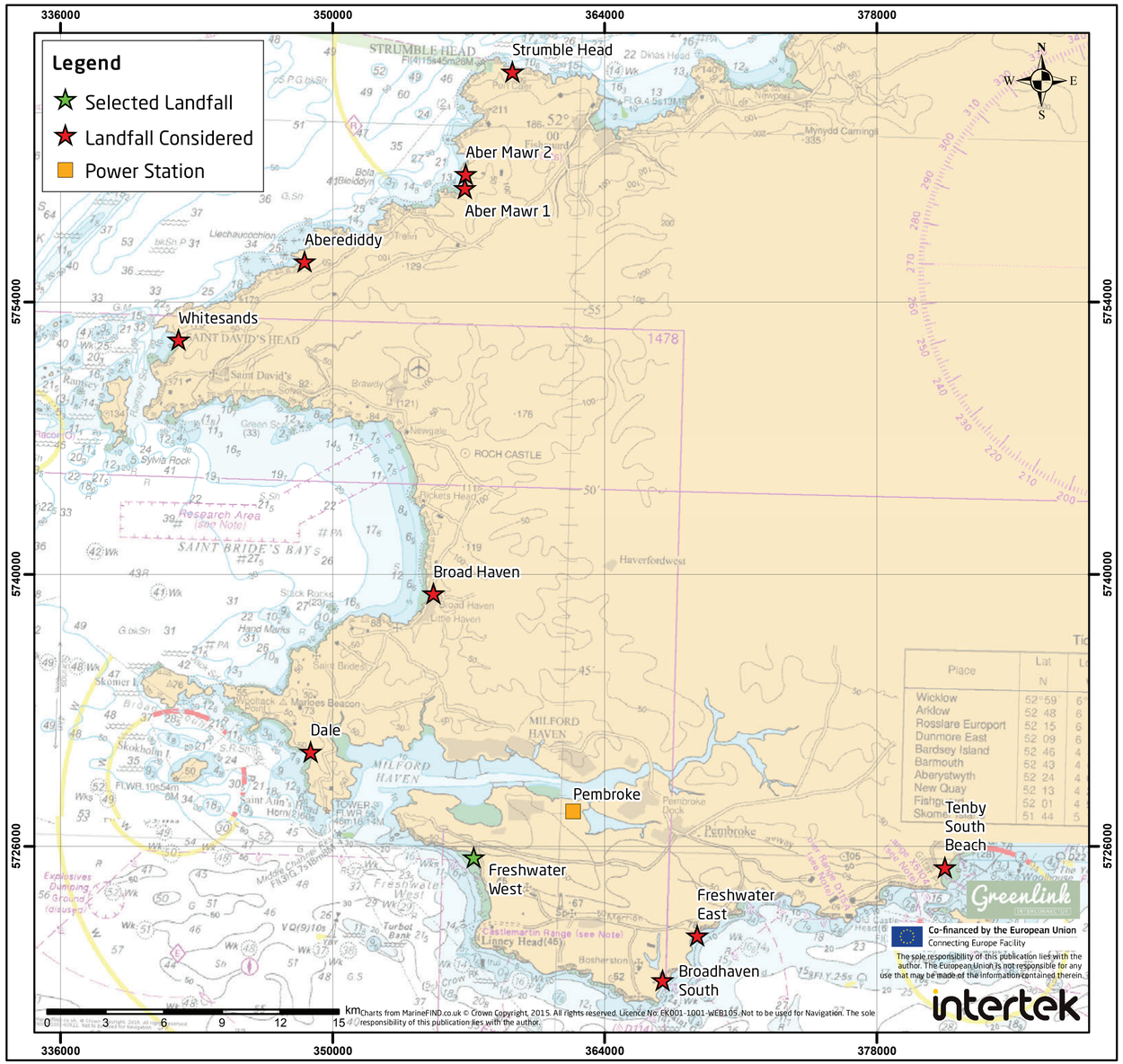
Do you have any specific concerns? Are there local organisations (businesses, schools etc) that we need to involve in the Traffic Management Plan?

For more information please visit: **www.greenlinkinterconnector.eu**

Traffic & transport.indd 1 10/01/2019 21:07:29

WELSH LANDFALLS

Greenlink
INTERCONNECTOR



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The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

For more information please visit: **www.greenlinkinterconnector.eu**

Welsh Landfalls.indd 1 10/01/2019 21:09:27

WHY GREENLINK?

Greenlink
INTERCONNECTOR

Greenlink is a new 500 MW interconnector between Ireland and Wales

Ireland is currently connected to Great Britain by two electricity interconnectors, which provide a means of transferring electricity between the two countries – the East West Interconnector (EWIC), which connects County Dublin to North Wales, and the Moyle interconnector between County Antrim, Northern Ireland and Ayrshire, Scotland.

However, the challenges faced by the British, Irish and wider European energy systems are driving the need for additional interconnectors between Ireland and Great Britain, and within Europe as a whole. This will allow electricity to flow more easily between where it is generated and where it is needed, improving the security and reliability of our energy supplies and supporting the integration of greener, low carbon energy sources in an affordable way.

There is a strong need and significant support within Europe for additional interconnection. The 'Energy Union' is a strategy launched by the European Commission in 2015 with the aim of ensuring that European countries have access to secure, affordable and climate-friendly energy.

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

supporting the integration of greener, low carbon energy sources in an affordable way

Supporting Renewable Energy

Improving Energy Security

Fighting Climate Change

Benefiting Consumers

For more information please visit: **www.greenlinkinterconnector.eu**

Appendix 8

Public Exhibition
– March 2019

WELCOME TO THE EXHIBITION

Greenlink
INTERCONNECTOR

Welcome

Welcome and thank you for taking the time to come to this public exhibition for the Greenlink Interconnector project (Greenlink).

We have prepared the information on display here today to help you find out more about our work on Greenlink.

Members of the project team are here to answer your questions.

About the developer

Greenlink is being developed by Greenlink Interconnector Limited. Greenlink Interconnector Limited is 100% owned by Element Power Holdings, a leading global developer of renewable energy, energy storage, flexible generation and interconnection projects.

Your Views

We are very interested to hear your views, so please feel free to fill in a comments form and drop it in the box provided before you leave.

For more information please visit:
www.greenlinkinterconnector.eu

Welcome - Portrait - 1172 x 872.indd 1 10/01/2019 21:08:52

PROJECT BENEFITS

Greenlink
INTERCONNECTOR

380,000
Potential to power 380,000 homes*

Investment
€400m of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Regional investment and jobs
Greenlink represents €400m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

Benefits for Ireland and Co. Wexford
Greenlink will provide additional transmission network capacity, reinforcing the electricity grid in Ireland. It will also offer valuable regional investment to Ireland and Co. Wexford, including jobs and knock-on economic benefits during construction.

For more information about opportunities for local businesses, please see our 'Local Supply Chain' board later in this exhibition

*Figure for number of homes is based on typical annual household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

IRELAND

250 jobs in Ireland during construction

Jobs 20 permanent Irish jobs

Grid Reinforce electricity grid

Project Benefits 1172x872.indd 1 10/01/2019 21:03:22

THE PROPOSAL

Greenlink
INTERCONNECTOR

Greenlink is a proposed 500 megawatt (MW) subsea and underground cable electricity interconnector (with associated converter stations) between the existing electricity grids in Ireland and Great Britain, allowing for electricity to flow both ways between the two countries. The project will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland, GB and continental Europe. The construction and development of Greenlink will deliver increased energy security, regional investment and value for money for consumers and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

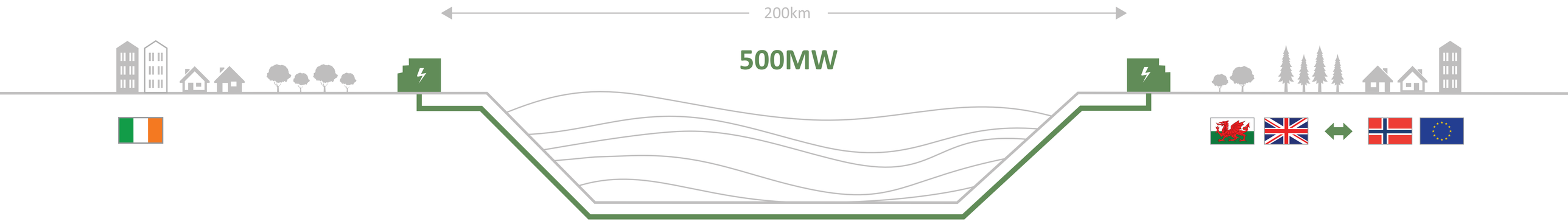
Greenlink will include two converter stations, each located close to the identified existing substations: Great Island Substation in County Wexford (Ireland) and Pembroke Substation in Pembrokeshire (Wales).

The converter stations will be connected to each other by two electricity cables and a fibre optic cable that will enable the two converter stations to communicate for control purposes.

There will be no overhead lines between the two converter stations and the respective substations. Onshore the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

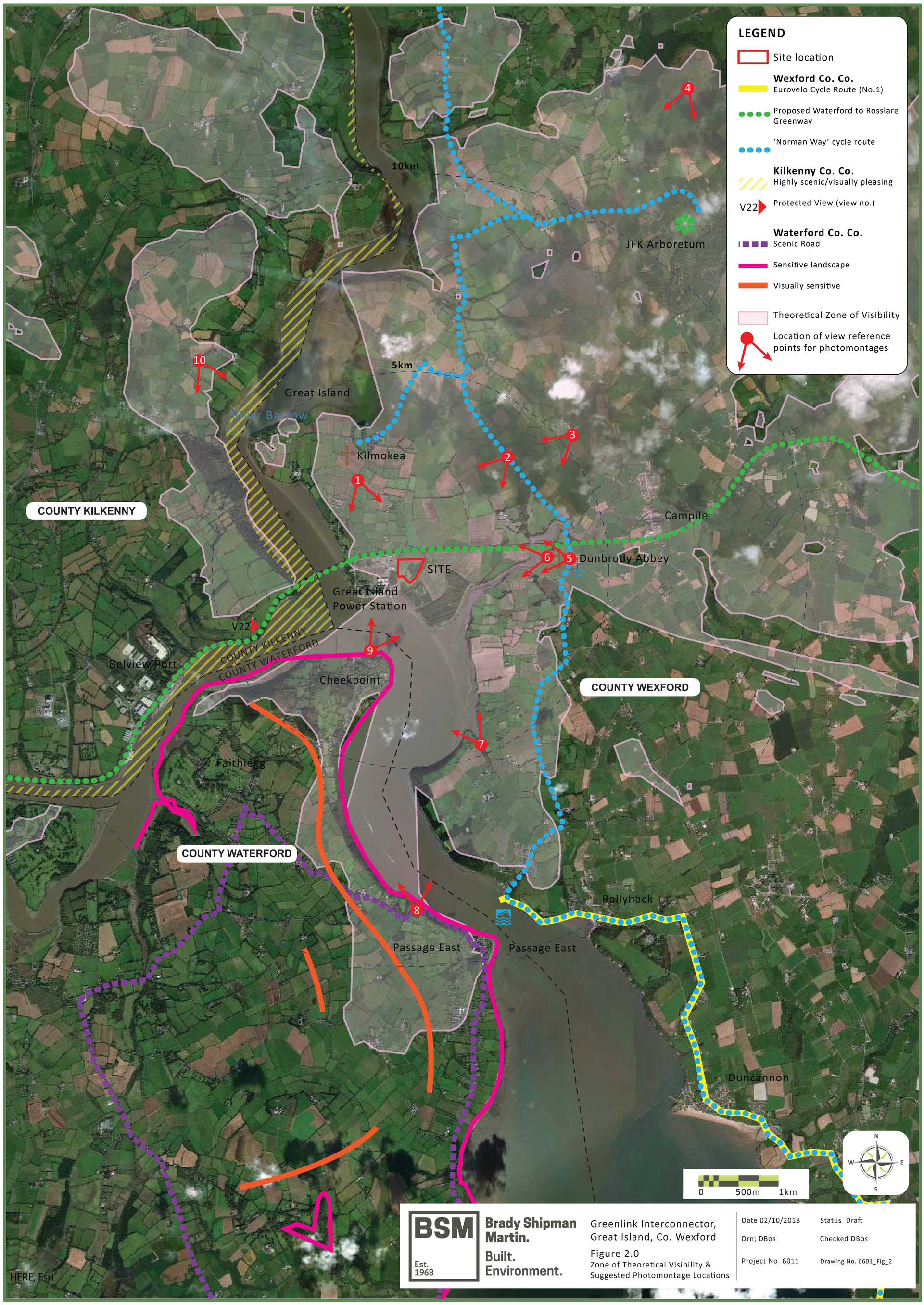
The project will require planning permission in Ireland and Wales. Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built. Greenlink is planned for commissioning in 2023.

Sources: Ofgem, TEC Register, 3rd PCI, TYNDP 2016w



VIEWPOINT LOCATIONS

Greenlink
INTERCONNECTOR



BSM Est. 1968
Brady Shipman Martin.
Built. Environment.

Greenlink Interconnector, Great Island, Co. Wexford

Figure 2.0
Zone of Theoretical Visibility & Suggested Photomontage Locations

Date 02/10/2018	Status Draft
Drn; DBos	Checked DBos
Project No. 6011	Drawing No. 6601_Fig_2

Your views

Do you have any other suggestions for a viewpoint location?

Viewpoint Locations - 1172x872.indd 1
10/01/2019 21:08:16

BIODIVERSITY

Greenlink
INTERCONNECTOR

Surveys will be carried out and the data assessed to ensure that the final onshore elements of the proposal are designed sympathetically to the local environment and wildlife and where possible enhancement measures will be employed.

Studies cover the landfall site, the preferred cable route and the possible converter station locations.

As well as birds, wildlife to be considered by these assessments also include badgers, bats, otters, water voles, and amphibians. Consideration is also being given to local vegetation, including hedgerows, trees and important habitats and invasive species.

The surveys will be used to avoid, reduce and offset any impacts on biodiversity through sensitive design and mitigation measures as required.

Your views

Do you know of any local environmental groups that Greenlink should consult?

Are there specific issues you feel should be assessed that aren't currently being assessed?

For more information please visit: **www.greenlinkinterconnector.eu**

Biodiversity.indd 1 10/01/2019 20:48:38

CONSULTATION

Greenlink
INTERCONNECTOR

Public consultation is a core part of the development process and ensures that communities in the vicinity of a new proposal have timely and transparent access to information and can engage with developers to influence the final proposal coming forward. We would like to hear what your thoughts and views are on this proposal.

The Greenlink project team wants to ensure that the local community is consulted and involved throughout the development process of the interconnector project.

During the development process we will be looking to fully engage with local residents, councillors, businesses and members of the local community to discuss the proposal and any potential impacts and to obtain feedback on key issues.

We intend to make sure the local community can see that its views have been fully considered and incorporated within the final proposal.

This public exhibition is to allow local residents and stakeholders to view our current plans, hear about project progress, share their views with us, meet the project team and ask questions. We would welcome any feedback that you have now or in the future.

Additional events will be held in due course as the project progresses.

Contact details

If you would like the Greenlink team to keep you directly updated on project news and future consultation events, please leave us your name and contact details on the comment sheet provided.

For more information please visit: **www.greenlinkinterconnector.eu**

Consultation.indd 1 10/01/2019 20:50:29

GREENLINK COMPONENTS

Greenlink
INTERCONNECTOR

The key components of the scheme are:

- **Two converter stations** – one near the Great Island Substation in County Wexford (Ireland) and one near the Pembroke Substation in Pembrokeshire (Wales)
- **Two subsea HVDC cables and a fibre optic cable** – the onshore cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

What is an HVDC cable?

- High Voltage Direct Current (HVDC) cables allow for efficient transportation of electricity over large distances and in particular for subsea cables.
- HVDC cables have lower electricity losses than comparable AC cables.
- HVDC cables are suitable for undergrounding both onshore and offshore. There will be no overground cables between the two converter stations.
- One of the benefits of HVDC cables is the relatively small footprint required to install them underground onshore.

IMAGE: PRYSMIAN

What is a converter station?

A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa. DC electricity is used for the transmission of electricity over long distances between two converter stations and AC electricity is used within the national transmission and distribution networks.

www.siemens.com/press

What is a fibre optic cable?

A fibre optic cable is installed to provide communication between the converter stations for system monitoring and safety purposes.

GREENLINK IN IRELAND

Greenlink
INTERCONNECTOR

A2

Legend

- Indicative Joint Bay Locations
- Emerging Preferred Route

Greenlink INTERCONNECTOR

Co-financed by the European Union Connecting Europe Facility

Issue	Date	By	Chkd	Appd
P0	2019-01-10	GM	MM	MD

Kilometers
0 0.275 0.55 1.1

ARUP

Client
Greenlink Interconnector Ltd

Job Title
Greenlink Interconnector

Emerging Preferred Cable Route Ireland

Scale at A2
1:40,000

Job No	Drawing Status
246369-00	**Preliminary**

Drawing No	Issue
SK064	**P0**

© Arup

`MXD Location \\global\europe\Cork\Jobs\246000\246369-00\4. Internal\4-03 Design\4-03-03 Infrastructure\01 GIS\04_Map Documents\RC_RouteCorridor\IRL\Preferred Route Corridor.mxd`

A preferred cable route and converter station site have been identified following consultation with stakeholders and analysis of the results of ongoing environmental and technical work. The preferred cable route and converter station site are shown here.

For more information please visit: **www.greenlinkinterconnector.eu**

HISTORIC ENVIRONMENT

Greenlink
INTERCONNECTOR

The potential effects of Greenlink on local archaeology and cultural heritage will be assessed by seeking to identify, predict and evaluate the significance of potential effects on designated and non-designated heritage assets within a study area of 1.5 km from the converter station site and within a 200m study area from the cable route corridor.

Cultural heritage encompasses valued features and remains, including buildings, monuments and archaeological remains. It can also include landscapes shaped by human occupation and design, such as historic parks and gardens.

The importance of cultural heritage is recognised in legislation and planning policy.

The converter station site is located in an area with a rich archaeological and historic heritage but is also located in such a way as to complement the existing industrial surrounds.

Sites of interest in the wider area include Kilmokea Church and Graveyard, Dunbrody Abbey and Castle, Duncannon Fort and the historic Norman landing place at Baginbun Beach.

Given the large number of sites relating to prehistoric activity in this region, there is also a potential for the development to uncover as yet unknown archaeological remains.

Impacts and mitigation

During construction the potential impact of the onshore cables, landfall site and the converter station could be the loss or interference with a site or feature of archaeological, architectural and cultural heritage significance caused by excavations or by construction related vibrations.

The importance of cultural heritage is recognised in legislation and planning policy

Greenlink will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects on archaeology and heritage assets within the study area. Wherever possible, mitigation will be designed to deliver benefits, such as enhancing the visual setting of historic assets.

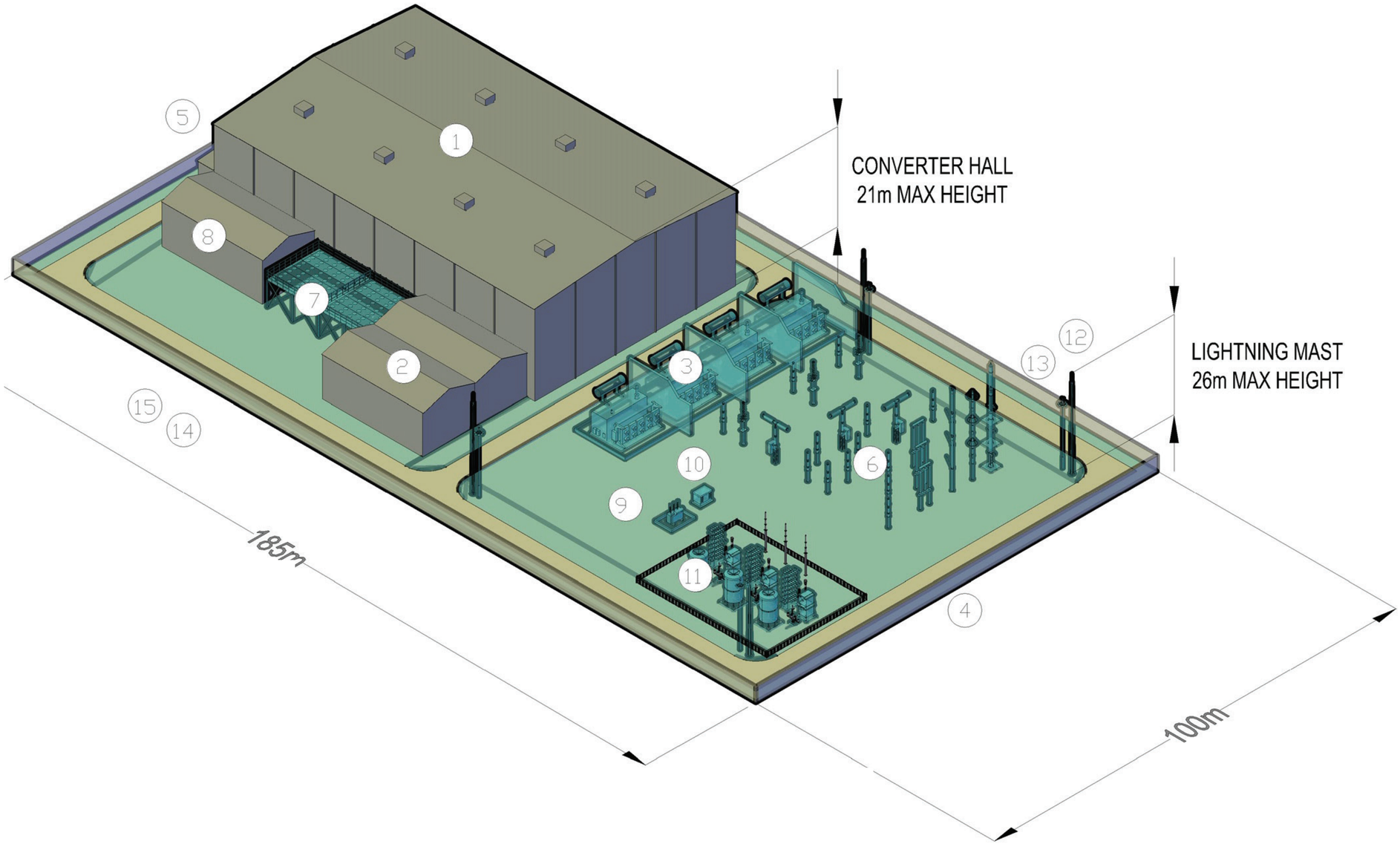
Greenlink will aim to avoid undisturbed archaeological remains and preserve them in situ. Where this is not possible, preservation by record will be proposed as mitigation.

For more information please visit: **www.greenlinkinterconnector.eu**

Historic Environment.indd 1 10/01/2019 20:52:53

INDICATIVE CONVERTER STATION

Greenlink
INTERCONNECTOR



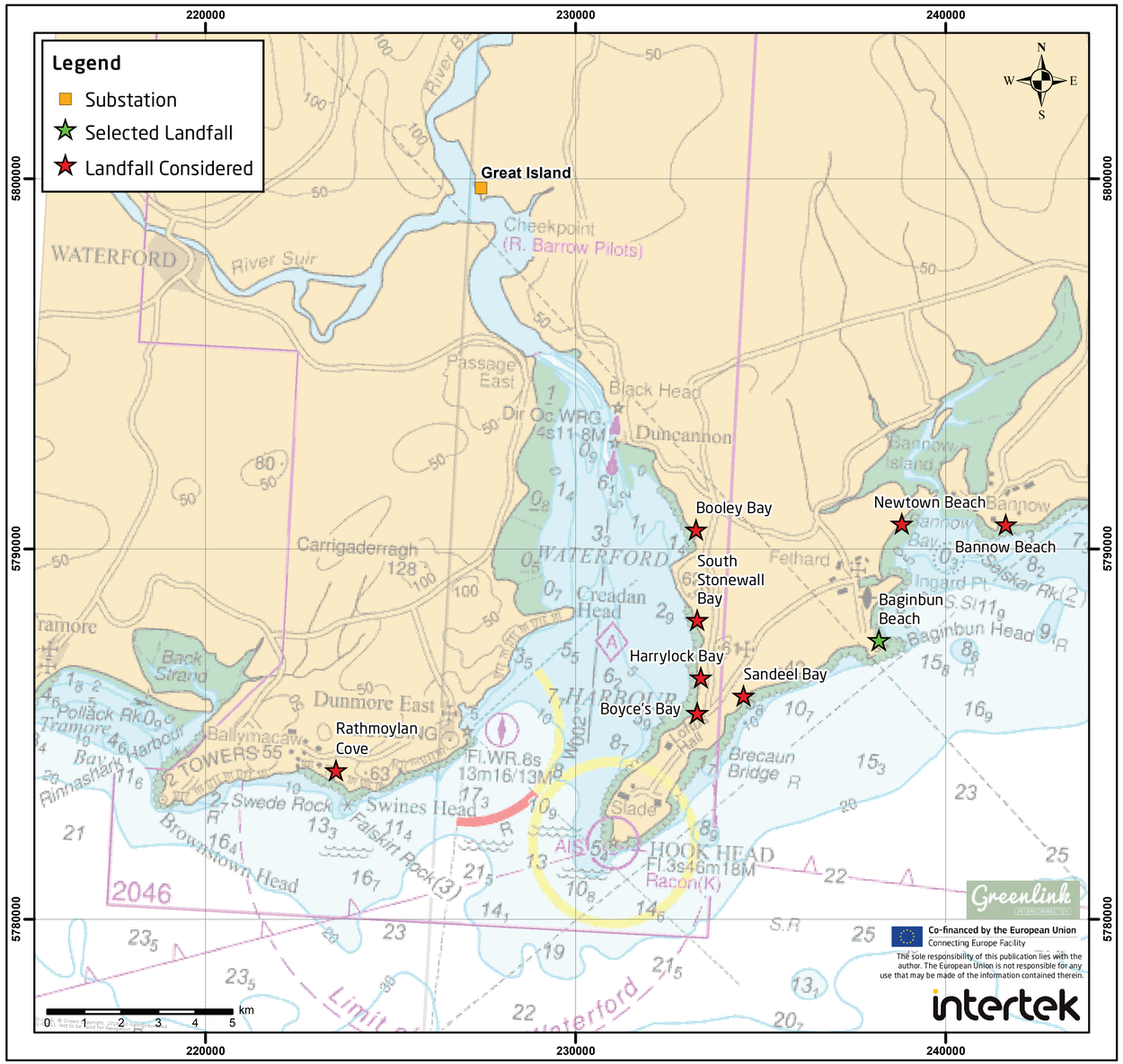
SITE KEY	
1	CONVERTER HALL
2	CONTROL BUILDING
3	TRANSFORMERS
4	AC CABLE TERMINATIONS
5	DC CABLE TERMINATIONS
6	400kV SWITCHYARD
7	VALVE COOLERS
8	SPARES BUILDING
9	STANDBY GENERATOR
10	AUXILIARY TRANSFORMER
11	FILTERS
12	LIGHTNING MAST
13	15m LIGHTING COLUMN
14	6m LIGHTING COLUMN
15	PERIMETER FENCE

For more information please visit: **www.greenlinkinterconnector.eu**

Indicative Converter Station.indd 1 10/01/2019 20:54:18

IRISH LANDFALLS

Greenlink
INTERCONNECTOR



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The landfall at Baginbun Beach was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

Irish Landfalls.indd 1 10/01/2019 20:54:50

LANDSCAPE & VISUAL IMPACT

Greenlink
INTERCONNECTOR

Landscape

This assessment relates to changes in the physical landscape, brought about by Greenlink, which may alter its character and how this is experienced.

Visual

Visual impact assessment relates to changes in the composition of views as a result of changes to the landscape, how these are perceived and the effects on visual amenity.

We will produce visualisations of the converter stations from viewpoints to be agreed with An Bord Pleanála. Viewpoints will be selected to represent the character of the area and particularly important landscape and heritage sites. Proposed locations can be seen on the 'viewpoint locations' board.

Impacts and mitigation

Converter station

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonics filters, lightning towers, ancillary plant and a control building.

Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. However, the layout of the converter station and final dimensions will depend on the local terrain, physical constraints, the results of environmental surveys, consultations and the supplier's technical requirements.

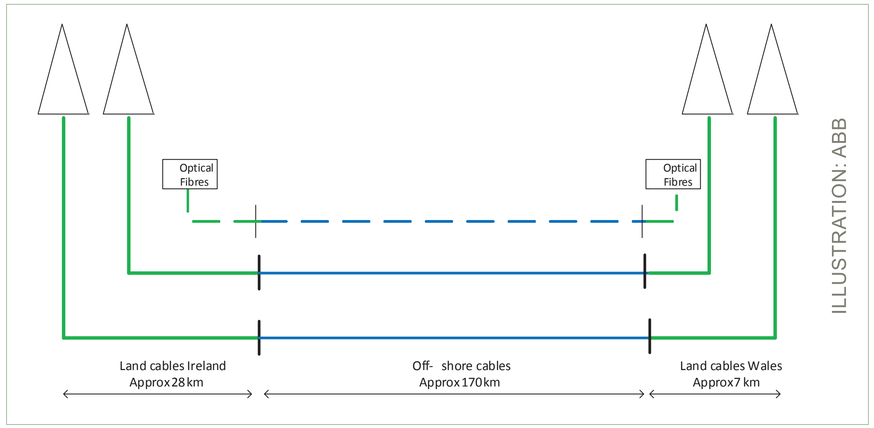
The landscape and visual impact of this will be carefully considered and suitable mitigation, such as landscaping and building finishes, among others, will be proposed.

Cable route

There is the potential for impact from the cable route from vegetation clearance during construction, particularly where the cable route diverges from the road network.

Landscape and visual impacts during cable installation are predicted to be minor and not significant due to the temporary and reversible nature of the change (vegetation clearance) which can be adequately mitigated through replanting.

Following installation and restoration there are not predicted to be any residual landscape and visual effects from the cable route.



Your views ... Do you have any suggestions for viewpoints to be assessed?
What sort of landscaping planting would you like to see in and around the converter station?

PHOTO: www.siemens.com/press

For more information please visit: **www.greenlinkinterconnector.eu**

Landscape & Visual Impact.indd 1 10/01/2019 20:55:16

LOCAL SUPPLY CHAIN

Greenlink
INTERCONNECTOR

Greenlink is committed to maximising the use of locally-based contractors and personnel during the construction and operational phases of the project.

Construction work on Greenlink is expected to lead to significant expenditure in both Ireland and Wales. A significant amount of work is due to take place at the landfall, cable and converter station sites and will require skills and experience available from contractors found in the local area.

The types of services that could be locally sourced include:

- Transportation – equipment and personnel
- Materials, e.g. supplying and pouring concrete
- Electrical connection
- Hospitality and catering for civil engineering activities and earthworks
- Office and cleaning supplies
- Site security
- Site services, e.g. portacabins and portaloos
- Fencing
- Waste disposal

Your Views

Do you know of a local business that could benefit from the Greenlink interconnector project?

Let us know if you want to be added to our list of local suppliers!

For more information please visit: **www.greenlinkinterconnector.eu**

Local Supply Chain.indd 1 10/01/2019 20:56:11

MARINE ENVIRONMENTAL ASSESSMENTS

Greenlink
INTERCONNECTOR

The aims of the Environmental Impact Assessment will be to identify potential impacts, including:

- Penetration and/or disturbance of the substrate below the surface of the seabed
- Visual disturbance
- Underwater noise changes
- Siltation rate changes
- Hydrological changes
- Physical loss (permanent change)
- Electromagnetic changes
- Possible in-combination effects

Mitigation - Once potential impacts have been established, mitigation measures will be proposed to ensure that impacts are minimised or removed.

Topics covered by the Environmental Impact Assessment will include:

- Protected sites
- Benthic ecology
- Fish and shellfish
- Marine birds
- Marine mammals and reptiles
- Marine archaeology and UXOs
- Coastal processes
- Fisheries
- Shipping and navigation
- Recreation
- Cumulative effects

Your views

Greenlink has appointed a Fisheries Liaison officer to liaise with local fishing interests. Do you want our Fisheries Liaison officer to contact you?

For more information please visit: **www.greenlinkinterconnector.eu**

Marine Environmental Assessments.indd 1 10/01/2019 20:57:24

MARINE SURVEYS

Greenlink
INTERCONNECTOR

The proposed marine cable will run from Freshwater West, Pembrokeshire, Wales to the Hook Head Peninsula in County Wexford, Ireland.

Technical viability

Marine surveys are currently being undertaken and include geophysical and geotechnical surveys.

Geophysical

The geophysical survey will map the seabed and sub-surface geology along the proposed route in order to be able to optimise cable routing within the survey corridor and to enable assessment of cable target burial depth along the route.

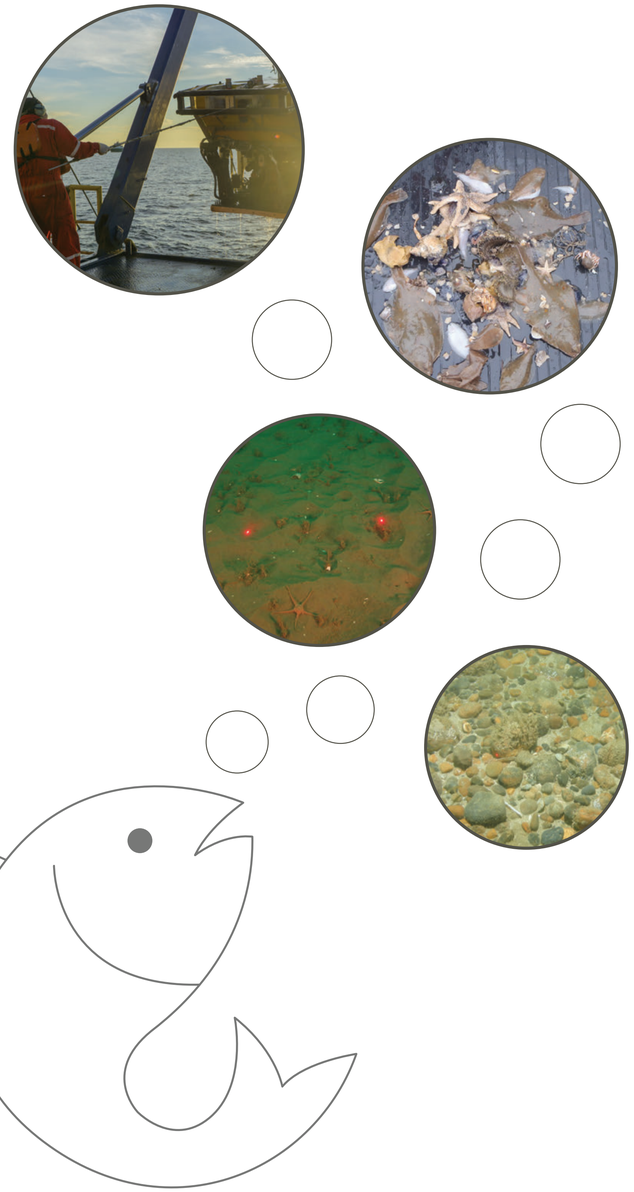
It will also provide the geophysical data from which a marine archaeological assessment can be undertaken as part of the consenting process.

Geotechnical

The purpose of the geotechnical survey is to evaluate the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This is being done using a number of techniques, including drilling boreholes.

Environmental impacts

The marine survey aims to map the distribution and extent of marine habitats within the proposed cable corridor. Data from this survey is being used to inform the Environmental Impact Assessment.



For more information please visit: **www.greenlinkinterconnector.eu**

Marine surveys.indd 1 10/01/2019 20:58:57

NOISE & VIBRATION

Greenlink
INTERCONNECTOR

This assessment will address potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The proposed underground cable routes pass through predominantly rural areas which are likely to experience low ambient existing noise levels. The converter station locations are also located in a rural area but are adjacent to an existing substation with its associated operating noise levels.

Noise surveys and assessment

- The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors will be determined via noise surveys.
- Noise-sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship etc) and public open spaces (including public footpaths).
- A study area of 300m around the cable route corridor and converter station locations will be considered for potential construction noise impacts and an area of 50m will be considered for potential construction vibration impacts.
- For operational noise, an assessment will be undertaken at sensitive receptors within 300m of the converter station.

Impacts and mitigation

The construction of the converter station has the potential to give rise to temporary noise and vibration impacts. However, given the distance between the converter station locations and sensitive receptors it is likely that any impact will be low.

The construction of the cable route has the potential to give rise to temporary noise and vibration impacts in isolated locations along the route, particularly where directional drilling is required at watercourses and road crossings.

There will be noise from the electrical and mechanical plant during the operation of the converter station, most of which will be located indoors in the converter hall.

Your views

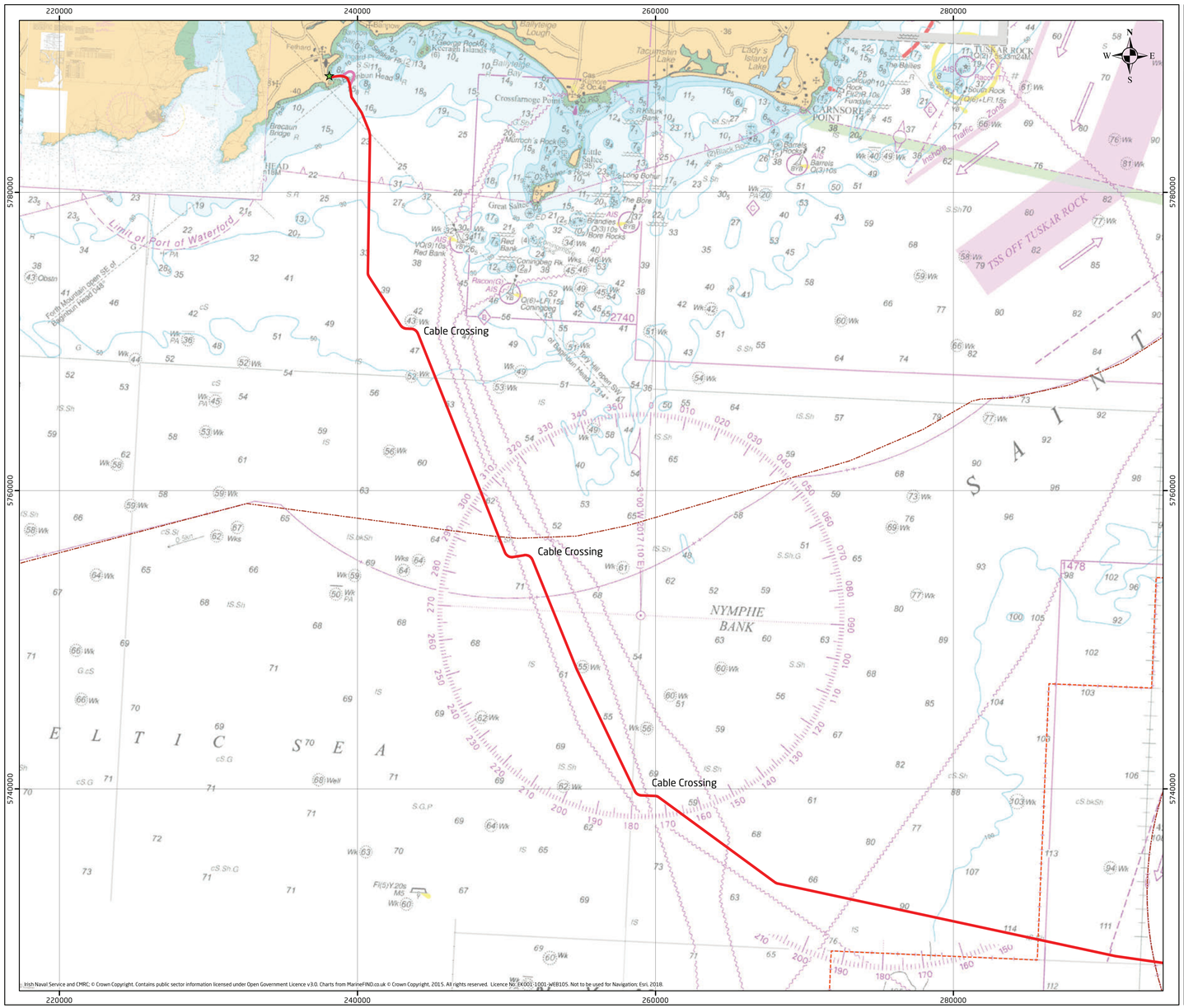
Do you have concerns regarding noise and vibration you wish to be assessed?

For more information please visit: **www.greenlinkinterconnector.eu**

Noise and Vibration.indd 1 10/01/2019 21:00:10

OFFSHORE IRELAND ROUTE OPTIONS

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Irish Territorial Waters

Legend

- Selected Landfall
- Median Line
- 12nm Territorial Sea Limit

Proposed Routes

- Route A
- Option D

NOTE: Not to be used for Navigation

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Data Source	INS, CDA, ESRI, MARINEFIND
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Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Co-financed by the European Union
Connecting Europe Facility

intertek

0 2 4 6 8 km

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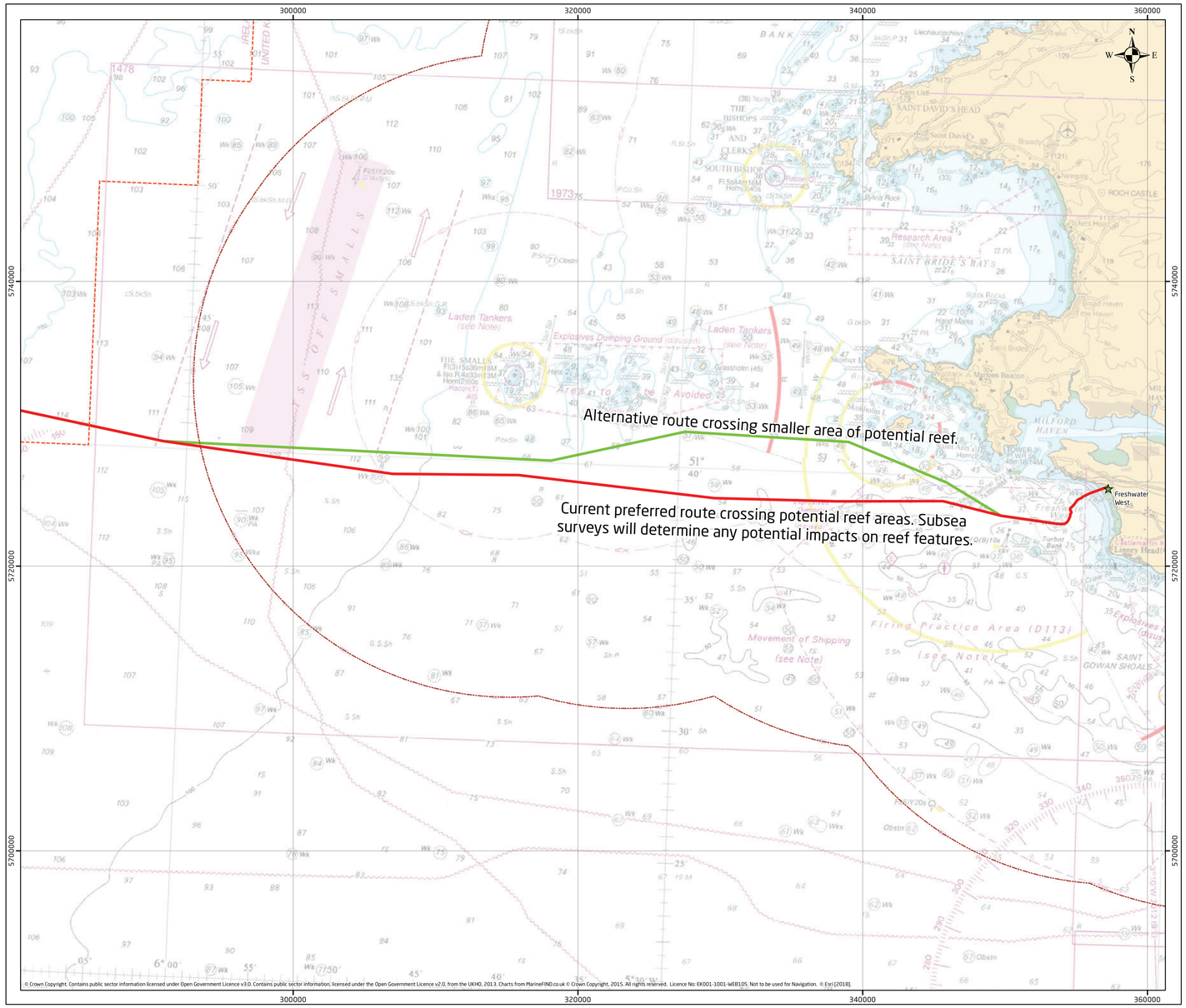
A preferred subsea route has been identified following desk-based assessments supported by the results of early subsea surveys.

For more information please visit: **www.greenlinkinterconnector.eu**

Offshore ireland route options.indd 1
10/01/2019 21:01:02

OFFSHORE WALES ROUTE OPTIONS

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Welsh Territorial Waters

Legend

- Selected Landfall
- Median Line
- 12nm Territorial Sea Limit
- Route A
- Route E

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NOTE: Not to be used for Navigation

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Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Co-financed by the European Union Connecting Europe Facility

0 2.5 5 7.5 10 km

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There are currently two subsea routes being assessed off the Welsh coast. The red and green routes under assessment are shown here.

Initial survey data suggests that both routes have environmental constraints and consultation and additional survey work is being undertaken to see if there is an alternative route between the two options.

The final route will be selected following the conclusion of subsea surveys and consultation with stakeholders.

For more information please visit: **www.greenlinkinterconnector.eu**

Offshore_Wales_Route_Options.indd 1 10/01/2019 21:03:37

PLANNING

Greenlink
INTERCONNECTOR

	Wales	Ireland
Converter station	**Major Development** - Pembrokeshire County Council	**Strategic Infrastructure Development** - An Bord Pleanála **Authorisation to construct** - Commission for the Regulation of Utilities
Onshore cable route	**Major Development** - Pembrokeshire County Council - Pembrokeshire Coast National Park Authority	**Strategic Infrastructure Development** - An Bord Pleanála **Consent to lay electricity lines across lands** - Commission for the Regulation of Utilities **Consent to lay electricity lines under the public road** - Commission for the Regulation of Utilities
Marine cable	**Marine Licence** - Natural Resources Wales **Marine Works Licence** - Milford Haven Port Authority	**Foreshore Licence** - Department of Housing, Planning and Local Government (Foreshore Unit)

IMPORTANT PLANNING UPDATE:

ENVIRONMENTAL IMPACT ASSESSMENT

Since the previous round of public consultations Greenlink Interconnector Limited has decided to undertake a voluntary Environmental Impact Assessment (EIA) in support of the Greenlink project. This will result in the application documents facing an increased level of scrutiny from stakeholders. While it is recognised that Greenlink does not require an EIA, we have decided to undertake a voluntary EIA in recognition of the length of the permitting process and the evolving interpretation of the EIA regulations within Ireland.

PROJECT TIMELINE

Greenlink
INTERCONNECTOR

A large infrastructure project such as Greenlink takes several years from development to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have to be identified and fully assessed to ensure that they are considered within the final design of an infrastructure project. Detailed environmental and technical assessment surveys commenced in 2018. This follows the completion of desk-based assessments and consultation with statutory consultees.

Once a detailed proposal and design have been put together, permits and licences will need to be obtained from: Pembrokeshire County Council, Pembrokeshire Coast National Park, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales; and An Bord Pleanála and the Department of Housing, Planning and Local Government – Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland.

Once the appropriate permits and licences have been obtained, the scheme will need to be constructed, which could take around 36 months from start to finish.

The project is envisaged to commence on-site construction in 2020 and be fully operational in 2023

2018

Environmental Studies

Detailed environmental and technical studies commence.

2019

Planning applications to be submitted

The application for the onshore components will be submitted to Pembrokeshire County Council (Wales) and An Bord Pleanála (Ireland), the application for the marine components will be submitted to Natural Resources Wales (Wales) and the Department of Housing, Planning and Local Government – Foreshore Unit (Ireland)

2020

Commence construction

The project is envisaged to commence on-site construction

2023

Interconnector operational

Expected to be fully operational

For more information please visit: **www.greenlinkinterconnector.eu**

Project Timeline.indd 1 10/01/2019 21:18:17

SITE ASSESSMENT - OVERVIEW

Greenlink
INTERCONNECTOR

As part of the development process, a series of environmental and technical assessment studies are being carried out to establish the viability of all the proposed sites and cable routes and to consider any potential impacts and opportunities arising from the development.

Onshore studies include assessments on:

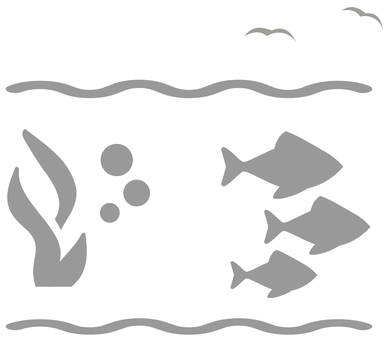
- Biodiversity
- Historic environment
- Landscape & visual impact
- Flooding & hydrology
- Geology & hydrogeology
- Noise & vibration
- Traffic & transport
- Electromagnetic fields (EMFs)
- Agricultural land
- Socio-economics & human health
- Air quality & climate change
- Cumulative & transboundary effects

Offshore studies include assessments on:

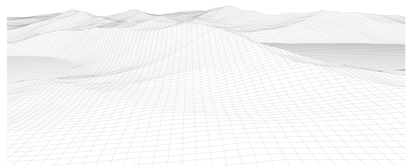
- Geophysical & geotechnical surveys
- Marine biodiversity (benthic/seabed environment, fish and shellfish, marine birds, marine mammals and reptiles etc)
- Protected designations
- Commercial fisheries
- Shipping & navigation
- Aviation & military
- Marine archaeology & UXOs

Further information on the nature of these assessments is available within the project Environmental Scoping documents.

Noise & vibration



Marine biodiversity



Landscape & visual impact

For more information please visit: **www.greenlinkinterconnector.eu**

Site assessment - Overview.indd 1 10/01/2019 21:05:15

SOCIO-ECONOMICS

Greenlink
INTERCONNECTOR

This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects to the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy.

Local tourism

The Hook Head Peninsula has a rich built heritage and attractive beaches, and it is an important tourist destination in Ireland's Southeast. Tourist attractions close to the cable route include Dunbrody Abbey, Loftus Hall and Baginbun Beach and Martello Tower. The Ring of Hook Coastal Drive is a popular route which may partially coincide with the cable route, and appropriate traffic management will be required to minimise disruption to tourist traffic during the cable construction within the roadway.

The cable will be horizontally drilled under the beach at the landfall, with the construction area set well back from the beach and cliffs. It is not envisaged that the construction work will have adverse effects on tourist activity at the beach.

Potential impacts

There will be temporary impacts on road traffic during the cable construction, with the requirement for partial or full road closures and diversions, for short periods.

Direct and indirect employment will be created for both the construction and operational phase.

The construction of the cables and converter station have the potential to have a negative impact on residential amenity in the immediate vicinity of the construction activities. Once the cables and converter station are operational, the potential for negative impact on residential amenity is minimal.

Your views

Please let us know of any local tourism business or group we need to consider and involve in project discussions.

Are there any particular local events that attract tourists that Greenlink needs to be aware of?

Jobs

Jobs and knock-on economic benefits during construction

For more information please visit: **www.greenlinkinterconnector.eu**

Socio-Economics.indd 1 10/01/2019 21:06:10

TRAFFIC & TRANSPORT

Greenlink
INTERCONNECTOR

The traffic assessment will address the traffic impacts on the road network from the construction and operation of the Greenlink project. The assessment will include the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce will also be addressed.

The traffic assessment will include a review of the existing traffic patterns and an estimation of the traffic volumes which will be generated by the construction of the onshore cable, the landfall site and the converter station. The traffic generated by the construction workforce and by the transport of materials and equipment will also be predicted.

The potential disruption to the road network during the installation of the cables and the availability of alternative routes will be assessed. The traffic distribution pattern on the local road network during construction will be examined and impacts determined.

We will work hard to limit the impact of traffic and transport on local residents and businesses as much as possible and recommendations will be made to mitigate any potential traffic impacts on the road network.

Potential impacts and mitigation

There is potential for traffic impact from Greenlink during the construction phase which will temporarily give rise to additional traffic on the road network.

Installation of the cables may require partial or full road closures and traffic may have to use alternative routes. Where the cable route diverges from the road, the impacts will be reduced.

Once the Greenlink project is in operation, the potential for a traffic impact is minimal. The level of operations and maintenance workforce will be low, so that the impact on any particular road will be insignificant.

Traffic Management Plan (TMP)

As part of the planning application process, an outline Traffic Management Plan (TMP) will be put together that will outline measures for managing and mitigating the construction traffic caused by Greenlink.

Greenlink will consult the local community on a draft TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

Your views

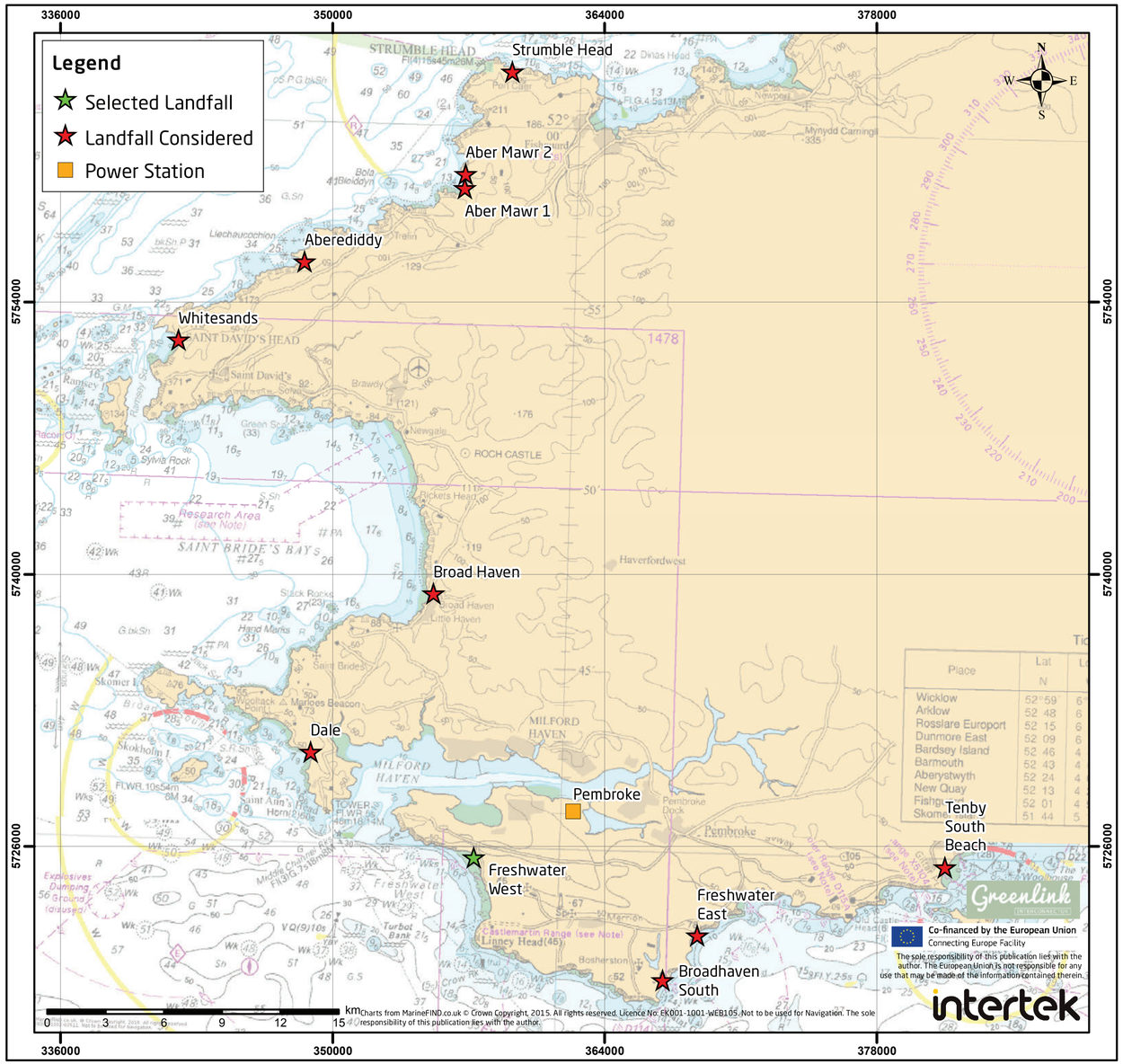
Do you have any specific concerns? Are there local organisations (businesses, schools etc) that we need to involve in the Traffic Management Plan?

For more information please visit: **www.greenlinkinterconnector.eu**

Traffic & transport.indd 1 10/01/2019 21:07:29

WELSH LANDFALLS

Greenlink
INTERCONNECTOR



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The landfall at Freshwater West was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

For more information please visit: **www.greenlinkinterconnector.eu**

Welsh Landfalls.indd 1 10/01/2019 21:09:27

WHY GREENLINK?

Greenlink
INTERCONNECTOR

Greenlink is a new 500 MW interconnector between Ireland and Wales

Ireland is currently connected to Great Britain by two electricity interconnectors, which provide a means of transferring electricity between the two countries – the East West Interconnector (EWIC), which connects County Dublin to North Wales, and the Moyle interconnector between County Antrim, Northern Ireland and Ayrshire, Scotland.

However, the challenges faced by the British, Irish and wider European energy systems are driving the need for additional interconnectors between Ireland and Great Britain, and within Europe as a whole. This will allow electricity to flow more easily between where it is generated and where it is needed, improving the security and reliability of our energy supplies and supporting the integration of greener, low carbon energy sources in an affordable way.

There is a strong need and significant support within Europe for additional interconnection. The 'Energy Union' is a strategy launched by the European Commission in 2015 with the aim of ensuring that European countries have access to secure, affordable and climate-friendly energy.

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

supporting the integration of greener, low carbon energy sources in an affordable way

Supporting Renewable Energy

Improving Energy Security

Fighting Climate Change

Benefiting Consumers

For more information please visit: **www.greenlinkinterconnector.eu**

Greenlink
INTERCONNECTOR

PUBLIC EXHIBITION

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Greenlink brings significant benefits on both sides of the Irish Sea for employment, energy security and the integration of low carbon energy sources.

We are committed to working with local residents and stakeholders to design and develop a project that is of the highest standard. To that end we would welcome your input throughout the development process.

Further information is available on the project website: **www.greenlink.ie**

To find out more and to share your views, please come along to our public exhibitions.

Our next public exhibition will be held on:

THURSDAY
28th March
4-8pm

Parocial Hall
Ramsgrange
Co Wexford
Y34 YP70

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Appendix 9

Public Exhibition
– December 2019

Greenlink
INTERCONNECTOR

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Ramsgrange
Co Wexford Y34 YP70

WEDS 11 Dec 4-8pm

Star-of-the-Sea Pastoral Centre
Duncannon
Co Wexford Y34 R668

THURS 12 Dec 1:30-6.30pm

St Mary's Hall,
(Corner Main St and Ralph Road)
Fethard-on-Sea
New Ross
Co Wexford Y34 HH58

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Scouts taking part in the Ballykelly scouts bushcraft camp in Foulksmills.

Meave O'Connell and Luka Pranciliauskis, New Ross scouts.

Harry Long, Josh Shannon, Alex Breen and Eanna Grennan, Ballykelly scouts.

Drink driver spared a disqualification

A drink drive suspect who failed to provide a breath sample at the roadside was spared a disqualification when her case was heard by Judge Brian O'Shea.

Mary Murphy (60) of 12 Irishtown Heights, New Ross, entered a plea of guilty at the District Court to an offence committed on May 18 last year.

The court was told how Ms Murphy was found in an Opel which was parked on the N30 road at Bosheen in New Ross at 2.20 a.m. on the date in question.

The lights were on and the engine was running when investigating Garda Sean O'Neill approached the stationary vehicle.

He recalled in his evidence to the court that she woke up when he opened the door of the Opel.

He produced roadside breath test apparatus but no reading was forthcoming because she sucked on the pipe instead of blowing.

Questioned by defending solicitor Gerry Flynn, the garda accepted that Ms Murphy was pulled up that night about 600 metres from her home.

He also agreed with Mr Flynn that she called to the barracks the next day to apologise for what had happened.

The solicitor described the defendant as an absolutely decent woman, in full time employment some miles from the town of New Ross in a rural setting.

The garda witness accepted that it would be a surprise if Ms Murphy came to adverse garda attention again.

Judge Brian O'Shea concluded that what happened was clearly out of character on the part of someone with a good work ethic.

A conviction was recorded for failure to give the breath sample with a fine of €400 but the judge declined to add a disqualification.

'I presume she understands the close shave she has had,' he commented on his decision not to ban Ms Murphy from driving.

Teenager sprayed graffiti in town park

A TEENAGER who sprayed graffiti on walls in New Ross Town Park was ordered to come up with compensation money or face a conviction for criminal damage.

Ben Skipp (19) of 15 Glenbarra, New Ross, appeared at the District Court in Wexford where he was represented by solicitor Eric Furlong.

The court learned that the accused, along with two others, painted the walls on August 15.

Mr Furlong entered a guilty plea and stated that his client sat the Leaving Cert last year.

Judge Brian O'Shea asked him whether Skipp took art as one of his subjects in the Leaving.

Solicitor suggested in response that art was more of an extra-curricular interest for the accused.

The young defendant was told to produce €100 compensation.

If the money is paid, then he will be granted the benefit of the Probation Act, with the prospect of a €200 fine if he fails to cough up.

Motorist had taken cannabis

DRIVING with cannabis in his system led to the loss of his licence for a year when the case of Pearse McDermott (31) from 4 Newtown, Ramsgrange, Duncannon, was considered at Wexford District Court.

The same motorist had his disqualification extended to two years after he was also convicted of driving without insurance.

McDermott came to the attention of Sergeant Alan Hayes on December 1 in 2017 at a checkpoint on O'Hanrahan Bridge in New Ross. The defendant failed a roadside drug swab test.

The court was told that he had a certificate allowing him to use cannabis in Alaska where he sustained a crushed hand injury.

However, as Judge Brian O'Shea pointed out, no such certificate could justify drug driving.

The disqualification came with a fine of €200 for the cannabis offence and a further €200 for having no valid insurance.

Remembrance service at Cooney's

FRANCES and Joanne Cooney extend an invitation to all bereaved families to join them at their funeral home in New Ross on Sunday, December 1, at 3 p.m. for their annual Christmas Remembrance Service to remember our deceased loved ones.

A short remembrance service will take place followed by refreshments in the pastoral centre. Remembrance cards available on the day.

Greenlink
INTERCONNECTOR

PUBLIC EXHIBITIONS

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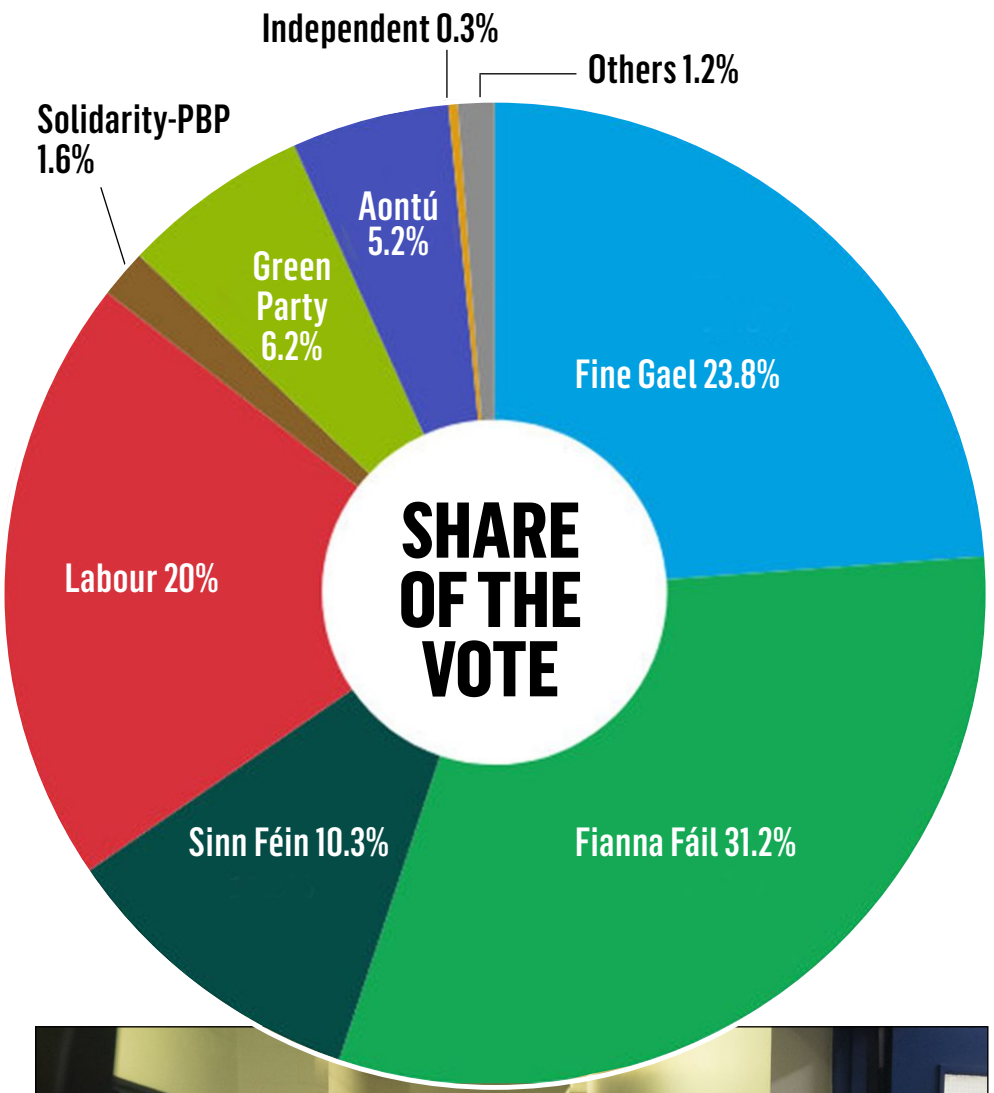
George Lawlor and Malcolm Byrne share a joke at the St. Joseph's count centre in Wexford on Saturday evening.



Verona Murphy speaks to the media in the Wexford count centre after her elimination.

APEX
SPORT • HEALTH • LEISURE
PHONE NO: 051 445522

CHARITY 24 HOUR SPIN & SWIM

Friday 6th December @ 10am
until Saturday 7th December @ 10am

On Friday 6th December 2019,
The Apex will attempt to keep 4 spinning bikes and 2 swim lanes occupied for 24 hours straight to raise money for 2 local charities.

If you would like to get involved in this challenge and are willing to spin or swim for at least 30 mins, please give the gym or reception staff your contact details and we will be in touch or if not just pop in and throw some money in the buckets to show your support.
You can also email your details to gym@theapex.ie

ALL MONIES RAISED WILL BE SPLIT BETWEEN THE NEW ROSS COMMUNITY HOSPITAL & NEW ROSS MEALS ON WHEELS

Greenlink
INTERCONNECTOR

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Girl Guides get tek-nical

WITH more and more jobs being created in the science, technology, engineering and maths (STEM) sectors, the onus is on ensuring both boys and girls acquire the skills needed to pursue careers in these fields.

And so it was that Michelle Goff, one of the leaders of Clonard Girl Guides, received an unexpected phone call from Wexford Library, offering an opportunity too good to turn down.

'We got a phone call from Lauren at the library saying they had money from a grant which they wanted to use to get girls involved in technology,' Michelle explains.

This led to the Clonard Girl Guides being invited to TEK Central for a three-week course in comic life, robotics and electronics taught by Frank and Niamh Turner.

The course was catered specifically for the girls, incorporating topics they'd covered in Girl Guides and enabling them to get some of their badges while also learning about STEM.

One of the more popular tasks they undertook was the creation of their own magazine which saw them edit and put together a magazine that included anti-bullying content. As a reward for their work, they each received a copy of the magazine to bring home.

Michelle paid special tribute to Niamh and Frank who she said went to great lengths to ensure the girls enjoyed themselves.

'Frank and Niamh were great; they added extra bits to the course, including nanobots which we built and by the third week had them walking around the room and everything. The girls had a ball, they got into it in a big way.'

Not only that, the TEK Central hosts have promised to visit the Clonard Girl Guides centre and present classes to the groups who didn't get to take the three-week course.

For Michelle, the experience was an incredibly positive one and she said she and the other leaders would continue to encourage their guides to foster an interest in the STEM topics.

Clonard Girl Guides in TEK Central with Frank and Niamh Turner learning about comic life, robotics and electronics.

Mary D'Arcy, ICA County Federation president, Breda Doyle and Michael Jordan, Ferns Diocesan Lourdes Assisted Pilgrimage Fund, and Esme O'Connor, ICA, at the cheque presentation of €1,200 to the Ferns Diocesan Lourdes Assisted Pilgrimage Fund.

Country women generously donate to local organisations

TAGOAT Day Care Centre and Ferns Diocesan Assisted Pilgrimage to Lourdes each received a cheque for €1,200 at the November meeting of Wexford ICA Federation, held in the Riverbank House Hotel. This money was raised from ICA Fun Run/Walks, organised by Anne O'Connor, sports officer, and held on September 22 at various venues throughout Co Wexford in atrocious weather conditions.

In addition, Kilmore Quay, Ballyanne, Adamstown, Clonroche, Bree, Wexford Town, Inch and Bunclody guilds were the recipients of An Grianan scholarships bought from proceeds of the 'ICA has got Talent' competition.

The ICA Memory Tree was on display and can be seen in New Ross Library over the Christmas season. Bree ICA were congratulated on winning 'Best community project to improve Accessibility to Infrastructure' for the Bree ICA Garden entry. Mary Somers won the Autumn Foliage Arrangement, Marian McCauley, Bree, was winner of Best Lemon Drizzle Cake, and will represent Wexford at the National Sugarcraft Show in February. Best Carrot and Pineapple Cake with Coconut, a competition sponsored by Gem Pack Foods, was won by Mary D'Arcy, Ballyfad. She will represent Wexford at the National final in An Grianan next March.

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VISIT OUR NEW LUXURIOUS SALON

€20* BLOW DRY

*CURLY BLOW DRY €6 EXTRA

& LUXURY KERASTASE TREATMENT

REDEEMABLE 1-30 NOVEMBER 2019

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Terms & Conditions: A charge of €20 will apply to avail of this promotional offer. For a curly blow dry an additional charge of €6 will apply. This offer is redeemable in Peter Mark Wexford only. This offer is only available all week from 1st to 30th November 2019. This offer cannot be used in conjunction with any other discount or promotion. Peter Mark reserves the right to change the terms and conditions of this offer.

North Main Street, Wexford. Tel: (053) 915 2120.
Late Nights: Thursday & Friday.

peter mark

ALL ABOUT THE HAIR

7TH CXi in Customer Experience*

*Customer Experience survey 2019.

BOOK ONLINE

AN EVENING TO REMEMBER

Deirdre Whitty, Ann Moran and Suzanne Finn at the function in Hotel Rosslare for former staff of the Great Southern Hotel celebrating 50 years since the Great Southern's opening.

Just 'handful' of public comments on traffic plan

By **MARIA PEPPER**

Only a handful of public submissions have been received by Wexford District Council on traffic direction changes around the town during a trial period over the past six weeks.

The revised traffic plan will be reviewed by councillors in December, before a final draft goes to official public consultation.

Independent councillor Leonard Kelly asked for an update on the new arrangements, saying it is an ongoing issue in the town and he is receiving daily enquiries about it.

Cllr. Kelly asked when the results of public submissions on the trial period will be made available.

Ms. Laffan said a 'handful' of email submissions were received during the trial period.

'You have 20,000 people living in Wexford with about another 30,000 using the town and you get six responses', said Director of Services, Tony Larkin, adding that he would hate the whole focus to be based on those six.

Ms. Laffan said draft byelaws will have to be drawn up and passed before any changes can be officially implemented.

She said the proposed draft bye-laws will be presented at the December meeting and following the approval of members, will go out to public consultation.

'We will be coming back to you following that process. The consultation period will be publicised in the media and people can make written submissions', she said.

She said the decision to block traffic from Lower Rowe Street into Church Lane during daytime hours was working extremely well and has improved the flow of traffic through Key West.

Mayor of Wexford, Cllr. George Lawlor asked if councillors could decide not to include something in the byelaws if they felt it hadn't worked and was told they could.

Fine Gael councillor John Hegarty said the traffic situation in town is getting worse and is a big issue for people. A contributory factor is the increase in the number of cars but that seems to have been lumped in with the idea that the Council is to blame.

'If we ask the public for their views then we should take what they say seriously', he said.

Cllr. Kelly if the trial changes would stay in force for Christmas and was informed by Ms. Laffan that they would, unless the members had a different view at the next meeting.

Mr. Larkin said he would have the view that it might not be a good idea to 'destabilise the situation' just before Christmas, with the consultation period running into the New Year.

Mr. Larkin said the deadline for submissions on the trial is November 29 but there will be another consultation process on the draft byelaws.

Ms. Laffan told Independent councillor David Hynes that a proposal to remove the right turn from Henrietta Street onto the quay, has not yet been implemented. 'There is a lot of concern about that', said Cllr. Hynes.

Responding to Labour councillor Maura Bell about a promised increase in disabled spaces in the the north end, to compensate for the removal of existing spaces in the area, Ms. Laffan said there are two new spaces in Selskar Street, two in Common Quay Street and another two on the way in Allen Street car park and South Main Street.

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Anger over illegal parking at courthouse

Independent councillor Leonard Kelly has called for additional traffic warden resources to be put in place to tackle illegal parking on driveways, paths and roads around Wexford Courthouse.

Cllr. Kelly told a Wexford District Council meeting that he was contacted by local people complaining that 'the amount of parking on footpaths and double yellow lines has become ridiculous'.

One local resident with mobility issues has to use the footpath opposite the court to get to the nearby crossing but finds the path blocked by cars that are not only parked on double yellow lines but also up on the pathway.

In a dangerous manoeuvre, the person has to attempt to cross the road at the ramp as it is the only place level with the path.

Cllr. Kelly's motion was passed unanimously at the meeting, with an agreement that a carrot and stick approach might improve the situation.

The Council has decided to look at the possibility of introducing reduced daily rate parking charges in the public car park behind the courthouse as well as increasing patrols by traffic wardens, especially on days that the court is in session.

WELCOME TO THE EXHIBITION

Welcome

Welcome and thank you for taking the time to come to this public exhibition for the Greenlink Interconnector project (Greenlink).

We have prepared the information on display here today to help you find out more about our work on Greenlink.

Members of the project team are here to answer your questions.

About the developer

Greenlink is being developed by Greenlink Interconnector Limited.

Greenlink Interconnector Limited is owned jointly by Element Power Holdings, part of Hudson Sustainable Investment, and Partners Group on behalf of its clients. Hudson Sustainable Investment is an independent investment management firm with a strong track record and expertise in investing in and developing sustainable energy infrastructure projects in Ireland, the UK and internationally. Partners Group is a global private markets investment management firm with investment programs under management in private equity, private real estate, private infrastructure and private debt.

Greenlink Interconnector Limited is bringing private capital to the project and will assume the majority of the project risks.

Your Views

We are very interested to hear your views, so please feel free to fill in a comments form and drop it in the box provided before you leave.

For more information please visit:
www.greenlink.ie

Co-financed by the Connecting Europe Facility of the European Union

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Greenlink
INTERCONNECTOR

PROJECT BENEFITS

Greenlink
INTERCONNECTOR

380,000
Potential to power 380,000 homes*

Investment
€400m of private capital investment for Ireland and Wales

Energy
Supports the growth and integration of low carbon energy

Security
Enhances the security of supply for electricity consumers

Value FOR Money
Downward pressure on electricity bills

Jobs
Jobs and knock-on economic benefits during construction

Regional investment and jobs
Greenlink represents €400m of private capital investment in Ireland and Wales and will create jobs during construction and operation as well as knock-on economic benefits.

An integrated European grid
Interconnection has a vital role to play in connecting energy generation between countries to provide reliable and affordable power for all. Greenlink will have strategic importance, by doubling the interconnection capacity between Ireland and GB and contribute to each country's interconnection targets.

Security of supply
Greenlink will deliver increased security of supply for electricity consumers, by diversifying energy sources and providing additional import and export capacity in both countries.

Integration of renewable energy
Greenlink improves the integration of renewable technologies in Ireland and GB supporting the growth of the green energy sector, which offers significant economic and environmental benefits to both countries.

Better energy price competition
Greenlink will deliver greater market integration and competition in the provision of electricity, ultimately providing significant benefits to consumers in Ireland, GB and continental Europe.

Benefits for Ireland and Co. Wexford
Greenlink will provide additional transmission network capacity, reinforcing the electricity grid in Ireland. It will also offer valuable regional investment to Ireland and Co. Wexford, including jobs and knock-on economic benefits during construction.

For more information about opportunities for local businesses, please see our 'Local Supply Chain' board later in this exhibition

*Figure for number of homes is based on typical annual household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

IRELAND

250
jobs in Ireland during construction

Jobs
20 permanent Irish jobs

Grid
Reinforce electricity grid

THE PROPOSAL

Greenlink is a proposed subsea and underground electricity interconnector cable between the existing electricity grids in Ireland and Great Britain (GB), with a nominal capacity of 500 megawatts (MW). Greenlink will provide a new grid connection between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales). The power will be able to flow in either direction, depending on supply and demand in each country.

Greenlink will have key strategic importance, as it will provide significant additional interconnection capacity between Ireland, GB and continental Europe. The construction and development of Greenlink will deliver increased energy security, regional investment and value for money for consumers and enable the further integration of low carbon renewable energy sources.

Greenlink has been awarded Project of Common Interest (PCI) status, making it one of Europe's most important energy infrastructure projects and granting it the "highest national significance" possible.

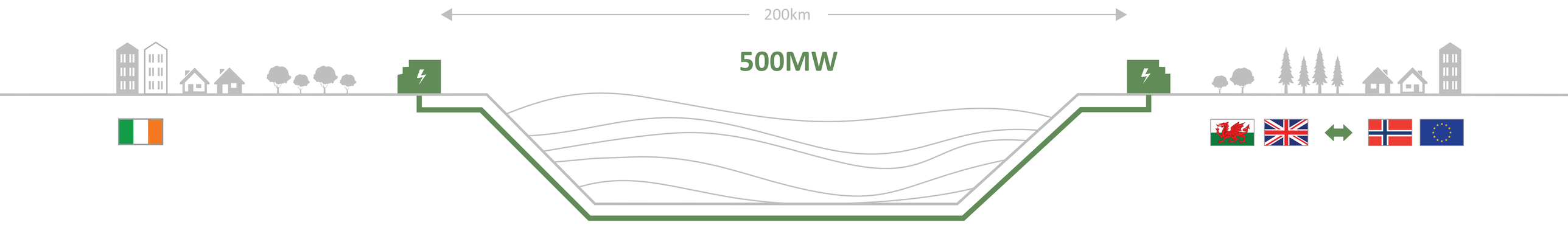
Greenlink will include two converter stations, each located close to the identified existing substations: Great Island Substation in County Wexford (Ireland) and Pembroke Substation in Pembrokeshire (Wales).

The converter stations will be connected to each other by two electricity cables and a fibre optic cable that will enable the two converter stations to communicate for control purposes.

There will be no overhead lines between the two converter stations and the respective substations. Onshore the cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

The project will require planning permission in Ireland and Wales. Constructing and commissioning an interconnector requires the completion of a thorough programme of environmental and technical assessment to ensure that the final interconnector design fully considers the environment in which it is built. Greenlink is planned for commissioning in 2023.

Sources: Ofgem, TEC Register, 3rd PCI, TYNDP 2016w



WHY GREENLINK?

Greenlink
INTERCONNECTOR

Greenlink is a new interconnector between Ireland and Wales with a nominal capacity of 500MW

Ireland is currently connected to Great Britain by two electricity interconnectors, which provide a means of transferring electricity between the two countries – the East West Interconnector (EWIC), which connects County Dublin to North Wales, and the Moyle interconnector between County Antrim, Northern Ireland and Ayrshire, Scotland.

However, the challenges faced by the British, Irish and wider European energy systems are driving the need for additional interconnectors between Ireland and Great Britain, and within Europe as a whole. This will allow electricity to flow more easily between where it is generated and where it is needed, improving the security and reliability of our energy supplies and supporting the integration of greener, low carbon energy sources in an affordable way.

There is a strong need and significant support within Europe for additional interconnection. The 'Energy Union' is a strategy launched by the European Commission in 2015 with the aim of ensuring that European countries have access to secure, affordable and climate-friendly energy.

Greenlink has been given the status of a European Union Project of Common Interest (PCI), making it one of Europe's most important energy infrastructure projects.

supporting the integration of greener, low carbon energy sources in an affordable way

Supporting Renewable Energy

Improving Energy Security

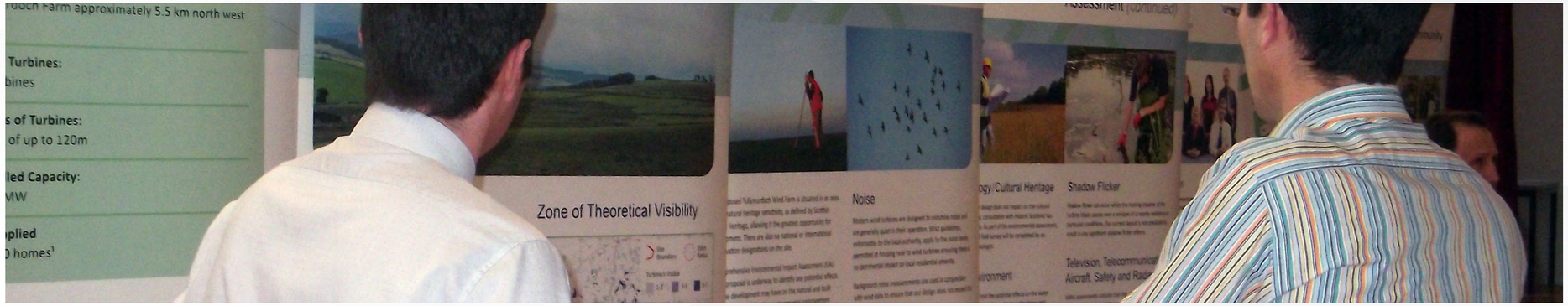
Fighting Climate Change

Benefiting Consumers

For more information please visit: www.greenlink.ie

CONSULTATION

Greenlink
INTERCONNECTOR



Public consultation is a core part of the development process and ensures that communities in the vicinity of a new proposal have timely and transparent access to information and can engage with developers to influence the final proposal coming forward. We would like to hear what your thoughts and views are on this proposal.

The Greenlink project team wants to ensure that the local community is consulted and involved throughout the development process of the interconnector project.

During the development process we have worked to fully engage with local residents, councillors, businesses and members of the local community to discuss the proposal and any potential impacts and to obtain feedback on key issues.

We intend to make sure the local community can see that its views have been fully considered and incorporated within the final proposal.

This public exhibition is to allow local residents and stakeholders to view our current plans, hear about project progress, share their views with us, meet the project team and ask questions. We would welcome any feedback that you have now or in the future.

Your Views

We are particularly interested in hearing your views on ways that Greenlink can be designed to provide additional benefits to the local community.

BIODIVERSITY

Greenlink
INTERCONNECTOR

Surveys have been carried out and the data assessed to ensure that the final onshore elements of the proposal are designed sympathetically to the local environment and wildlife and where possible enhancement measures employed.

Studies cover the landfall site, the cable route and the converter station locations.

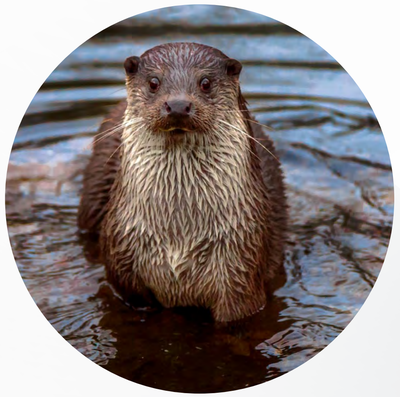
As well as birds, wildlife considered by these assessments also include badgers, bats, otters, and amphibians. Consideration was also given to local vegetation, including hedgerows, trees and important habitats.

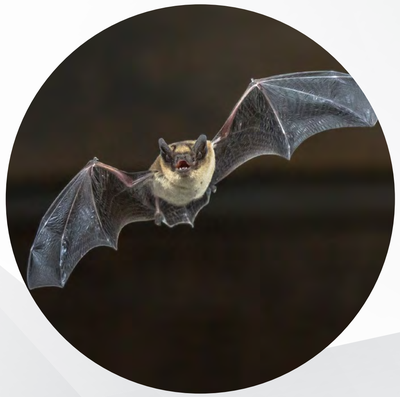
The results of surveys are being used to avoid, reduce and offset any impacts on biodiversity through sensitive design and mitigation measures as required.

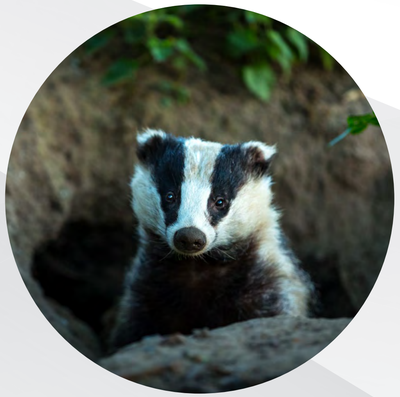
Your views

Do you know of any local environmental groups that Greenlink should consult?

Are there specific issues you feel should be assessed that aren't currently being assessed?







GREENLINK COMPONENTS

Greenlink
INTERCONNECTOR

The key components of the scheme are:

- **Two converter stations** – one near the Great Island Substation in County Wexford (Ireland) and one near the Pembroke Substation in Pembrokeshire (Wales)
- **Two subsea HVDC cables and a fibre optic cable** – the onshore cables will be buried underground and offshore the cables will be buried in the seabed or laid on the seabed with protection, if burial is not practicable.

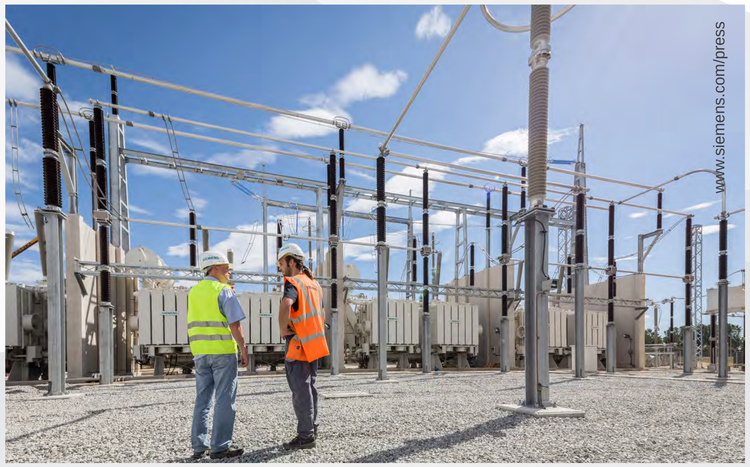
What is an HVDC cable?

- High Voltage Direct Current (HVDC) cables allow for efficient transportation of electricity over large distances and in particular for subsea cables.
- HVDC cables have lower electricity losses than comparable AC cables.
- HVDC cables are suitable for undergrounding both onshore and offshore. There will be no overground cables between the two converter stations.
- One of the benefits of HVDC cables is the relatively small footprint required to install them underground onshore.

IMAGE: PRYSMIAN

What is a converter station?

A converter station converts electricity from Alternating Current (AC) to Direct Current (DC) and vice versa. DC electricity is used for the transmission of electricity over long distances between two converter stations and AC electricity is used within the national transmission and distribution networks.



www.siemens.com/press

What is a fibre optic cable?

A fibre optic cable is installed to provide communication between the converter stations for system monitoring and safety purposes.

For more information please visit: www.greenlink.ie

GREENLINK IN IRELAND

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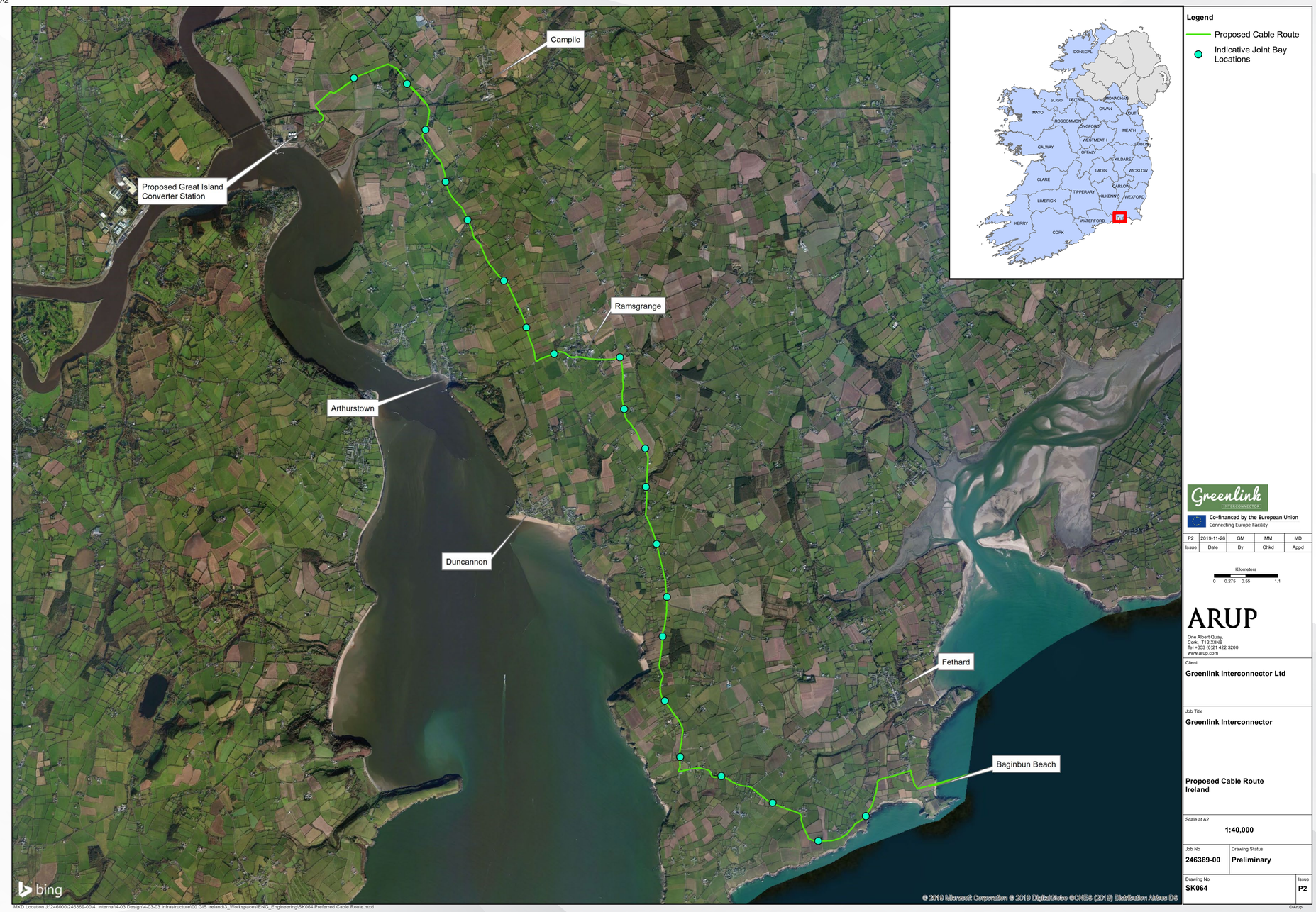
INTERCONNECTOR



Legend

- Proposed Cable Route
- Indicative Joint Bay Locations

Greenlink INTERCONNECTOR

Co-financed by the European Union
Connecting Europe Facility

Issue	Date	By	Chkd	Appd
P2	2019-11-26	GM	MM	MD

Kilometers
0 0.275 0.55 1.1

ARUP
One Albert Quay,
Cork, T12 X8N6
Tel +353 (0)21 422 3200
www.arup.com

Client
Greenlink Interconnector Ltd

Job Title
Greenlink Interconnector

Proposed Cable Route Ireland

Scale at A2
1:40,000

Job No	Drawing Status
246369-00	**Preliminary**

Drawing No	Issue
SK064	**P2**

© Arup

A2

MXD Location J:\246000\246369-00\4 Internal\4-03 Design\4-03-03 Infrastructure\00 GIS Ireland\3_Workspaces\ENG_Engineering\SK064 Preferred Cable Route.mxd

A cable route and converter station site have been identified following consultation with stakeholders and analysis of the results of ongoing environmental and technical work. The cable route and converter station site are shown here.

For more information please visit: www.greenlink.ie

HISTORIC ENVIRONMENT

Greenlink
INTERCONNECTOR

The potential effects of Greenlink on local archaeology and cultural heritage has been assessed by seeking to identify, predict and evaluate the significance of potential effects on designated and non-designated heritage assets within a study area of 1.5 km from the converter station site and within a 200m study area from the cable route corridor.

Cultural heritage encompasses valued features and remains, including buildings, monuments and archaeological remains. It can also include landscapes shaped by human occupation and design, such as historic parks and gardens.

The importance of cultural heritage is recognised in legislation and planning policy.

The converter station site is located in an area with a rich archaeological and historic heritage but is also located in such a way as to complement the existing industrial surrounds.

Sites of interest in the wider area include Kilmokea Church and Graveyard, Dunbrody Abbey and Castle, Duncannon Fort and the historic Norman landing place at Baginbun Beach.

Given the large number of sites relating to prehistoric activity in this region, there is also a potential for the development to uncover as yet unknown archaeological remains.

Impacts and mitigation

During construction the potential impact of the onshore cables, landfall site and the converter station could be the loss or interference with a site or feature of archaeological, architectural and cultural heritage significance caused by excavations or by construction related vibrations.

The importance of cultural heritage is recognised in legislation and planning policy

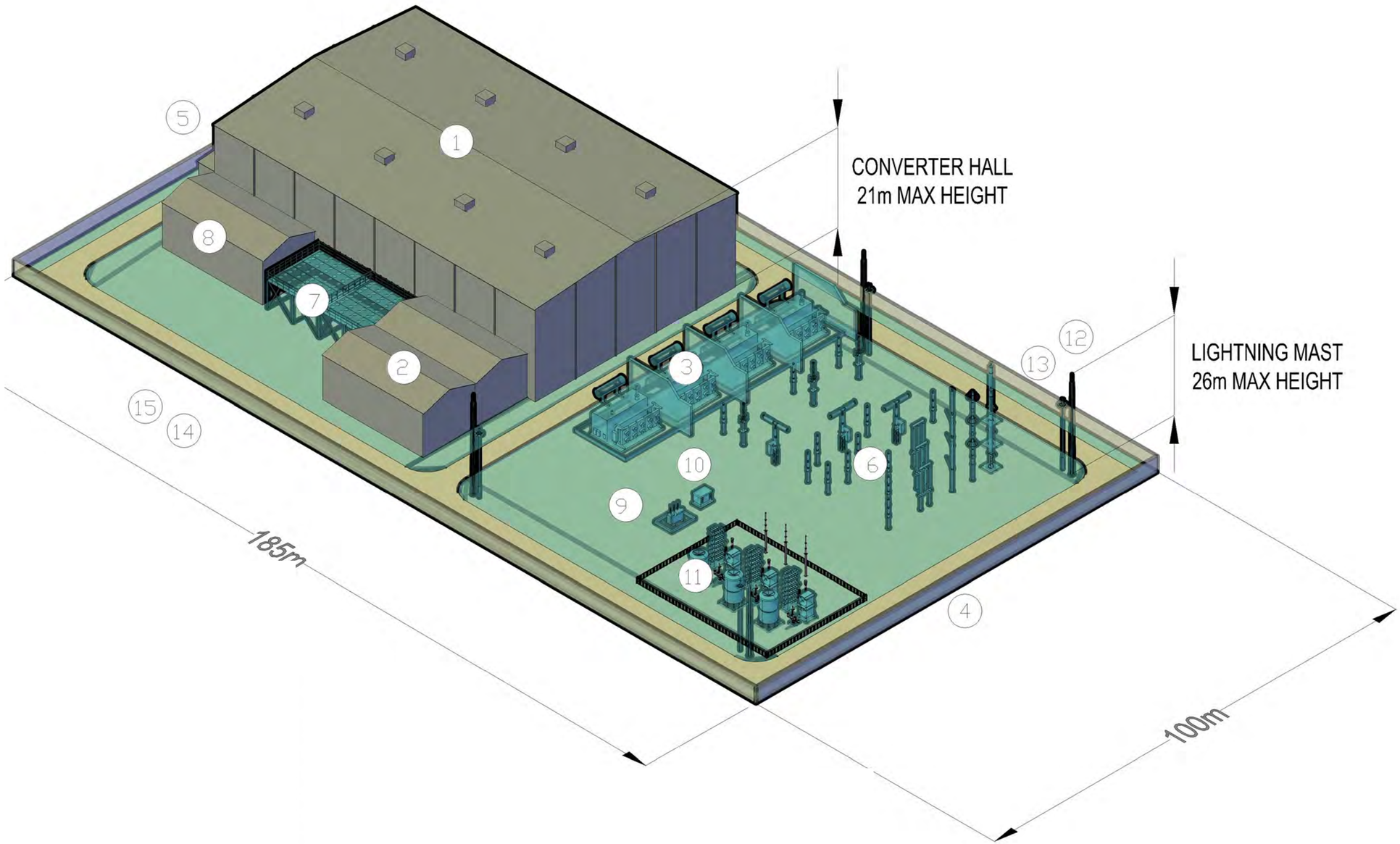
Greenlink will consider the predicted impacts of the proposed scheme and will aim to avoid adverse effects on archaeology and heritage assets within the study area.

Wherever possible, mitigation will be designed to deliver benefits, such as enhancing the visual setting of historic assets.

Greenlink will aim to avoid undisturbed archaeological remains and preserve them in situ. *Where this is not possible, preservation by record will be proposed as mitigation.*

INDICATIVE CONVERTER STATION

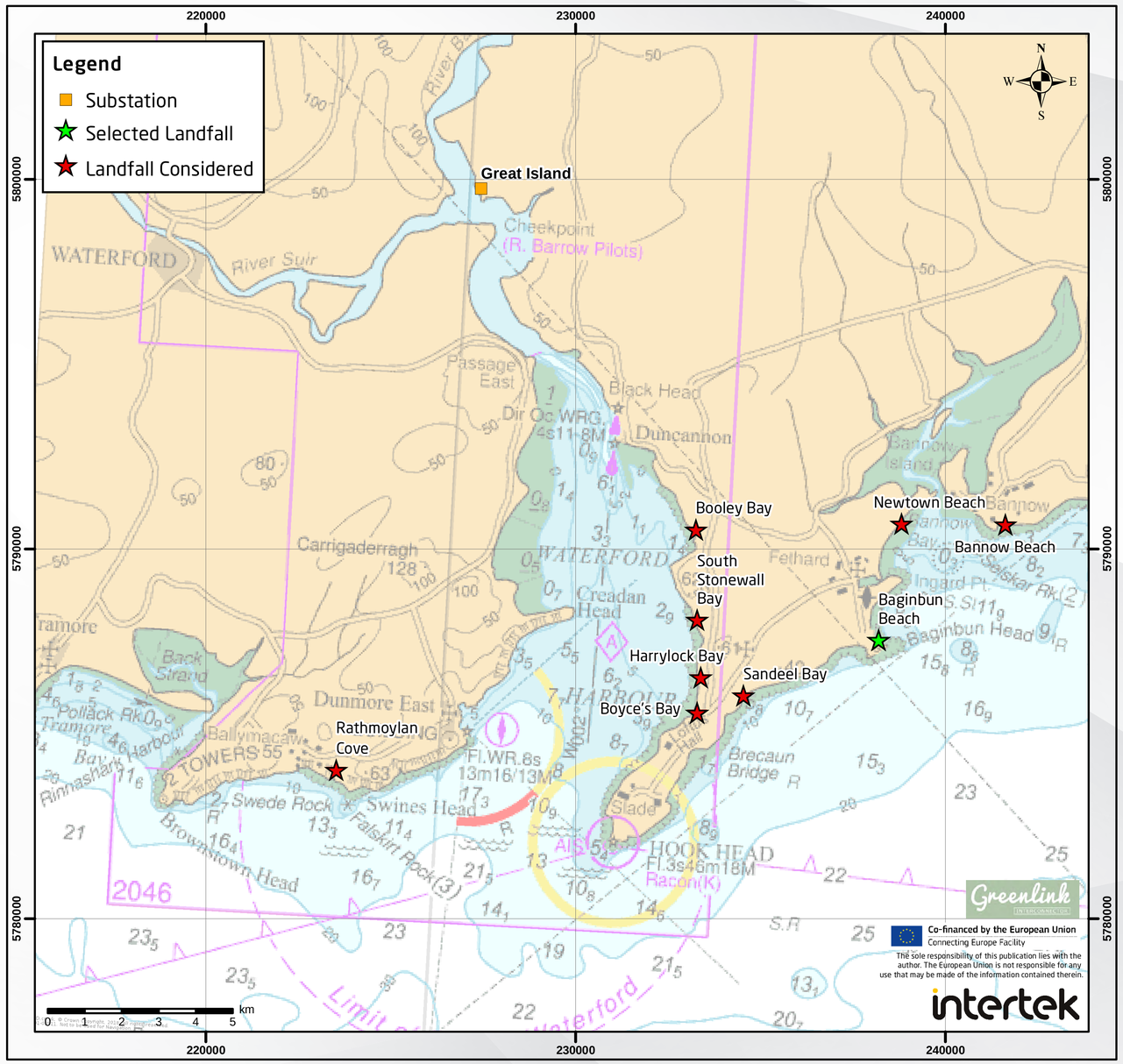
Greenlink
INTERCONNECTOR



SITE KEY	
1	CONVERTER HALL
2	CONTROL BUILDING
3	TRANSFORMERS
4	AC CABLE TERMINATIONS
5	DC CABLE TERMINATIONS
6	400kV SWITCHYARD
7	VALVE COOLERS
8	SPARES BUILDING
9	STANDBY GENERATOR
10	AUXILIARY TRANSFORMER
11	FILTERS
12	LIGHTNING MAST
13	15m LIGHTING COLUMN
14	6m LIGHTING COLUMN
15	PERIMETER FENCE

IRISH LANDFALLS

Greenlink
INTERCONNECTOR



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The landfall at Baginbun Beach was selected following a review of potential landfall sites in the region. The landfalls assessed are shown in this plan.

For more information please visit: www.greenlink.ie

LANDSCAPE & VISUAL IMPACT

Greenlink
INTERCONNECTOR

Landscape

This assessment relates to changes in the physical landscape, brought about by Greenlink, which may alter its character and how this is experienced.

Visual

Visual impact assessment relates to changes in the composition of views as a result of changes to the landscape, how these are perceived and the effects on visual amenity.

We have produced visualisations of the converter stations from viewpoint locations agreed with An Bord Pleanála. The viewpoints selected represent the character of the area and particularly important landscape and heritage sites.

Proposed locations can be seen on the 'viewpoint locations' board.

Impacts and mitigation

Converter station

A converter station consists of various components. These include a converter hall, converter transformers, AC switchgear and busbars, harmonics filters, lightning towers, ancillary plant and a control building.

Typically the tallest components are the lightning towers at circa 26 metres high and the converter hall, which could be up to 21 metres high at its apex. However, the layout of the converter station and final dimensions will be finalised with the input of the supplier selected within the ongoing tender process. The design will consider the local terrain, physical constraints, the results of environmental surveys, consultations and commitments made within the planning application documents.

The landscape and visual impact of the proposal has been carefully considered within the planning application and suitable mitigation, such as landscaping have been proposed.

Cable route

There is the potential for visual impact from the cable route as a result of vegetation clearance during construction, particularly where the cable route diverges from the road network.

However, landscape and visual impacts during cable installation are predicted to be minor and not significant due to the temporary and reversible nature of the change (vegetation clearance) which can be adequately mitigated through replanting.

Your views...

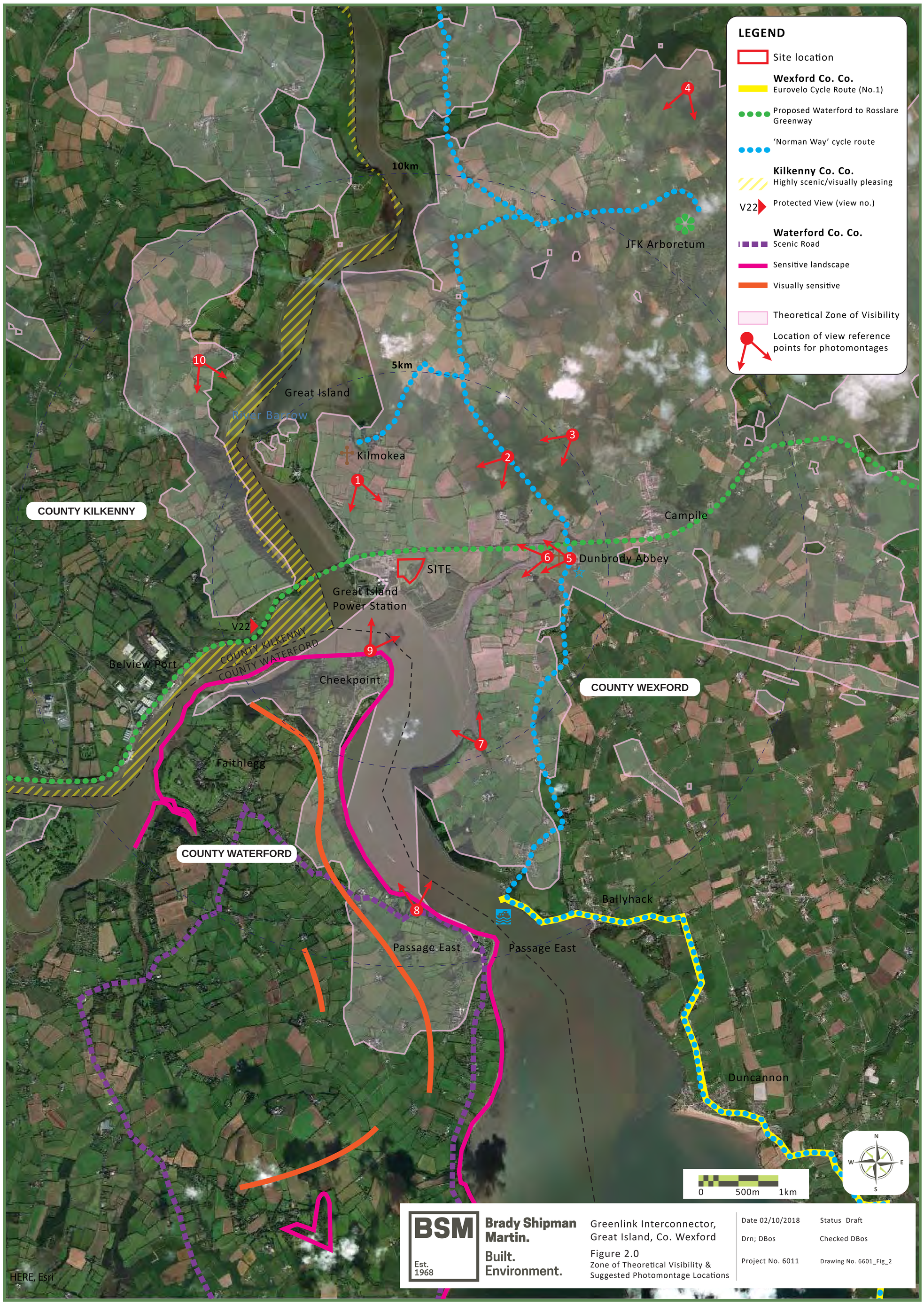
What sort of landscaping planting would you like to see in and around the converter station?

PHOTO: WWW.SIEMENS.COM/PRESS

For more information please visit: www.greenlink.ie

VIEWPOINT LOCATIONS

Greenlink
INTERCONNECTOR



BSM Est. 1968
Brady Shipman Martin. Built. Environment.

Greenlink Interconnector, Great Island, Co. Wexford

Figure 2.0
Zone of Theoretical Visibility & Suggested Photomontage Locations

Date 02/10/2018 Status Draft
Drn; DBos Checked DBos
Project No. 6011 Drawing No. 6601_Fig_2

Your views

Do you have any other suggestions for a viewpoint location?

LOCAL SUPPLY CHAIN

Greenlink is committed to maximising the use of locally-based contractors and personnel during the construction and operational phases of the project.

Construction work on Greenlink is expected to lead to significant expenditure in both Ireland and Wales. A significant amount of work is due to take place at the landfall, cable and converter station sites and will require skills and experience available from contractors found in the local area.

The types of services that could be locally sourced include:

- Transportation – equipment and personnel
- Materials, e.g. supplying and pouring concrete
- Electrical connection
- Hospitality and catering for civil engineering activities and earthworks.
- Office and cleaning supplies
- Site security
- Site services, e.g. portacabins and portaloos
- Fencing
- Waste disposal

Your Views

Do you know of a local business that could benefit from the Greenlink interconnector project?

Let us know if you want to be added to our list of local suppliers!

MARINE SURVEYS

Greenlink
INTERCONNECTOR

The proposed marine cable will run from Baginbun Beach, County Wexford, Ireland to Freshwater West, Pembrokeshire, Wales.

Technical viability

Marine surveys have been undertaken and included geophysical and geotechnical surveys.

Geophysical

The geophysical survey mapped the seabed and sub-surface geology along the proposed route in order to be able to optimise cable routing within the survey corridor and to enable the assessment of cable target burial depth along the route.

It also provided the geophysical data from which the marine archaeological assessment was undertaken as part of the consenting process.

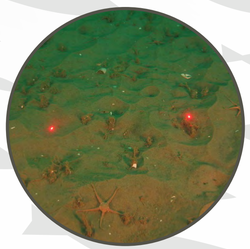
Geotechnical

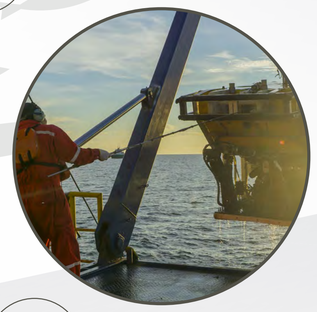
The purpose of the geotechnical survey was to evaluate the nature and mechanical properties of the seabed and intertidal sediments along the survey corridor. This was done using a number of techniques, including drilling boreholes.

Environmental impacts

The marine survey mapped the distribution and extent of marine habitats within the proposed cable corridor.

Data from this survey was used to inform the Environmental Impact Assessment report.





NOISE & VIBRATION

Greenlink
INTERCONNECTOR

This assessment addresses potential noise and vibration impacts from the construction and operational phases of the project, and specifically construction noise, construction vibration and operational noise from the converter station.

The proposed underground cable routes pass through predominantly rural areas which are likely to experience low ambient existing noise levels. The converter station will also be located in a rural area adjacent to an existing substation with its associated operating noise levels.

Noise surveys and assessment

- The baseline conditions (i.e. existing background noise levels) at noise-sensitive receptors have been determined via noise surveys.
- Noise-sensitive receptors include residential properties, sensitive commercial and community uses (including educational premises, medical facilities, places of worship etc) and public open spaces (including public footpaths).
- A study area of 300m around the cable route corridor and converter station locations is considered for potential construction noise impacts and an area of 50m is considered for potential construction vibration impacts.
- For operational noise, the assessment addresses sensitive receptors within 300m of the converter station.

Impacts and mitigation

The construction of the converter station has the potential to give rise to temporary noise and vibration impacts. However, given the distance between the converter station locations and sensitive receptors it is likely that any impact will be low.

The construction of the cable route has the potential to give rise to temporary noise and vibration impacts in isolated locations along the route, particularly where directional drilling is required at watercourses and road crossings.

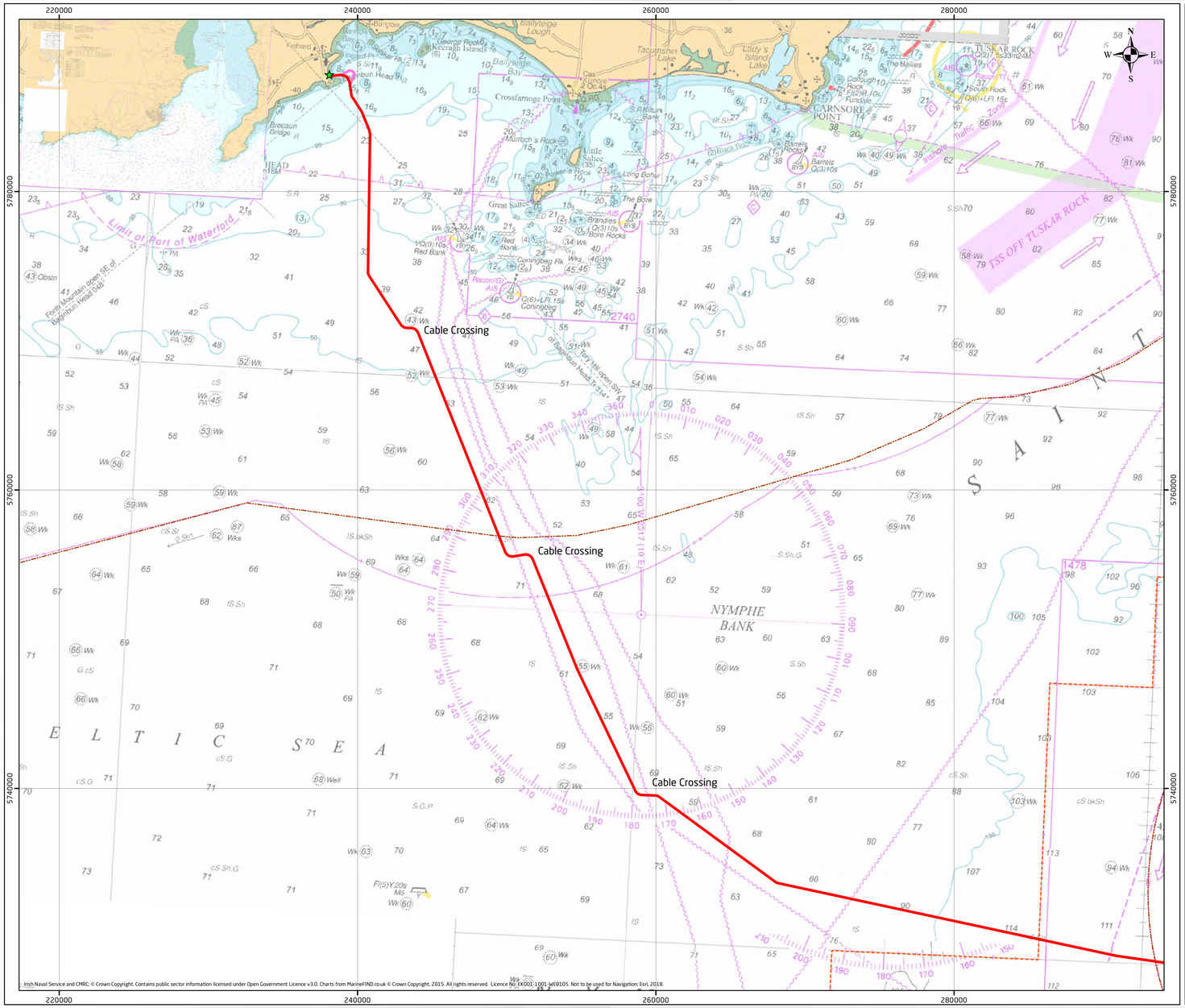
There will be noise from the electrical and mechanical plant during the operation of the converter station, most of which will be located indoors in the converter hall.

Your views

Do you have concerns regarding noise and vibration you wish to be assessed?

OFFSHORE IRELAND ROUTE

Greenlink
INTERCONNECTOR



GREENLINK INTERCONNECTOR

Route Options in Irish Territorial Waters

Legend

- Selected Landfall
- Median Line
- 12nm Territorial Sea Limit

Proposed Routes

- Route A
- Option D

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NOTE: Not to be used for Navigation

Date	Monday, October 22, 2018 12:13:12
Projection	WGS_1984_UTM_Zone_30N
Spheroid	WGS_1984
Datum	D_WGS_1984
Data Source	INS, CDA, ESRI, MARINEFIND
File Reference	J:\P1975\Mxd\Public_Exhibitions\ Offshore_Ireland_Route_Options_A2.mxd
Created By	Jennifer Arthur
Reviewed By	Richard Marlow
Approved By	Anna Farley

Co-financed by the European Union Connecting Europe Facility

intertek

0 2 4 6 8 km

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A preferred subsea route has been identified following desk-based assessments supported by the results of early subsea surveys.

This route is outlined in the Foreshore Licence Application recently submitted to the Department of Housing, Planning and Local Government (Foreshore Unit) in Ireland and currently subject to a formal consultation.

For more information please visit: www.greenlink.ie

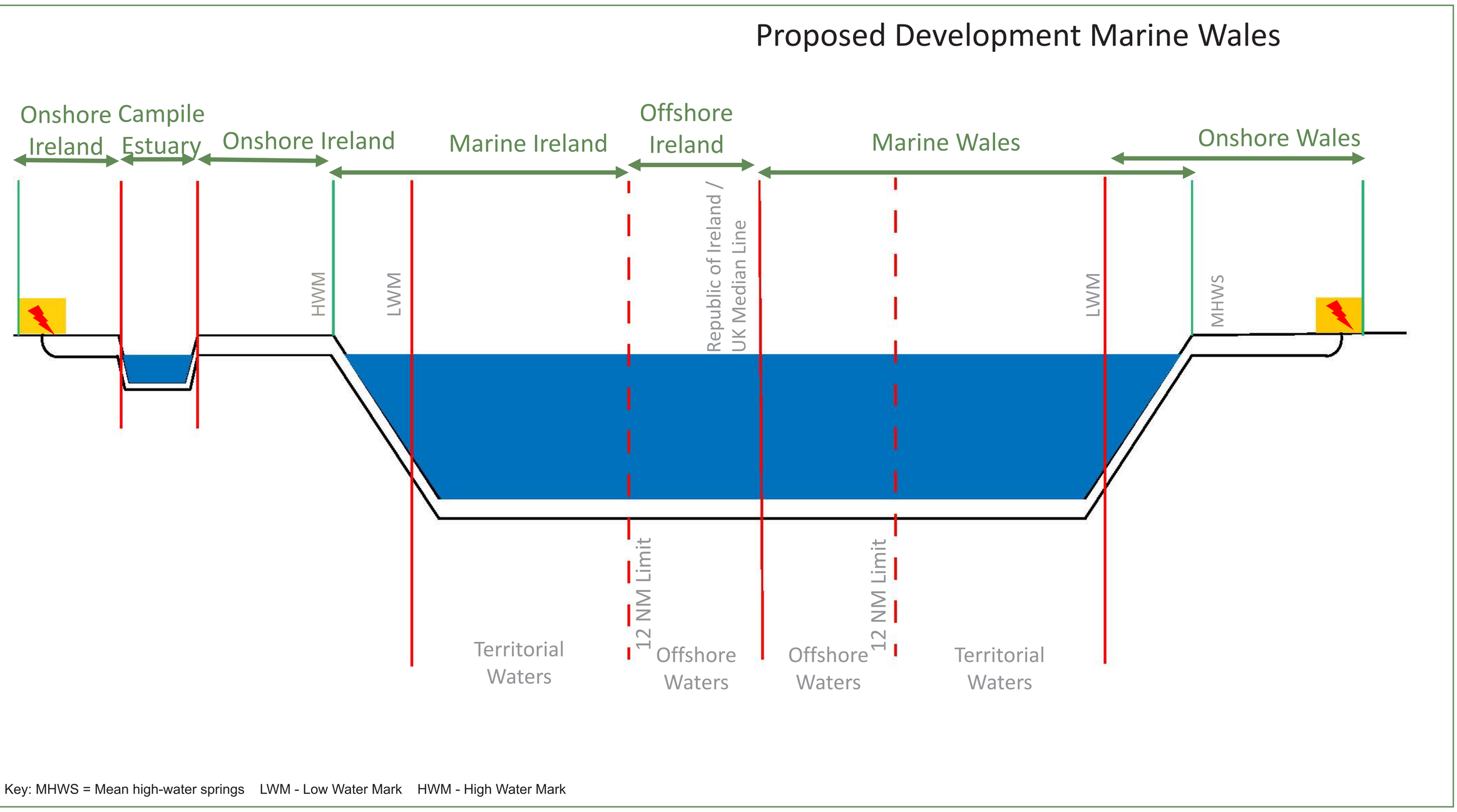
PLANNING

Greenlink INTERCONNECTOR

	Wales	Ireland
Converter station	**Major Development (Outline)** - Pembrokeshire County Council	**Strategic Infrastructure Development** - An Bord Pleanála **Authorisation to construct** - Commission for the Regulation of Utilities
Onshore cable route	**Major Development (Full)** - Pembrokeshire County Council - Pembrokeshire Coast National Park Authority	**Strategic Infrastructure Development** - An Bord Pleanála **Consent to lay electricity lines across lands** - Commission for the Regulation of Utilities **Consent to lay electricity lines under the public road** - Commission for the Regulation of Utilities
Marine cable	**Marine Licence** - Natural Resources Wales - **Submitted** **Marine Works Licence** - Milford Haven Port Authority - **Submitted**	**Foreshore Licence** - Department of Housing, Planning and Local Government (Foreshore Unit) - **Submitted**

IMPORTANT PLANNING UPDATE: MARINE LICENCE APPLICATION

Formal consultation has commenced on Greenlink's Foreshore Licence application. The consultation ends on 8th January 2020. Advice on how to respond is available at this exhibition. Following consultation on our draft onshore applications Greenlink hopes to submit the onshore applications in January 2020.



PROJECT TIMELINE

Greenlink
INTERCONNECTOR

A large infrastructure project such as Greenlink takes several years from development to construction, including technical design, obtaining the relevant permits and consultation with a variety of stakeholders.

Technical and environmental constraints have been identified and fully assessed to ensure that they are considered within the final design. Detailed environmental and technical assessment surveys commenced in 2018 and were completed in 2019. This followed the completion of desk-based assessments and consultation with statutory consultees.

Permits and licences will need to be obtained from: An Bord Pleanála and the Department of Housing, Planning and Local Government – Foreshore Unit and the Commission for the Regulation of Utilities, in Ireland; and Pembrokeshire County Council, Pembrokeshire Coast National Park, Natural Resources Wales (NRW) and Milford Haven Port Authority, in Wales.

Once the appropriate permits and licences have been obtained, the scheme will need to be constructed, which could take around 36 months from start to finish.

The project is expected to commence on-site construction in 2020 and be fully operational in 2023

2018

Environmental Studies

Detailed environmental and technical studies commence.

2019

Marine planning applications to be submitted

The applications for the marine components were submitted to Natural Resources Wales (Wales) and the Department of Housing, Planning and Local Government – Foreshore Unit (Ireland). Onshore development work continues.

2020

Onshore planning applications to be submitted and construction work to commence

Applications for onshore components will be submitted to Pembrokeshire County Council and Pembrokeshire Coast National Park Authority (Wales) and An Bord Pleanála (Ireland). Following consent, the project will commence construction.

2023

Interconnector operational

Expected to be fully operational

For more information please visit: www.greenlink.ie

SITE ASSESSMENT OVERVIEW

Greenlink
INTERCONNECTOR

As part of the development process, a series of environmental and technical assessment studies were completed to ensure that the final proposed cable route and converter station site were designed sympathetically to the local environment and potential impacts and opportunities arising from Greenlink identified.

Onshore studies include assessments of:

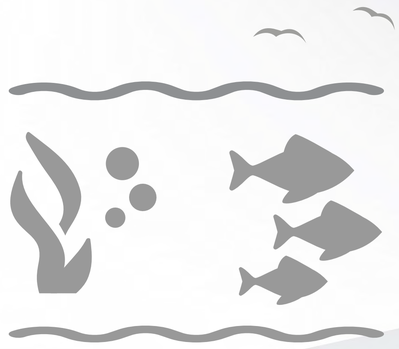
- Biodiversity
- Historic environment
- Landscape and visual impact
- Flooding and hydrology
- Geology and hydrogeology
- Noise and vibration
- Traffic and transport
- Agricultural land
- Socio-economics and human health
- Air quality and climate change
- Cumulative and transboundary effects

Offshore studies include assessments on:

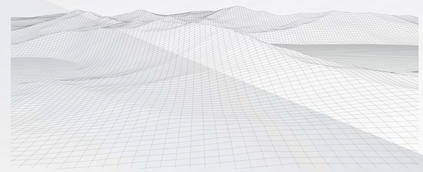
- Geophysical and geotechnical surveys
- Marine biodiversity (benthic/seabed environment, fish and shellfish, marine birds, marine mammals and reptiles etc)
- Protected designations
- Commercial fisheries
- Shipping and navigation
- Marine archaeology
- Unexploded ordnance

The results of assessments and surveys are presented in the Greenlink planning applications.

Noise & vibration



Marine biodiversity



Landscape &
visual impact

For more information please visit: www.greenlink.ie

SOCIO-ECONOMICS

Greenlink
INTERCONNECTOR

This study will provide an overview of the socio-economic conditions in the area of the proposed development and an assessment of potential effects to the population and human health derived from the implementation of the project. This will encompass consideration of population and demographic data, employment data and the volume and value of tourism to the local economy.

Local tourism

The Hook Head Peninsula has a rich built heritage and attractive beaches, and it is an important tourist destination in Ireland's Southeast. Tourist attractions close to the cable route include Dunbrody Abbey, Loftus Hall and Baginbun Beach and Martello Tower. The Ring of Hook Coastal Drive is a popular route which may partially coincide with the cable route, and appropriate traffic management will be required to minimise disruption to tourist traffic during the cable construction within the roadway.

The cable will be horizontally drilled under the beach at the landfall, with the construction area set well back from the beach and cliffs. It is not envisaged that the construction work will have adverse effects on tourist activity at the beach.

Potential impacts

There will be temporary impacts on road traffic during the cable construction, with the requirement for partial or full road closures and diversions, for short periods.

Direct and indirect employment will be created for both the construction and operational phase.

The construction of the cables and converter station have the potential to have a negative impact on residential amenity in the immediate vicinity of the construction activities. Once the cables and converter station are operational, the potential for negative impact on residential amenity is minimal.

Your views

Please let us know of any local tourism business or group we need to consider and involve in project discussions.

Are there any particular local events that attract tourists that Greenlink needs to be aware of?

Jobs

Jobs and knock-on economic benefits during construction

TRAFFIC AND TRANSPORT

Greenlink
INTERCONNECTOR

The traffic assessment addresses the traffic impacts on the road network from the construction and operation of the Greenlink project. The assessment includes the supply of materials, plant and equipment, the cable laying operations and the various components of the converter station. Traffic arising from the construction and operations workforce is also addressed.

During the construction phase we will engage with the local community to miminmise the impact of traffic and transport on local residents and businesses as much as possible and recommendations will be made to mitigate any potential traffic impacts on the road network.

The traffic assessment includes a review of the existing traffic patterns and an estimation of the traffic volumes which will be generated by the construction of the onshore cable, the landfall site and the converter station. The traffic generated by the construction workforce and by the transport of materials and equipment is also predicted.

The potential disruption to the road network during the installation of the cables and the availability of alternative routes is assessed. The traffic distribution pattern on the local road network during construction is examined and impacts determined.

Potential impacts and mitigation

There is potential for traffic impact from Greenlink during the construction phase which will temporarily give rise to additional traffic on the road network.

Installation of the cables may require partial or full road closures and traffic may have to use alternative routes. Where the cable route diverges from the road, the impacts will be reduced.

Once the Greenlink project is in operation, the potential for a traffic impact is minimal. The level of operations and maintenance workforce will be low, so that the impact on any particular road will be insignificant.

Traffic Management Plan (TMP)

An outline Traffic Management Plan (TMP) will be compiled that will outline measures for managing and mitigating the construction traffic caused by Greenlink.

Greenlink will consult the local community on a draft TMP to ensure that all considerations of local amenity have been incorporated and that members of the local communities are satisfied with the mitigation measures being proposed.

Your views

Do you have any specific concerns? Are there local organisations (businesses, schools etc) that we need to involve in the Traffic Management Plan?

For more information please visit: www.greenlink.ie

HORIZONTAL DIRECTIONAL DRILL INSTALLATION

Greenlink
INTERCONNECTOR

We are proposing to use a Horizontal Directional Drill (HDD) to install the cables at both Baginbun Beach (Ireland) and Freshwater West (Wales). Using this method of installation will ensure that cables can be installed without any impact on the beaches at both locations and will avoid any impact on the dune system at Freshwater West. The cable will emerge below the low water mark so no work will take place on either beach.

While the construction programme for the full project is anticipated to take around three years, construction work around each landfall would last for approximately 3 months and be scheduled to avoid the most popular periods of use.

Once the cables emerge the proposed cable route has been designed to avoid the most sensitive marine habitats.

To the right is an example of a typical HDD cable installation arrangement and demonstrates how it can be used across different terrains.

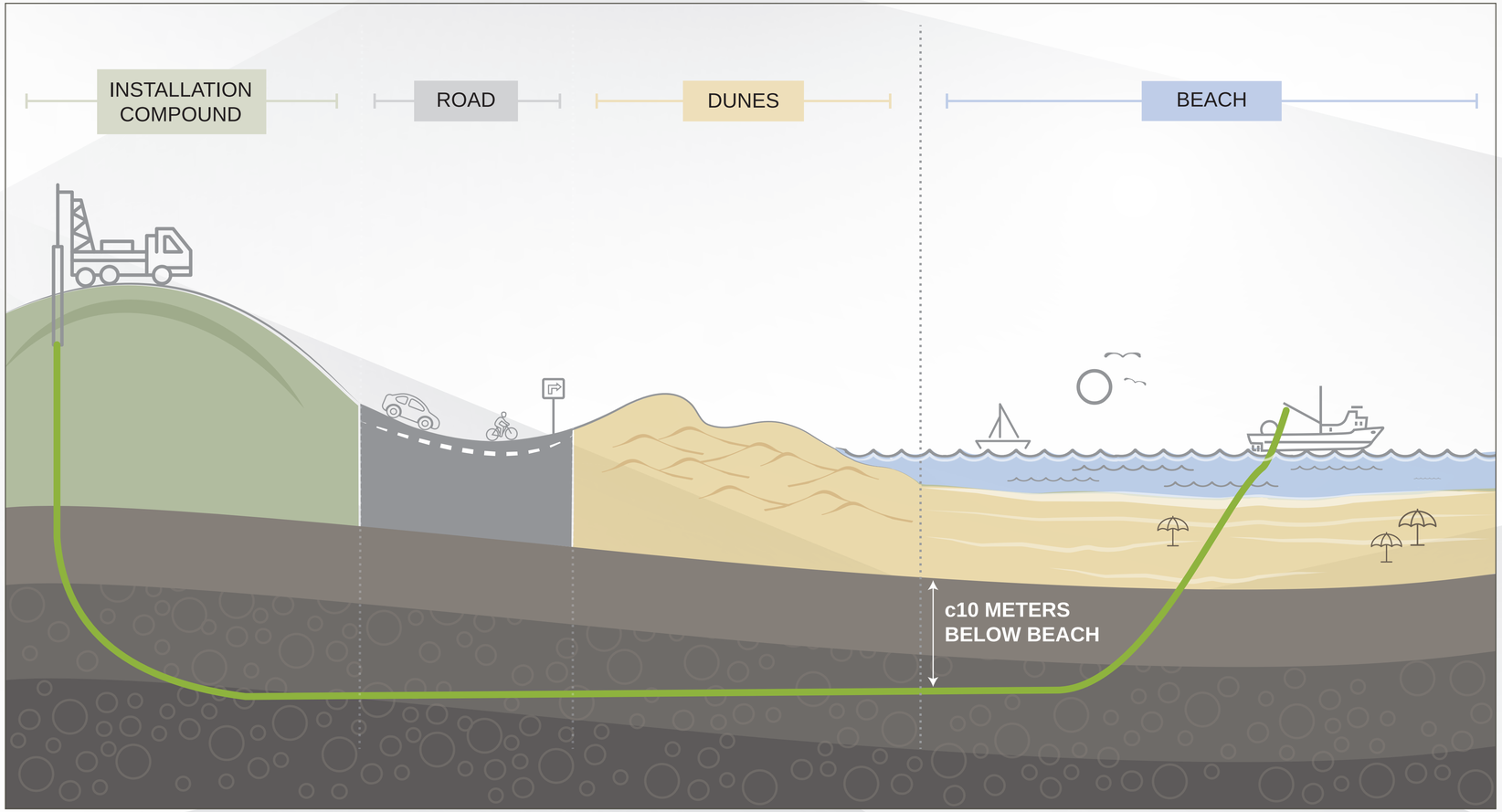
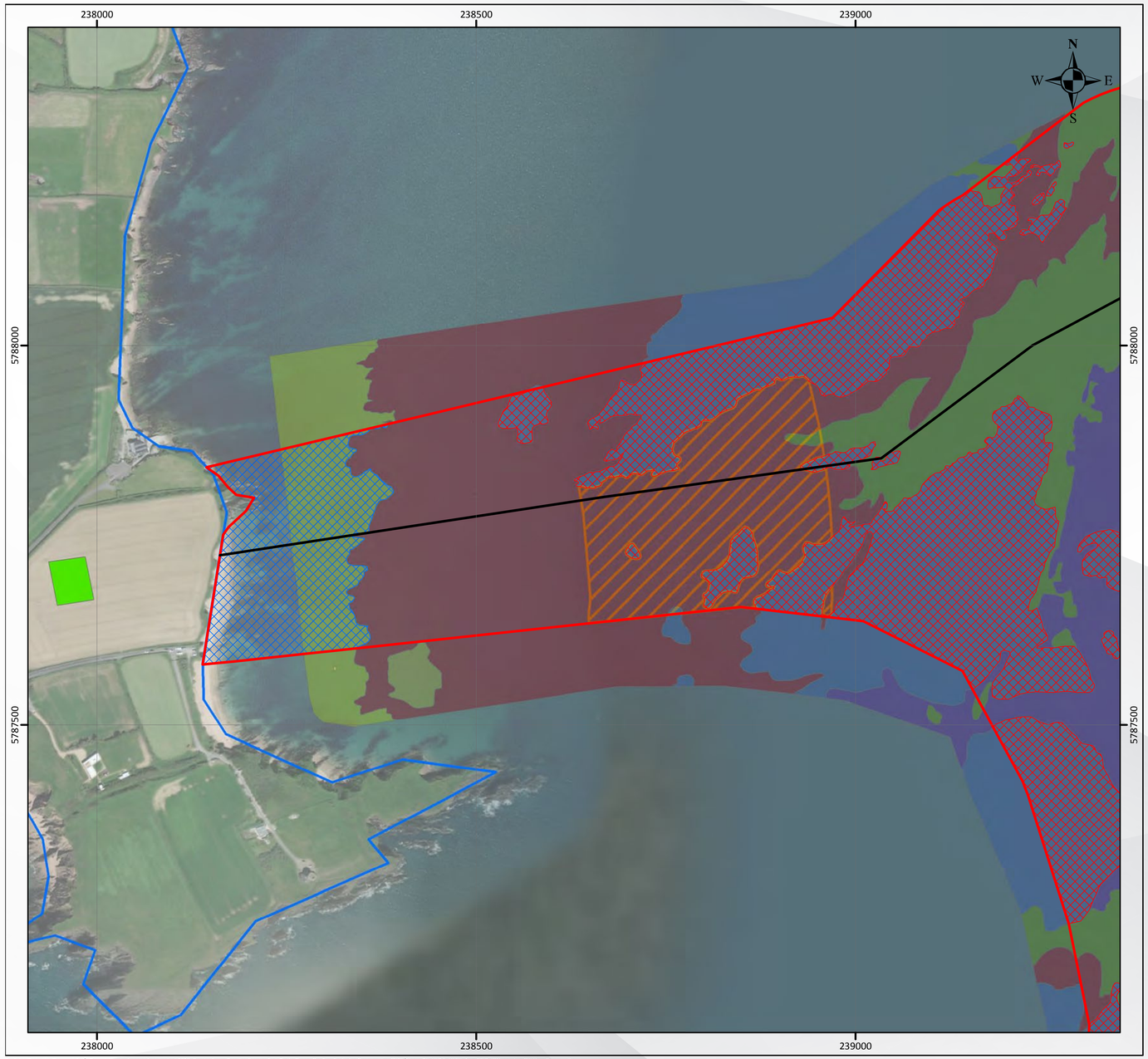


ILLUSTRATION OF HOW AN HDD MIGHT WORK

INSTALLATION AT BAGINBUN BEACH

Greenlink
INTERCONNECTOR



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GREENLINK INTERCONNECTOR
INSTALLATION
Indicative HDD Exit Point - ROI Landfall

Drawing No: P1975-INST-002	A

Legend

- Indicative Greenlink Route Centreline
- Proposed Development
- Mean High Water Mark
- HDD Compound
- Indicative HDD Exit Point
- Trenching Exclusion Zone
- Annex I Habitat Exclusion Zone

EUNIS Habitat Classification

- A3.11
- A3.2
- A5.23
- A5.24
- A5.43
- A5.44

NOTE: Not to be used for Navigation

Date	Wednesday, May 8, 2019 11:00:32
Projection	WGS_1984_UTM_Zone_30N
Spheroid	WGS_1984
Datum	D_WGS_1984
Data Source	OSOD; MMT; ESRI; Greenlink
File Reference	J:\P1975\Mxd\15_INST\ P1975-INST-002.mxd
Created By	Chris Goode
Reviewed By	Chris Carroll
Approved By	Anna Farley

Co-financed by the European Union Connecting Europe Facility

intertek

0 50 100 150 200 m

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To avoid impacts on the Baginun Beach it is proposed to install the cables using a Horizontal Directional Drill under the beach and below the low water mark.

This is the proposed installation method contained within the Foreshore Licence Application submitted to Department for Housing, Planning and Local Government (Foreshore Unit).

Once the cables emerge the proposed cable route has been designed to avoid the most sensitive marine habitats.

For more information please visit: www.greenlink.ie

FORESHORE LICENCE APPLICATION CONSULTATION

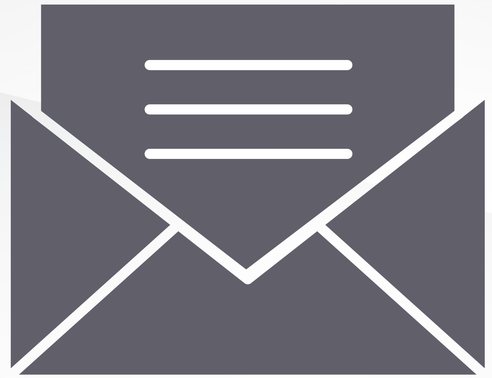
Greenlink
INTERCONNECTOR

The formal consultation process for Greenlink's Foreshore Licence Application commenced on Wednesday 13th November and closes on 8th January 2020.

Copies of the environmental statement are available to view on the project website (www.greenlink.ie/foreshorelicenceapplicationireland) and on the Department's website (www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-wexford.

Within 8 weeks from the publication of this notice, a copy of the application, the Environmental Impact Assessment Report and any other relevant report or information (including copies of any submissions, comments, or questions received by the appropriate Minister) may be inspected free of charge during the hours 10:00 to 13:00 and 14:00 to 17:00 Monday to Friday.

Foreshore Unit
Department for Housing
Planning Local Government
Newtown Road
Wexford
Co. Wexford



Submissions, comments in relation to the proposal may be made in writing within 8 weeks from the publication of this notice to the Minister for Housing, Planning and Local Government at Foreshore Unit, Department for Housing, Planning and Local Government, Newtown Road, Wexford, Co. Wexford

Or by e-mail to foreshore@housing.gov.ie (Quoting Ref: FS007050).
The closing date for the receipt of written submissions, comments or questions is therefore 17:30 on 08/01/2020.

Representations should be dated and clearly state the name (in block capitals) and the full return email or postal address of the person making the representation.

Please note that while the standard formal consultation period is 42 days, due to interaction with the Christmas period we have agreed an extension to the consultation period of two weeks with NRW. This extends the consultation period to 56 days with the closing date of formal consultation set at 17:30hrs on Wednesday 8th January 2020.

For more information please visit: www.greenlink.ie

Appendix 10

Public Notices

This notice in TED website: https://ted.europa.eu/udl?uri=TED:NOTICE:371269-2018:TEXT:EN:HTML

Ireland-Cork: Electrical machinery, apparatus, equipment and consumables; lighting
2018/S 162-371269

Contract notice – utilities

Works

Legal Basis:
Directive 2014/25/EU

Section I: Contracting entity

I.1) **Name and addresses**

Greenlink Interconnector Limited
Element Power, Unit C Building, 4200 Cork Business Park
Cork
Ireland
Contact person: Philip Flynn (Greenlink Procurement Manager)
E-mail: greenlink.procurement@wsp.com
NUTS code: IE052
Internet address(es):
Main address: www.greenlinkinterconnector.eu

I.2) **Information about joint procurement**

I.3) **Communication**

Access to the procurement documents is restricted. Further information can be obtained at:
www.greenlinkinterconnector.eu/project/suppliers-and-procurement
Additional information can be obtained from the abovementioned address
Tenders or requests to participate must be submitted to the abovementioned address

I.6) **Main activity**

Electricity

Section II: Object

II.1) **Scope of the procurement**

II.1.1) **Title:**

Greenlink Interconnector Project

II.1.2) **Main CPV code**

31000000

II.1.3) **Type of contract**

Works

II.1.4) **Short description:**

Greenlink Interconnector Limited is developing a 500 MW HVDC interconnector system between the existing electricity grids in Ireland and Wales (UK). The interconnector will provide a new grid connection between Great Island transmission substation in County Wexford, Ireland and Pembroke transmission substation in South Wales. The Greenlink Interconnector cable route is approximately 205 km in length between the Pembroke

Converter Station and the Great Island Converter Station of which 7 km is onshore in Wales, 170 km is subsea and 28 km is onshore in Ireland.

II.1.5) **Estimated total value**

II.1.6) **Information about lots**

This contract is divided into lots: yes
Tenders may be submitted for one lot only
Maximum number of lots that may be awarded to one tenderer: 1
The contracting authority reserves the right to award contracts combining the following lots or groups of lots:
Greenlink Interconnector Limited reserves the right to award contracts for works and maintenance services for the following Lots:
Lot 1: (Converter Stations, HVAC Cables and Grid Connections);
Lot 2: (HVDC Cables — subsea and underground) and
Lot 3: (Optional) — Lot 1 + Lot 2 (Converter Stations, HVAC Cables, Grid Connections, and HVDC Cables).
(See Section II.2.4 for details)

II.2) **Description**

II.2.1) **Title:**

Greenlink Interconnector Project — Converter Stations, HVAC cable (including accessories) and Grid Connections
Lot No: 1

II.2.2) **Additional CPV code(s)**

31000000
31121110
31200000
31321300
45000000
45315400
45314310
50532000
50532400
51110000
51112000

II.2.3) **Place of performance**

NUTS code: IE052
NUTS code: UKL14
Main site or place of performance:
Great Island, County Wexford, Ireland and Pembroke, Wales, United Kingdom

II.2.4) **Description of the procurement:**

While Greenlink does not consider itself a “contracting entity” for the purposes of the EU Utilities Directive (Directive 2014/25/EU) and any national implementing legislation, it is conducting this procurement voluntarily in accordance with the terms of the Directive 2014/25/EU to ensure an open, transparent and competitive tender process.
The scope of requirements of lot 1 within this contract notice are:
— the detailed design,
— engineering,

— procurement,
— manufacture,
— supply,
— transportation,
— installation,
— construction (including civil works),
— testing,
— commissioning,
— maintenance and supply and delivery of spares of:
(a) 2 x HVDC Converter Stations (1 in Great Island, County Wexford, Ireland and 1 in Pembroke, Wales, UK);
(b) All HVAC cables and accessories required to connect the HVDC converter stations to the grid connection equipment in Great Island, County Wexford, Ireland and Pembroke, Wales, UK (optional for Ireland and / or UK at the sole discretion of Greenlink Interconnector Limited);
(c) Grid connection equipment in grid connection substation in Great Island, County Wexford, Ireland and/or grid connection substation in Pembroke, Wales, UK (optional for Ireland and/or UK at the sole discretion of Greenlink Interconnector Limited);
(d) Spares (both strategic and operational spares) and
(e) Provision of maintenance services for a mandatory initial period after take over to align with the warranty period under the EPC contract (see II2.7 for current anticipated take over date) and supply and delivery of replenishment spares under a separate maintenance services agreement including options to extend at the sole discretion of Greenlink Interconnector Limited.
Further details of the scope of lot 1 are provided in the Pre-Qualification Questionnaire (PQQ) and Invitation to Negotiate (ITN) documents.
See Section VI.3 of this Contract Notice for more details about the procurement process.

II.2.5) **Award criteria**

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) **Estimated value**

II.2.7) **Duration of the contract, framework agreement or dynamic purchasing system**

Start: 30/06/2020
End: 30/06/2023
This contract is subject to renewal: no

II.2.9) **Information about the limits on the number of candidates to be invited**

Envisaged number of candidates: 5
Objective criteria for choosing the limited number of candidates:
Details will be described in the Pre-Qualification Questionnaire (PQQ) and/or Invitation to Negotiate (ITN) documents.
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.

II.2.10) **Information about variants**

Variants will be accepted: yes

II.2.11) **Information about options**

Options: yes
Description of options:
The following options will be included in the procurement of Lot 1:

(1) The scope of the detailed design, engineering, procurement, manufacture, supply, transportation, installation, construction (including civil works), testing, commissioning, maintenance and supply and delivery of spares (as detailed in the procurement documents) of HVAC cables and accessories required to connect the HVDC converter stations to the grid connection equipment in Great Island, County Wexford, Ireland and / or Pembroke, Wales, UK will each be optional at the sole discretion of Greenlink Interconnector Limited;
(2) The scope of the detailed design, engineering, procurement, manufacture, supply, transportation, installation, construction (including civil works), testing, commissioning, maintenance and supply and delivery of spares (as detailed in the procurement documents) of the grid connection equipment at the Great Island, County Wexford and / or Pembroke, Wales, UK grid substations will each be optional at the sole discretion of Greenlink Interconnector Limited and
(3) Extension to the term of the Maintenance Services Agreement procured under this lot 1 will be optional at the sole discretion of Greenlink Interconnector Limited.

II.2.12) **Information about electronic catalogues**

II.2.13) **Information about European Union funds**

The procurement is related to a project and/or programme financed by European Union funds: yes
Identification of the project:
EU Project of Common Interest Reference 1.9.1 Ireland - United Kingdom interconnection between Wexford (IE) and Pembroke, Wales (UK) currently know as "Greenlink".

II.2.14) **Additional information**

II.2) **Description**

II.2.1) **Title:**

Greenlink Interconnector Project — HVDC Cables and Accessories
Lot No: 2

II.2.2) **Additional CPV code(s)**

31000000
31320000
31321300
31321400
31321500
45000000
45314300
45314310
45315400

II.2.3) **Place of performance**

NUTS code: IE052
NUTS code: UKL14
Main site or place of performance:
At and between Great Island, County Wexford, Ireland and Pembroke, Wales, United Kingdom, including the Irish Sea.

II.2.4) **Description of the procurement:**

While Greenlink does not consider itself a “contracting entity” for the purposes of the EU Utilities Directive (Directive 2014/25/EU) and any national implementing legislation, it is voluntarily conducting this procurement in accordance with the terms of Directive 2014/25/EU to ensure an open, transparent and competitive tender process.

The scope of requirements of lot 2 within this contract notice are: the detailed design, engineering, procurement, manufacture, supply, transportation, installation, construction (including civil works), testing, commissioning, inspection, maintenance, repair, supply, delivery and storage of spares:
(a) Subsea and underground HVDC cables and accessories required to connect the HVDC converter stations in Great Island, County Wexford, Ireland to the converter station in Pembroke, Wales, UK
(b) Spares (both strategic and operational spares);
(c) Provision of maintenance services for a mandatory initial period after take over to align with the warranty period under the EPC (see II2.7 for current anticipated take over date) and supply and delivery of replenishment spares under a separate maintenance services agreement including options to extend at the sole discretion of Greenlink Interconnector Limited.
Further details of the scope of lot 2 are provided in the Pre-Qualification Questionnaire (PQQ) and Invitation to Negotiate (ITN) documents.
See Section VI.3 of this Contract Notice for more details about the procurement process.

II.2.5) **Award criteria**

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) **Estimated value**

II.2.7) **Duration of the contract, framework agreement or dynamic purchasing system**

Start: 30/06/2020
End: 30/06/2023
This contract is subject to renewal: no

II.2.9) **Information about the limits on the number of candidates to be invited**

Envisaged number of candidates: 5
Objective criteria for choosing the limited number of candidates:
Details will be described in the Pre-Qualification Questionnaire (PQQ) and/or Invitation to Negotiate (ITN) documents.
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.

II.2.10) **Information about variants**

Variants will be accepted: yes

II.2.11) **Information about options**

Options: yes
Description of options:
The following options will be included in the procurement of Lot 2:
(1) Extension to the term of the maintenance services agreement procured under this lot 2 will be optional at the sole discretion of Greenlink Interconnector Limited.

II.2.12) **Information about electronic catalogues**

II.2.13) **Information about European Union funds**

The procurement is related to a project and/or programme financed by European Union funds: yes
Identification of the project:
EU Project of Common Interest Reference 1.9.1 Ireland - United Kingdom interconnection between Wexford (IE) and Pembroke, Wales (UK) currently know as "Greenlink".

II.2.14) **Additional information**

II.2) **Description**

II.2.1) **Title:**

Greenlink Interconnector Project — Converter Stations, HVAC Cables, Grid Connections, HVDC Cables and accessories

Lot No: 3

II.2.2) **Additional CPV code(s)**

31000000
31320000
31321300
31321400
31321500
45000000
45314300
45314310
45315400

II.2.3) **Place of performance**

NUTS code: IE052

NUTS code: UKL14

Main site or place of performance:

At and between Great Island, County Wexford, Ireland and Pembroke, Wales, United Kingdom, including the Irish Sea.

II.2.4) **Description of the procurement:**

While Greenlink does not consider itself a “contracting entity” for the purposes of the EU Utilities Directive (Directive 2014/25/EU) and any national implementing legislation, it is voluntarily conducting this procurement in accordance with the terms of Directive 2014/25/EU to ensure an open, transparent and competitive tender process.

The scope of requirements of lot 3 within this contract notice are: the detailed design, engineering, procurement, manufacture, supply, transportation, installation, construction (including civil works), testing, commissioning, inspection, maintenance, repair, supply, delivery and storage of spares:

(a) 2 x HVDC Converter Stations (1 in Great Island, County Wexford, Ireland and 1 in Pembroke, Wales, UK);

(b) All HVAC cables required to connect the HVDC converter stations to the grid connection equipment in both Great Island, County Wexford, Ireland and/or Pembroke, Wales, UK (optional for UK and/or Ireland at the sole discretion of Greenlink Interconnector Limited);

(c) Grid connection equipment in grid connection substation in Great Island, County Wexford, Ireland and/or grid connection substation in Pembroke, Wales, UK (optional for Ireland and/or UK at the sole discretion of Greenlink Interconnector Limited);

(d) Subsea and underground HVDC cables and accessories required to connect the HVDC converter stations in Great Island, County Wexford, Ireland to the converter station in Pembroke, Wales, UK;

(e) Spares (both strategic and operational spares);

(f) Provision of ancillary maintenance services for a mandatory initial period after take over to align with the warranty period under the EPC (see II2.7 for current anticipated take over date) and supply and delivery of replenishment spares under a separate Maintenance Services Agreement including options to extend at the sole discretion of Greenlink Interconnector Limited.

Further details of the scope of lot 2 are provided in the Pre-Qualification Questionnaire (PQQ) and Stage 1 Invitation to Negotiate (ITN) documents.

lot 3 is optional and under consideration. Greenlink Interconnector Limited reserves the unconditional right to withdraw inclusion of lot 3 prior to issuing of the Stage 1 ITN.
lot 3 option will be conditional upon an applicant having applied for both lot 1 and lot 2.
Applicants will be requested to confirm their interest in this lot 3 option in the PQQ submission.
Further details of the scope of lot 3 are provided in the Pre-Qualification Questionnaire (PQQ) and Invitation to Negotiate (ITN) documents.
See Section VI.3 of this Contract Notice for more details about the procurement process.

II.2.5) **Award criteria**

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) **Estimated value**

II.2.7) **Duration of the contract, framework agreement or dynamic purchasing system**

Start: 30/06/2020
End: 30/06/2023
This contract is subject to renewal: no

II.2.9) **Information about the limits on the number of candidates to be invited**

Envisaged number of candidates: 5
Objective criteria for choosing the limited number of candidates:
Details will be described in the Pre-Qualification Questionnaire (PQQ) and/or Invitation to Negotiate (ITN) documents.
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.

II.2.10) **Information about variants**

Variants will be accepted: yes

II.2.11) **Information about options**

Options: yes
Description of options:
The following options will be included in the procurement of lot 3 (lot 1 + lot 2):
(1) The scope of the detailed design, engineering, procurement, manufacture, supply, transportation, installation, construction (including civil works), testing, commissioning, maintenance and supply and delivery of spares (as detailed in the procurement documents) of HVAC cables and accessories required to connect the HVDC converter stations to the grid connection equipment in Great Island, County Wexford, Ireland and/or Pembroke, Wales, UK will each be optional at the sole discretion of Greenlink Interconnector Limited;
(2) The scope of the supply construction (including civil works) installation test and commissioning (as detailed in the procurement documents) of the grid connection equipment at the Great Island and Pembroke grid substations will each be optional at the sole discretion of Greenlink Interconnector Limited and
(3) Extension of the maintenance services agreement procured under this lot 3 at the sole discretion of Greenlink Interconnector Limited.

II.2.12) **Information about electronic catalogues**

II.2.13) **Information about European Union funds**

The procurement is related to a project and/or programme financed by European Union funds: yes
Identification of the project:
EU Project of Common Interest Reference 1.9.1 Ireland - United Kingdom interconnection between Wexford (IE) and Pembroke, Wales (UK) currently know as "Greenlink".

II.2.14) **Additional information**

Section III: Legal, economic, financial and technical information

III.1) **Conditions for participation**

III.1.1) **Suitability to pursue the professional activity, including requirements relating to enrolment on professional or trade registers**

List and brief description of conditions:
Details will be described in the Pre-Qualification Questionnaire (PQQ).
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ).

III.1.2) **Economic and financial standing**

Selection criteria as stated in the procurement documents

III.1.3) **Technical and professional ability**

Selection criteria as stated in the procurement documents

III.1.4) **Objective rules and criteria for participation**

List and brief description of rules and criteria:
Details will be described in the Pre-Qualification Questionnaire (PQQ).
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ).

III.1.5) **Information about reserved contracts**

III.1.6) **Deposits and guarantees required:**

Guarantees and Bonds are required and will be described in the Pre-Qualification Questionnaire (PQQ) and/or Invitation to Negotiate (ITN) documents.
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.

III.1.7) **Main financing conditions and payment arrangements and/or reference to the relevant provisions governing them:**

Details will be described in the Pre-Qualification Questionnaire (PQQ) and/or Invitation to Negotiate (ITN) documents.
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.

III.1.8) **Legal form to be taken by the group of economic operators to whom the contract is to be awarded:**

Greenlink Interconnector Limited reserves the right to require bidders in a consortium to take a particular legal form or require a single contractor take primary liability or to require each party in a consortium to take joint and several liability.
All members of a joint venture or consortium group:
(a) must make an application and submit a PQQ;
(b) not breach the exclusion grounds specified in the PQQ document and
(c) meet all the minimum requirements as specified in the PQQ document with the exception of the minimum technical capability where at least 1 member of the consortium group must be designated as the lead member and meet the minimum technical manufacturing capability requirement.
Applicants must provide full details of the proposed consortium arrangements (including the legal form) and proposed contracting structures including key sub-contractors.
Details of the conditions applied to joint ventures and consortium groups are stated in the PQQ.

III.2) **Conditions related to the contract**

III.2.2) **Contract performance conditions:**

Details will be described in the Pre-Qualification Questionnaire (PQQ) and/or Invitation to Negotiate (ITN) documents.

Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.

III.2.3) **Information about staff responsible for the performance of the contract**

Section IV: Procedure

IV.1) **Description**

IV.1.1) **Type of procedure**

Negotiated procedure with prior call for competition

IV.1.3) **Information about a framework agreement or a dynamic purchasing system**

IV.1.4) **Information about reduction of the number of solutions or tenders during negotiation or dialogue**

Recourse to staged procedure to gradually reduce the number of solutions to be discussed or tenders to be negotiated

IV.1.6) **Information about electronic auction**

IV.1.8) **Information about the Government Procurement Agreement (GPA)**

The procurement is covered by the Government Procurement Agreement: no

IV.2) **Administrative information**

IV.2.1) **Previous publication concerning this procedure**

Notice number in the OJ S: 2018/S 090-204808

IV.2.2) **Time limit for receipt of tenders or requests to participate**

Date: 12/10/2018

Local time: 12:00

IV.2.3) **Estimated date of dispatch of invitations to tender or to participate to selected candidates**

Date: 02/11/2018

IV.2.4) **Languages in which tenders or requests to participate may be submitted:**

English

IV.2.6) **Minimum time frame during which the tenderer must maintain the tender**

IV.2.7) **Conditions for opening of tenders**

Section VI: Complementary information

VI.1) **Information about recurrence**

This is a recurrent procurement: no

VI.2) **Information about electronic workflows**

VI.3) **Additional information:**

Applicants wishing to participate should submit their company name, main contact name and main contact email address to Greenlink Procurement Manager at email address greenlink.procurement@wsp.com

Applicants will then receive a “Non-Disclosure” Agreement (“NDA”) and an “Expression of Interest” (“EOI”) form for signature. The NDA and EOI should be submitted to the Greenlink Procurement Manager at email address greenlink.procurement@wsp.com

The PQQ and subsequent ITN processes will be run using the ACONEX procurement software.

After the NDA and EOI forms have been submitted, the PQQ document will then be issued to each applicant including submission instructions and which will be available from 31.8.2018.

Following the evaluation of the PQQ submissions in accordance with the PQQ instructions up to five (5) candidates will be shortlisted for each lot in accordance with the selection criteria specified in PQQ document to proceed to the invitation to negotiate ("ITN") phase.
The ITN phase will be conducted in two (2) stages. At the end of Stage 1 ITN two (2) candidates will be shortlisted to proceed to Stage 2 ITN in accordance with the award criteria specified in the Stage 1 ITN document and Greenlink Interconnector Limited will confirm whether it will include the lot 3 option in the Stage 2 ITN process. At the end of Stage 2 ITN one (1) candidate will be appointed as the Preferred Bidder for lot 2 in accordance with the Stage 2 award criteria specified in the Stage 1 ITN. The award criteria specified in the Stage 1 ITN and Stage 2 ITN will be set on the basis of the most economically advantageous tender.
Greenlink Interconnector Limited reserve the right to alter or amend the conditions described in the Pre-Qualification Questionnaire (PQQ) and/or the Invitation to Negotiate (ITN) documents.
In the event that two separate contracts are awarded for lot 1 and lot 2 the Candidates to whom the contracts will be awarded may be required to enter into an Interface Agreement.
Greenlink Interconnector Limited will apply a non-mandatory "standstill" period of a minimum of 10 days from the day following the date of notification to participating tenderers of the award of contract or contracts.

VI.4) **Procedures for review**

VI.4.1) **Review body**

High Court of Justice
Queens Bench Divisional Court, Royal Courts of Justice, Strand
London
WC2A 2LL
United Kingdom

VI.4.2) **Body responsible for mediation procedures**

VI.4.3) **Review procedure**

VI.4.4) **Service from which information about the review procedure may be obtained**

VI.5) **Date of dispatch of this notice:**

22/08/2018

PUBLIC NOTICE OF APPLICATION FOR A FORESHORE CONSENT

Greenlink Interconnector Limited for Interconnector between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales)

Notice is hereby given pursuant to Section 19A of the Foreshore Act 1933 (as amended), that Greenlink Interconnector Limited, Mason Hayes and Curran, South Bank House, Barrow Street, Dublin 4 has applied for consent under the Foreshore Acts to occupy an area of foreshore for an Interconnector between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

An Environmental Impact Assessment Report (EIAR) has been prepared in respect of this proposal. The foreshore application, EIAR, associated documents, all relevant maps, site plans and drawings may be inspected at the following locations:

- **Waterford Garda Station, Patrick Street, Waterford City**
- **New Ross Garda Station Marshmeadows, New Ross, Co. Wexford**
- **Wexford Public Library, Mallin St., Wexford (Monday to Saturday, during the hours 10.30am to 5.30pm)**
- **Wexford County Council, County Hall, Carricklawn, Wexford (Monday to Friday, during the hours 9am-1pm/2pm-5pm)**

A hard copy of the Environmental Impact Assessment Report may be purchased from the applicant.

A Non Technical Summary may be obtained free of charge.

CDs that include the Environmental Impact Assessment Report, maps, site plans and drawings, and a copy of the foreshore application are available free of charge from the applicant at the address stated above or by emailing energy.water.bst@intertek.com.

The application may also be viewed on the following dedicated website: **www.greenlink.ie/foreshorelicenceapplicationireland** and on the Department's website: **www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-wexford.**

The Minister for Housing, Planning and Local Government is responsible for making a decision on this application and he may either grant, approve or consent to the application with or without covenants, conditions or agreements, where applicable, or refuse the application.

Section 19C of the Foreshore Act applies to this application.

Submissions, comments in relation to the proposal may be made in writing within 8 weeks from the publication of this notice to the Minister for Housing, Planning and Local Government at Foreshore Unit, Department for Housing, Planning and Local Government, Newtown Road, Wexford, Co. Wexford or by e-mail to foreshore@housing.gov.ie (Quoting Ref: FS007050). The closing date for the receipt of written submissions, comments or questions is therefore 17:30 on 08/01/2020.

Within 8 weeks from the publication of this notice, a copy of the application, the Environmental Impact Assessment Report and any other relevant report or information (including copies of any submissions, comments, or questions received by the appropriate Minister) may be inspected free of charge at the Foreshore Unit, Department for Housing, Planning Local Government, Newtown Road, Wexford, Co. Wexford during the hours 10:00 to 13:00 and 14:00 to 17:00 Monday to Friday. All of this material, including submissions from the public, will also be published on the website of the Department for Housing, Planning and Local Government at: **www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-wexford**

Dated this day of 12/11/2019.

Greenlink Interconnector Limited, Mason Hayes and Curran, South Bank House, Barrow Street, Dublin 4

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Greenlink INTERCONNECTOR

Co-financed by the European Union
Connecting Europe Facility

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Dated this day of 12/11/2019.

Greenlink Interconnector Limited,
Mason Hayes and Curran, South Bank House,
Barrow Street, Dublin 4

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INTERCONNECTOR

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Spanish 'Skating' in Irish Waters

The Sea-Fisheries Protection Authority (SFPA) has welcomed the ruling by Judge Seán O'Donnabháin on 4th November 2019 who imposed a fine of €20,000 in addition to the forfeiture of €60,000 of catch and gear on the Spanish vessel, the Novo Alborada, following a guilty plea at Cork Circuit Court.

The Spanish registered fishing vessel was detained in Castletownbere on 9th July 2019 for skate fishing infringements, resulting from a joint operation with the UK Marine Management Organisation (MMO) and An Gardaí. The master of the vessel, Manuel Juncal Juncal pleaded guilty to the charge of retention of a prohibited species of fish and a second charge of mis-reporting the vessel's fishing activity on its logbook. Fifty-two boxes of critically endangered blue skate were incorrectly recorded as long-nosed skate in the vessel's logbook.

Susan Steele, Chair, SFPA highlighted the success of this operation and praised the interagency co-operation. "The blue skate is an endangered species that requires our protection and we have a zero tolerance approach to any vessels illegally fishing endangered species in our waters. We liaised with the UK MMO on this case and their close cooperation with Irish authorities led to the infringement being detected following inspection, which has now led to a successful prosecution. We will continue to work with authorities in the UK and across Europe to deter and detect any future illegal fishing violations."

Less than a week after the court ruling agains the Novo Alborada, the SFPA informed the Marine Times that a Spanish registered fishing vessel had been detained for alleged skate fishing infringements following an inspection by Sea-Fisheries Protection Officers of the SFPA in Castletownbere on 12th November 2019. The alleged infringements relate to the retention of Blue skate on board. Current EU regulations prohibit blue skate from being fished, retained on board, trans-shipped, or landed. This is the highest protection possible under the EU's Common Fisheries Policy.

The SFPA ensures compliance with national fishing quotas which ensures equality and fairness for all fishers and the continued sustainability of Ireland's valuable marine resources. It monitors all vessels operating within the Irish EEZ electronically with the support of the Naval Service and reviews and assesses their declared catches for compliance with EU sea-fisheries legislation. Where non-compliances are found, prosecutions may follow as with any incident of non-compliance with the law.

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The Minister for Housing, Planning and Local Government is responsible for making a decision on this application and he may either grant, approve or consent to the application with or without covenants, conditions or agreements, where applicable, or refuse the application.

Section 19C of the Foreshore Act applies to this application.

Submissions, comments in relation to the proposal may be made in writing within 8 weeks from the publication of this notice to the Minister for Housing, Planning and Local Government at Foreshore Unit, Department for Housing, Planning and Local Government, Newtown Road, Wexford, Co. Wexford or by e-mail to foreshore@housing.gov.ie (Quoting Ref: FS007050). The closing date for the receipt of written submissions, comments or questions is therefore 17:30 on 08/01/2020.

Within 8 weeks from the publication of this notice, a copy of the application, the Environmental Impact Assessment Report and any other relevant report or information (including copies of any submissions, comments, or questions received by the appropriate Minister) may be inspected free of charge at the Foreshore Unit, Department for Housing, Planning Local Government, Newtown Road, Wexford, Co. Wexford during the hours 10:00 to 13:00 and 14:00 to 17:00 Monday to Friday. All of this material, including submissions from the public, will also be published on the website of the Department for Housing, Planning and Local Government at: **www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-wexford**

Dated this day of 12/11/2019.

Greenlink Interconnector Limited,
Mason Hayes and Curran, South Bank House,
Barrow Street, Dublin 4

Greenlink INTERCONNECTOR intertek

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PUBLIC NOTICE

APPLICATION FOR A FORESHORE LICENCE

Notice is hereby given pursuant to Section 19 of the Foreshore Act, 1933 that Greenlink Interconnector Limited, Unit C, Building 4200, Cork Airport Business Park, has applied to the Minister of Housing, Planning and Local Government for a licence under Section 3 of the said Act for Marine Surveys in relation to a proposed Interconnector Cable at Hook Head, Co. Wexford.

A copy of the application, and the relevant maps, plans, and drawings, are available for inspection for the next 21 working days, free of charge, at Waterford Garda Station, Ballybricken, Waterford City.

The documentation is available on the Department's website http://www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-limited

Any person who wishes to make an objection to, or a representation in respect of the grant of the licence sought should do so in writing, giving reasons, within 21 working days of publication of this Notice (quoting ref: FS006582), to the Foreshore Unit, Department of Housing, Planning and Local Government, Newtown Road, Wexford, Co. Wexford or foreshore@housing.gov.ie. The closing date for submissions is close of business on 22nd February 2018.

All objections and representations received will be forwarded to the applicant for comment prior to any decision being made in the matter. Material upon which the Minster shall determine this application may be published on the Department's website. In this regard the Department wishes to draw attention to its policy on defamatory material that may be contained in submissions it receives, which may be found at: http://www.housing.gov.ie/planning/foreshore/public-participation-foreshore-consent-process

Dated this day 23rd January of 2018

Name and address: Tom Brinicombe, Development Manager, Unit C Building 4200, Cork Airport Business Park, Cork, Ireland

GREENLINK Ireland-Wales Interconnector Project
Offshore and Nearshore Surveys 2018

Mariners are advised that survey vessels and equipment will be used in the offshore area of the southern Irish sea waters between Pembroke, Wales and Southern Ireland. Further nearshore and landfall survey work will be concentrated around Freshwater West, Pembroke, Wales and Baginbun, Co Wexford, Ireland.

The geophysical survey work will be carried out by MMT using survey vessels MV FRANKLIN and MV SEABEAM from 19th September through to November.

Vessel: Franklin
Owner: Northern Survey
Call Sign: SEIN
IMO: 8301797
GSM: +46 31 31 00 301
Email: om-franklin@mmt.se

Vessel: Seabeam
Owner: MMT
Call Sign: 2BGN2
MMSI: 235065925
GSM: +46 73 85 39 334
Email: om-seabeam@mmt.se

During this survey the vessels will be deploying underwater survey equipment at which such times, the survey vessels may have restricted ability to manoeuvre and approaching vessels are requested to pass at a safe speed and distance.

Project Description

Greenlink Interconnector survey will be conducted by MMT on behalf of Greenlink Interconnector Limited. Further details of the project can be found at www.greenlinkinterconnector.eu

Survey task

A detailed geophysical survey will be carried out in an area between Freshwater West, Pembroke, Wales and Baginbun, Co Wexford, Ireland. The geophysical survey work will be conducted with hull mounted Multibeam sonar work with towed sidescan sonar, sub-bottom profiler and magnetometer.

Mariners are advised to keep an aft safety clearance of the vessels no less than 350m.

Port of Operation

Franklin will mobilise in the port of Pembroke from 19th September and Seabeam from 1st October.

The geophysical survey is planned for approximately 40 days but may extend if weather becomes poor.

Survey work will begin in blocks 05 and 06 from the 19th September to clear the Castlemartin firing range areas before moving to block 01 at the beginning of October to commence full survey from the Irish coast working east.

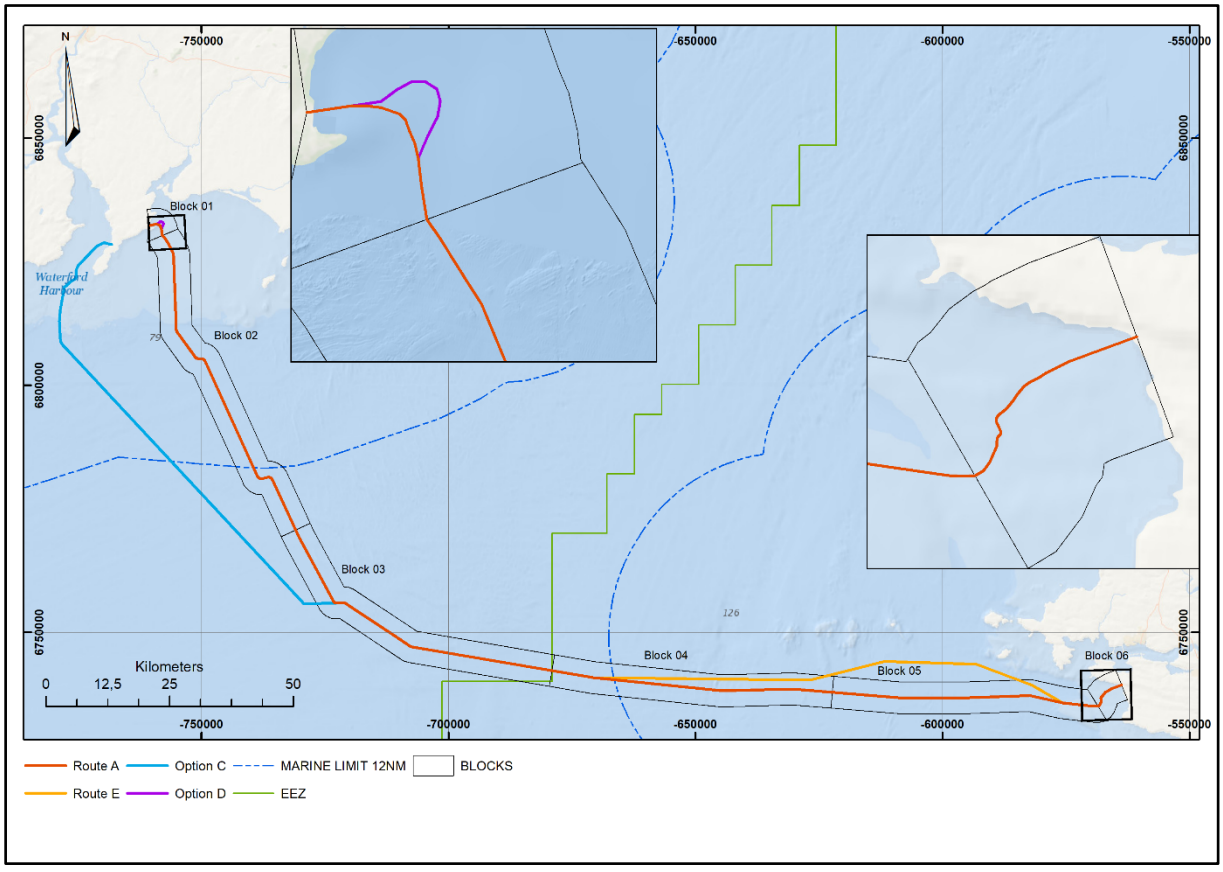


Figure 1 – Location and selected areas to be surveyed showing the sub-divided area blocks along the survey route. Note the survey corridor width is +/- 250m centred on the RPL (Red).

SURVEY ROUTE A COORDINATES

Greenlink Interconnector Route

N 52.17765	W 6.83063
N 52.17865	W 6.82270
N 52.17875	W 6.82018
N 52.17863	W 6.81718
N 52.17804	W 6.81390
N 52.17742	W 6.81271
N 52.17631	W 6.81196

N 52.17486	W 6.81079
N 52.17319	W 6.81002
N 52.17027	W 6.80918
N 52.16644	W 6.80790
N 52.16441	W 6.80529
N 52.16212	W 6.80269
N 52.15731	W 6.79717
N 52.14669	W 6.78892
N 52.14405	W 6.78786
N 52.06149	W 6.78303
N 52.06131	W 6.78301
N 52.06114	W 6.78299
N 52.06096	W 6.78295
N 52.06079	W 6.78290
N 52.06061	W 6.78284
N 52.06044	W 6.78276
N 52.06027	W 6.78268
N 52.06011	W 6.78259
N 52.05994	W 6.78248
N 52.05978	W 6.78237
N 52.05962	W 6.78224
N 52.05946	W 6.78211
N 52.05931	W 6.78196
N 52.05916	W 6.78181
N 52.05901	W 6.78164
N 52.03072	W 6.74835
N 52.03058	W 6.74818
N 52.03044	W 6.74799
N 52.03031	W 6.74780
N 52.03018	W 6.74760
N 52.03005	W 6.74739
N 52.02994	W 6.74717
N 52.02982	W 6.74695
N 52.02971	W 6.74672
N 52.02961	W 6.74648
N 52.02952	W 6.74623
N 52.02943	W 6.74598
N 52.02934	W 6.74572
N 52.02927	W 6.74546
N 52.02920	W 6.74520
N 52.02913	W 6.74492
N 52.02907	W 6.74465
N 52.02902	W 6.74437
N 52.02898	W 6.74409
N 52.02894	W 6.74380
N 52.02891	W 6.74352
N 52.02889	W 6.74323
N 52.02888	W 6.74294
N 52.02887	W 6.74265

N 52.02887	W 6.74236
N 52.02890	W 6.73782
N 52.02890	W 6.73753
N 52.02889	W 6.73724
N 52.02888	W 6.73695
N 52.02886	W 6.73666
N 52.02883	W 6.73638
N 52.02879	W 6.73610
N 52.02875	W 6.73581
N 52.02870	W 6.73554
N 52.02864	W 6.73526
N 52.02858	W 6.73499
N 52.02851	W 6.73473
N 52.02843	W 6.73446
N 52.02835	W 6.73421
N 52.02826	W 6.73396
N 52.02816	W 6.73371
N 52.02806	W 6.73347
N 52.02795	W 6.73324
N 52.02784	W 6.73302
N 52.02772	W 6.73280
N 52.02760	W 6.73259
N 52.02747	W 6.73239
N 52.02734	W 6.73220
N 52.02720	W 6.73201
N 52.02706	W 6.73184
N 52.02691	W 6.73167
N 52.02676	W 6.73151
N 52.02661	W 6.73137
N 52.02645	W 6.73123
N 52.02629	W 6.73111
N 51.89720	W 6.63529
N 51.89704	W 6.63517
N 51.89688	W 6.63503
N 51.89672	W 6.63489
N 51.89657	W 6.63473
N 51.89643	W 6.63457
N 51.89628	W 6.63439
N 51.89614	W 6.63421
N 51.89601	W 6.63401
N 51.89588	W 6.63381
N 51.89576	W 6.63360
N 51.89564	W 6.63339
N 51.89553	W 6.63316
N 51.89542	W 6.63293
N 51.89532	W 6.63269
N 51.89522	W 6.63245
N 51.89513	W 6.63220
N 51.89505	W 6.63194

N 51.89497	W 6.63168
N 51.89490	W 6.63141
N 51.89484	W 6.63114
N 51.89478	W 6.63087
N 51.89473	W 6.63059
N 51.89469	W 6.63031
N 51.89465	W 6.63003
N 51.89462	W 6.62974
N 51.89460	W 6.62945
N 51.89458	W 6.62916
N 51.89458	W 6.62888
N 51.89458	W 6.62859
N 51.89458	W 6.62830
N 51.89459	W 6.62801
N 51.89462	W 6.62772
N 51.89464	W 6.62743
N 51.89468	W 6.62715
N 51.89611	W 6.61647
N 51.89615	W 6.61619
N 51.89617	W 6.61591
N 51.89619	W 6.61562
N 51.89621	W 6.61533
N 51.89621	W 6.61505
N 51.89621	W 6.61476
N 51.89621	W 6.61447
N 51.89619	W 6.61418
N 51.89617	W 6.61390
N 51.89614	W 6.61361
N 51.89610	W 6.61333
N 51.89606	W 6.61305
N 51.89601	W 6.61277
N 51.89595	W 6.61250
N 51.89589	W 6.61223
N 51.89582	W 6.61197
N 51.89575	W 6.61171
N 51.89566	W 6.61145
N 51.89557	W 6.61120
N 51.89548	W 6.61096
N 51.89538	W 6.61072
N 51.89527	W 6.61049
N 51.89516	W 6.61026
N 51.89504	W 6.61005
N 51.89492	W 6.60984
N 51.89479	W 6.60964
N 51.89466	W 6.60944
N 51.89452	W 6.60926
N 51.89438	W 6.60908
N 51.89424	W 6.60892
N 51.89409	W 6.60876

N 51.89393	W 6.60862
N 51.89378	W 6.60848
N 51.89362	W 6.60835
N 51.82876	W 6.55966
N 51.75735	W 6.49766
N 51.75720	W 6.49752
N 51.75705	W 6.49738
N 51.75691	W 6.49722
N 51.75676	W 6.49706
N 51.75663	W 6.49688
N 51.75649	W 6.49670
N 51.75637	W 6.49651
N 51.75624	W 6.49631
N 51.75612	W 6.49610
N 51.75601	W 6.49589
N 51.75590	W 6.49567
N 51.75580	W 6.49544
N 51.75570	W 6.49521
N 51.75561	W 6.49497
N 51.75552	W 6.49472
N 51.75544	W 6.49447
N 51.75537	W 6.49422
N 51.75530	W 6.49396
N 51.75524	W 6.49370
N 51.75519	W 6.49343
N 51.75514	W 6.49316
N 51.75510	W 6.49289
N 51.75506	W 6.49261
N 51.75503	W 6.49234
N 51.75501	W 6.49206
N 51.75500	W 6.49178
N 51.75499	W 6.49150
N 51.75499	W 6.49121
N 51.75507	W 6.47819
N 51.75506	W 6.47791
N 51.75506	W 6.47762
N 51.75504	W 6.47734
N 51.75502	W 6.47705
N 51.75499	W 6.47677
N 51.75495	W 6.47649
N 51.75491	W 6.47621
N 51.75486	W 6.47594
N 51.75480	W 6.47567
N 51.75474	W 6.47540
N 51.75467	W 6.47514
N 51.75459	W 6.47488
N 51.75451	W 6.47462
N 51.75442	W 6.47438
N 51.75432	W 6.47413

N 51.70640	W 6.35751
N 51.70630	W 6.35728
N 51.70622	W 6.35704
N 51.70614	W 6.35679
N 51.70606	W 6.35655
N 51.70599	W 6.35629
N 51.70593	W 6.35604
N 51.70587	W 6.35578
N 51.70582	W 6.35551
N 51.70578	W 6.35524
N 51.70574	W 6.35498
N 51.70571	W 6.35470
N 51.67099	W 6.02441
N 51.65606	W 5.79046
N 51.65828	W 5.66261
N 51.64809	W 5.46310
N 51.64853	W 5.33980
N 51.65080	W 5.23229
N 51.65080	W 5.23203
N 51.65080	W 5.23178
N 51.65079	W 5.23152
N 51.65077	W 5.23126
N 51.65075	W 5.23100
N 51.65073	W 5.23075
N 51.65070	W 5.23050
N 51.64263	W 5.17182
N 51.63857	W 5.11457
N 51.63855	W 5.11026
N 51.63873	W 5.10714
N 51.63955	W 5.10510
N 51.64102	W 5.10342
N 51.64368	W 5.10167
N 51.64487	W 5.10164
N 51.64524	W 5.10148
N 51.64555	W 5.10102
N 51.64579	W 5.10074
N 51.64622	W 5.10066
N 51.64688	W 5.10118
N 51.64771	W 5.10187
N 51.64846	W 5.10200
N 51.64900	W 5.10149
N 51.65007	W 5.09936
N 51.65148	W 5.09767
N 51.65249	W 5.09656
N 51.65395	W 5.09481
N 51.65462	W 5.09342
N 51.65554	W 5.09064
N 51.65628	W 5.08903
N 51.65839	W 5.08249

N 51.66284 W 5.06460

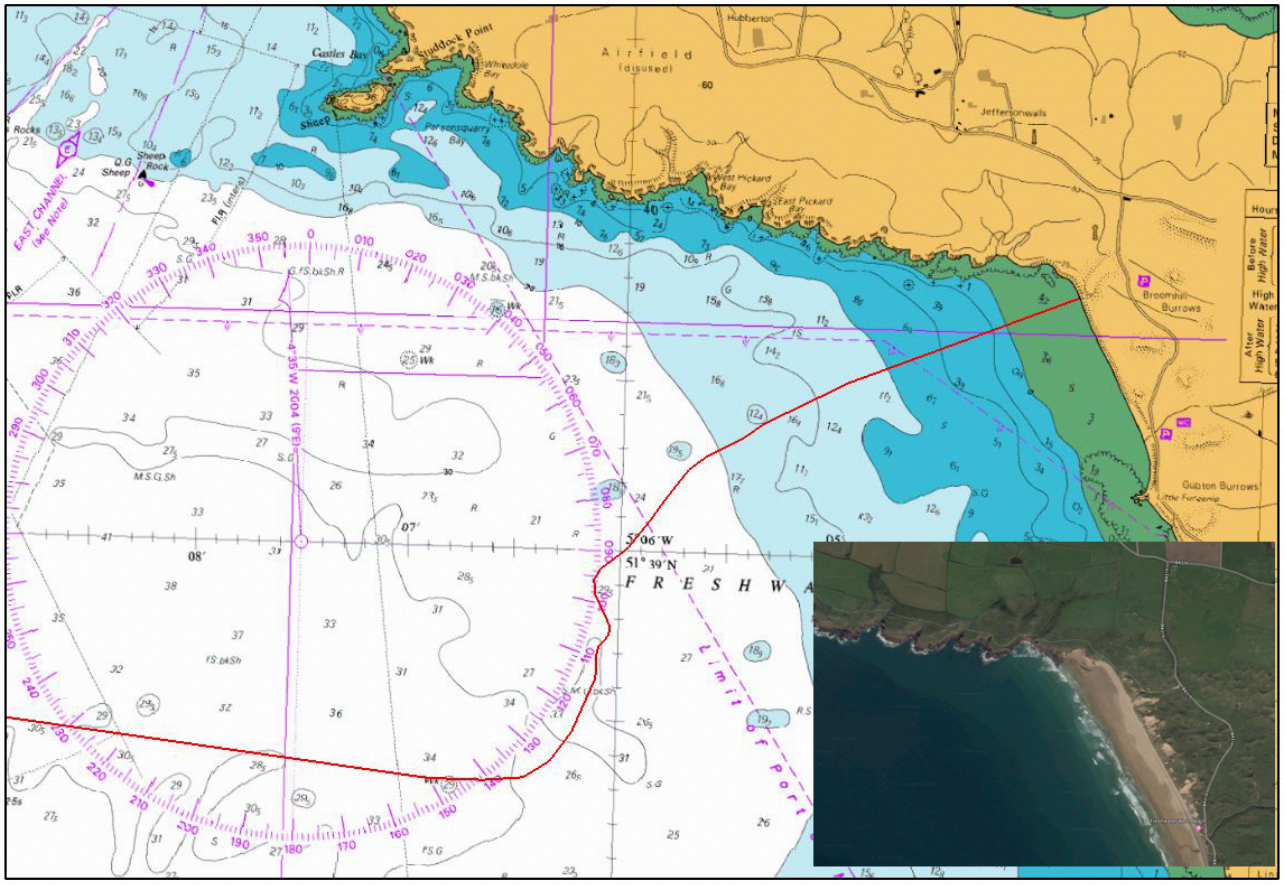


Figure 2 – Freshwater West, Pembroke, Wales - Survey Area

APPROXIMATE COORDINATES

Freshwater, Pembroke, Wales

N 51.656 W 005.063
N 51.650 W 005.086
N 51.646 W 005.099

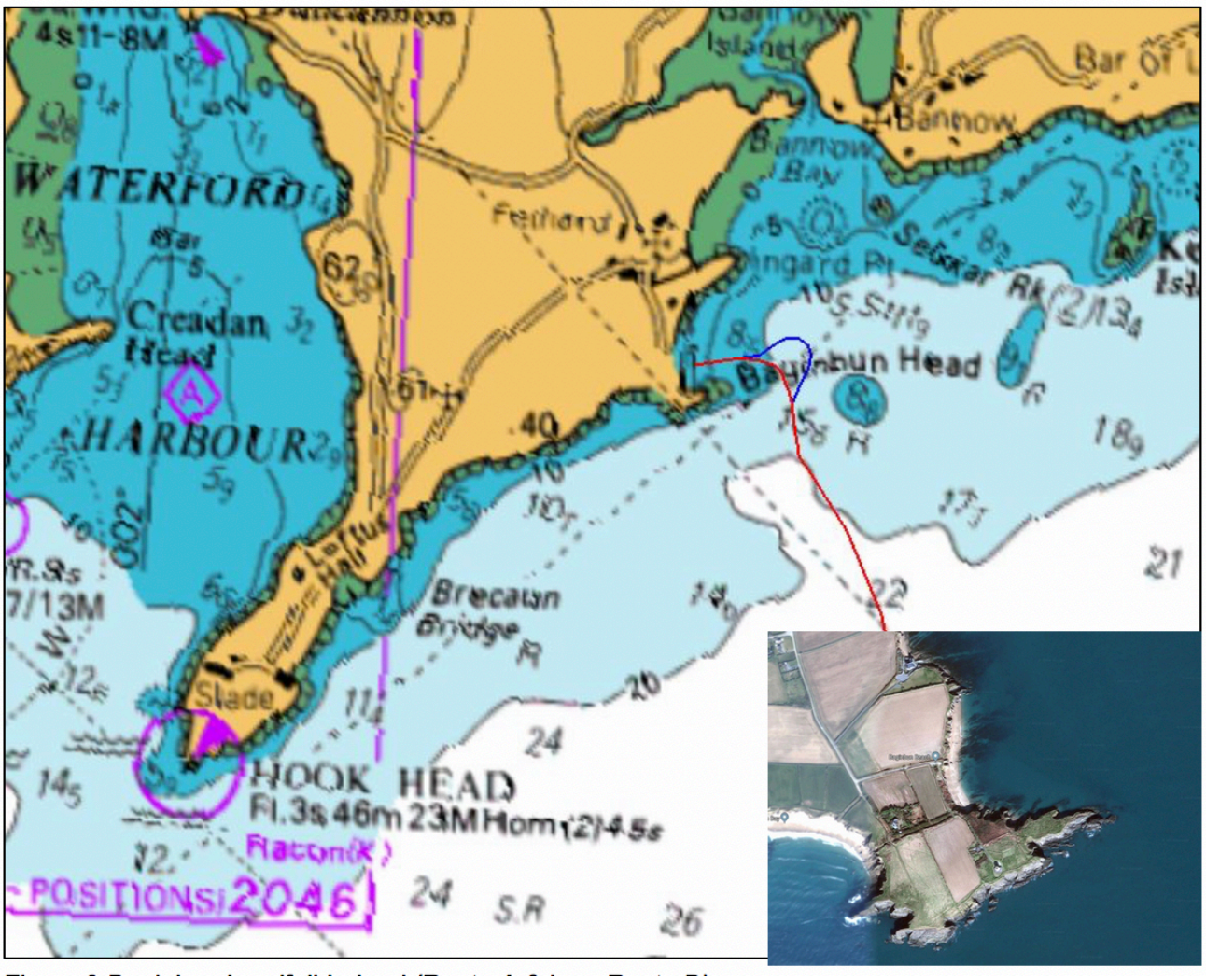


Figure 3 – Baginbun, Co Wexford, Ireland - Survey Area

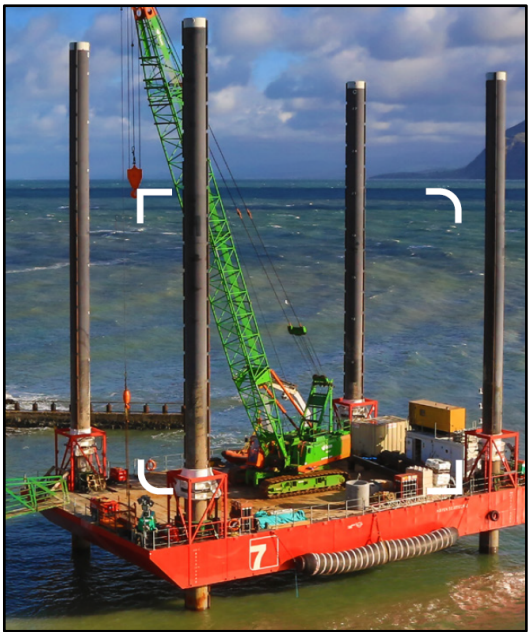
APPROXIMATE COORDINATES

Baginbun, Co Wexford, Ireland

N 52.181 W 006.829
N 52.176 W 006.815
N 52.168 W 006.810

The geotechnical survey work will be carried out by MMT using offshore survey vessels MV Edda Fonn and RED7 Jack-up rig Seariser 2 from mid-October through to November. Nearshore multicat vessels may be also be deployed in shallow coastal areas but will be confirmed later

Vessel: Edda Fonn
Owner: Mökster
Call Sign: LAZT7
IMO: 9273662
GSM: +47 23 67 61 32
Email: om-edda_fonn@mmt.se



Vessel: Seariser 2
Owner: Red7
Email: om-onshore@mmt.se

During this survey the vessels will be deploying underwater geotechnical survey equipment along the survey route at which such times, the survey vessels may have restricted ability to manoeuvre and other vessels are requested to pass at a safe speed and distance.

Project Description

Greenlink Interconnector survey will be conducted by MMT on behalf of Greenlink Interconnector Limited. Further details of the project can be found at www.greenlinkinterconnector.eu

Survey task

A detailed geotechnical survey will be carried out in an area between Freshwater West, Pembroke, Wales and Baginbun, Co Wexford, Ireland from mid-October. The geotechnical survey work will be conducted with CPT and Vibrocorer from vessel Edda Fonn approximately every 1.5km along the route. Boreholes will be drilled in intertidal locations at Baginbun and Freshwater in November.

Mariners are advised to keep an aft clearance of the geotechnical vessels no less than 350m.

Contact Details:

Further enquiries should be addressed to the following people in the following order:

1. Martin Godfrey (MMT Project Manager), T: +44 1295 817 748, martin.godfrey@mmt.se
2. Kalle Flink (MMT Operations), T: +46 708 11 28 43, kalle.flink@mmt.se
3. Claire Griffiths (Fisheries Liason), T +44 7498 550 586, claire.griffiths@marinespace.co.uk

Distribution List:

MRCC Milford Haven
H.M. Coastguard
+44 (0)1646 690909
milfordhaven.coastguard@mcga.gov.uk

National Maritime Operations Centre
National Maritime Operation Centre
Unit 12, Kites Croft Business Park
Fareham PO14 4LW
+44 (0)2932 552 100

PORTS

Pembroke Port, Wales
Head Office
Gorsewood Drive
Milford Haven
Pembrokeshire SA73 3EP
+44 (0)1646 696100
enquiries@mhpa.co.uk

Waterford, Ireland
3rd Floor, Marine Point
Belview Port
Waterford
Ireland X91 W0XW
+353-(0)51-874907
info@portofwaterford.com

- DIO SD Trg-WW Castlemartin STSO (Poole, John Maj) DIOSDTrg-WWCastlemartinSTSO@mod.uk
- DIO SD Trg-WW HQ Comd (Howard-Gash, Richard Col) DIOSDTrg-WWHQComd@mod.uk
- Mike.ryan@mhpa.co.uk
- g.r.w.springett@bangor.ac.uk
- ian.holmes@cefas.co.uk

- r.k.f.unsworth@swansea.ac.uk
- dd@portofwaterford.com
- fr@portofwaterford.com
- Jonny.Lewis@marinespace.co.uk
- claire.griffiths@marinespace.co.uk
- Anna.farley@intertek.com
- UK Hydrographic Office
- National Maritime Operations Centre nmoccontroller@hmcg.gov.uk.
- Irish Maritime Safety Directorate
- Marine Survey office Dublin

info@bomborawave.com

FISHERIES

Kingfisher Information Services
kingfisher@seafish.co.uk

PUBLIC NOTICE OF APPLICATION FOR A FORESHORE CONSENT

Greenlink Interconnector Limited for Interconnector between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales)

Notice is hereby given pursuant to Section 19A of the Foreshore Act 1933 (as amended), that Greenlink Interconnector Limited, Mason Hayes and Curran, South Bank House, Barrow Street, Dublin 4 has applied for consent under the Foreshore Acts to occupy an area of foreshore for an Interconnector between EirGrid's Great Island substation in County Wexford (Ireland) and the National Grid's Pembroke substation in Pembrokeshire (Wales).

An Environmental Impact Assessment Report (EIAR) has been prepared in respect of this proposal. The foreshore application, EIAR, associated documents, all relevant maps, site plans and drawings may be inspected at the following locations:

- **Waterford Garda Station, Patrick Street, Waterford City**
- **New Ross Garda Station, Marshmeadows, New Ross, Co. Wexford**
- **Wexford Public Library, Mallin St., Wexford (Monday to Saturday, during the hours 10.30 am to 5.30 pm)**
- **Wexford County Council, County Hall, Carricklawn, Wexford (Monday to Friday, during the hours 9am - 1pm / 2pm - 5pm)**

A hard copy of the Environmental Impact Assessment Report may be purchased from the applicant. A Non Technical Summary may be obtained free of charge.

CDs that include the Environmental Impact Assessment Report, maps, site plans and drawings, and a copy of the foreshore application are available free of charge from the applicant at the address stated above or by emailing energy.water.bst@intertek.com.

The application may also be viewed on the following dedicated website: **www.greenlink.ie/foreshorelicenceapplicationireland** and on the Department's website: **www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-wexford .**

The Minister for Housing, Planning and Local Government is responsible for making a decision on this application and he may either grant, approve or consent to the application with or without covenants, conditions or agreements, where applicable, or refuse the application.

Section 19C of the Foreshore Act applies to this application.

Submissions, comments in relation to the proposal may be made in writing within 8 weeks from the publication of this notice to the Minister for Housing, Planning and Local Government at Foreshore Unit, Department for Housing, Planning and Local Government, Newtown Road, Wexford, Co. Wexford or by e-mail to foreshore@housing.gov.ie (Quoting Ref: FS007050). The closing date for the receipt of written submissions, comments or questions is therefore 17:30 on 08/01/2020.

Within 8 weeks from the publication of this notice, a copy of the application, the Environmental Impact Assessment Report and any other relevant report or information (including copies of any submissions, comments, or questions received by the appropriate Minister) may be inspected free of charge at the Foreshore Unit, Department for Housing, Planning Local Government, Newtown Road, Wexford, Co. Wexford during the hours 10:00 to 13:00 and 14:00 to 17:00 Monday to Friday. All of this material, including submissions from the public, will also be published on the website of the Department for Housing, Planning and Local Government at: **www.housing.gov.ie/planning/foreshore/applications/greenlink-interconnector-wexford**

Dated this day of 12/11/2019.

Greenlink Interconnector Limited,
Mason Hayes and Curran, South Bank House,
Barrow Street, Dublin 4

Greenlink INTERCONNECTOR

intertek

Co-financed by the European Union
Connecting Europe Facility

The sole responsibility for this information lies with Greenlink. The European Union is not responsible for any use that may be made of this information.

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Dated this day of 12/11/2019.

Greenlink Interconnector Limited,
Mason Hayes and Curran,
South Bank House,
Barrow Street,
Dublin 4

intertek

Greenlink
INTERCONNECTOR

Co-financed by the European Union
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Appendix 11

Feedback Form

Greenlink
INTERCONNECTOR

– YOUR VIEWS –

We are very interested in hearing your views. Please feel free to capture in this form your comments on our proposal and some of the specific issues we have raised at the exhibition. Thank you for your input!

1. Your contact details

Name	
Address	
Phone/mobile number	
Email	
Do you want Greenlink to send you project updates?	**Yes / No**
Preferred method of contact	

Please provide feedback on this sheet….

Appendix 12

Press articles

Greenlink press coverage
Ireland: May 2017 - present

26th October 2017 CRU announcement
https://www.irishtimes.com/business/energy-and-resources/energy-watchdog-backs-1-5bn-power-line-investments-1.3268996

http://www.southeastradio.ie/2017/10/e500m-electricity-interconnector-to-be-set-up-between-wexford-and-wales/

7th November 2017: Wexford People

Publication Name: Wexford People
Published Date: November 07, 2017
Media Reach: -
Media Cost: €3,996,00
Page Numbers: 25

RUEPOINT MEDIA

Go-ahead for electricity link between Wexford and Wales

By MARIA PEPPER

THE green light has been given for the advancement of a €500 million electricity interconnector project between Wexford and Wales.

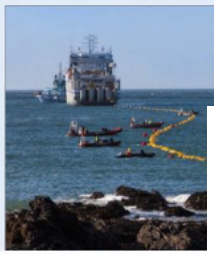
The Commission for Regulating Utilities (CRU) has given Eirgrid the go-ahead to begin processing an application for connection to the national electricity grid.

The privately backed company Element Power based in Cork and London is behind the plan to establish an electricity cable called Greenlink joining Wexford with Wales.

The cable will begin underground from Great Island power station in Campile and continue under the Irish Sea where it will join up with the Pembrokeshire Power station in Wales.

The idea behind the plan is to ensure a continuity of supply and reduce electricity prices in both Ireland and the UK. It is scheduled to come into operation in 2023.

The CRU has approved a similar plan to connect Ireland with France at a cost of €1 billion, linking Cork with Brittany.



The €500m project will see a cable laid on the seabed between Wexford and Wales.

CRU has told Eirgrid to begin processing applications for the connection of both projects to the national electricity grid.

The CRU's direction indicates the watchdog's approval for both developments and moves them to the next stage of development.

Between them the cables will carry enough electricity to power more than 800,000 homes and the promoters say they will help cut energy prices by opening up new sources of supply to the Republic and other jurisdictions.

Both developments have common interest status which means the European Union regards them as essential to completing Europe's internal energy market, designed to provide cheap and secure energy across the EU. The EU recently pledged to pay €4 million towards the Celtic Interconnector's planning costs. Element Power points out that the EU is 'firmly committed' to its projects of common interest status, despite Brexit. The company has estimated that its interconnector could cut €800 million off Irish electricity bills over the project's lifetime.

1st December 2017: Eolas Magazine feature
http://www.eolasmagazine.ie/greenlink-connecting-irish-british-power-markets/

2018

31st January 2018: DCCAE consultation
https://www.irishtimes.com/business/energy-and-resources/developer-of-ireland-wales-power-line-welcomes-consultation-1.3374909

21st March 2018: CRU announcement
http://renews.biz/110569/greenlink-under-irish-scrutiny/

18th June: Recharge (indepth): Emerald Isle ready to shine in offshore wind
http://www.rechargenews.com/wind/1513894/emerald-isle-ready-to-shine-in-offshore-wind

19th June: reNews: Greenlink Offers Consumer Benefit
http://renews.biz/111525/greenlink-offers-consumer-benefit/

6th July 2018: DCCAE policy announcement
https://renewablesnow.com/news/irish-policy-statement-recognises-role-of-interconnection-619512/

29th July 2018: start of sales process for Element Power
https://www.independent.ie/business/irish/irish-wind-farms-set-to-change-hands-with-element-power-on-the-block-37163842.html

24th August 2018: construction procurement announcement
http://renews.biz/112234/element-seeks-greenlink-muscle/

https://www.constructionnews.co.uk/markets/sectors/infrastructure/bidding-starts-for-360m-interconnector-deals/10034576.article

24th September 2018: Press release: start of marine surveying
https://renews.biz/48122/mmt-probes-greenlink-route/

https://www.newcivilengineer.com/latest/marine-works-begin-on-350m-ireland-wales-electricity-connector/10035482.article

https://www.marinetechnologynews.com/news/marine-survey-starts-greenlink-564932

27th September 2018: S&P Global Platts Power in Europe feature
https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/100818-irish-gb-power-link-makes-sense-irrespective-of-brexit-could-benefit-from-iem-exit

1st October 2018: Sale of Element Power Ireland and UK to Statkraft – references to Greenlink

https://www.businesspost.ie/business/statkraft-acquire-element-power-british-energy-assets-e100m-426793

https://www.independent.ie/business/irish/norwegian-utility-close-to-buying-irish-windfarm-development-assets-37365680.html

https://www.thetimes.co.uk/article/norwegian-energy-group-statkraft-charges-in-for-element-power-s-wind-projects-gkw3mrgff

18th October 2018: CRU determination
https://renews.biz/48611/irish-back-500mw-greenlink/

https://www.newcivilengineer.com/latest/wales-ireland-electricity-connector-given-green-light/10036432.article

https://www.irishsun.com/news/258147045/ireland-to-benefit-from-eur400-million-205km-interconnector

2nd November 2018: Opinion piece for British Irish Chamber of Commerce blog
https://www.britishirishchamber.com/2018/11/02/interconnection-under-brexit-continuing-the-positive-power-relationship/

2019

12th February 2019: EU €3.6m funding announcement
https://renews.biz/51570/greenlink-nets-eu-36m-boost/

12th March 2019: Partners Group investment
https://renews.biz/51958/greenlink-interconnector-secures-new-backer/

https://www.thetimes.co.uk/article/element-power-s-greenlink-interconnector-energises-partners-group-th587rrbr

25th March 2019: Construction Business (Ireland)
http://www.constructionbusiness.ie/an-overview-of-the-irish-construction-pipeline/

13th April 2019: public exhibition at Ramsgrange, Co Wexford
https://www.independent.ie/regionals/newrossstandard/news/baginbun-interconnector-plan-unveiled-37994680.html

4th May 2019: start of marine surveying work Ireland
https://www.independent.ie/regionals/newrossstandard/news/work-starts-on-connection-of-ireland-and-uk-electricity-grids-38061672.html

13th June 2019: appointment of Padraig McManus
https://renews.biz/53717/greenlink-hires-ex-esb-chief/

2nd August 2019: S&P Global article – mention of Greenlink
https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/080219-frances-neoen-buys-into-irish-wind-market

5th August 2019: appointment of Tim Cowhig and Johnny Shine to Greenlink

https://renews.biz/54644/greenlink-bolsters-executive-team/

https://www.offshore-energy.biz/greenlink-boosts-team-with-two-appointments/

8th August 2019: interview in Sunday Business Post (Ireland) with Johnny Shine and Angus Norman
https://www.businesspost.ie/news/greenlink-boosts-management-team-shine-cowhig-449554

27th September 2019: EirGrid launches five year strategy: references to Greenlink in coverage

https://www.irishtimes.com/business/energy-and-resources/eirgrid-to-spend-2bn-on-network-upgrades-over-next-five-years-1.4031793

https://www.constructionireland.ie/construction-news/264872/strategy-launched-to-double-renewable-energy-levels-by-2030

26th October 2019: New Ross standard article 'Blue Flag for Duncannon Beach could be years away' includes reference to Greenlink:
https://www.independent.ie/regionals/newrossstandard/blue-flag-for-duncannon-beach-could-be-years-away-38616964.html

12th November 2019: Submission of Foreshore Licence application in Ireland

https://www.irishtimes.com/business/energy-and-resources/project-to-connect-electricity-grids-in-ireland-and-wales-submits-plans-1.4079609

https://utilityweek.co.uk/consultation-launches-greenlink-interconnector/

https://www.businessgreen.com/bg/news/3083638/progress-in-plans-for-subsea-cable-connecting-irish-and-uk-electricity-systems

https://www.maritimejournal.com/news101/marine-civils/marine-civils/greenlink-planning-applications-in

https://www.independent.ie/regionals/newrossstandard/public-to-have-say-on-interconnector-plan-38681683.html

16th November 2019: Public exhibitions in Wexford

https://www.independent.ie/regionals/newrossstandard/public-to-have-say-on-interconnector-plan-38681683.html

16th December 2019: Nigel Beresford appointed as CEO

https://renews.biz/56989/new-skipper-takes-greenlink-helm/

https://www.offshore-energy.biz/greenlink-welcomes-beresford-as-ceo/

4th January 2020: New Ross Standard 'Concerns raised about interconnector plans'
https://www.independent.ie/regionals/newrossstandard/news/concerns-raised-about-interconnector-plans-38822590.html

13th January 2020: Greenlink at Irish Renewable Energy Summit 2020

http://enviro-solutions.com/dailynews2/100120-r-e-summit.html

27th March 2020: CRU consultation: Greenlink welcomes Irish regulator's positive consultation on new support regime.

https://renews.biz/59381/greenlink-welcomes-positive-consultation/

https://www.4coffshore.com/news/cru-publishes-greenlink-consultation-results-nid17067.html

Appendix 13

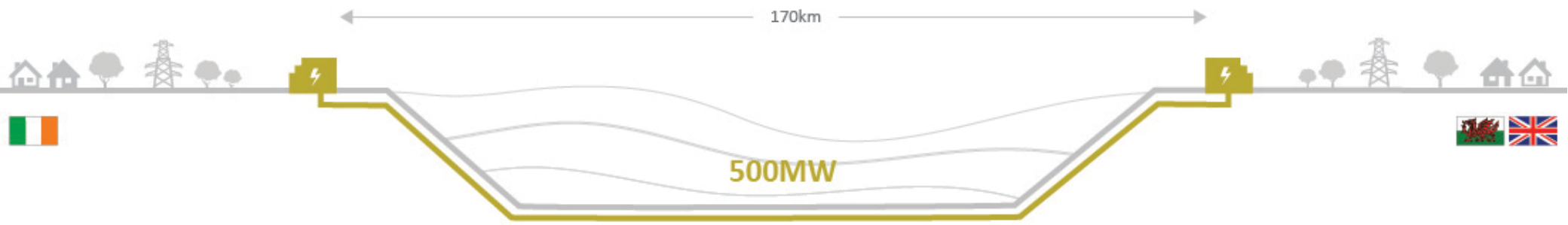
Presentation to BICC Roundtable June 2018

Greenlink
INTERCONNECTOR

GREENLINK INTERCONNECTOR UPDATE

Buswells Hotel – Round Table Discussion 13 June 2018

Simon Ludlam
Project Director



PROJECT OVERVIEW

Greenlink is Ireland's next interconnector

TECHNICAL PARAMETERS

- 500MW
- HVDC ~±300kV - single symmetrical monopole
- Voltage Source Convertors

CABLE ROUTE

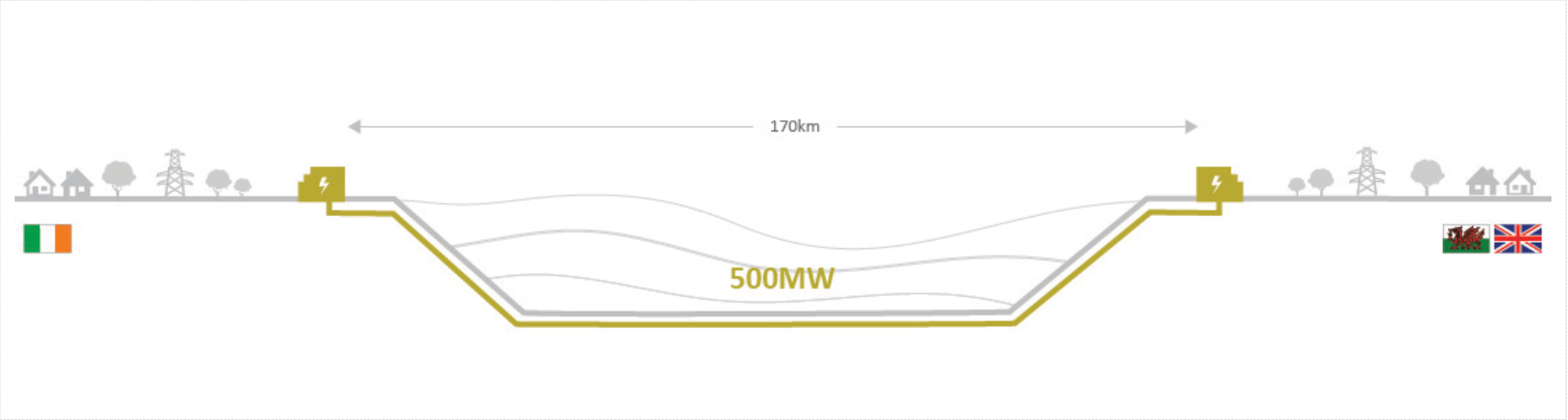
- Great Island sub station - County Wexford
- Pembroke sub station – Wales
- ~200km of HVDC land and marine cable and ~1km of HVAC

PROJECT TIMING

- Regulatory finalisation in 2H 2019
- Construction 2020 - 2023

GREENLINK PROJECT STATUS

Greenlink is fully supported by the CRU, Ofgem and EU. The path to financial close is now established and the project is targeting 2020 for construction



	GRID CONNECTION	PLANNING	REGULATION
Wales	500MW agreed with National Grid	PCI status with Welsh Assembly	Cap & Floor regime agreed with Ofgem
Ireland	500MW application with Eirgrid	PCI status with An Bord Pleanála	Developing Cap & Floor regulation with CRU

Construction & Commissioning 2020-2023

REGULATORY TIMETABLE

CRU and DDCAE have a clear trajectory for the establishment of Irish interconnector policy

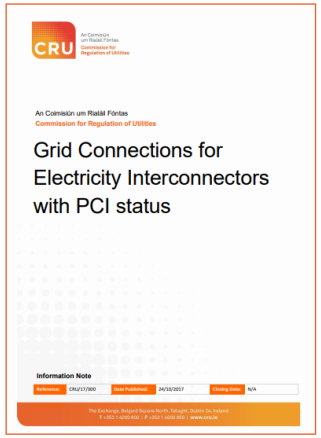
24 October 2017

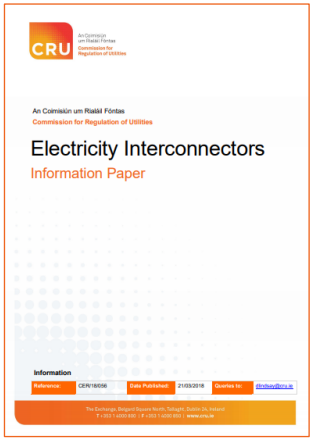
30 January 2018

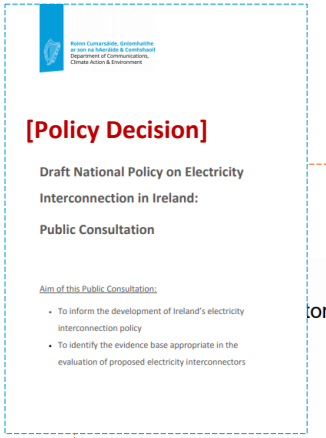
21 March 2018

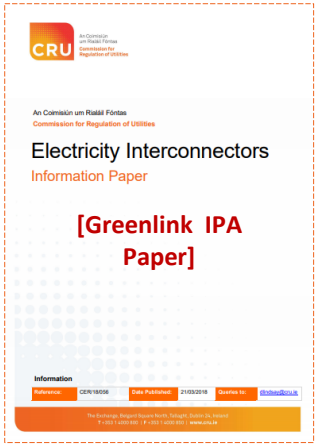
[June 2018]

[June 2018]









GREENLINK LEVERAGING RENEWABLE ENERGY

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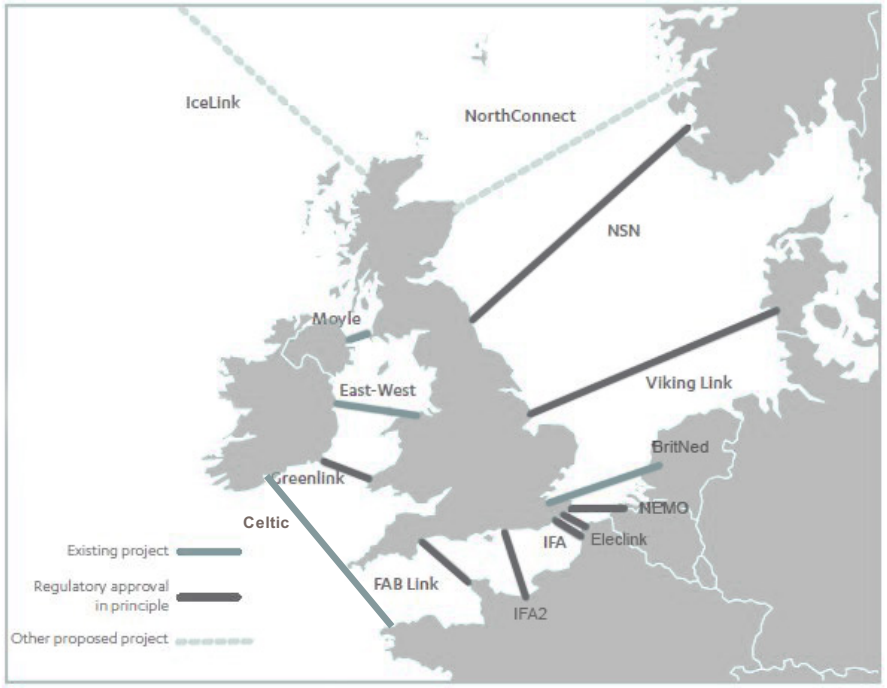

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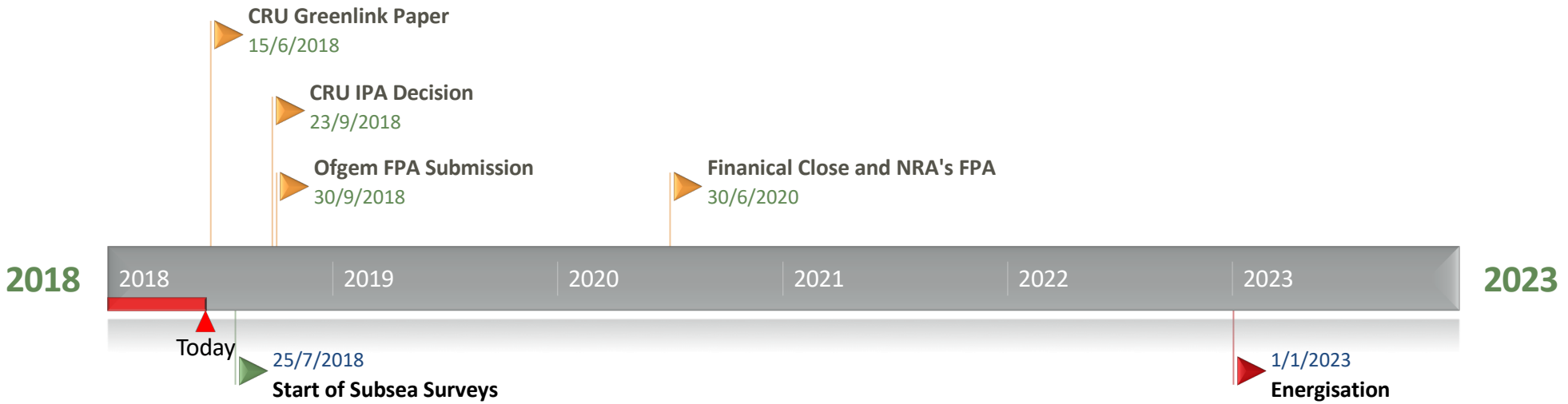
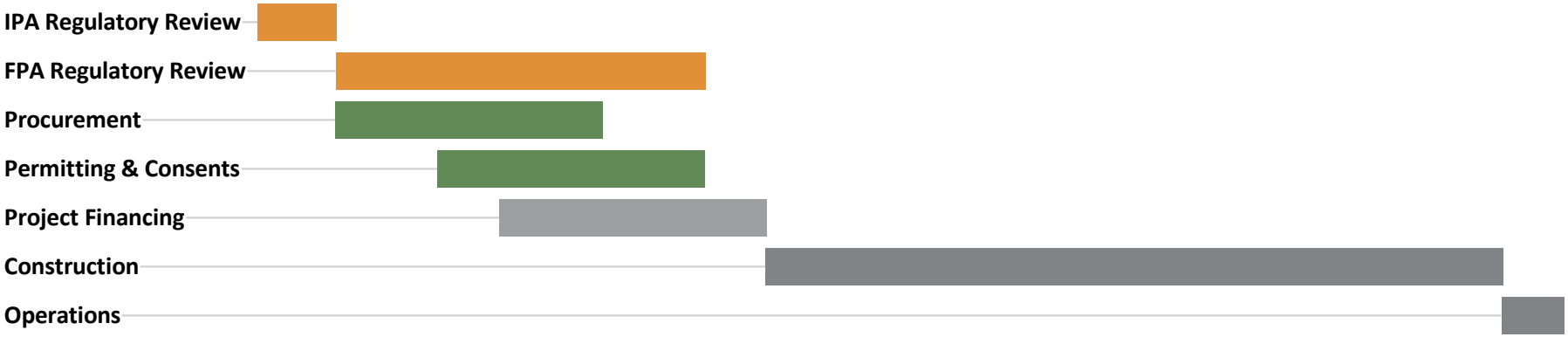
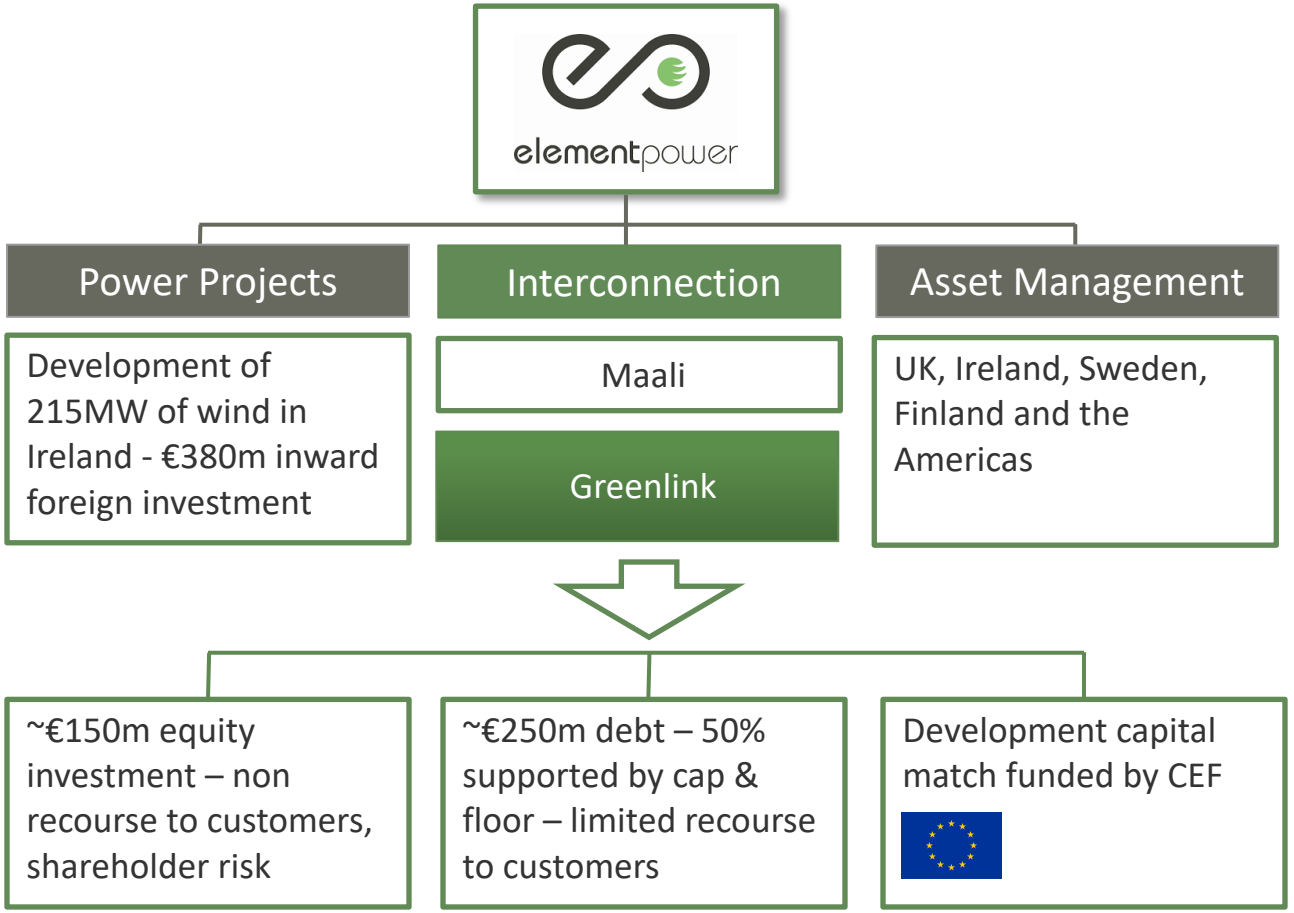




GREENLINK INWARD INVESTMENT

A privately sponsored project – limited recourse to consumers

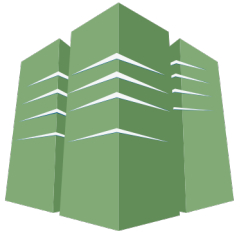


GREENLINK IRISH BENEFITS

Greenlink is a cost-efficient source of future interconnection for Ireland

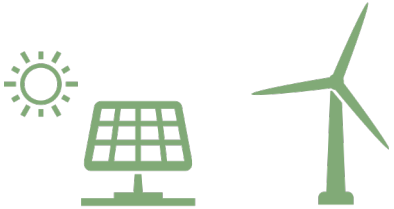
250 Irish jobs
during construction

Potential to power
380,000 homes



Enough to power 10
new large data centres

20 permanent
Irish jobs



Savings to consumers of
over €800m over life

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Greenlink

INTERCONNECTOR

Co-financed by the European Union
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Appendix 14

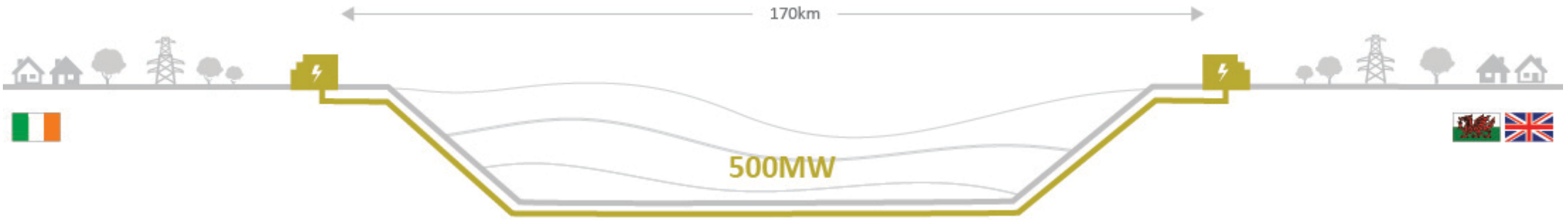
Presentation to Wexford County Council - June 2018

Greenlink

INTERCONNECTOR

GREENLINK INTERCONNECTOR UPDATE

Wexford County Council 20th June 2018



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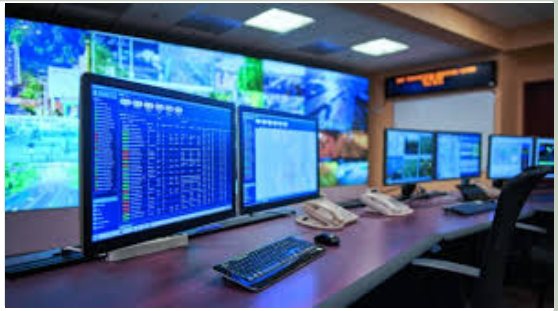

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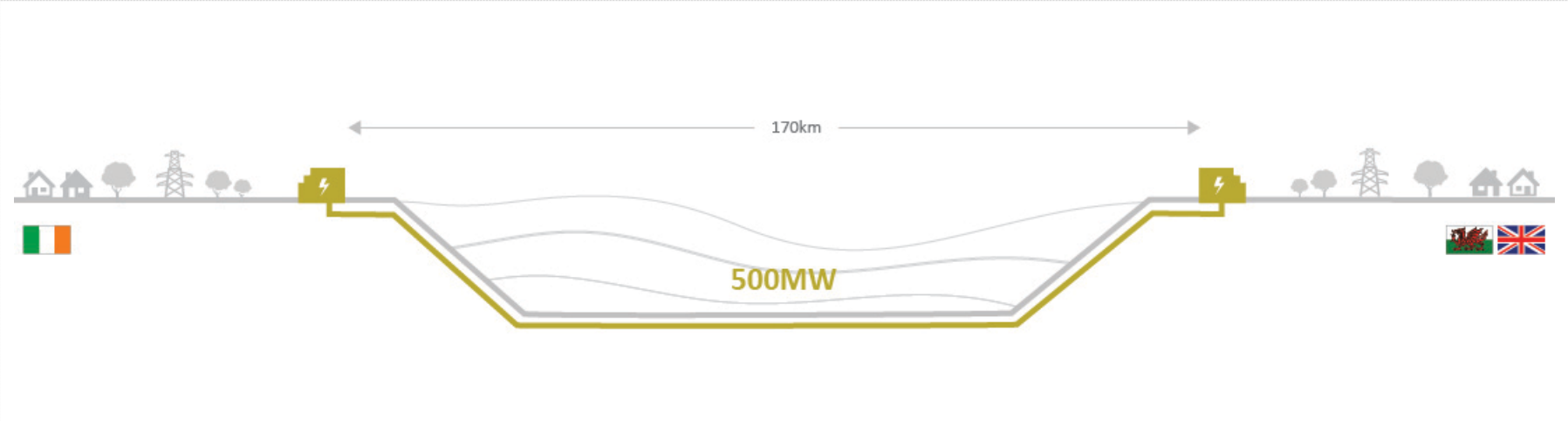

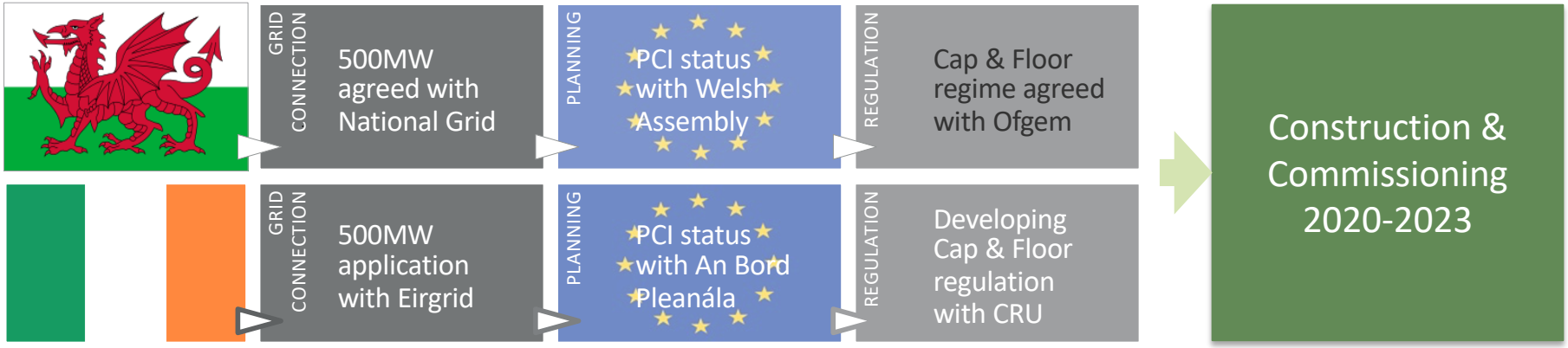

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[June 2018]

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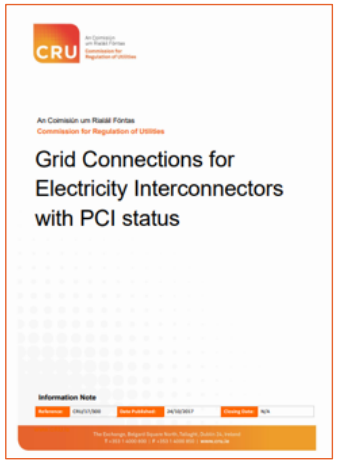

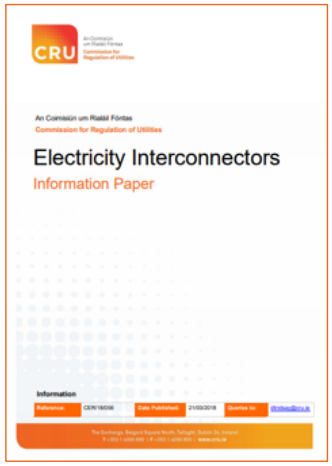

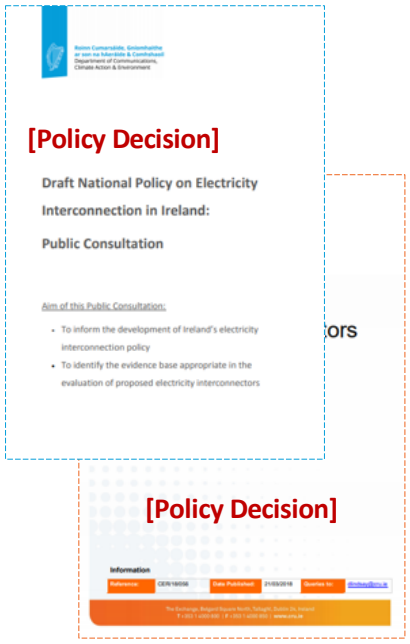

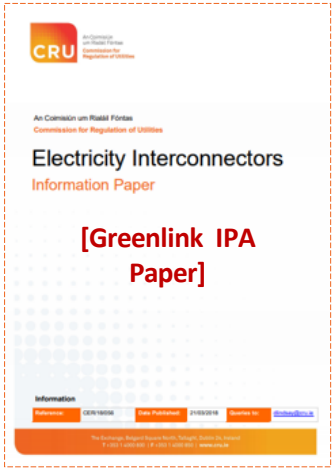

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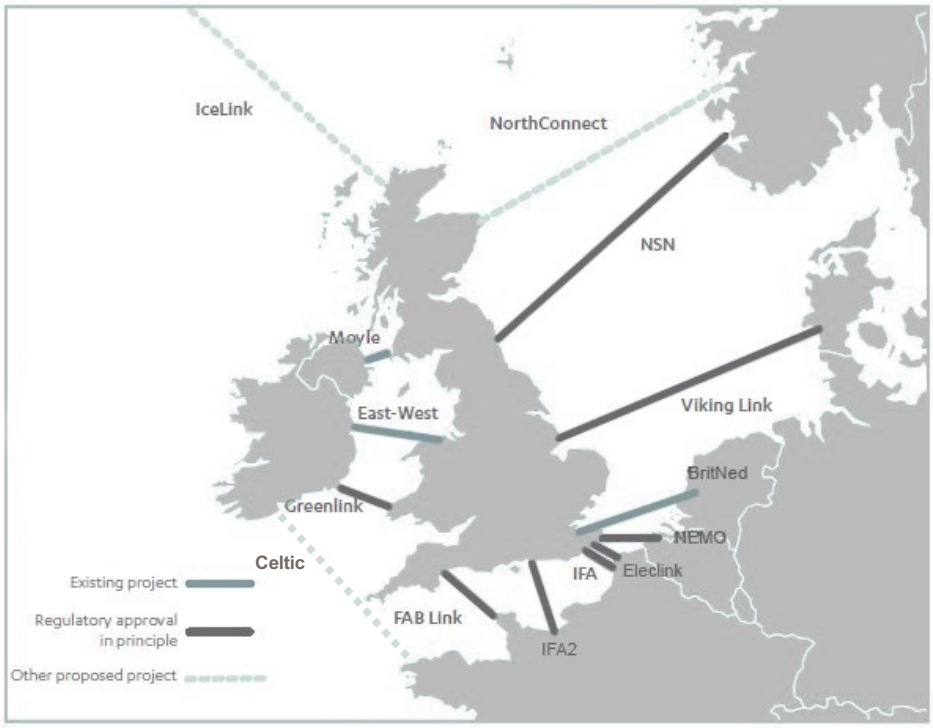
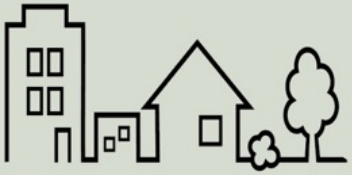


PROJECT TIMELINE

BENEFITS - OVERVIEW

Greenlink INTERCONNECTOR



380,000

Potential to power 380,000 homes*

€400m

of private capital investment for Ireland and Wales

Energy

Supports the growth and integration of low carbon energy

Security

Enhances the security of supply for electricity consumers

Value FOR Money

Downward pressure on electricity bills

Jobs

Jobs and knock-on economic benefits during construction

*Figure for number of homes is based on typical annual Irish household use of 4,200 kWh (CER, Review of Typical Consumption Figures – Decision Paper 12 March 2017 (CER17042) and estimated total flows from UK to SEM of 1,600,000 MWh/yr.

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20 permanent
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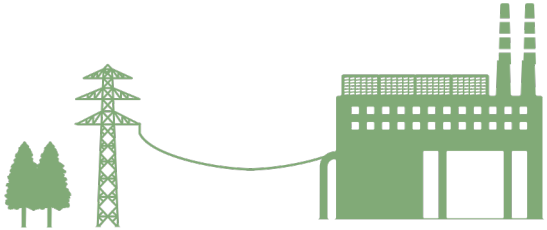


Reinforce
electricity grid

- ✓ Additional transmission network capacity, reinforcing the electricity grid in Ireland
- ✓ Valuable regional investment to Ireland and Co. Wexford
- ✓ Direct jobs and knock-on economic benefits throughout the supply chain during construction

LOCAL SUPPLY CHAIN

Greenlink is committed to maximising the use of locally-based contractors and personnel during the construction and operational phases of the project.

Types of skills and services that could be locally sourced include:

- Transportation – equipment and personnel
- Materials, e.g. supplying and pouring concrete
- Electrical connection
- Hospitality and catering for civil engineering
- activities and earthworks
- Office and cleaning supplies
- Site security
- Site services, e.g. portacabins and portaloos
- Fencing
- Waste disposal

TECHNICAL DETAILS

Greenlink INTERCONNECTOR

Converter Station (Ireland)

- adjacent to Great Island Power Station

HVAC cables (c. <0.5km)

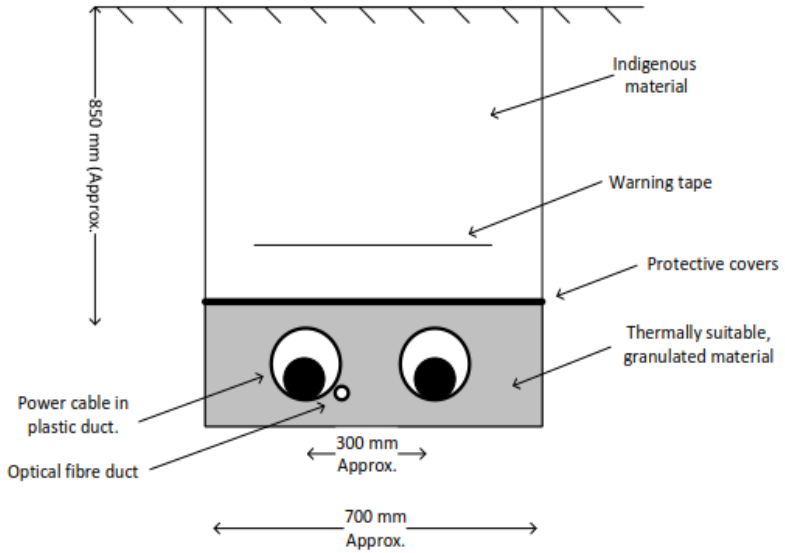
- Underground cable technology
- To connect converter station to the existing electricity substation

HVDC cable (Onshore Ireland, 28km approx.)

- Underground cable technology
- Generally along existing roads
- Usually installed in plastic duct to simplify the construction process
- 2 cables in a single trench with a typical depth of cover of 850mm to 1000mm
- protective cover and warning tape
- Fibre optic cable for controls

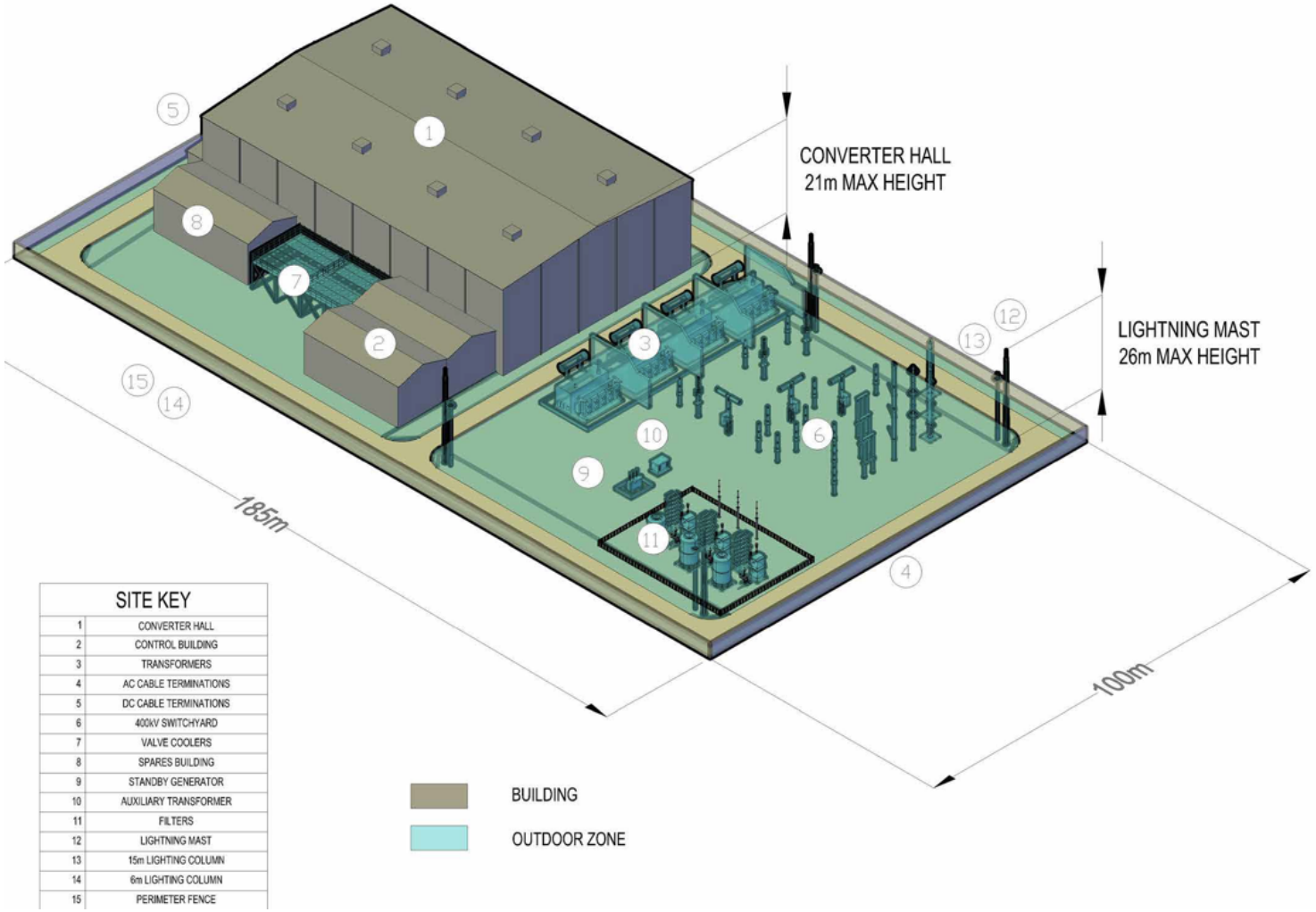
Submarine cable

- Horizontal Directional Drill preferred under beach at landfalls
- Cable pulled ashore from cable-lay vessel, through pre-installed duct



On-road HVDC cable trench detail

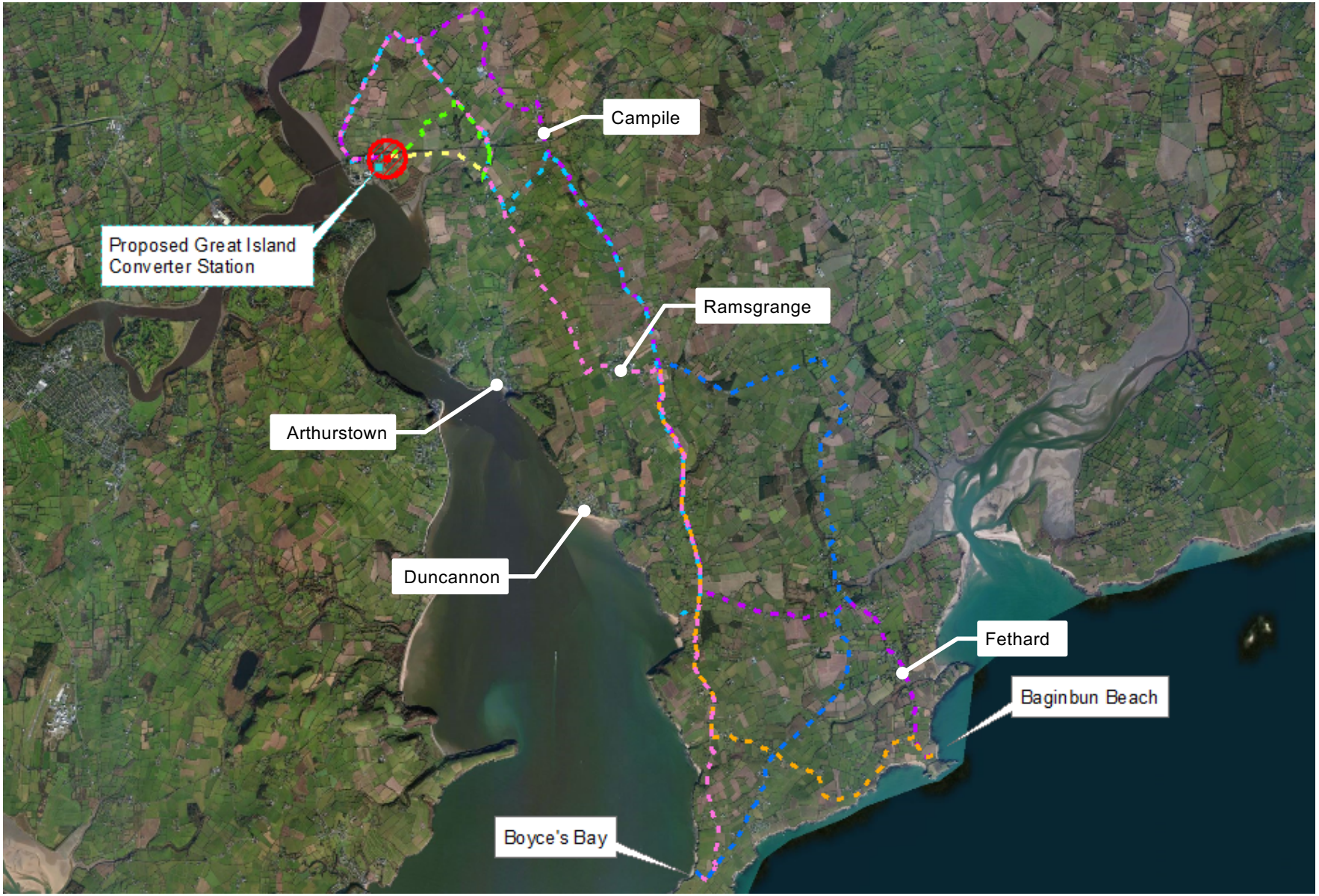
INDICATIVE CONVERTER STATION



SITE KEY	
1	CONVERTER HALL
2	CONTROL BUILDING
3	TRANSFORMERS
4	AC CABLE TERMINATIONS
5	DC CABLE TERMINATIONS
6	400kV SWITCHYARD
7	VALVE COOLERS
8	SPARES BUILDING
9	STANDBY GENERATOR
10	AUXILIARY TRANSFORMER
11	FILTERS
12	LIGHTNING MAST
13	15m LIGHTING COLUMN
14	6m LIGHTING COLUMN
15	PERIMETER FENCE

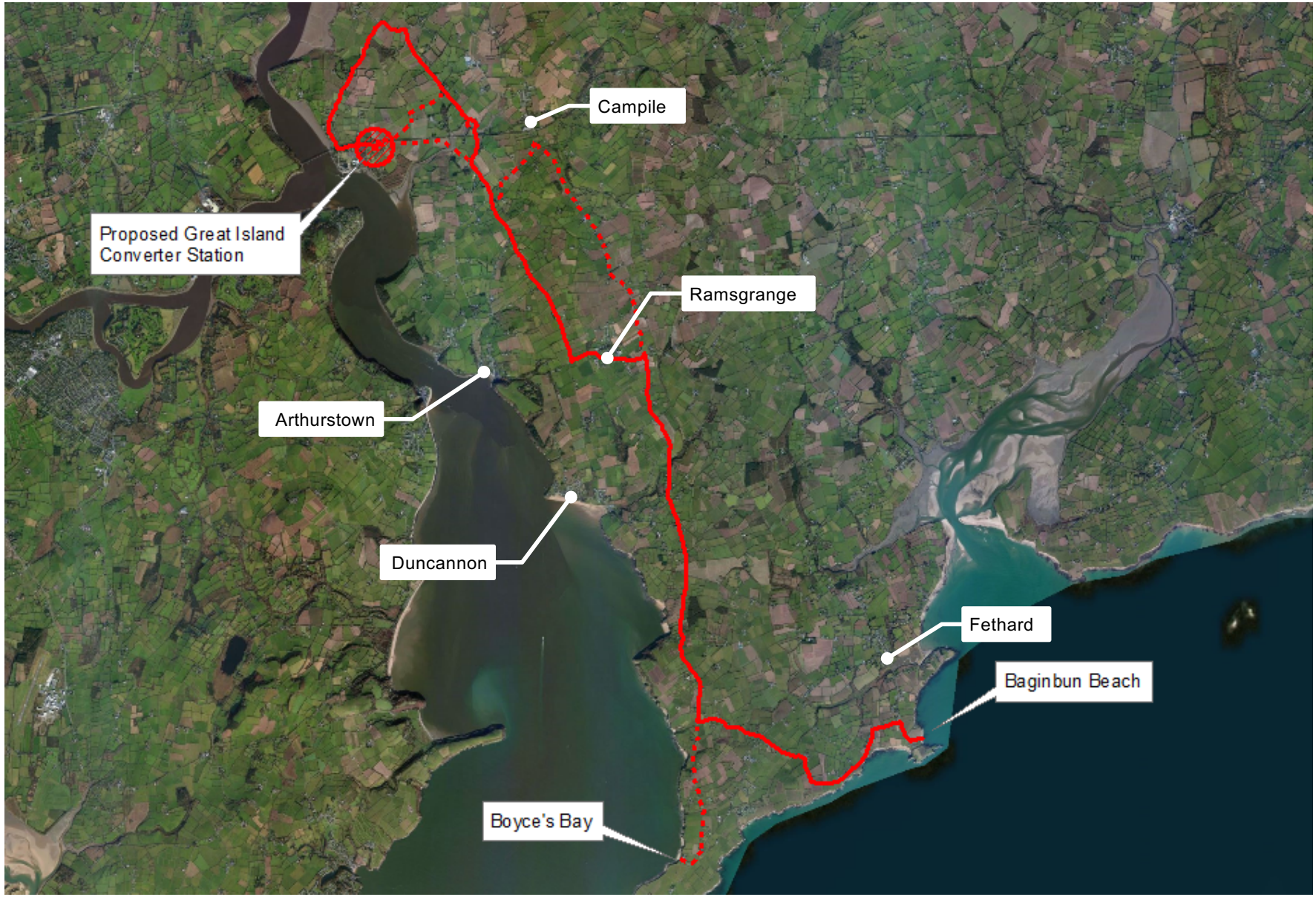
CABLE ROUTE OPTIONS UNDER CONSIDERATION

Greenlink INTERCONNECTOR



EMERGING PREFERRED ROUTE

Greenlink INTERCONNECTOR



CONSULTATION

Public consultation is a core part of the development process

- Early and transparent access to information
- Opportunities to input & influence final proposal
- Information brochure (3 editions to date)
- Public exhibitions at key stages in the development
- Two rounds (May 2018 and November 2018) and further events coming up
- Website including all planning documents and FAQs
- Clear contact details to enable questions and one-to-one engagement
- Presentations to community forums
- Engagement with local supply chain
- Demonstration that local community's views have been fully considered in final plans

Greenlink

INTERCONNECTOR

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Connecting Europe Facility

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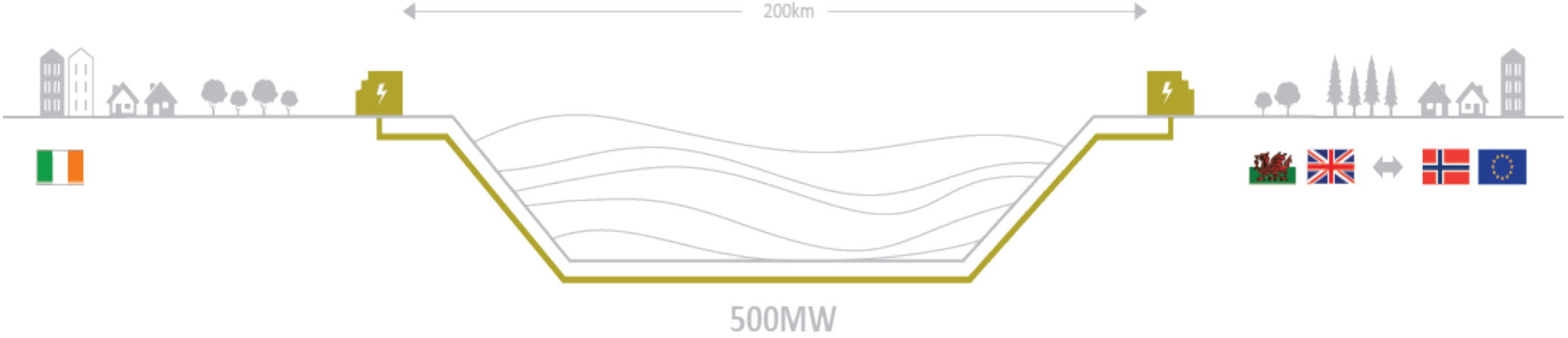
Appendix 15

Presentation to Wexford County Council - September 2019

GREENLINK INTERCONNECTOR PROJECT UPDATE

Greenlink INTERCONNECTOR

Wexford County Council 11th September 2019



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PROJECT OVERVIEW

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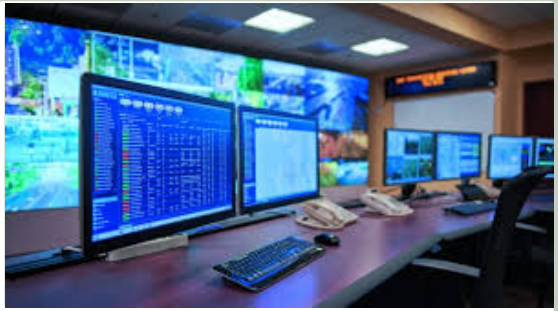

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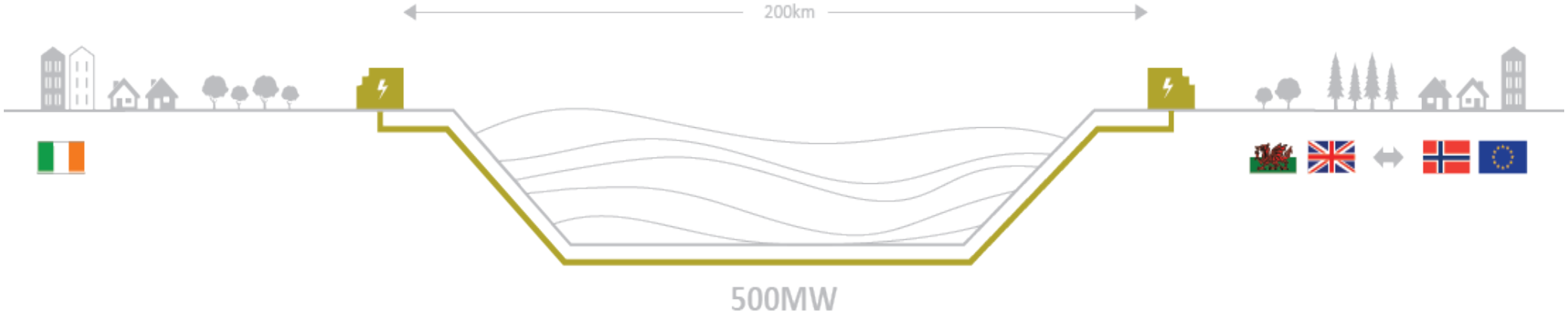

	GRID CONNECTION	PLANNING	REGULATION
Wales	500MW agreed with National Grid	PCI status with Welsh Assembly	Cap & Floor regime agreed with Ofgem
Ireland	500MW application with Eirgrid	PCI status with An Bord Pleanála	Developing Cap & Floor regulation with CRU

Construction & Commissioning 2020-2023

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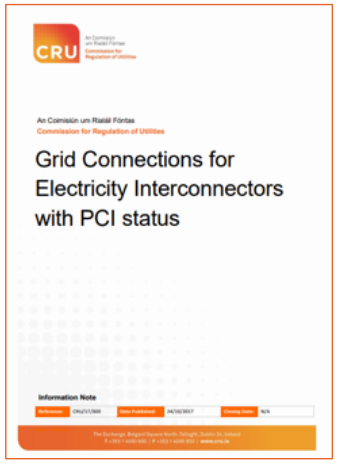

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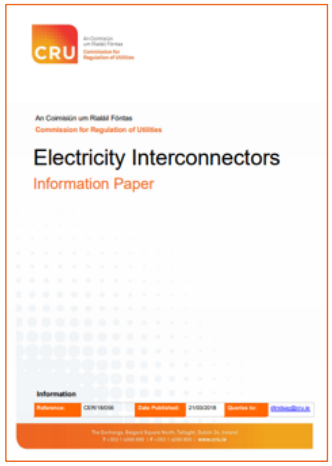

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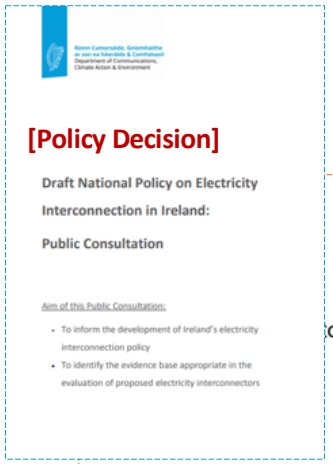

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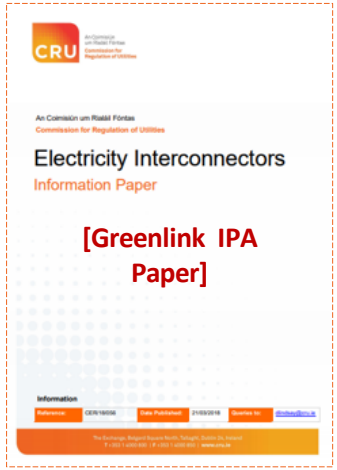

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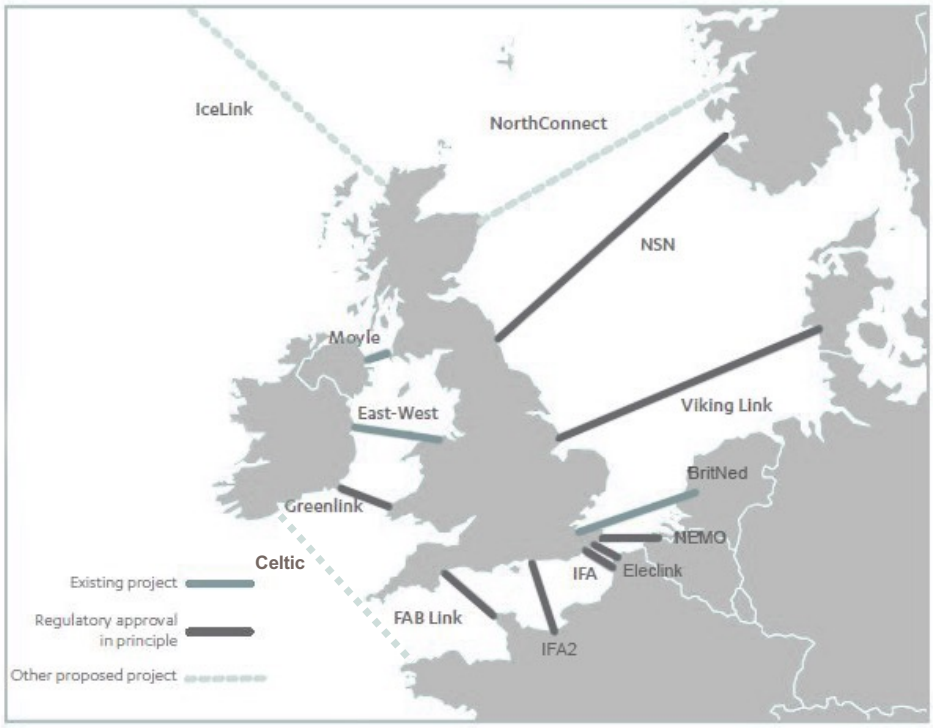

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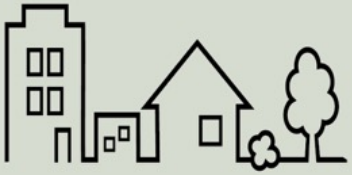

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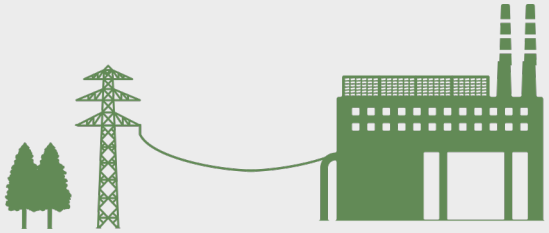

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LOCAL SUPPLY CHAIN

Greenlink is committed to maximising the use of locally-based contractors and personnel during the construction and operational phases of the project.

Types of skills and services that could be locally sourced include:

- Transportation – equipment and personnel
- Materials, e.g. supplying and pouring concrete
- Electrical connection
- Hospitality and catering for civil engineering
- activities and earthworks
- Office and cleaning supplies
- Site security
- Site services, e.g. portacabins and portaloos
- Fencing
- Waste disposal

TECHNICAL DETAILS

Converter Station (Ireland)

- Adjacent to Great Island Power Station

HVAC cables (c. <0.5km)

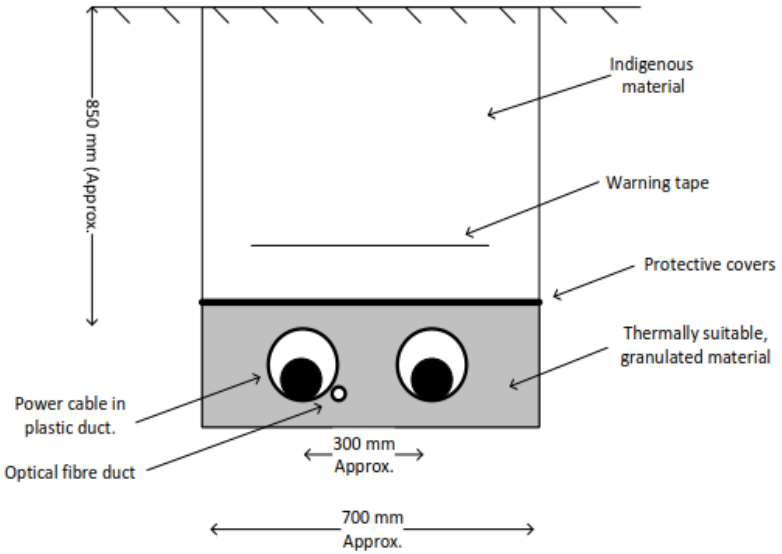
- Underground cable technology
- To connect converter station to the existing electricity substation

HVDC cable (Onshore Ireland, 23kM approx.)

- Underground cable technology
- Generally along existing roads
- Usually installed in plastic duct to simplify the construction process
- 2 cables in a single trench with a typical depth of cover of 850mm to 1000mm
- protective cover and warning tape
- Fibre optic cable for controls

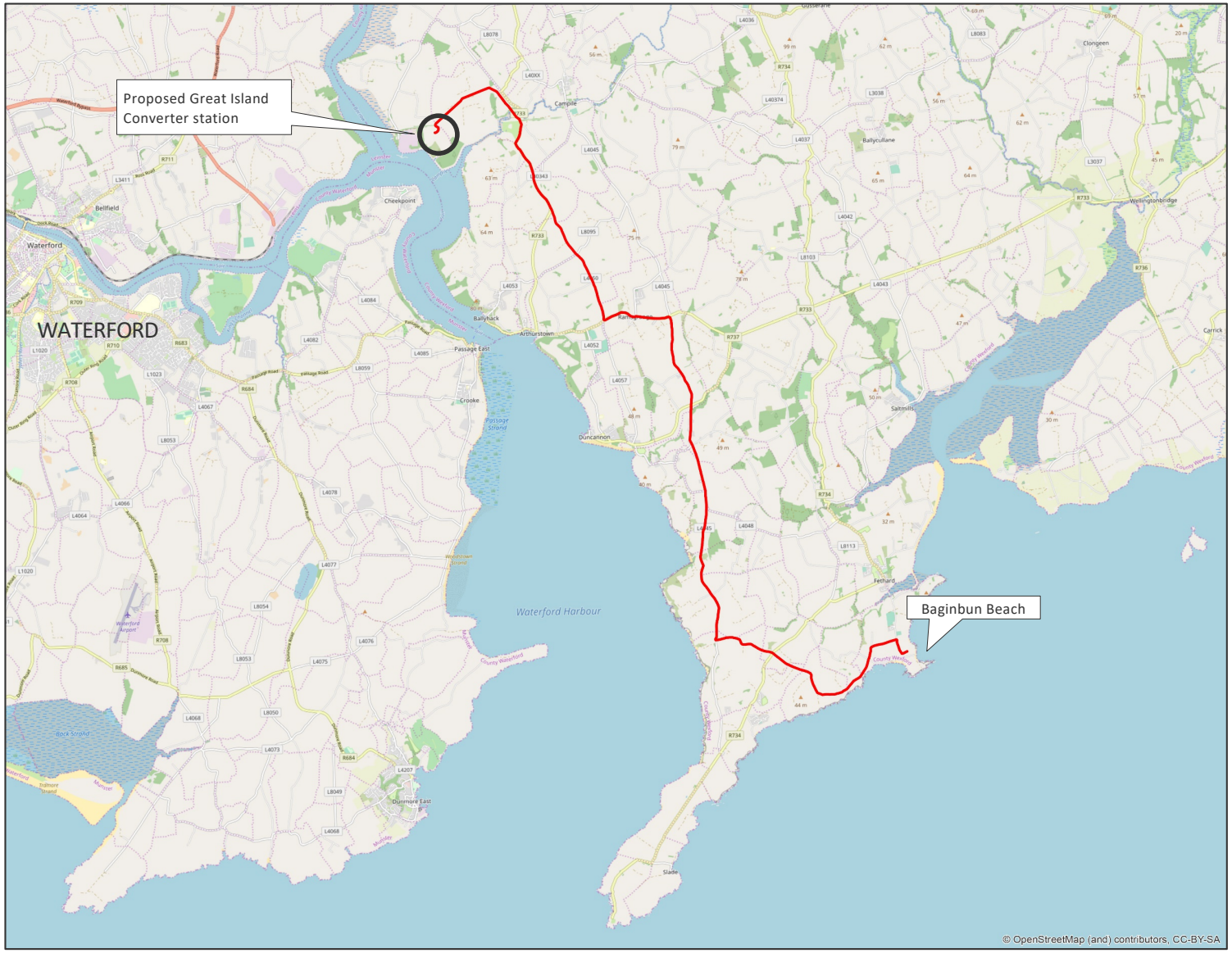
Submarine cable

- Horizontal Directional Drill preferred under beach at landfalls
- Cable pulled ashore from cable-lay vessel, through pre-installed duct



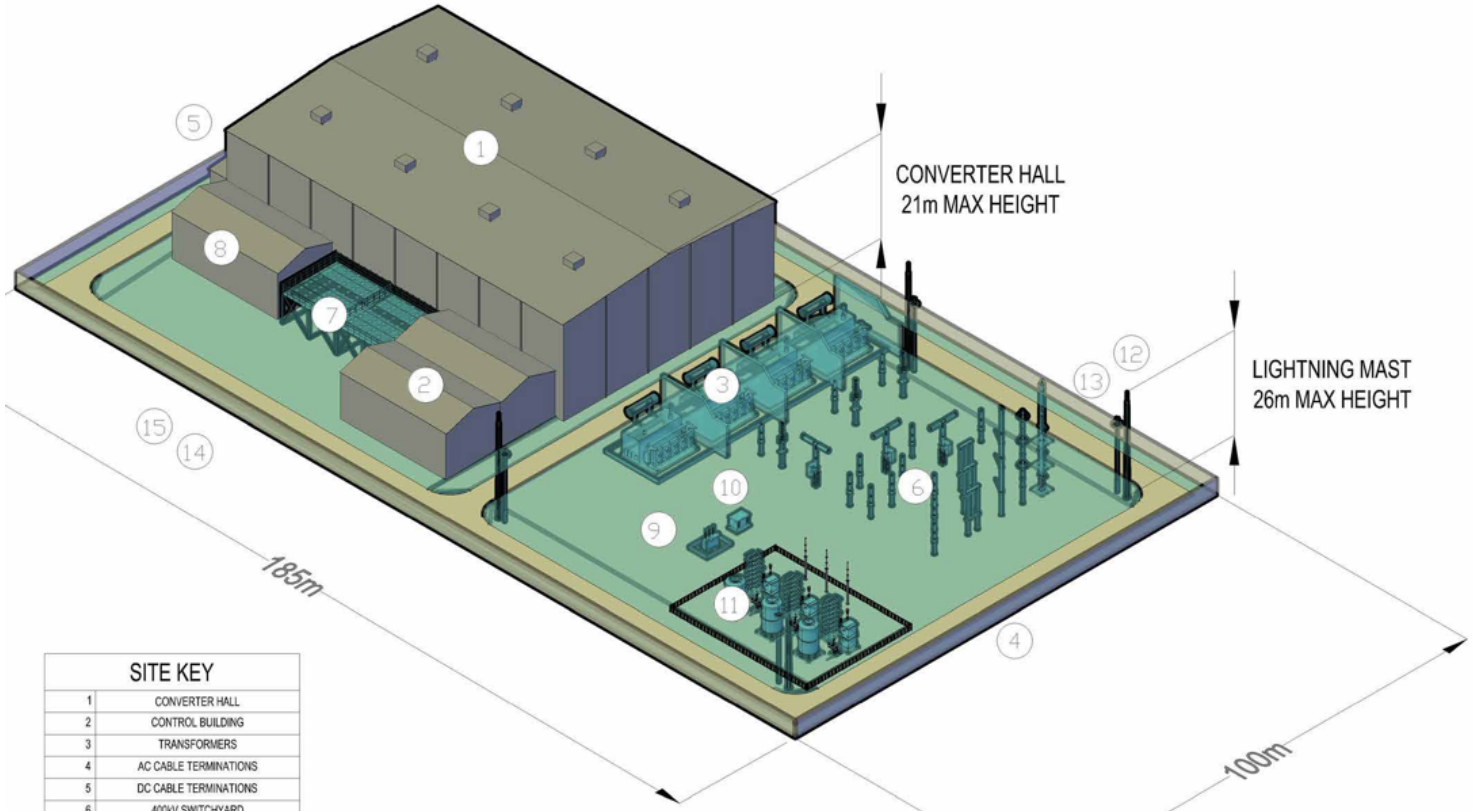
On-road HVDC cable trench detail

CABLE ROUTE


Proposed Great Island Converter station
WATERFORD
Waterford Harbour
Baginbun Beach
© OpenStreetMap (and) contributors, CC-BY-SA

Gormilo
Proposed Great Island
Converter Station
Ramsgrange
Arthurstown
Duncannon
Fothar

INDICATIVE CONVERTER STATION



SITE KEY	
1	CONVERTER HALL
2	CONTROL BUILDING
3	TRANSFORMERS
4	AC CABLE TERMINATIONS
5	DC CABLE TERMINATIONS
6	400kV SWITCHYARD
7	VALVE COOLERS
8	SPARES BUILDING
9	STANDBY GENERATOR
10	AUXILIARY TRANSFORMER
11	FILTERS
12	LIGHTNING MAST
13	15m LIGHTING COLUMN
14	6m LIGHTING COLUMN
15	PERIMETER FENCE

CONSULTATION

Greenlink INTERCONNECTOR

- Early and transparent access to information
- Opportunities to input & influence final proposal
- Information brochure (3 editions to date)
- Public exhibitions at key stages in the development
- Presentation to Wexford CC 20th June 2018
- Website including all planning documents and FAQs
- Clear contact details to enable questions and one-to-one engagement
- Public Exhibitions
  - June/July 2018 Fethard & Duncannon
  - January 2019- Fethard & Duncannon
  - March 2019 Ramsgrange
- Engagement with local supply chain
- Demonstration that local community's views have been fully considered in final plans

Public consultation is a core part of the development process

Greenlink

INTERCONNECTOR

Co-financed by the European Union
Connecting Europe Facility

The sole responsibility of this publication lies with the author. The European Union is not responsible for any use that may be made of the information contained therein.

Appendix 16

Letters to cable route residents

22nd March 2019

Greenlink Interconnector Ltd
c/o Mason Hayes & Curran Ltd
South Bank House
Barrow Street
Dublin 4
D04 TR29
Ireland

T +353 (1) 571 0773

www.greenlink.ie

Dear Sir or Madam

Greenlink Interconnector: inviting your feedback
Public exhibition 28th March 2019, 4-8-pm, Parocial Hall, Ramsgrange, Y34 YP70

As you may be aware, we are currently working to develop an electricity interconnector between Ireland and Wales known as Greenlink.

The aim of the project is to connect the power markets of Ireland and Great Britain, to bring a number of benefits, including: strengthening security of supply for energy consumers; creating downward pressure on electricity bills; and delivering jobs and knock-on benefits to the local economy during construction.

On 28th of March we will be holding a further exhibition about the proposal as part of our local consultation and would like to invite you to attend. If you are unable to make this date, I would be more than happy to discuss the proposal in more detail with you - by phone or email or by arranging a convenient time to visit you at home. You can contact me at any time at tina.raleigh@greenlink.ie.

Update on the project
The Greenlink project, which is privately financed, comprises a subsea and underground cable stretching approximately 200km under the Irish Sea between County Wexford and Pembrokeshire in Wales. Key features of Greenlink in Ireland include:

- A new converter station next to the Great Island substation.
- An underground cable predominantly installed within the road network between the landfall and converter station.
- The use of a Horizontal Directional Drill (HDD) to take the cable under the beach at Baginbun and out to sea, thus minimising impacts on beach users and the local environment.

Work to date has centred on environmental and technical surveys to determine the most suitable landfall, converter station site and cable route. We have been consulting with organisations like Wexford County Council and the National Parks and Wildlife Service (NPWS) and have held two rounds of public exhibitions in Fethard and Duncannon in June and August last year and in January this year, which you may have attended. For your information, I enclose a map showing the preferred underground cable route.

Consulting to minimise impact
We are keen to ensure that we incorporate feedback from residents along the route into our final proposal. We intend to submit the application later this year and want to ensure it looks to minimise any impacts on residents, provides answers to concerns raised and fully considers ways to deliver the project to the benefit of the local community.

I look forward to seeing you at the exhibition or hearing from you with your comments. In the meantime, you can also find out more by visiting the project website: www.greenlink.ie .
Yours sincerely

Tina Raleigh
Planning and Permitting Manager Ireland

2nd December 2019

Greenlink Interconnector Ltd
c/o Mason Hayes & Curran Ltd
South Bank House
Barrow Street
Dublin 4
D04 TR29
Ireland

T +353 (1) 571 0773

www.greenlink.ie

Dear Sir or Madam

Greenlink Interconnector:
Public exhibitions 10th, 11th & 12th December 2019 and inviting your comments

I am writing to you as a resident along the proposed route for the underground cable for the Greenlink interconnector.

As you will be aware from previous correspondence, we are currently working to develop the Greenlink electricity interconnector between Ireland and Wales. The aim of the project is to connect the power markets of Ireland and Great Britain, to bring a number of benefits, including strengthening security of supply for energy consumers; creating downward pressure on electricity bills; and delivering jobs and knock-on benefits to the local economy during construction.

As part of the continuing local consultation on the project, we would like to invite you to attend another round of local public exhibitions, on the dates and at the locations below:

Tuesday 10/1219 – Ramsgrange 4.00 pm to 8.00 pm.
Wednesday 11/12/19 – Duncannon 4.00 pm to 8.00 pm.
Thursday 12/11/19 – Fethard on Sea 2.30 pm to 6.30 pm.

To date we have received a lot of valuable feedback from residents and the wider local community which we have worked to incorporate into our planning work. At these events, we would like to present our latest plans and seek further input from local residents and other organisations before we submit the formal planning application to An Bord Pleanála early in 2020.

In particular, we would like to ensure that you and other residents living along the proposed underground cable route have had an opportunity to ask questions and raise any concerns you might have on our latest proposals, so that we can ensure that any outstanding issues are addressed in the final application. I and other members of the team will be on hand at these consultation events to discuss the proposal with you at length and to hear your views. For example, you might want to discuss with us such issues as:

- Construction traffic and potential disruption during the cable-laying
- Safety and environmental impacts and how we are addressing them
- Local infrastructure improvements that we might be able to design into the project

We will then take your views and ideas into account in finalising the application.

If you are unable to make any of the above dates, and have points to raise with us, I would welcome the opportunity to discuss them with you in person - by phone, email or by arranging a convenient time for me to visit you at home. You can contact me at any time by emailing ronan.ohogartaight@greenlink.ie .

I look forward to seeing you at the exhibitions or hearing from you with your comments. We will be providing an update to the project information brochure at the above exhibitions and will also mail a copy to your home, but in the meantime, you can find out the latest on the project by visiting our website: www.greenlink.ie .

Yours sincerely

Rónán ÓhÓgartaigh
Development Manager (Ireland)

Registered in Ireland. Company Number 536954.
Registered Office: South Bank House, Barrow Street, Dublin 4, D04 TR29

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Connecting Europe Facility

Appendix B

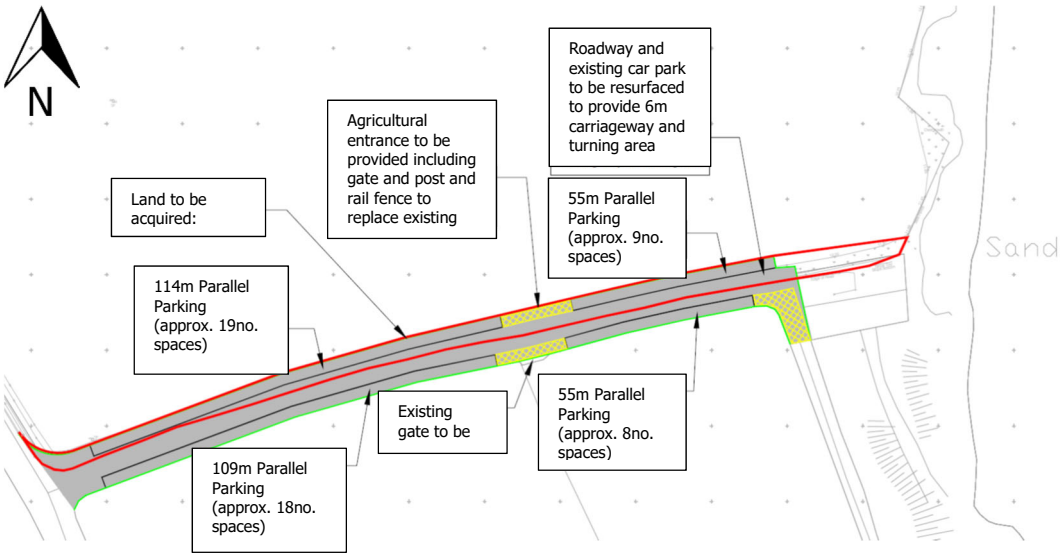
Community Gain

Appendix B – Community Gain

B1 Car Park at Baginbun Beach

Baginbun Beach is popular with locals and tourists, especially during the summer months. Currently, visitors to the beach park along both sides of the narrow approach road to the beach and, at particularly busy times, the parking extends around the corner onto the L4049, at the western end of the approach road. This parking creates congestion and is a hazard for road users, particularly pedestrians.

During the consultations with Wexford County Council, Greenlink agreed to construct car-parking facilities near Baginbun Beach as an element of community gain for the project. Greenlink will purchase a strip of land on the north side of the approach road which will allow the road to be widened to an overall width of 12m. The road is edged with low scrub, which does not have high habitat value. There will be a 3m wide parking bay on both sides and two 3m wide vehicular lanes. Approximately 54 parking spaces will be provided, with parallel parking along both sides of the road. The 6m wide carriageway will allow two cars to pass comfortably. The road widening will extend from the junction at the western end of the road to a point approximately 35m west of the edge of the cliff, behind the beach. A 10kV ESB pole, close to the junction at the western end of the road, will be relocated to accommodate the road widening. There are two farm gates in the road boundaries, one on either side. The gate on the northern side will be set back as part of the widening, and appropriate sight lines will be provided for both gates. There is an entrance to a dwelling house close to the beach, on the southern side of the road, and this will also be given sufficient sight lines. A turning area will be established at the beach end of the road. The 6m wide carriageway will also facilitate three-point turning along the road. The widened road and parking will be constructed with a full road build-up, surface dressing and line markings, with stormwater run-off continuing to naturally infiltrate on both sides of the road in accordance with Wexford County Council's requirements.



Proposed Car Parking near Baginbun Beach | not to scale

This parking facility is welcomed by Wexford County Council and the local residents, to whom the Greenlink representatives have spoken.

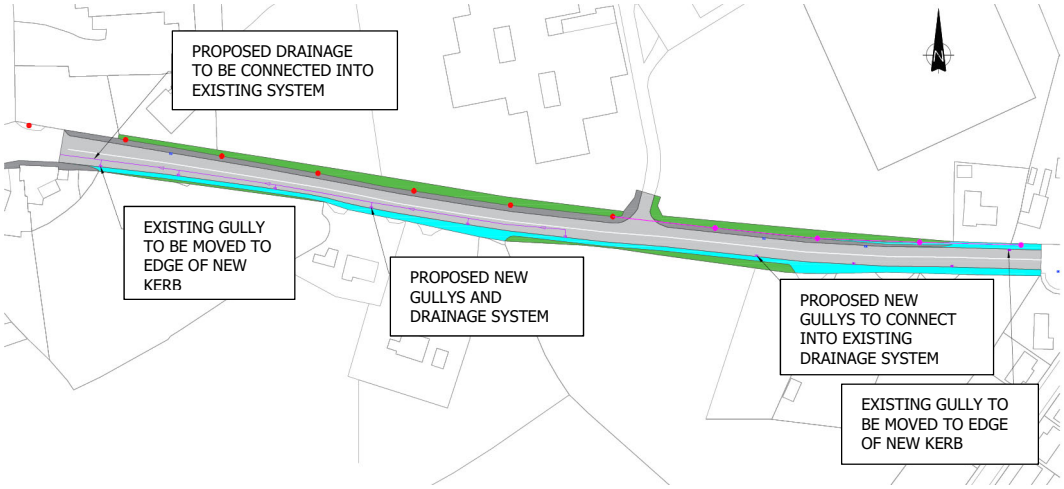
The car park at Baginbun Beach will be retained when Greenlink is decommissioned.

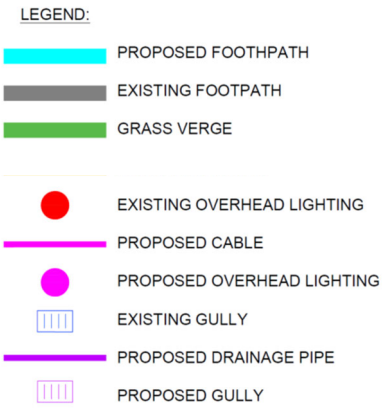
B2 Ramsgrange Village

As part of the public engagement with residents in Ramsgrange, the potential was identified for the provision of community gain in the form of improvements to pedestrian amenity in the village. In consultation with Wexford County Council, it was agreed that a footpath would be provided on the southern side of the R733 eastbound, between the village centre and the recently-constructed housing development at the eastern edge of the village. In addition, a short length of footpath will be provided on the northern side of the road, opposite the housing development. The new footpaths will have dropped kerbs to be provided at each entrance.

Four new street lights will be provided on the northern side of the road, to the east of the existing school entrance, and a new speed-activated sign will be provided at the western approach to the village. Surface water drainage will be connected to the existing surface water network, and a power cable will be installed to power the proposed street lighting.

It is likely that the proposed works in Ramsgrange would be constructed by Wexford County Council.





Proposed Pedestrian Amenity Improvement Works at Ramsgrange | not to scale

Appendix C

Planning History

Appendix C - Planning History

Table C1 below presents the historical and current planning applications that were made within and in the vicinity of the cable route redline boundary.

Table C1: Historical planning applications within the cable route redline boundary

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20130283	Erection of a hay and machinery storage shed. This planning application relates to the townland of Graigue Great in the vicinity of the cable route.	Granted (Conditional)
20130460	Erection of a fully serviced dwelling house. This application relates to the townland of Ramsgrange in the vicinity of the cable route.	Refused
20130797	Erection of a fully serviced dwelling house and garage. This application relates to the townland of Ramsgrange in the vicinity of the cable route.	Granted (Conditional)
20140362	Permission for the proposed erection of alterations and extensions to an existing dwelling house together with associated and auxiliary site works. This planning application relates to the townland of Ramstown in the vicinity of the cable route.	Granted (Conditional)
20150143	Permission for the removal of a shed, the erection of a funeral parlour and the erection of a storage shed and all associated site works. This planning application relates to the townland of Ramsgrange in the vicinity of the cable route.	Granted (Conditional)

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20150061	Permission for the construction of a loose shed for winter housing of livestock. This planning application relates to the townland of Kilmannock in the vicinity of the cable route.	Granted (Conditional)
20150741	Permission for construction of a dormer style two-storey dwelling house, septic tank and associated percolation area, site entrance and ancillary site works. This planning application relates to the townland of Ramsgrange in the vicinity of the cable route.	Refused
20151174	Permission for the following development works: Construction of a dormer scale two-storey dwelling house, septic tank and associated irrigation area, site entrance and ancillary site works. This planning application relates to the townland of Ramsgrange in the vicinity of the cable route.	Granted (Conditional)
20150984	Permission for the erection of a fully serviced dwelling and domestic garage and associated site works. This planning application relates to the townland of Ramsgrange in the vicinity of the cable route.	Granted (Conditional)
20160065	Permission for the construction of a detached domestic garage, incorporating a storage loft, and all associated site works. This planning application relates to the townland of Ramstown in the vicinity of the cable route.	Granted (Conditional)
20160217	Permission for retention for changes to existing dwelling, which include first floor accommodation. This planning application relates to the townland of Ramstown in the vicinity of the cable route.	Granted (Conditional)

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20160587	Renovate existing farmhouse and install a sewage treatment plant with percolation. This planning application relates to the townland of Templetown in the vicinity of the cable route.	Granted (Conditional)
20161172	Permission for the construction of a fully serviced dwelling house and domestic garage and all associated site works (approved permission already on this site - register number 20140485). This planning application relates to the townland of Kilhile in the vicinity of the cable route.	Granted (Conditional)
20161155	Permission for the erection of a fully serviced dwelling house. This planning application is located in the townland of Broomhill in the vicinity of the cable route.	Refused
20170905	Permission for the erection of a fully serviced dwelling house and garage. This planning application relates to the townland of Ramsgrange in the vicinity of the cable route.	Granted (Conditional)
20170930	Permission for the retention of a dwelling as constructed (as previously granted under PPR 20011336. This planning application relates to the townland of Templetown in the vicinity of the cable route.	Granted (Conditional)
20171187	Permission for the construction of a two-storey dwelling house, domestic effluent treatment system with associated irrigation area, site entrance, domestic garage and ancillary site works. This planning application relates to the townland of Templetown in the vicinity of the cable route.	Refused

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20170999	Permission for the construction of a road underpass for agricultural purposes and associated site works. This planning application relates to the townlands of Graigue Little, Graigue Great and Templetown in the vicinity of the cable route.	Granted (Conditional)
20171037	Permission to erect a fully serviced dwelling house, new site entrance, new treatment system and all associated site works. This planning application relates to the townland of Kilbride in the vicinity of the cable route.	Granted (Conditional)
20180308	Permission for changes to the site boundaries previously granted permission under planning Reg. no. 20030702. This planning application relates to the townland of Templetown in the vicinity of the cable route.	Granted (Conditional)
20180798	Permission for the erection of a fully serviced dwelling house and garage. This planning application relates to the townland of Templetown in the vicinity of the cable route.	Granted (Conditional)
20181481	Permission for the construction of a garage/workshop to the rear of existing dwelling and associated site works. This planning application is located in the townland of Ramstown in the vicinity of the cable route.	Granted (Conditional)
20181472	Indefinite retention permission for the construction of shed/garage and all associated site works to the front of the existing dwelling of the property. This planning application is located in the townland of Ballinruan in the vicinity of the cable route.	Granted (Conditional)

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20190513	Permission for retention of location of dwelling house on site from what was previously granted planning permission (original planning ref: 20171037) and permission to revise the site boundary line and for minor alterations and elevational changes to the dwelling house from what was previously granted planning permission and all associated site works. This planning application is located in the townland of Kilbride in the vicinity of the cable route.	Granted (Conditional)
20191061	Permission for the erection of a domestic garage to the rear of home. This planning application is located in the townland of Templetown in the vicinity of the cable route.	Granted (Conditional)
20191185	Retention of (a) 6 no. roof lights (b) sheds, (c) increased ridge height to entrance porch and permission to construct replacement wastewater treatment system and percolation area and all associated site works. This planning application is located in the townland of Ramsgrange in the vicinity of the cable route.	Granted (Conditional)
20191659	Permission for the demolition of an existing dilapidated two-storey dwelling house and the construction of a new two-storey dwelling house, associated domestic effluent treatment plant, irrigation area, site entrance and ancillary site works. This planning application is located in the townland of Graigue Little in the vicinity of the cable route.	Refused

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20191336	Permission for the construction of a single storey extension to the west side of an existing two storey detached dwelling house. This planning application is located in the townland of Templetown in the vicinity of the cable route.	Granted (Conditional)
20200145	Permission for development will consist of (a) demolition works of the existing side and rear dwelling extensions, existing roof and a front section of the existing rear garage to allow for new works, (b) proposed two storey pitched roof front porch extension, raised pitched roof on the first floor front of the existing dwelling with provision of roof lights, two storey flat roofed extension to rear with balcony, (c) proposed amendments internally and to all elevations of the existing property and all associated site works. This planning application is located in the townland of Ramstown in the vicinity of the cable route.	Refused – Application under appeal

Table C2 below outlines the historical planning applications that were made within the converter station and tail station redline boundary.

Table C2: Historical planning applications within the converter station and tail station redline boundary

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20151274	Permission to carry out the following works: 1) construction of a new single storey security building with a floor area of 124m^2, demolition of the existing single storey security building with floor area of 27m^2 and construction of new carpark for 20 no. cars and 3 no. heavy goods vehicles 2) construction of a new 3 storey extension to the existing control building with a total floor area of 135m^2 at Great Island Power Station, Campile. The application relates to an establishment which holds an integrated pollution prevention and control (IPPC) licence and to which the major accident regulations apply. This planning application relates to the townland of Great Island in the vicinity of the converter station.	Granted (Conditional)
20171116	Permission for retention of security fencing, height restriction barriers, lighting standards, CCTV poles, site access road, and all associated site works. The application relates to an establishment which holds an integrated pollution prevention and control (IPPC) licence and to which the major accident regulations apply. This planning application relates to the townland of Great Island in the vicinity of the converter station.	Granted (Conditional)

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
20171117	Permission for new security fencing, lighting standards, CCTV poles and all associated site works. This planning application relates to the townland of Great Island in the vicinity of the converter station.	Granted (Conditional)
20180506	Permission for the development of a grid system services facility including a TSO compound, TSO electrical substation, customer substation. This planning application relates to the townland of Great Island on a site immediately north of the proposed converter station site.	Granted (Conditional)
20180580	Permission for a new car park, circa 213 spaces, lighting standards, CCTV poles and all ancillary works. This planning application relates to the townland of Great Island in the vicinity of the converter station.	Granted (Conditional)
20180581	Permission for retention of two no. construction support buildings, warehouse storage building, alterations to administration building, chemical storage units and all associated site works and permission for the construction of minor internal and external alterations to the construction support buildings and warehouse, three traffic barriers and the construction of a new on-site waste water treatment system associated with the construction support area and all ancillary works. The application relates to an establishment which holds an integrated pollution prevention and control (IPPC) licence and to which the major accident regulations apply. This planning application relates to the townland of Great Island in the vicinity of the converter station.	Granted (Conditional)

20181228	Permission for the development at the existing Great Island to Kilkenny 110 kV overhead line which is approximately 49 kilometres long. approximately 2.6km of the existing circuit is located within the functional area of Wexford County Council with approximately 46.4km located within County Kilkenny. The uprate of the existing circuit within County Wexford will be undertaken within the townland of Great Island, between structure EM1 at Great Island substation and structure INT15 near the administrative border between counties Wexford and Kilkenny. The development will consist of the uprate of the Great Island to Kilkenny 110kV overhead line which will primarily include: re-stringing the conductor with a higher capacity conductor, replacement of a large proportion of existing structures, breaking out and reconstruction of the concrete foundation and shear blocks of metal masts, painting of mast structures, replacement of insulators, crossarms, stays and/or fittings on existing structures; and the fitting/replacement of bird flight diverters. No additional structures are proposed along the existing circuit. Any replacement structures will be constructed at or immediately adjacent to the existing structures they will replace and will be of a generally similar height and appearance. Associated temporary site development works to gain access to the existing structures include clearance of vegetation, disassembly and reassembly of stone walls and gate posts and removal and reinstatement of existing fencing. The proposed development includes all other temporary associated and ancillary site development works required for the uprate of the existing circuit, including the	Granted (Conditional)

Reg. Ref. No:	Nature of Proposed Development	Nature of Final Decision of Application Grant of Refusal by Planning Authority / An Bord Pleanála
	installation of silt traps, silt fences, stone roads, bog mats and clear span bridges. No additional structures, no alteration to the nature, extent, alignment, character or voltage of the existing electricity infrastructure is proposed. A Natura Impact Statement (NIS) forms part of this application. This planning application is located in the townland of Great Island in the vicinity of the converter station.	
20191338	Permission for the construction of two new enclosures to provide weathering protection to existing equipment, three new enclosure extensions to provide weathering protection to existing equipment, the construction of two new external steel staircases to provide access to existing stack platforms and all associated site works. This planning application is located in the townland of Great Island in the vicinity of the converter station.	Granted (Conditional)