



Nautilus Interconnector

Proposed by National Grid Ventures

April 2021

nationalgrid

Introducing Nautilus Interconnector

At National Grid Ventures (NGV), we are bringing forward plans for Nautilus, a new interconnector in East Suffolk that could supply enough electricity to power around 1.4 million UK homes.

Nautilus could connect 1.4 gigawatts (GW) of offshore wind to the transmission systems of Great Britain and Belgium through a sub-sea electricity cable called an interconnector. The project would include underground cabling works and onshore infrastructure, which would be located in East Suffolk.

We are also bringing forward proposals for a second interconnector in East Suffolk, currently known as EuroLink. Both projects are early in their respective feasibility stages, and EuroLink is currently less advanced than Nautilus. You can read more about EuroLink on Page 11.

This Project Update has been produced to provide you with the latest information on Nautilus Interconnector, and to let you know what we have planned for 2021.

National Grid Ventures (NGV)

Proposals for Nautilus are being developed by NGV and our respective joint venture partner in Belgium, Elia.

NGV is the competitive division of National Grid. It 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.

There are three distinct business entities under the umbrella of National Grid plc in the UK, as detailed in the diagram below, all with different roles and responsibilities. The separation between NGV and National Grid Electricity Transmission (NGET) stipulates that NGV is treated the same way as any other energy project promoter.

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Group PLC

Electricity Transmission

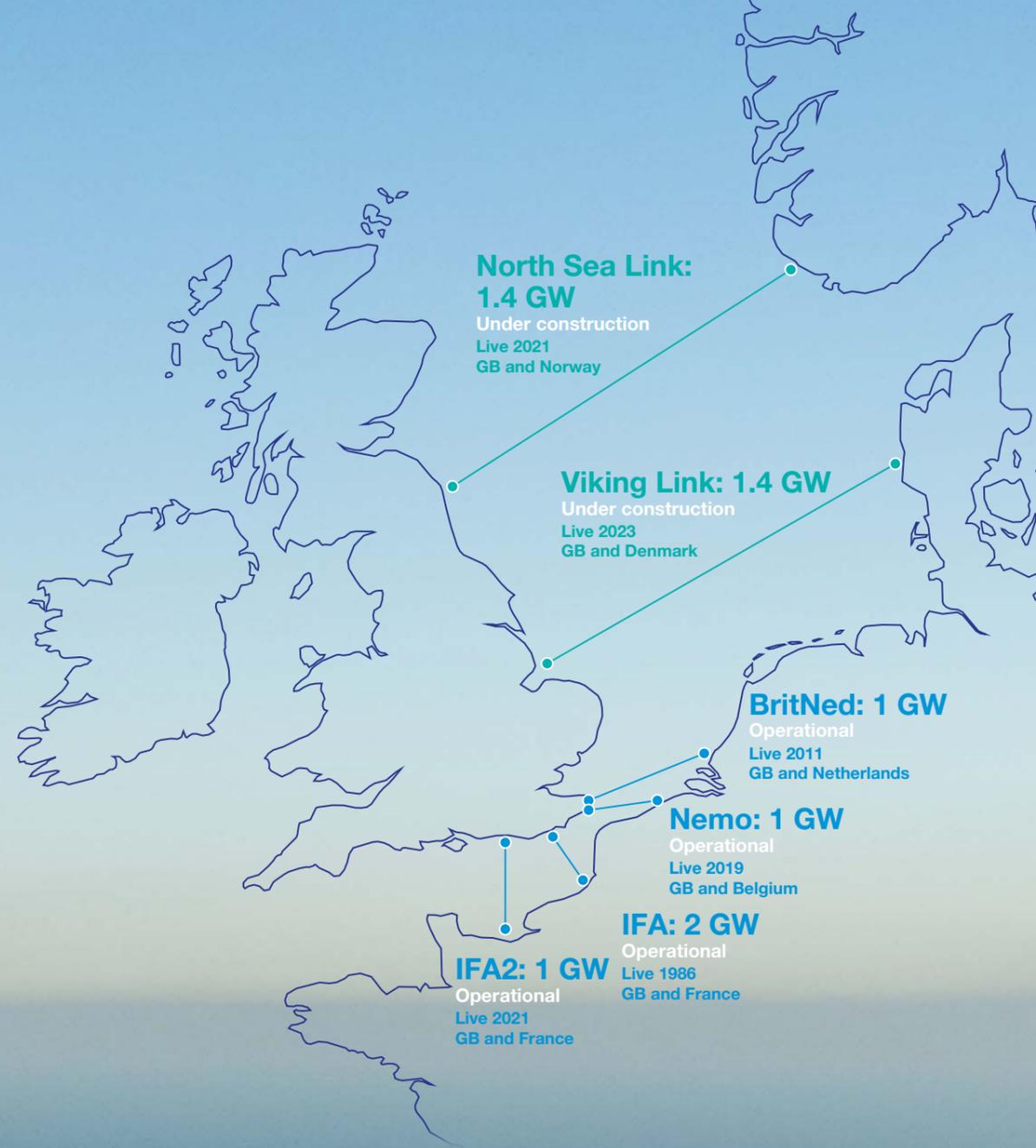
Owns and manages the high voltage electricity transmission system in England and Wales.

Electricity System Operator

Ensures that Great Britain has the essential energy it needs by making sure supply meets demand every second of every day.

National Grid Ventures

Operates a mix of energy assets and businesses to help accelerate the development of our clean energy future (eg, undersea electricity interconnectors with other countries and European transmission partners).



9.8 GW

interconnector capacity already operational or under construction in the UK, of which 7.8 GW is jointly owned by National Grid.

Connecting for a cleaner future

Electricity interconnectors are the perfect tool to deliver a cleaner, more secure and affordable energy system for consumers. By 2030 around 90% of electricity imported to Great Britain will be from zero-carbon sources. Interconnectors are helping to create a smarter energy system by transporting low carbon electricity from where it is produced, to where it is consumed.

Sub-sea cables, sharing energy between the UK and Europe, have helped to lower electricity prices, increase the security of supply and stabilise energy in the GB transmission network.

Connecting to other energy systems reduces the need to build new infrastructure and is a quick way to access affordable, low carbon electricity, while offering a market to export excess renewable energy generated in the UK.

The UK Government recognises the value of interconnectors in keeping supplies secure, reducing costs to consumers, and providing long-term sustainability. There is also a clear benefit to the UK economy in terms of skilled jobs, investment in clean energy and the ability to export electricity in support of economic growth.

Nautilus will:



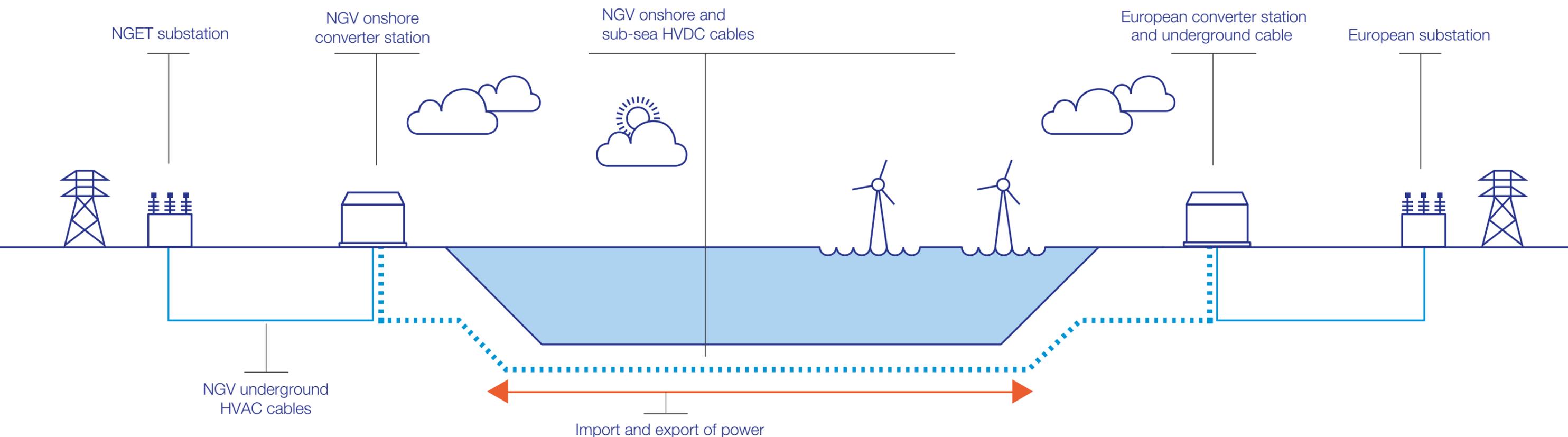
Help to increase efficiency across Europe and reduce reliance upon oil and gas imports by providing 1.4 GW of flexible capacity between the GB and Belgian networks.



Increase security of supply by ensuring energy flows between Britain and Belgium from where it is being generated in large quantities to where it is needed most.



Provide access to more affordable energy for UK consumers.



The next generation of interconnectors

Building on our experience as one of the World's leading developers of sub-sea interconnectors, we have been working closely with our partners, Elia, to develop a vision for Multi-Purpose Interconnectors (MPI), the next generation of interconnector technology.

Listening and responding to the local community

In 2019, we commenced engagement with local councils, parish and town councils and community groups across East Suffolk. It was clear that there is a strong desire for increased coordination and cooperation between energy developers in the region. We have listened to this feedback, and as a result, we are developing our vision for a new generation of interconnectors – the MPI solution.

We heard how host communities are supportive of renewable energy and combatting climate change, but the current approach is not working for them or their local environment. Our vision for the MPI solution seeks to address this by supporting the delivery of offshore wind whilst reducing the impact on coastal communities.



The vision for Multi-Purpose Interconnectors

Instead of individual wind farms connecting one by one to the onshore network, MPIs would allow offshore wind farms to be connected offshore through the MPI.

At present, offshore wind and interconnectors operate alongside each other. MPIs will enable offshore wind and interconnection to work together. This will help to:

- Support the UK's ambition to meet 2030 and 2050 climate targets.
- Reduce impacts on coastal communities with fewer individual connections and less construction works needed.
- Provide significant cost reductions and minimise environmental impacts by using shared assets and clusters of connections.
- Combine the delivery of low carbon energy created in the North Sea by offshore wind and other technologies in Europe.
- Make greater use of the cables and buildings required to connect renewable electricity, reducing the impact on our environment – both onshore and offshore.

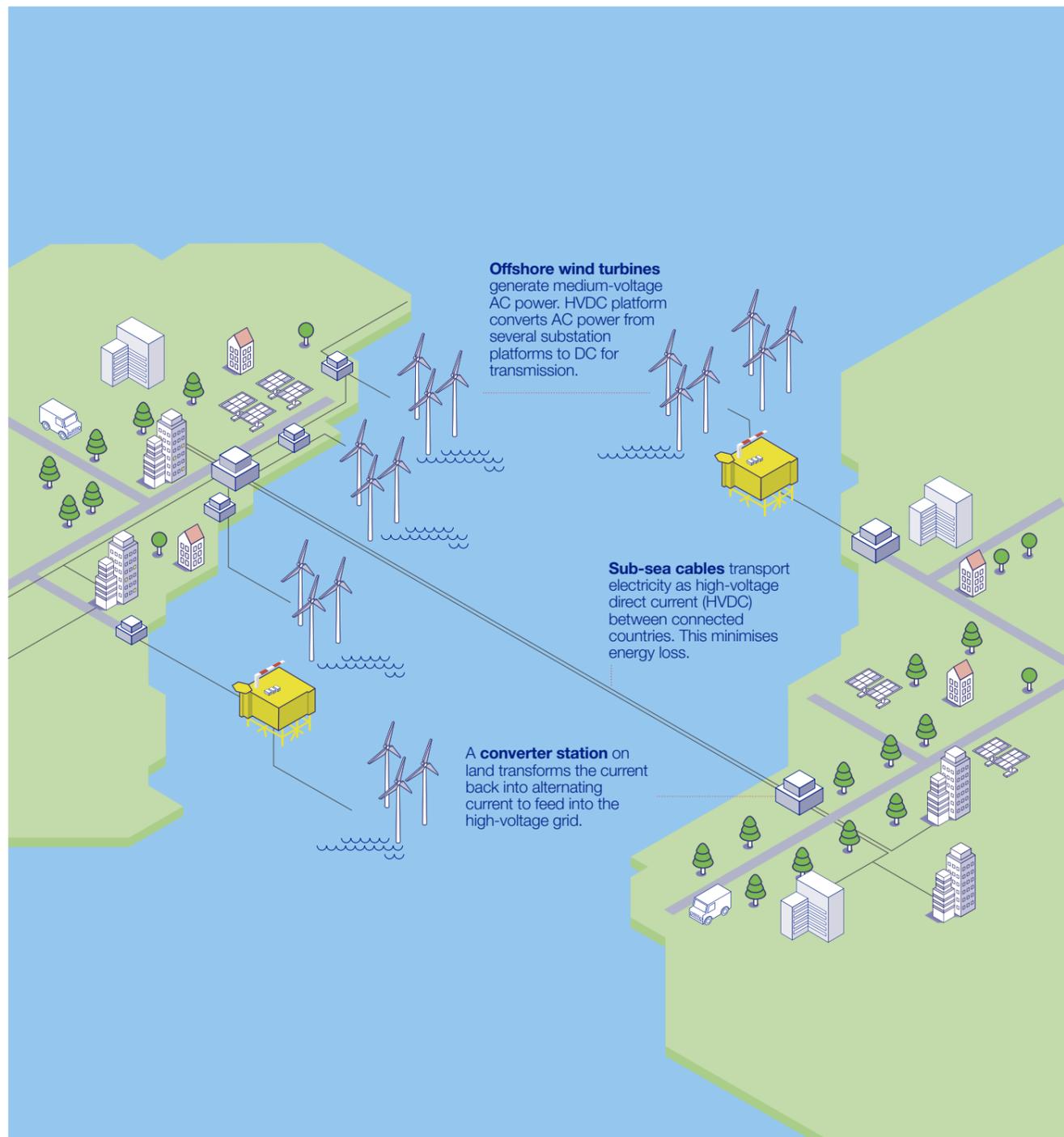
To make this become a reality, above all, we need to take a coordinated approach, ensuring all stakeholders collaborate. This includes:

- Working with the UK government and Ofgem as part of the Offshore Transmission Network Review (OTNR) to influence emerging policy on MPIs.
- Support and input from the offshore wind and interconnector community.
- Support and input from High-Voltage Direct Current (HVDC) technology providers and the total supply chain.

Read more about how MPIs could help Great Britain unlock the potential of offshore wind by visiting nationalgrid.com/mpi

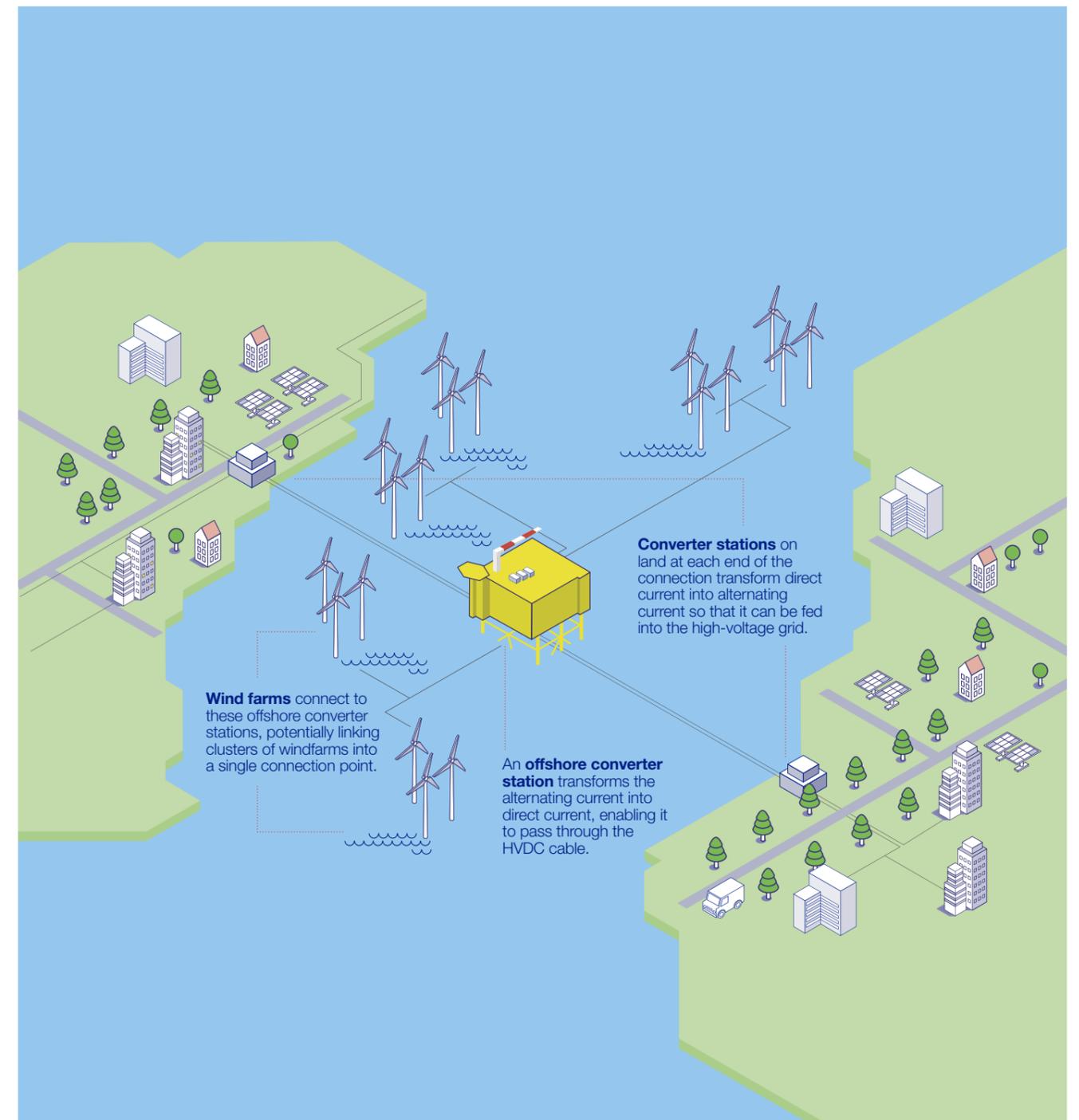
Today: offshore wind and interconnectors connect separately

At present, offshore wind and interconnectors operate alongside each other.



Tomorrow: offshore wind and interconnectors in harmony

In the future, MPIs could enable offshore wind and interconnection to work together as a combined asset.



About the projects

Nautilus Interconnector

Nautilus will transport clean energy under the North Sea to East Suffolk via high voltage sub-sea cables. These will come ashore at a point known as 'landfall' and be buried underground before connecting into an onshore converter station and then, via a NGET substation, to the National Transmission System.

Options for the underground onshore cable route, landfall and converter station on the East Suffolk Coast are currently being assessed for feasibility. The siting and routing options which will come out of this process will be shared publicly as part of the non-statutory consultation planned for late summer 2021.

Nautilus is currently at an early stage of its development. Should the project be progressed, a rigorous Environmental Impact Assessment (EIA) and pre-application consultation process will take place and a final application for a Development Consent Order (DCO) could be submitted in 2023. Should consent be granted, a Final Investment Decision is planned for 2024/25. Following this, construction would commence, and the project could be operational by 2028.

Why was East Suffolk chosen?

We applied for connection points for Nautilus and EuroLink to National Grid ESO. National Grid ESO then undertook an appraisals process to identify a point of connection on its network for each application, which included an assessment of environmental, technical and cost factors.

As a result of this process, they have provided grid connection offers (for both Nautilus and EuroLink) to a new 400 kilovolts (kV) substation located close to the Sizewell 400kV network, provisionally referred to as 'Leiston 400kV'.

Our connection offer refers to an area rather than an exact location, and we are currently assessing options available in the Leiston area in line with these connection agreements. However, our working basis continues to be that, given the advanced nature of the proposals, this substation could be the proposed NGET substation in Friston which SPR is currently seeking consent for – through its DCO applications for the East Anglia One North and East Anglia Two offshore windfarms.

As part of ongoing feasibility work, we are also considering scenarios whereby the NGET substation is not approved through SPR's applications.

EuroLink

We are also bringing forward proposals for another interconnector, currently known as EuroLink, to provide a connection between Great Britain and the Netherlands that could provide enough electricity to supply around 1.4 to 1.8 million UK homes.

If built, EuroLink could unlock 1.4 to 1.8 GW of offshore wind and connect this to the transmission systems of Great Britain and the Netherlands through a HVDC electricity link. EuroLink is currently less mature than Nautilus but would also provide electricity by transporting it under the North Sea via high voltage sub-sea cables.

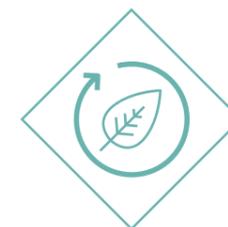
As with Nautilus, these will come ashore at a point known as 'landfall' and buried underground before connecting into an onshore converter station and then via a NGET substation, to the National Transmission System. This project will also be subject to the same rigorous EIA and pre-application consultation process as Nautilus.



Enough energy to power
1.4 million homes



1.4 gigawatts (GW)
of secure, sustainable
energy for consumers



More interconnectors help
the transition to a **zero
carbon future**, by
providing energy systems
with access to renewable
energy

What we've done so far



Engagement

- During 2019 and 2020, the project team met with local authorities, parish and town councils, community groups and technical stakeholders to introduce the projects.
- We have been working with the Department for Business, Energy and Industrial Strategy (BEIS) and the industry regulator, Ofgem, to provide our expertise into the emerging policy framework surrounding coordinated solutions for offshore transmission. This includes our membership on the working group for the Offshore Transmission Network Review.
- We have continued to meet regularly with other developers and the Local Planning Authorities (LPAs), individually and collectively.



Developing our siting and routeing options

- We began with a desk-based initial site appraisal, which was shared in our Briefing Pack (July 2019).
- We have since been undertaking feasibility assessments on siting and routeing options and have continued to engage with technical stakeholders and LPAs to seek their feedback on our methodologies.
- We will present the results and options at our non-statutory consultation stage later this year.



Engaging in ongoing ScottishPower Renewables and EDF Examinations

- We have been actively engaging in the ongoing Examinations for the East Anglia ONE North and East Anglia Two Offshore Wind Farms, including responding to requests to attend hearings or to answer written questions.
- We have also registered as an Interested Party for the upcoming Sizewell C Examination.



What's next on Nautilus Interconnector

As the most advanced of the two interconnector projects, we will be undertaking a series of activities in 2021 to continue to develop our understanding of the area and to progress our siting and routeing options for Nautilus.

Continued engagement

In the first part of 2021 we have been meeting with local representatives and parish and town councils to provide them with an update on the project and to inform them of our plans for 2021. Our work engaging with other developers in the area, LPAs, statutory nature and conservation organisations, BEIS and Ofgem will also continue throughout 2021 and beyond.

Surveys and assessments

As part of our EIA process, we have begun undertaking bird surveys across a range of areas within our search area for siting and routeing, which began in spring 2021. Land agents appointed by the project are currently in the process of making contact with landowners and their representatives to agree such access for surveys where they affect any private land.

Further desk-based surveys and technical assessment continues to inform the options which will be presented at our non-statutory consultation in late summer 2021. We are also progressing feasibility assessments of the project in the marine environment.

Non-statutory consultation

We are committed to including the community in the development process as early as possible. With this in mind, we intend to hold a non-statutory community consultation in the late summer. We will present options for the converter station site, landfall location and cable routeing options which have been identified through our siting and routeing work. We will present these to community members to seek their feedback on our work to date, as well as their broader knowledge of the area, for us to consider as we progress our proposals.

We are hopeful that this will feature face-to-face events, but we also have digital solutions available to use. Whatever the social distancing guidelines, we will ensure that everyone can engage as effectively and safely as possible.

Alongside our technical and environmental assessments, this consultation feedback will be used to inform the feasibility of our options and inform our early project development process.

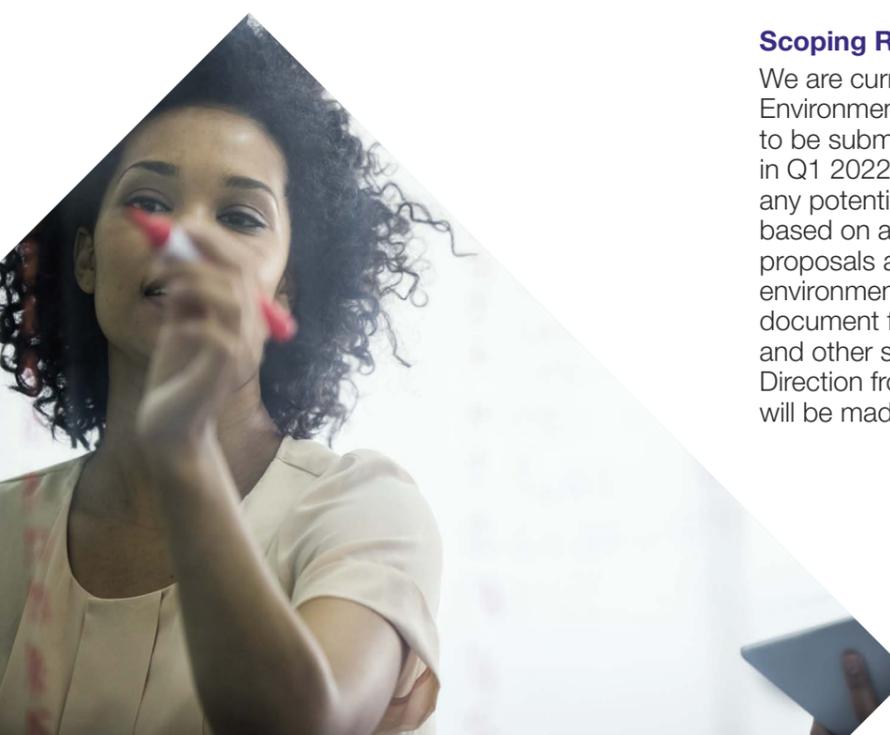
Scoping Report

We are currently working towards producing an Environmental Impact Assessment Scoping Report to be submitted to the Planning Inspectorate (PINS) in Q1 2022. This will present how we will assess any potential impacts to the existing environment based on a detailed description of the development proposals and an initial understanding of the baseline environmental context. The feedback received on this document from the LPAs, parish and town councils and other statutory consultees will result in a Scoping Direction from the Secretary of State for BEIS, which will be made publicly available.

Indicative timeline*



*Please note, all dates are indicative and subject to change.



Contact us

Please don't hesitate to get in touch if you would like to find out more information about Nautilus Interconnector.

You can contact a member of our Community Relations Team to find out more by using the details below.



Write to us at:

Freepost Nautilus Interconnector



Email us at:

info@nautilusinterconnector.com



Call our Freephone information line:

08081 699 822



For more information about our interconnectors please visit:

nationalgrid.com/interconnectors
nationalgridcleanenergy.com

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