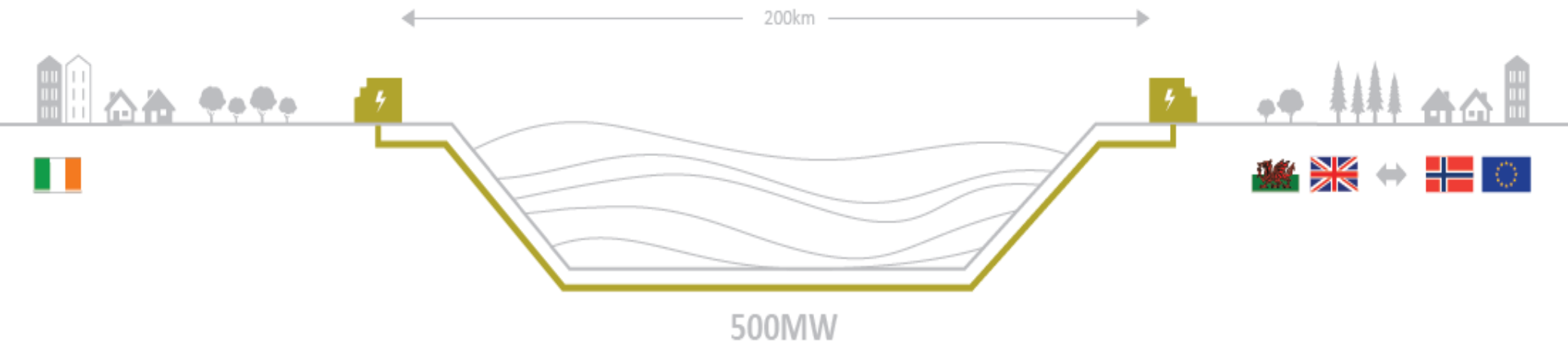


Wexford County Council 11th September 2019



Greenlink is Ireland's next interconnector



TECHNICAL PARAMETERS

- Nominal 500MW
- HVDC $\sim\pm 300\text{kV}$ - single symmetrical monopole
- Voltage Source Convertors

CABLE ROUTE

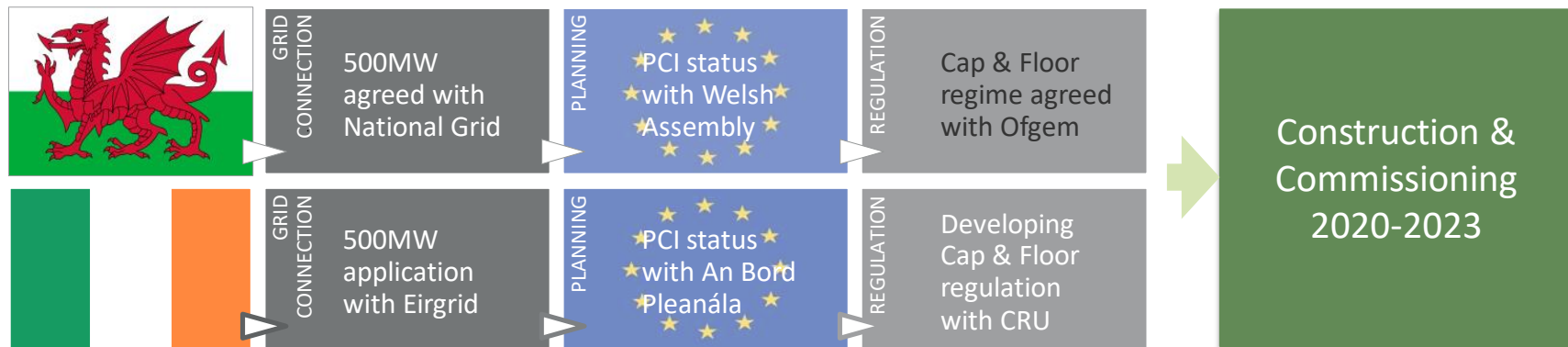
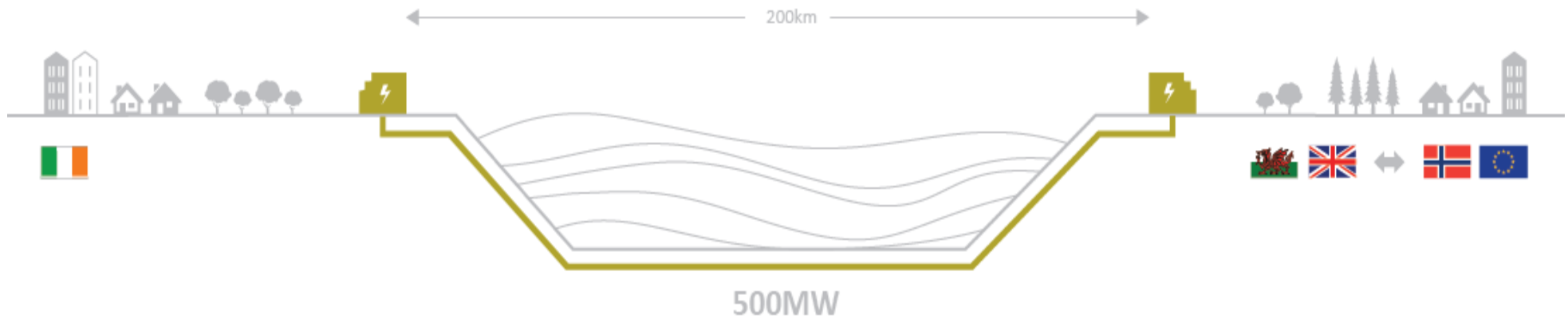
- Great Island sub station - County Wexford
- Pembroke sub station – Wales
- $\sim 200\text{km}$ of HVDC land and marine cable and $\sim 1\text{km}$ of HVAC

PROJECT TIMING

- Planning Appl. Q4 2019
- Regulatory finalisation in 2H 2019
- FID for €400m in 2H 2020
- Construction 2020 - 2023



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



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]

Grid Connections for Electricity Interconnectors with PCI status

Information Note
 Introduction | Date Published: 24/10/2017 | Contact Us | More

Draft National Policy on Electricity Interconnection in Ireland: Public Consultation

Aim of this Public Consultation:

- To inform the development of Ireland's electricity interconnection policy.
- To identify the evidence base appropriate in the evaluation of proposed electricity interconnectors.

Electricity Interconnectors Information Paper

Information
 Introduction | Date Published: 21/03/2018 | Contact Us | More

[Policy Decision]

Draft National Policy on Electricity Interconnection in Ireland: Public Consultation

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ors

[Greenlink IPA Paper]

Electricity Interconnectors Information Paper

Information
 Introduction | Date Published: 21/03/2018 | Contact Us | More

[Policy Decision]

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Greenlink will stimulate investment in affordable low carbon energy, including offshore wind

Irish wind resource is plentiful and predictable

- Typical North Atlantic low pressure moving north easterly across Ireland

Irish wholesale prices fall and surplus energy is exported to GB

- Less curtailment - by 5,500 GWh^(a) through 2047
- Higher renewable revenues - for longer avg. €3.20/MWh in GB
- Better returns for renewable investment
- Lower cost to consumers - €800m^{(b)(c)}

Further interconnection with higher priced markets will increase the affordability of nascent Irish offshore wind

- Greater economies of scale but larger initial investment
- Capturing Ireland's greatest natural resource?



a) Sum of avoided curtailment between 2023-2047

b) NPV@3.5%, real 2017 €

c) Source: Baringa 2017, Greenlink CBA analysis Reference Case

Post Brexit the UK remains a natural stepping stone to connect to Europe's energy markets

In the event of a hard Brexit

- UK and EU are both WTO members
- No tariffs on the trading of interconnector capacity
- ISEM prevails
- GB does not participate in market coupling – remains a higher priced market

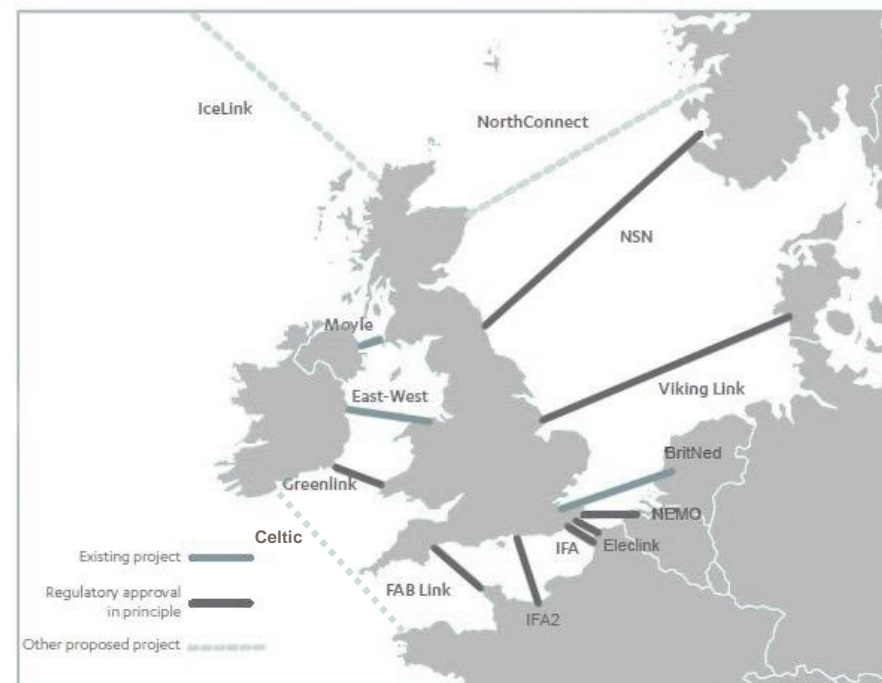
UK continues to support Greenlink

- PCI status
- Proactive and coordinated approach with CRU
- Security of supply policy independent of Brexit

UK is the third largest generator in Europe

- UK 338.6 TWh cf. Ireland 30.4 TWh
- Forecast 10GW of interconnector capacity with continental Europe and Scandinavia
- A natural link to Europe that avoids excessive capex and line losses

Existing interconnectors and the future pipeline





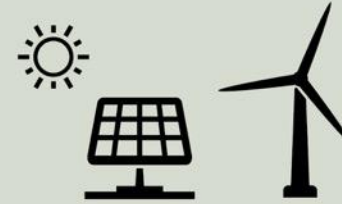
380,000

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.

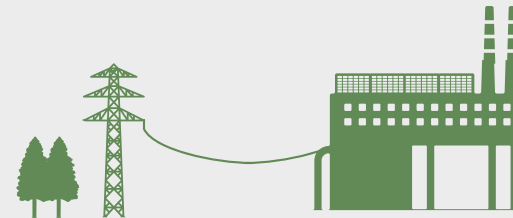
Greenlink is a cost-efficient source of future interconnection for Ireland



250 Irish jobs
during construction



20 permanent
Irish jobs



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

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



Converter Station (Ireland)

- Adjacent to Great Island Power Station

HVAC cables (c. <0.5km)

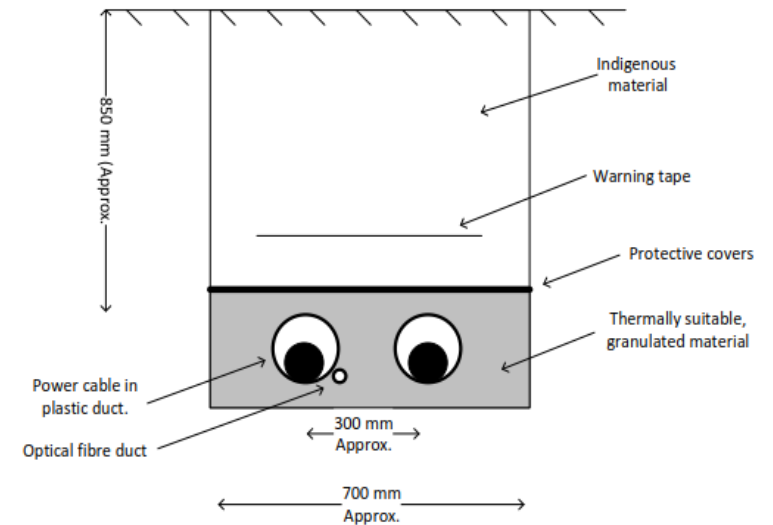
- Underground cable technology
- To connect converter station to the existing electricity substation

HVDC cable (Onshore Ireland, 23km approx.)

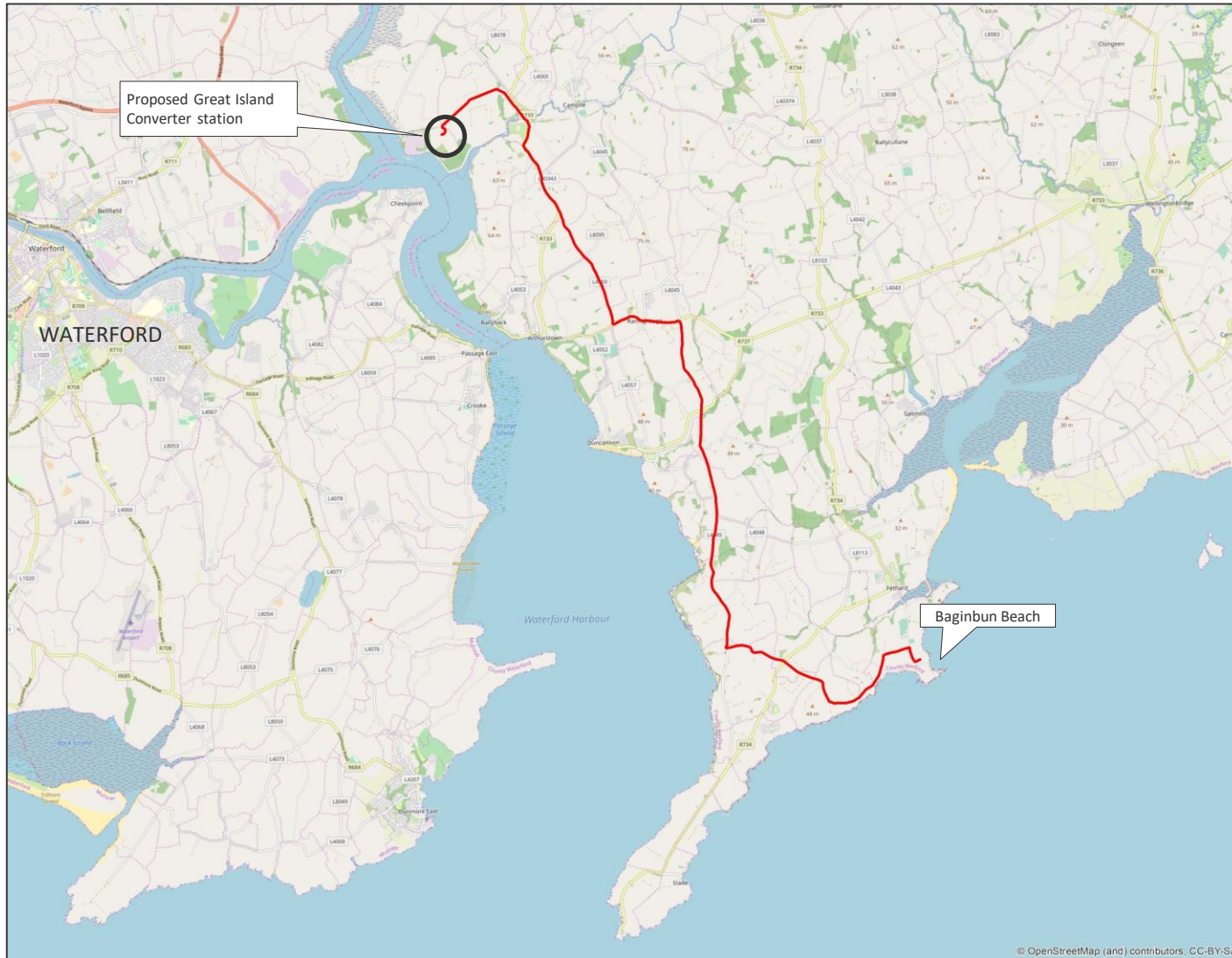
- Underground cable technology
- Generally along existing roads
- Usually installed in plastic duct to simplify the construction process
- 2 cables in a single trench with a typical depth of cover of 850mm to 1000mm
- protective cover and warning tape
- Fibre optic cable for controls

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

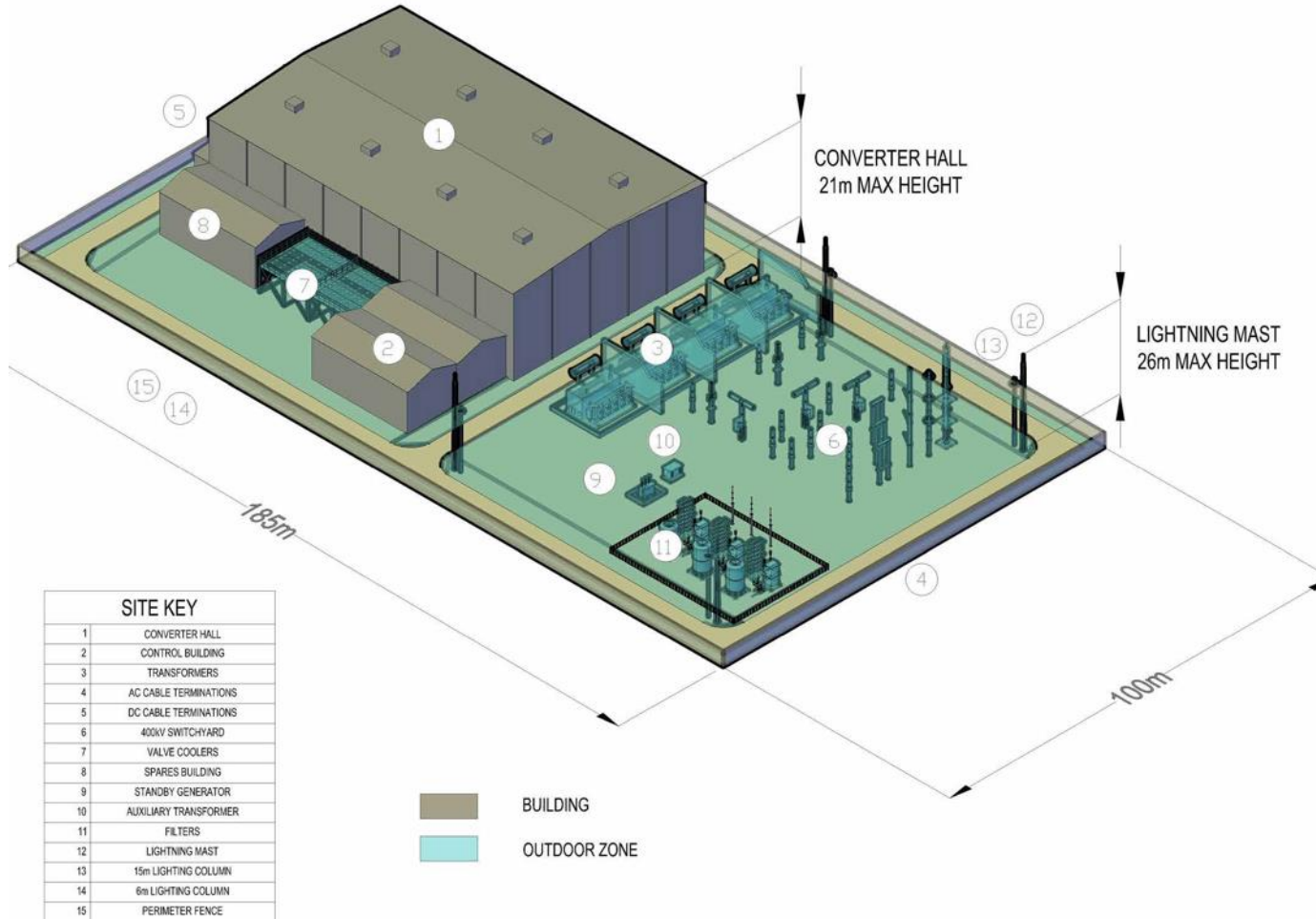


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CABLE ROUTE



INDICATIVE CONVERTER STATION



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

-June/July 2018 Fethard & Duncannon

-January 2019- Fethard & Duncannon

-March 2019 Ramsgrange

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

Presentations to community forums

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





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Connecting Europe Facility

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