

# The Great Grid Upgrade

nationalgrid

## Eastern Green Link 5 (EGL 5)

Eastern Green Link 5 (EGL 5) is a proposed primarily offshore electricity link between Scotland and England, with some onshore infrastructure.

### Project timeline



#### Contact us:

[nationalgrid.com/egl5](https://nationalgrid.com/egl5)  
[contactegl5@nationalgrid.com](mailto:contactegl5@nationalgrid.com)  
0800 358 4817  
Freepost EGL 5

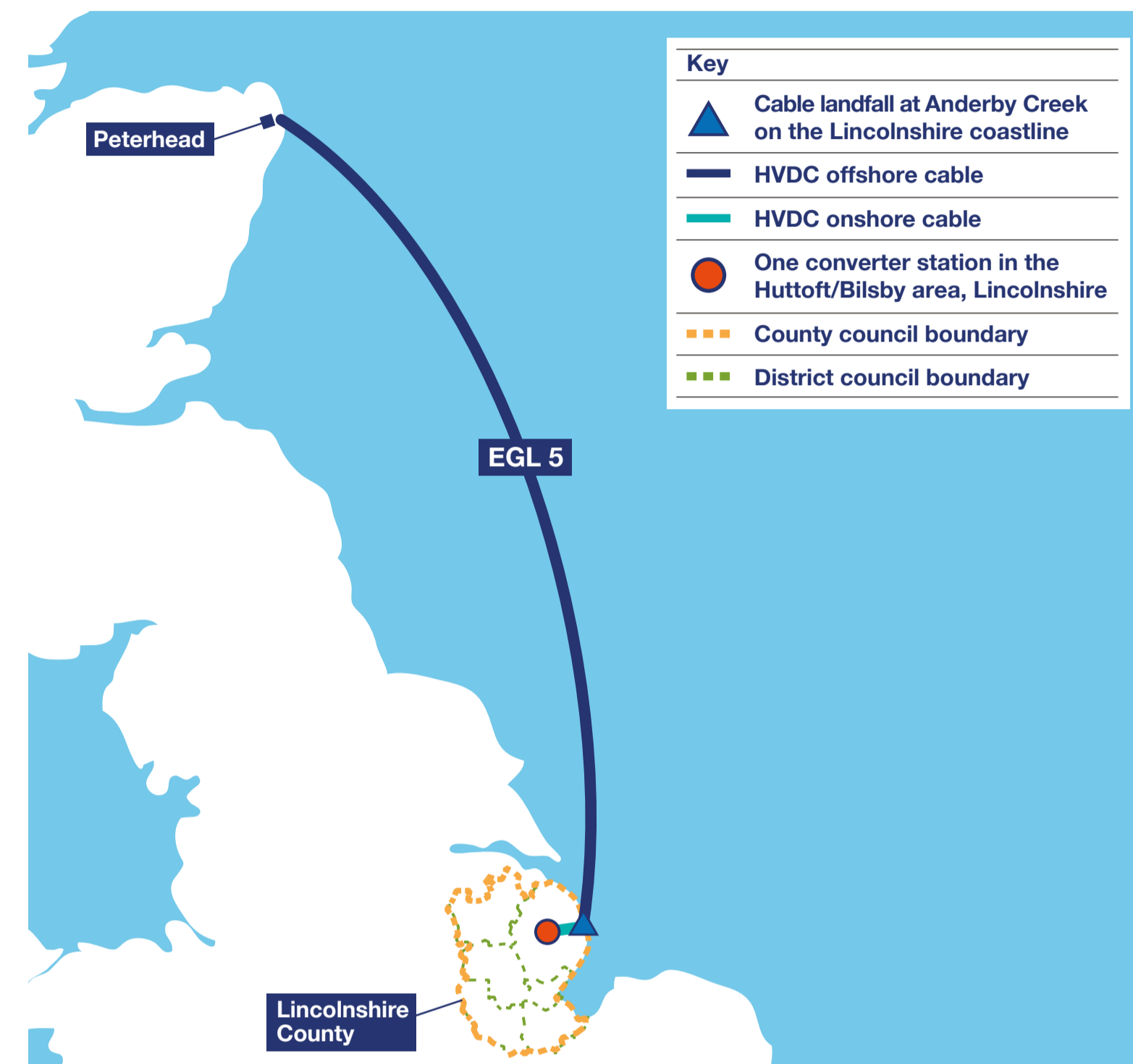
Scan the QR code here to view our consultation documents on our website, see our short videos, or book a 'team call-back' session.



Call us to request paper copies of the materials or materials in a different format.

### The EGL 5 proposals

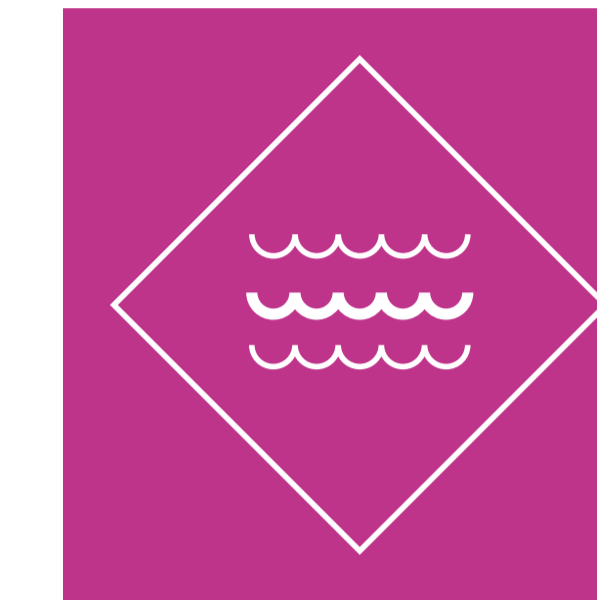
EGL 5's subsea cables will run from Scotland and make landfall at Anderby Creek on the Lincolnshire coastline. From landfall, the cable would meet a transition joint bay, connecting the offshore and onshore cables, before running underground up to 8 km to a new converter station in north-east Bilsby. A 1 km underground cable would connect the converter station to a substation. The substation is being proposed as part of National Grid's Grimsby to Walpole project and is therefore not included in the EGL 5 proposals.



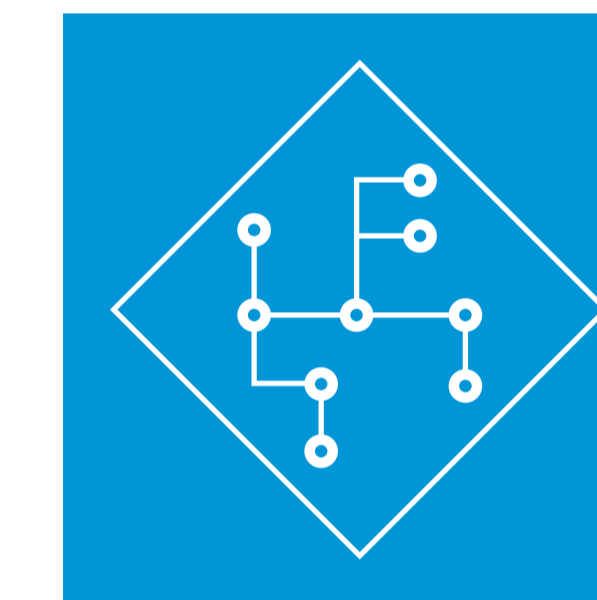
### Why here?



Assessing potential effects on agricultural land, flood zones and the environment, along with socio-economic impact and technical considerations indicated that the Lincolnshire coastline is our preferred location for EGL 5 to come onshore.



Lincolnshire's North Sea coastline makes it a key location for linking offshore wind to the Grid. The region is also playing an important role in strengthening the UK's power network, with investment in energy projects supporting jobs and growth.

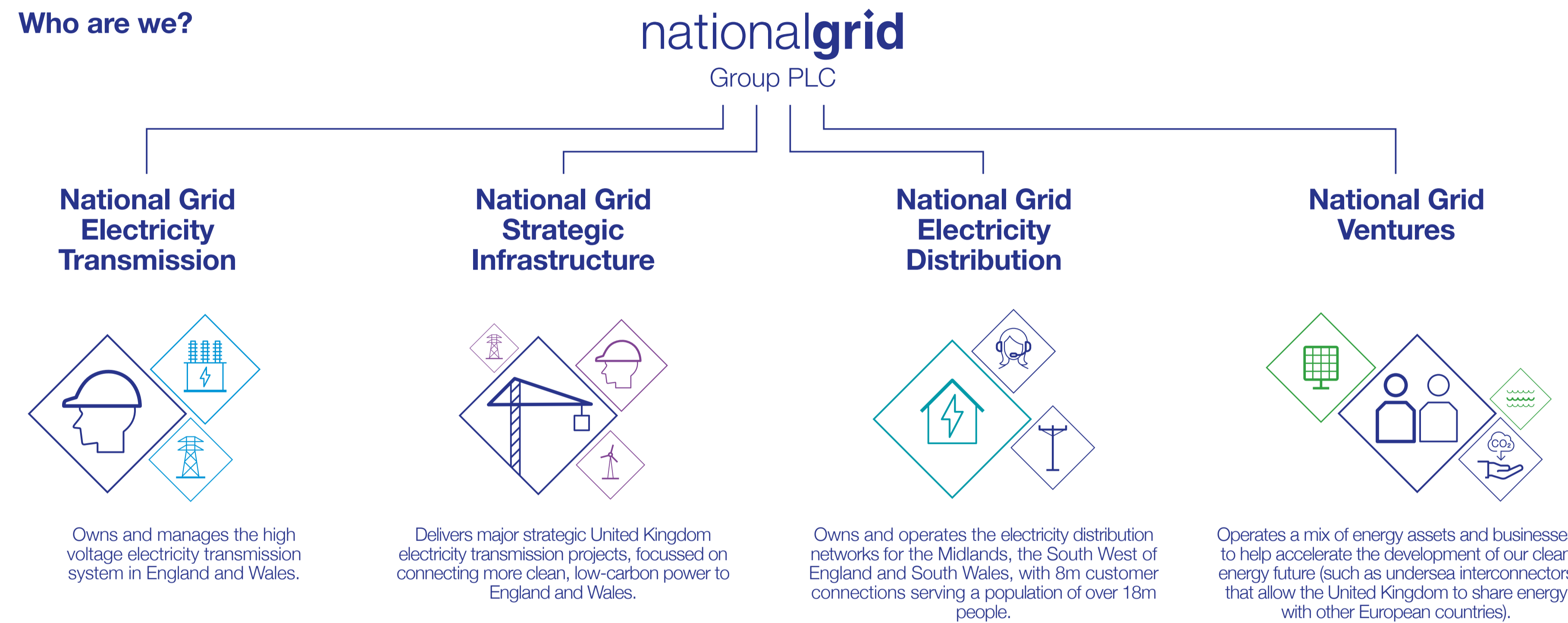


Co-ordinating with other National Grid and third-party projects in the area also plays a part. We aim to minimise the overall impact where possible. As part of this we are proposing to connect our project into the substation being proposed as part of the Grimsby to Walpole project.



# The need for EGL 5

## Who are we?



**National Grid Electricity Transmission (NGET) is developing the proposals for EGL 5.**

NGET sits at the heart of Britain's energy system.

We don't generate electricity. We own and maintain the high-voltage network in England and Wales. We transport large amounts of electricity from where it is generated to where it is needed. Local network operators then deliver it at lower voltages to individual homes and businesses.

**Reinforcing the transmission network between Scotland and England**

EGL5 is part of a major upgrade to the electricity transmission system. It will help carry increasing renewable sources of electricity between Scotland and England. The existing transmission network between Scotland, and the Midlands and South of England does not currently have the capacity to reliably transport this increasing energy.

**How EGL 5 would help reinforce the network**

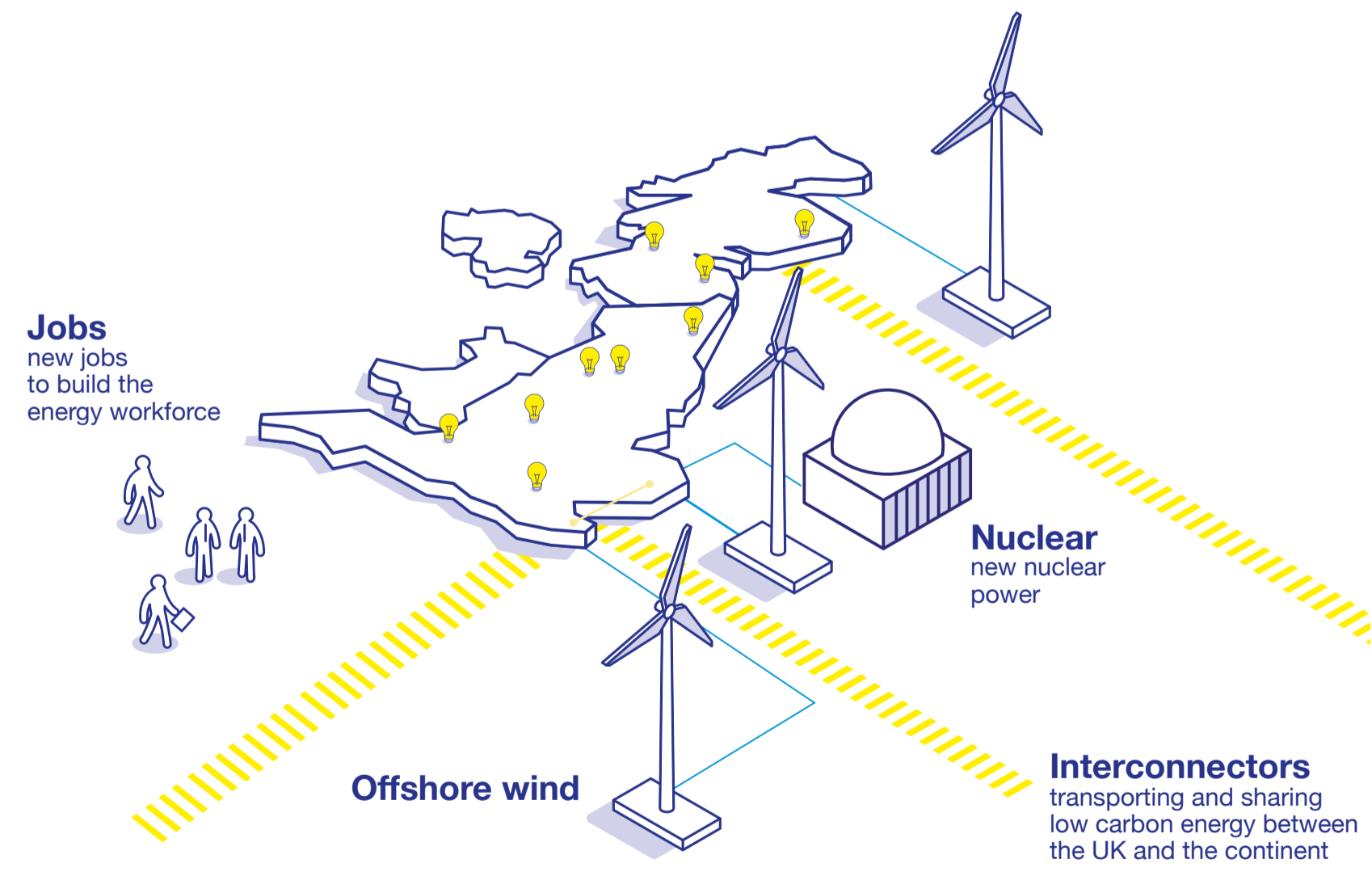
The electricity network system in Britain is split into boundaries. Each boundary has a limit to the amount of electricity that can flow through it. As more electricity is being generated in Britain and demand is growing, we assess where the power flows between these boundaries will need to rise. The boundaries shown here: B6, B7a, B8 and B9, are where we need to increase the capacity of the Grid. EGL 5 will help achieve this by transporting up to 2 GW of electricity – enough to power around two million homes.

Boundaries B6, B7a, B8 and B9 that EGL 5 is designed to transport electricity across from Scotland

**What is The Great Grid Upgrade?**

The Great Grid Upgrade is the largest overhaul of the grid in generations. The way electricity is generated is changing, with more home-grown renewable energy being generated in Britain. The Great Grid Upgrade will enable the electricity grid to carry cleaner energy to communities in every part of England and Wales.

- A grid that's fit for the future**
- More clean energy for all**
- Investment close to home**
- Energy security**



**Increasing energy security**

Much of the energy infrastructure in the north of England was developed in the 1960s. Around this time energy generation was primarily from coal-fired power stations.

The existing transmission network does not currently have the capacity to reliably transport the increasing amount of home-grown renewable energy, such as from offshore wind.

EGL 5 would carry up to 2 GW of electricity, enough for two million homes and businesses. It would also strengthen Britain's energy security and resilience, reducing reliance on imported energy.

**For more detail on the need case for EGL 5, please see our Stage 2 consultation document and Strategic Options Report.**

# An overview of our proposals

## What we are proposing

- up to 423 km of subsea high voltage direct current (HVDC) cables in English waters
- landfall siting at Anderby Creek on the Lincolnshire coastline
- a transition joint bay connecting the offshore and onshore HVDC underground cables at landfall
- up to 8 km of new underground HVDC cable, from the landfall point at Anderby Creek to the converter station
- a new converter station, east of Bilsby, East Lindsey
- up to 1 km of new underground high voltage alternating current (HVAC) cable. This will be between the converter station and the proposed substation. This substation is included in the proposals for National Grid's Grimsby to Walpole project. It therefore will not be included or consulted on as part of the EGL 5 proposals.

We are also seeking feedback on additional temporary access to land. This includes two options for a temporary haul road.

This is for construction activities and to reduce the amount of construction traffic travelling through Alford and Bilsby on the existing highway network.



## The Scottish end of the project

We're jointly developing EGL 5 with Scottish and Southern Electricity Networks Transmission (SSEN Transmission). SSEN Transmission is responsible for obtaining the relevant consents in Scotland and in Scottish waters.



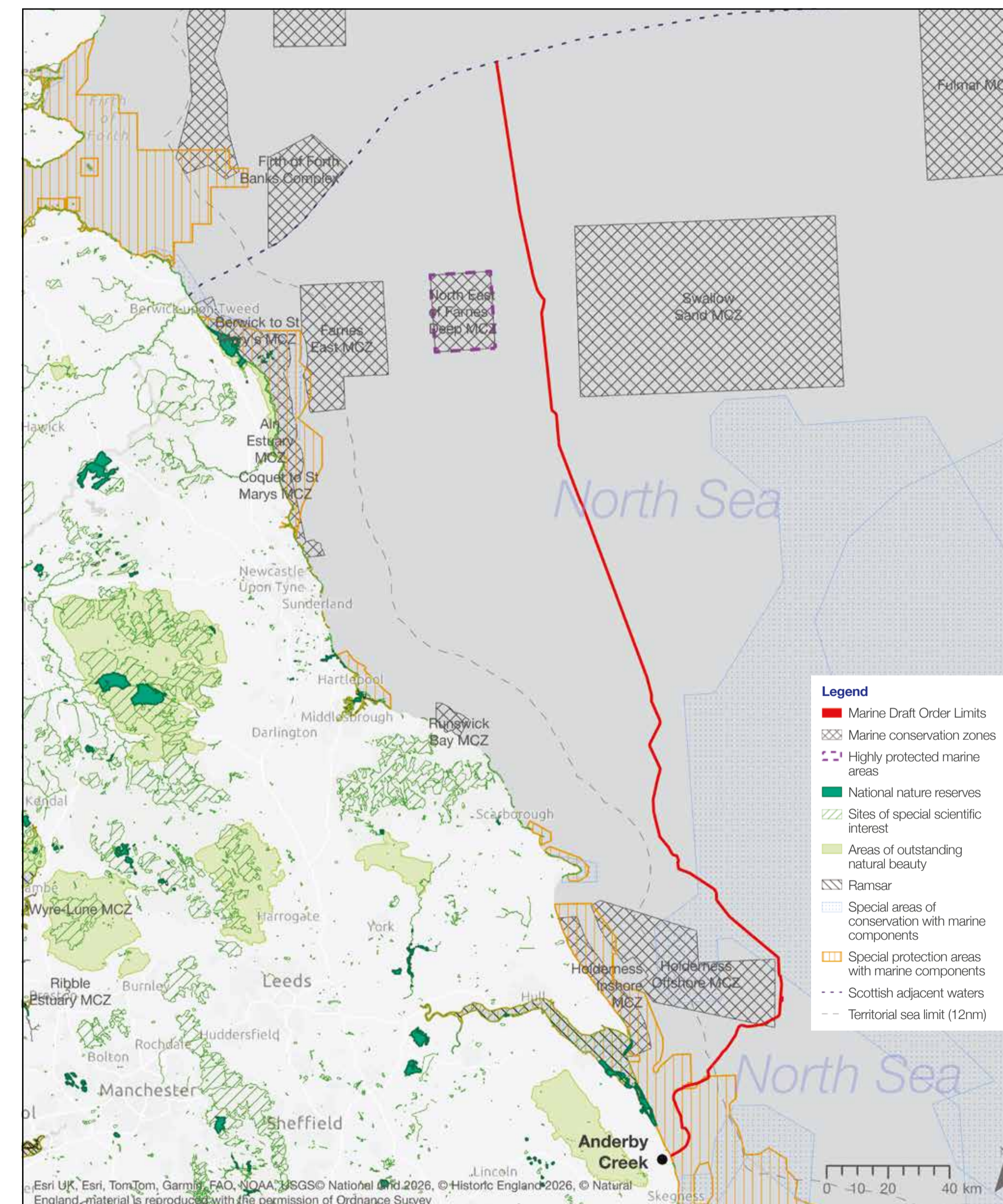
For a detailed map of our proposals, please see our interactive map available at this public information event and on our project website.



See our Stage 2 Consultation Document for more information on both onshore and offshore cable installation.

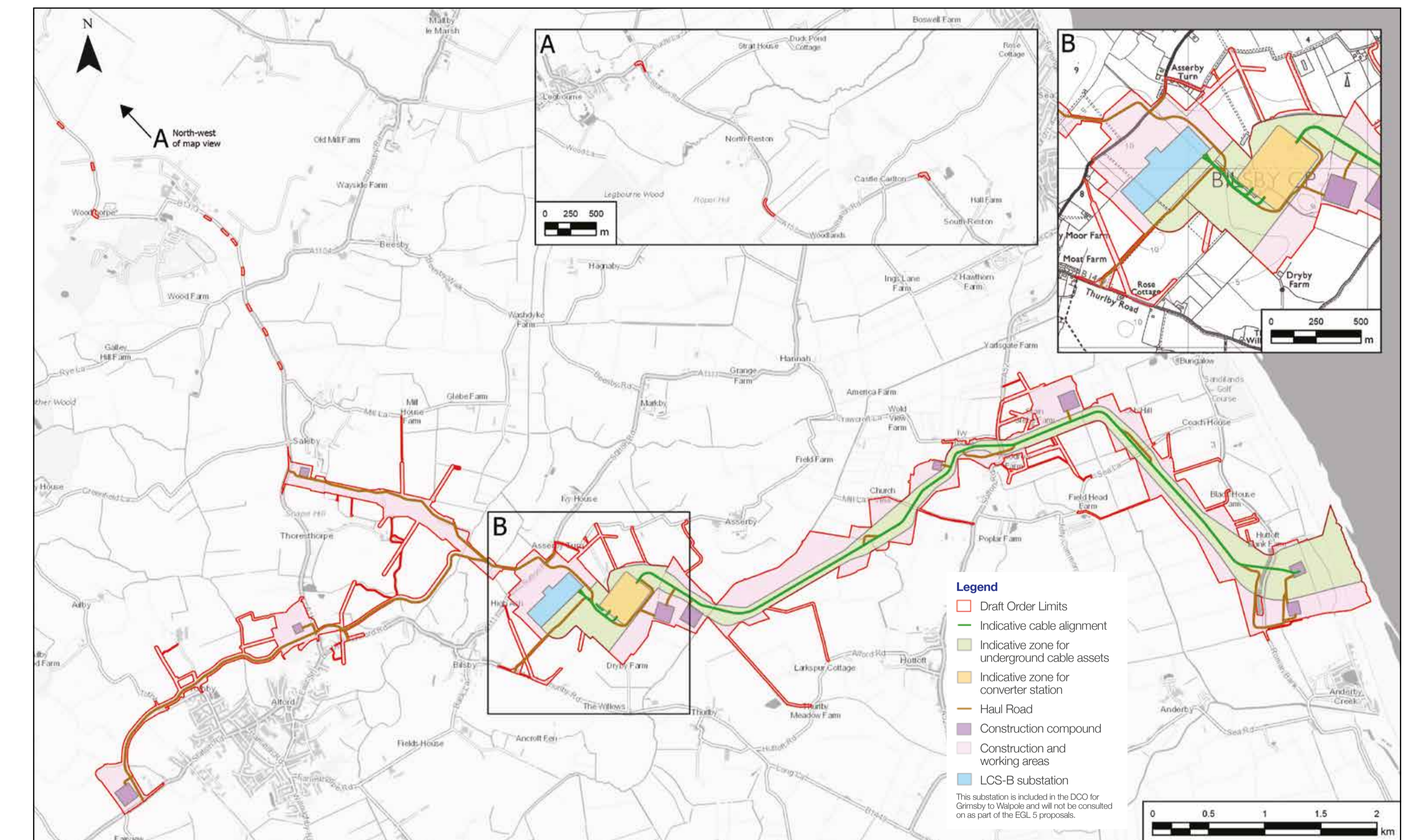
## Offshore proposals

EGL 5 would run from Netherton Hub in Peterhead, Scotland, to landfall at Anderby Creek on the Lincolnshire coastline. From landfall, the cable would meet a transition joint bay, connecting the offshore and onshore cables.



## Onshore proposals

Our onshore underground cable route runs from landfall at Anderby Creek, up to 8 km to the proposed converter station sited north-east of Bilsby. From the converter station, there would be an additional 1 km of underground cable to connect into the proposed Lincolnshire Connection Substation-B (LCS-B). This substation is not part of the EGL 5 proposals.



## Biodiversity net gain (BNG)

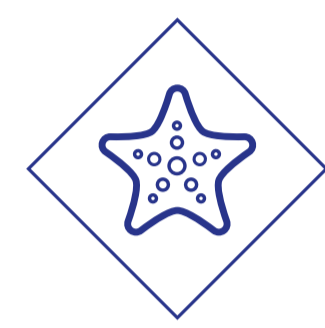
BNG is a way to ensure that the environment is left in a better state after construction than it was before the work started.

BNG can be achieved through habitat creation and/or enhancement and may be delivered on site or off site. We are working with regional and local partners to identify BNG opportunities in parallel with the development of the Project design.

# Our offshore infrastructure

## An overview of our offshore proposals in England

Our aims are to:



Improve the marine environment in the areas where we are developing our projects, supporting the restoration of seagrass, oyster, mussel, kelp and other vulnerable marine habitats.



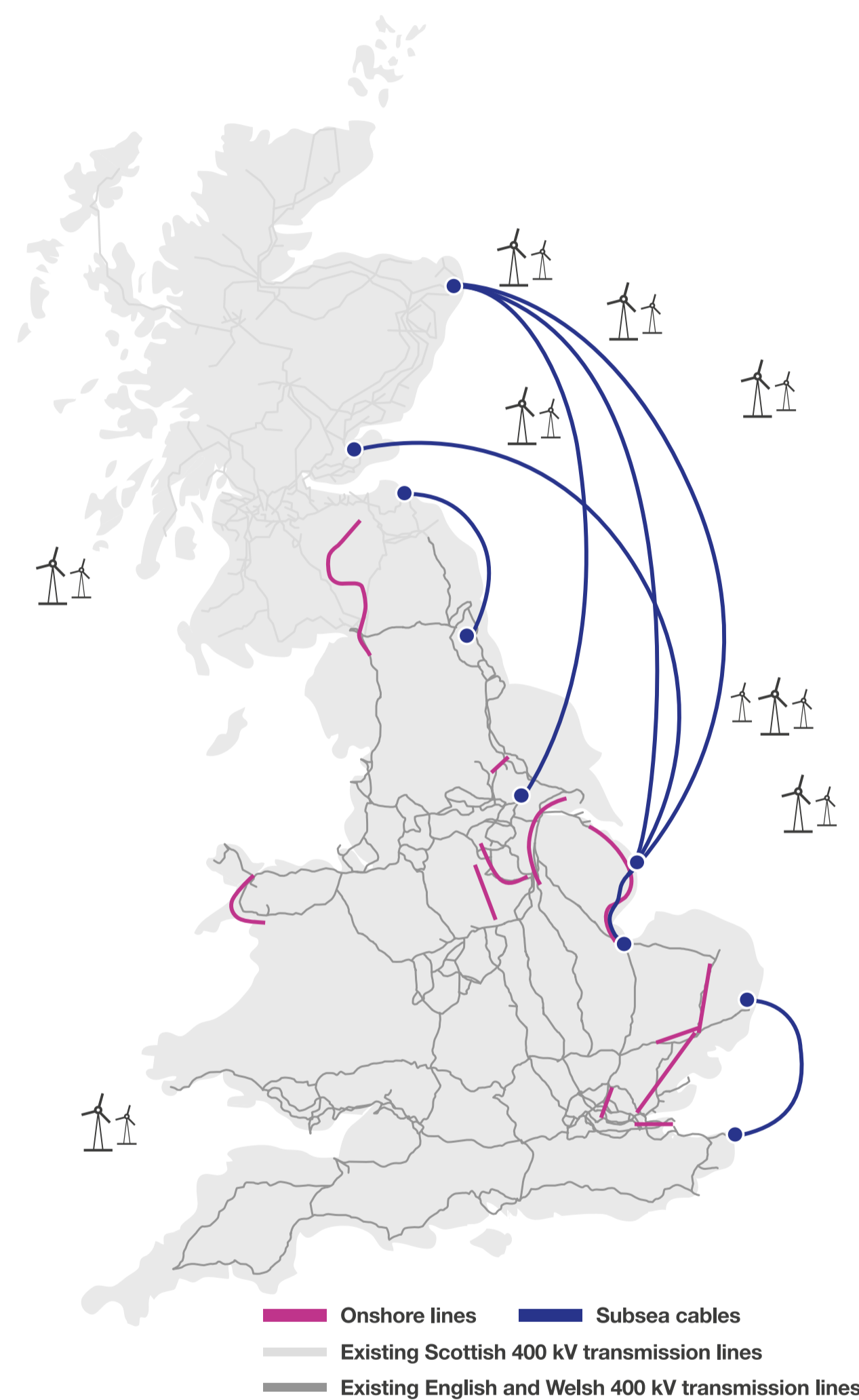
Develop the knowledge, skills and infrastructure to deliver strategic marine restoration outcomes in future



Work in partnership with key stakeholders to deliver marine restoration and enhancement benefits



Inspire, educate and attract future generations into this exclusive and critical sector



Scan the QR code here to find out more about our marine projects, or visit our website at: [nationalgrid.com/the-great-grid-upgrade](https://nationalgrid.com/the-great-grid-upgrade)

## Protecting the marine environment

The marine environment is extremely complex and busy. The subsea cable route has been designed to avoid ecologically important areas and minimise interactions with designated sites as much as possible while also finding a route that is technically feasible.

We have considered the following in planning our offshore route:



### Seabed protection

Our subsea cable route proposals have been refined using seabed and environmental surveys to avoid sensitive areas where possible.

Cables will usually be buried beneath the seabed. Installation methods are chosen to achieve adequate burial depth to protect the cable and minimise disturbance. Protective covering will only be used where burial is not possible.

After installation, surveys will be carried out to check that the cables are buried at the adequate depth of coverage and that the seabed has been properly reinstated where possible.



### Marine surveys

We have undertaken detailed marine surveys along the proposed cable route to understand seabed conditions, marine ecology and existing infrastructure.

These surveys have allowed us to present small changes to the marine cable route as part of our Stage 2 consultation. These changes are designed to help reduce potential environmental impacts.

More information about these changes can be found in our Stage 2 consultation document.



### Marine ecology

An Environmental Impact Assessment (EIA) is being undertaken to assess potential effects on subsea habitats, fish and shellfish species, and marine mammals.

Pre-construction surveys help confirm baseline ecological conditions and inform detailed design.



### Marine route users

The marine route has been developed with consideration of existing offshore infrastructure, commercial fisheries, shipping activity and other marine users. We have also made efforts to bypass marine protected areas.

We will continue to engage with marine stakeholders throughout all stages of the project. Cable burial is designed to protect the cable from damage, reduce snagging risk, such as anchors or fishing gear. Temporary safety zones and notices will be issued during offshore installation to support safe navigation.

## How we lay new subsea cables out at sea and landfall

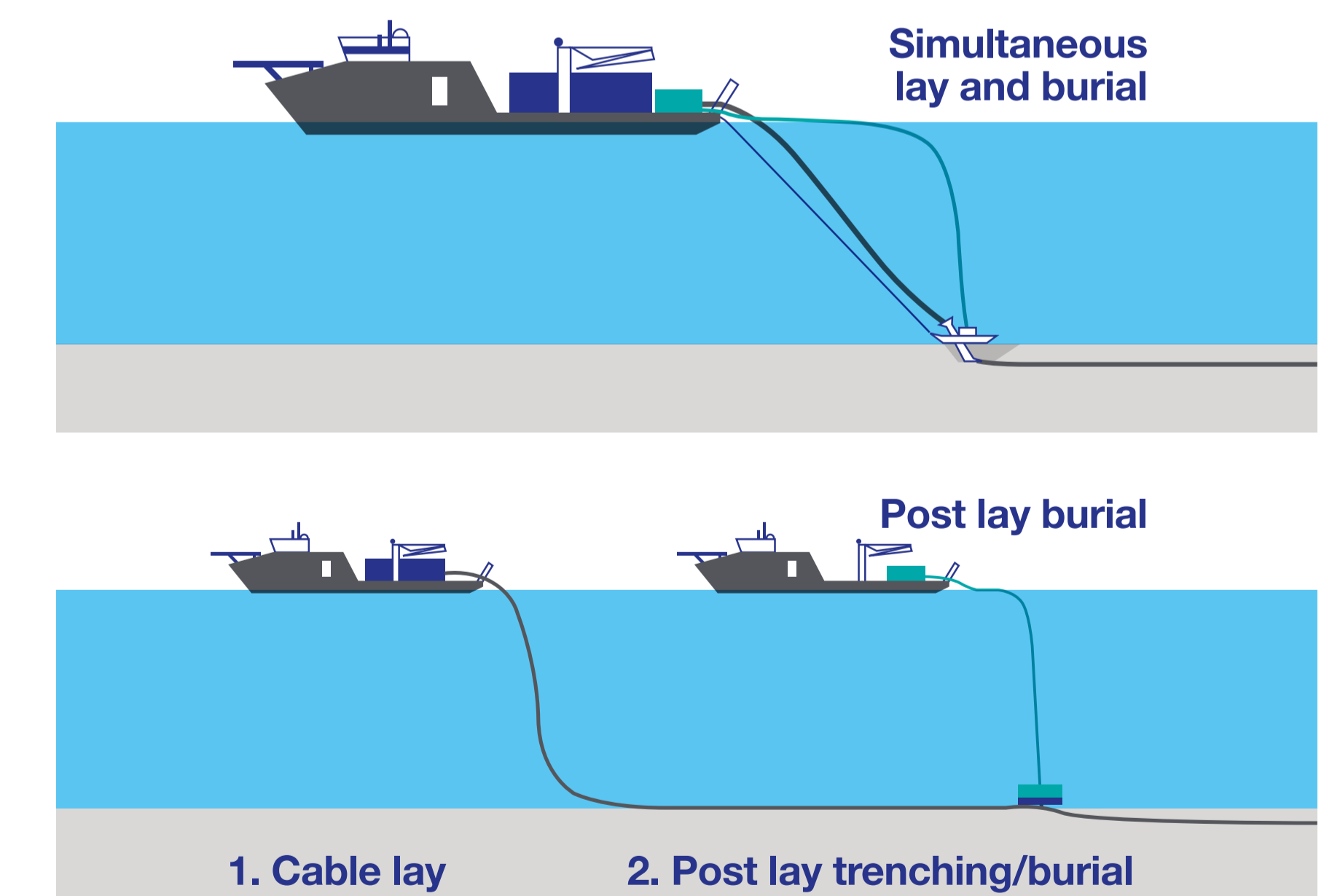
The cables are made from reinforced material and are buried beneath the seabed where possible. This protects them from shifting seabed sediments, tidal movements and ship anchors. This also reduces long-term interaction with marine activities.

The cables are loaded onto large reels on a specialist cable laying vessel. From there, two methods are used to lay cables under the seabed. The seabed surface conditions determine which method is used:

- simultaneous lay and burial, where one vessel will lay and bury the cables
- post lay burial, where one vessel will lay the cables and a second follows to bury them.

Where burial is not feasible due to seabed conditions or existing infrastructure crossings, cable protection (such as rock placement) may be used where appropriate. The need for protection will be minimised where possible.

At landfall, the cable is carefully brought to the beach and installed within an underground route. A trenchless method such as Horizontal Directional Drilling (HDD) will be used to lay the cable. This involves drilling a tunnel beneath the beach and shallow seabed allowing the cable to be pulled through without digging an open trench. This method will reduce disturbance to the coastline and limit impacts on people using the beach.



# Onshore proposals

Last year we shared options for two converter station locations and two cable route corridors. We have refined our proposals for our Stage 2 consultation and are moving forward with the northern cable route and a converter station sited east of Bilsby.

## Underground cables

A variety of methods can be used to lay underground cables, including ducted and trenchless methods. To install our cables a construction area is required. This is called a swathe and includes a cable trench/ducting, soil storage and a temporary haul road. Once the cables have been installed, the swathe is reinstated, with the land returned to its former use.

## Converter station

Converter stations enable us to control the direction in which energy flows along high voltage direct current cables and contain specialist electrical equipment that converts electricity from direct current to alternating current or vice versa.

Permanent access would be needed for the new converter station, as well as additional surrounding landscaping, drainage, and other related works.

Image of the proposed EGL 5 converter station



## Potential design approaches to the proposed converter station



## Construction – haul road

A temporary haul road is a type of road specifically for use during construction. This is to facilitate the movement of materials, machinery, and people within the site. These roads are designed to handle construction traffic and are typically removed after work has finished.

As part of our construction activities, we are proposing a new temporary haul road. Two haul road options are currently being considered. We are introducing these to avoid taking traffic through Alford and Bilsby.

## Haul road options

Both temporary haul roads lead from the converter station north of Bilsby, cross over the A111 and then split into two.

Option A goes north from Asserby Turn and continues north of Thoresthorpe, towards College Farm. It would then join the A1104 between Snape Hill and Saleby Manor. Option A haul road is 2.7 km.

Option B runs from the A111 into the fields at Asserby Turn and then south, parallel to Alford Road, through East Street near The Alford Windmill Trust and Alford Town Football Club. It would continue north of Alford, parallel to West Street and join the A1104 by Station Road, near the Alford Crematorium. This would allow access to the temporary construction compound we are proposing near to the crematorium. Option B haul road is 5.5 km.

We are seeking feedback on both options for the haul roads. Depending on feedback received and outcomes from surveys and technical assessments, both haul roads may be needed for construction.

