



# Eurolink Interconnector

National Grid Ventures  
Frequently Asked Questions

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nationalgrid

# EuroLink Interconnector FAQs

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## General

### Who is National Grid Ventures (NGV)?

National Grid Ventures (NGV), a division of National Grid plc, operates outside of National Grid's core regulated businesses in the UK and US, where it develops and operates energy projects, technologies, and partnerships to make energy cleaner, more secure and more affordable for consumers.

NGV's diverse portfolio of low carbon and renewable energy businesses includes subsea electricity interconnectors in the UK, and transmission, battery storage, wind and solar power in the US.

NGV operates and maintains five interconnectors: BritNed, IFA, IFA2, Nemo Link and North Sea Link. A sixth interconnector is currently under construction called Viking Link, due for completion in 2023.

NGV is a separate 'arm's length' entity to National Grid Electricity Transmission (NGET) and National Grid Electricity Operator (NGESO), which are subject to separate regulations.



### What is EuroLink?

EuroLink is a new multi-purpose interconnector (MPI) - an underground and subsea cable project connecting Great Britain and the Netherlands to Dutch offshore wind via an offshore converter platform.

EuroLink will provide up to 1.8 GW of high voltage direct current (HVDC), enough electricity to meet the annual needs of up to 1.8 million homes.

### Who will be the decision-making authority for EuroLink?

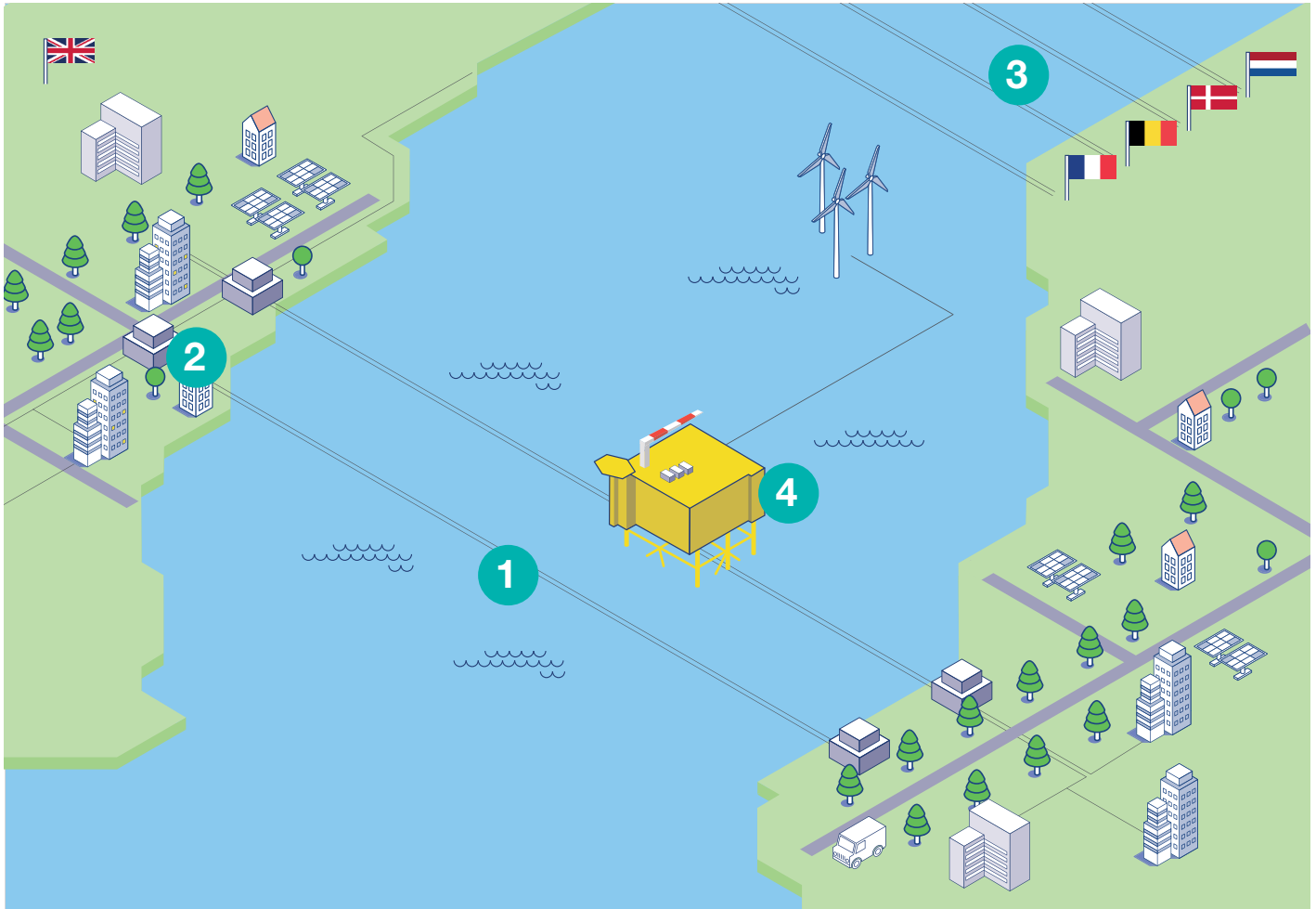
NGV received a Section 35 Direction from the Department for Business, Energy and Industry Strategy (BEIS) that confirms EuroLink will be treated as a "nationally significant infrastructure project" (NSIP) and will therefore require consenting under a Development Consent Order (DCO) according to the Planning Act 2008.

The DCO consenting process brings together planning, land rights, environmental and access matters for a proposed project within a single consultation, application, public examination, and decision-making process, determined by the Secretary of State.

This means that the final decision-maker for the project will be the Secretary of State for BEIS. This is inclusive of terrestrial and marine environments up to the Exclusive Economic Zone (EEZ) with the Netherlands.

## Multi-purpose interconnectors

### What is an MPI and how does it work?



1. A traditional interconnector is a subsea cable that enables the trade of electricity directly between Great Britain and neighbouring markets. An interconnector connects the transmission systems of two (or more) countries.
2. Interconnectors enable us to import and export energy depending on the needs of the market, including moving energy from where there is excess to where it is needed.
3. NGV currently has five interconnectors in operation: IFA and IFA2 to France, Nemo Link to Belgium, BritNed to the Netherlands, and North Sea Link to Norway. A new interconnector is under construction called Viking Link, which will link to Denmark.
4. Whilst a traditional interconnector can only connect national transmissions systems, a multi-purpose interconnector can connect neighbouring transmission systems while also connecting offshore wind.

### Why do we need interconnectors?

Interconnectors are making energy more secure, affordable and sustainable for consumers. Great Britain has experienced success from existing interconnectors which have connected energy between Great Britain, Belgium, France, Ireland and the Netherlands.

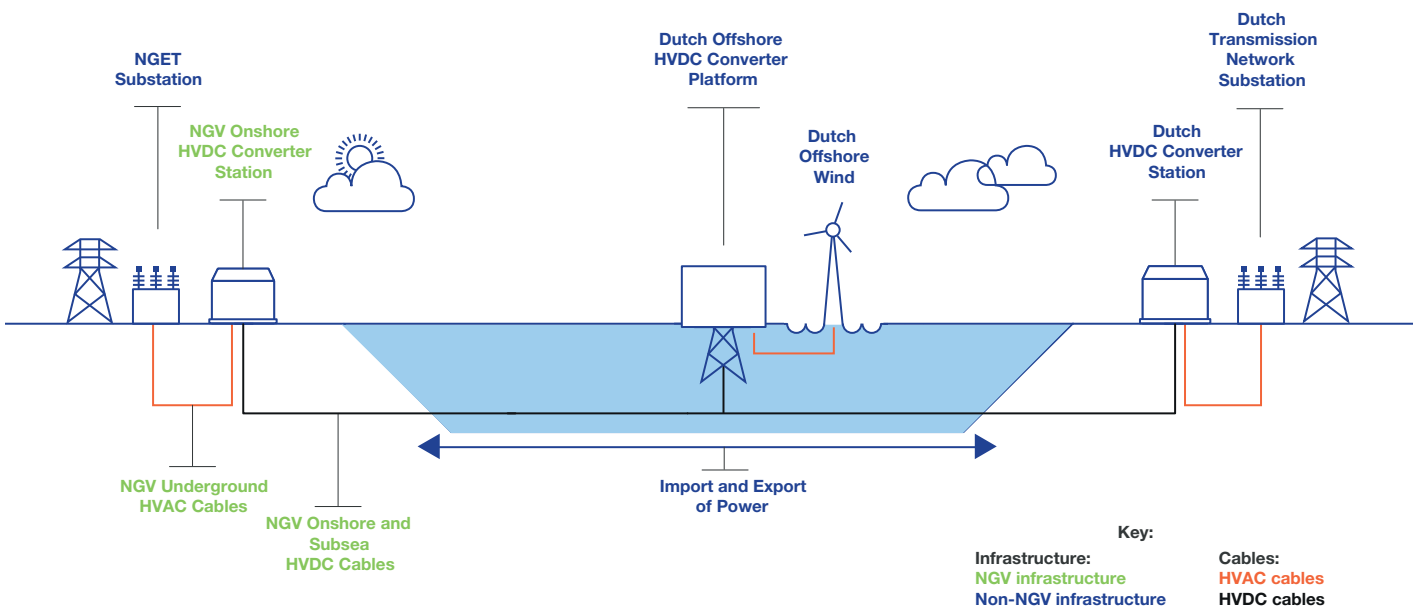
By enabling the rapid transfer of electricity between markets, interconnectors enable us to import and export energy depending on the needs of the market and in line with market prices. Interconnectors are the perfect tool to support the intermittent nature of renewable energy and to help us support the network when demand is high.

### Why use HVDC for interconnectors?

Interconnectors and MPIs use high voltage direct current (HVDC) cables because it is more efficient when transmitting energy across long distances.

Over long distances, there is less energy lost when using HVDC than when using high voltage alternating current (HVAC) cables. Given the link between Great Britain and the Netherlands will exceed 160 kilometres end-to-end, HVDC cables are being used for this project. HVDC also requires a much smaller number of cables than HVAC.

The diagram below indicates how EuroLink will work and the infrastructure needed. You can read more about this on our exhibition banners and briefing pack.



## Connection point and transmission

### Why East Suffolk?

The primary objective of the EuroLink project is to support the UK government's ambition of delivering 18GW of interconnector capacity by 2030. NGV has engaged with NGEN and NGET throughout the development of the EuroLink project. In 2017, NGV received a connection agreement from the NGEN to connect to a new substation in the Leiston area. We have assumed that the point of connection will be at the proposed Friston substation, as this benefits from consent.

### Is any additional infrastructure required at the proposed Friston substation to enable EuroLink to connect?

Additional infrastructure may be required at the proposed Friston substation to facilitate the EuroLink project. The additional infrastructure may be delivered through the DCO that EuroLink promotes.

Decisions on changes and upgrades to the National Transmission System (NTS), which the proposed Friston substation will form part of, are made by National Grid Electricity Transmission (NGET) in its role as the Transmission Owner.

NGV remains in dialogue with NGET to understand any changes or upgrades which may be required to the NTS because of NGV's connection agreements.

### Why are alternative brownfield sites elsewhere not being considered for the EuroLink converter station site?

Our initial siting and routing work for EuroLink is based on a connection at the proposed Friston substation, in line with our connection agreement.

For more information on why EuroLink is looking for siting and routing options in this part of East Suffolk, please refer to the question above 'Why East Suffolk?'

NGV is contractually obliged to find a consent-able converter site and cable route for EuroLink which can connect to the location provided by NGEN. Brownfield site locations that are situated outside of the five km search area from the proposed Friston substation have, therefore, not been considered by NGV in the siting and routing work for EuroLink.

For more information, please refer to the following question 'Why is the new converter station intended to be within five km of the proposed Friston substation?'

### Why is the new converter station intended to be within five km of the proposed Friston substation?

NGV has identified possible converter station sites within a five km radius of the proposed Friston substation based upon its experience and industry standard requirements. NGV's approach is to develop economic and efficient cable route in line with its statutory duties, having regard to its environmental obligations.

The most efficient technical solution is to locate the converter station as close to the proposed Friston substation as possible. This reduces the length of the high voltage alternating current (HVAC) cable circuits needed to connect the proposed Friston substation and the converter station. Longer HVAC cable routes result in increased reactive power transmission losses which can require extra equipment in the converter station to compensate these losses. A five km radius reduces the likelihood of needing this extra equipment and therefore limits the land area required for the converter station.

In addition, HVAC cable routes typically require a larger working width than that of HVDC cables. A longer HVAC cable route between the converter station and the substation, therefore, has the potential to impact a larger area. Minimising the distance between the infrastructure helps reduce disruption and the land take required for cable burial.

## Working with other local projects

### How are you working with other energy projects planned in East Suffolk?

In response to stakeholder feedback, NGV's EuroLink and Nautilus projects and NGET's Sea Link project are exploring potential opportunities to coordinate. Concurrent non-statutory public consultations are being held for each of the EuroLink and Sea Link projects from October to December 2022. NGV is currently exploring a possible alternative location for Nautilus. Until a viable, alternative location is confirmed, Nautilus will be included as part of our coordination work.

We understand that plans for energy infrastructure have caused concern in local communities. We hope that by sharing our proposals at the same time people feel better informed about how different parts of the infrastructure could fit together and can share their views on each of the projects, accordingly. Whether people attend a digital or in-person event, we strongly encourage communities to share their views.

### What could coordination look like?

Coordination could range from co-location of infrastructure from different projects on the same site, to coordinating construction activities to reduce potential impacts on local communities and the environment. NGV and NGET are working collaboratively to explore opportunities to co-locate onshore infrastructure for the EuroLink, Nautilus and Sea Link projects, including:

- up to three converter stations on one site
- shared underground cable route corridors
- shared landfall.

These opportunities are explored further under the subheadings below.

**Coordination during construction** – we will explore opportunities to coordinate construction activity between NGV and NGET projects, as well as with other developers in the local area. We aim to minimise the impact of our work on the environment and local communities. Coordination could include, for example, one party undertaking all of the construction works, re-using materials, sharing site compounds and how we invest in communities.

**Offshore infrastructure coordination** – NGV and NGET are exploring the potential for offshore coordination as part of the Offshore Transmission Network Review (OTNR) "Early Opportunities" workstream, with a view to identifying a future Pathfinder Project. \*

*\*Joint statement from North Falls, Five Estuaries and National Grid: Commitment to exploring coordinated network designs in East Anglia - GOV.UK ([www.gov.uk](http://www.gov.uk))*

We welcome feedback from local communities on whether co-location is a preferred option. Further engineering studies and assessments are required to understand if co-location of landfalls and underground cables is possible.

## Siting and routing

### How have we identified the converter station search areas, the landfall location options and the underground cable route search area?

To identify potential locations for the onshore infrastructure, we created a search area for potential converter station sites within five kilometres (km) of the proposed Friston substation. We looked at all the known environmental features in the search area to identify constraints we would want to avoid if possible, such as environmentally designated sites, heritage assets, hydrology features, recreational areas, landscape designations, villages, towns, and existing and known infrastructure.

For potential landfall locations our search area consisted of the coastline between Aldeburgh and Kessingland. EuroLink will connect to Dutch offshore wind and the Netherlands with the offshore cables will travel in a northerly direction. This has enabled us to identify and consider landfall locations further north along the coastline from our connection location.

We identified a broad underground cable route search area between our landfall locations and converter station search areas.

We undertook a further assessment of these locations to evaluate and identify a shortlist of the most suitable converter station search areas and landfall site options. To select the most suitable options, we considered potential impacts on the following:

- Suffolk Coast and Heath AONB and Heritage Coast
- Public rights of way, byways and cycle routes
- Residential properties, existing infrastructure and future developments
- Local heritage and archaeological assets
- Ecologically designated sites and sensitive features
- Consideration of areas of flood risk
- National and Local Development Plan policies
- Shipping and vessel activity
- Commercial fishing and recreational usage
- Marine archaeology

Alongside the feedback from this consultation, we will undertake further assessment and survey work over the coming months to help refine our onshore siting and routing options.

## Cable installation

### How will the cables be buried offshore and onshore?

There are several methods of burying cables on and offshore. This will depend on several factors, including geography of the areas, and more details will be provided once our proposals have been further refined.

## Landfall

### Will there be any visible equipment at the landfall site?

Landfall is where the subsea cables are brought onto the land and are connected to the onshore cables. As all the cables will be buried underground at the landfall site, there will be little visible once works are completed, although there may be some relatively small-scale equipment visible above ground. A kiosk-type structure (like a telephone exchange) may be required at the landfall location to boost the signal for the subsea fibre optic communication system. It is too early to confirm if this would be required at this stage.

Cable joint bays will need to be made at sections along the route during installation. Cable joint bays will be buried for the cables and will likely require a manhole cover for operations and maintenance access, these manhole covers may require fencing. The manhole covers would be visible above ground.



## Converter station site

### How big is the converter station site for EuroLink and what will it look like?

The design for the proposed converter station site has not yet been developed. The final design of the converter station site will be influenced by a thorough consultation process with the local community and other stakeholders, as well as thorough collaboration with the supply chain.

Early design works suggest that the footprint of the converter station site will cover an area of five hectares (12 acres), with an additional two hectares for the construction service areas. This includes space for the main converter station building, which is likely to be up to 26m tall.

NGV will design its project to these parameters and its environmental assessment will be based on a worst-case scenario. NGV will keep the design of the infrastructure under review as the project progresses.

## Environment

### How will the impact on the environment be considered?

NGV will be undertaking an Environmental Impact Assessment (EIA) process to ensure that matters relating to the environment are considered when developing the proposals for EuroLink.

An EIA is a legal requirement for some developments and is strictly regulated. A wide range of environmental subjects will be taken into consideration as part of this process. These will be decided at the EIA scoping stage to determine and agree the extent of issues to be considered in the assessment. The results of the initial assessments will be consulted on in a Preliminary Environmental Information Report (PEIR), before being refined and submitted in an Environmental Statement (ES) which will form part of the eventual DCO application.

The DCO application will also be subject to a habitats regulation assessment (HRA). The HRA is the Secretary of State's responsibility but we will prepare a report to inform that HRA.

## Economic benefits

### What economic benefits will EuroLink deliver to the area?

Although we do not currently have detailed jobs and employment numbers, EuroLink will deliver direct and indirect employment opportunities to the area through its construction and operation phases. As part of our EIA process, we will be undertaking a full socio-economic impact assessment for EuroLink.

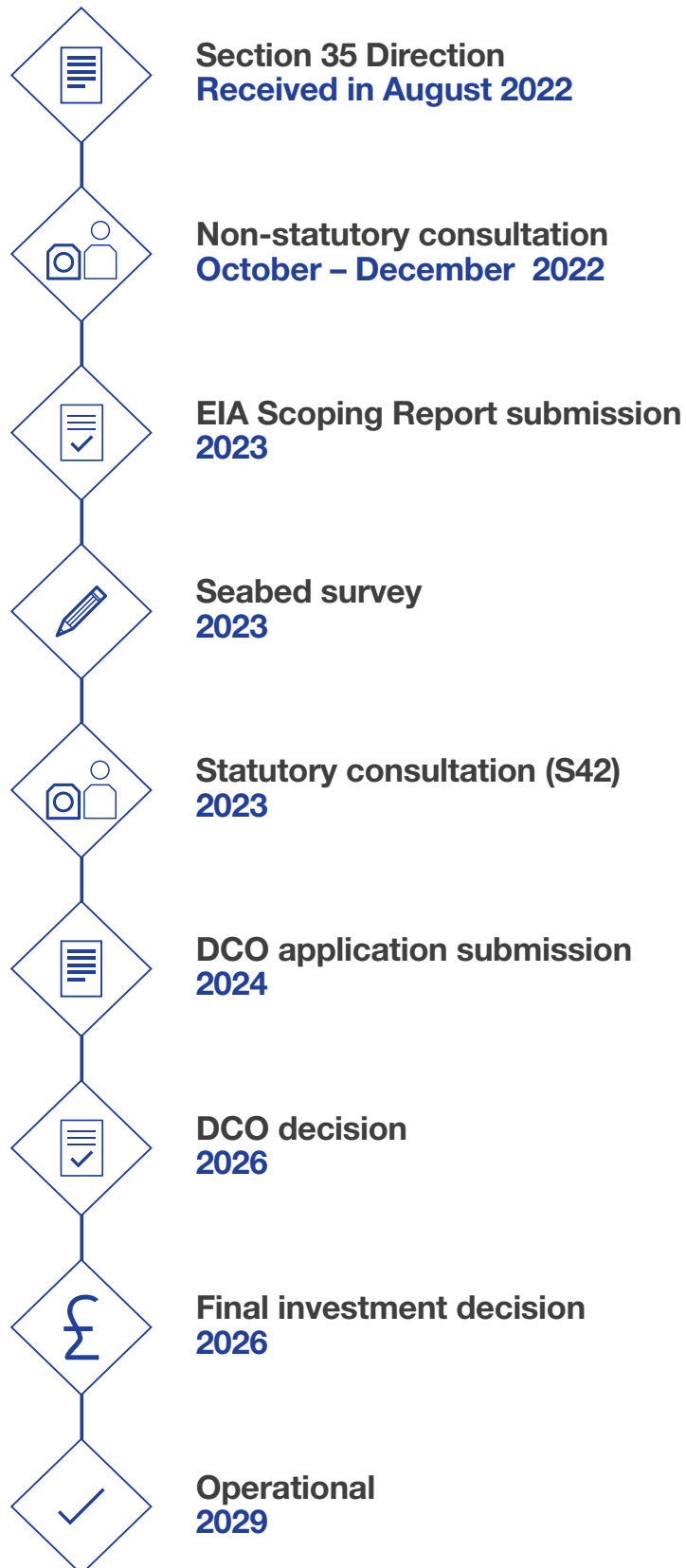
## Nautilus project

### What is the latest update on the Nautilus project?

NGV holds a connection agreement on the Isle of Grain as part of its development portfolio. We are investigating the potential to relocate the Nautilus MPI project to the Isle of Grain. There are several technical challenges that must be overcome before we can determine if it is a viable option. In the interim, we will continue to explore opportunities for coordination with other developers and projects in East Suffolk. We will provide a further update on our Nautilus proposals in 2023.

## Project timeframe

What is the project timeline?



# Contact us

**Please do not hesitate to get in touch if you would like to find out more information about the project and consultation.**

You can also request hard copies of all the project materials, including the feedback form and a freepost envelope, via the contact details below.



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For more information about EuroLink Interconnector please visit:

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