

Nautilus Interconnector

Briefing Pack

July 2019

Introduction

Nautilus Interconnector is a proposed second Interconnector between Great Britain and Belgium, including cabling works and a converter station situated in East Suffolk.

When built, it will create a new 1.4 gigawatts (GW) high voltage direct current (HVDC) electricity link between the transmission systems of Great Britain and Belgium.

This will carry enough electricity to supply around 1.4 million homes.

Who we are

Proposals for Nautilus Interconnector (Nautilus) are being developed by National Grid Interconnector Holdings (NGIH) and joint venture partner Elia.

NGIH is a wholly owned subsidiary of National Grid Group and is legally separate from National Grid Electricity Transmission Plc (NGET). Elia is Belgium's transmission system operator, operating the high voltage electricity network in Belgium¹. It also is a key player in the energy market and the interconnected electricity system.

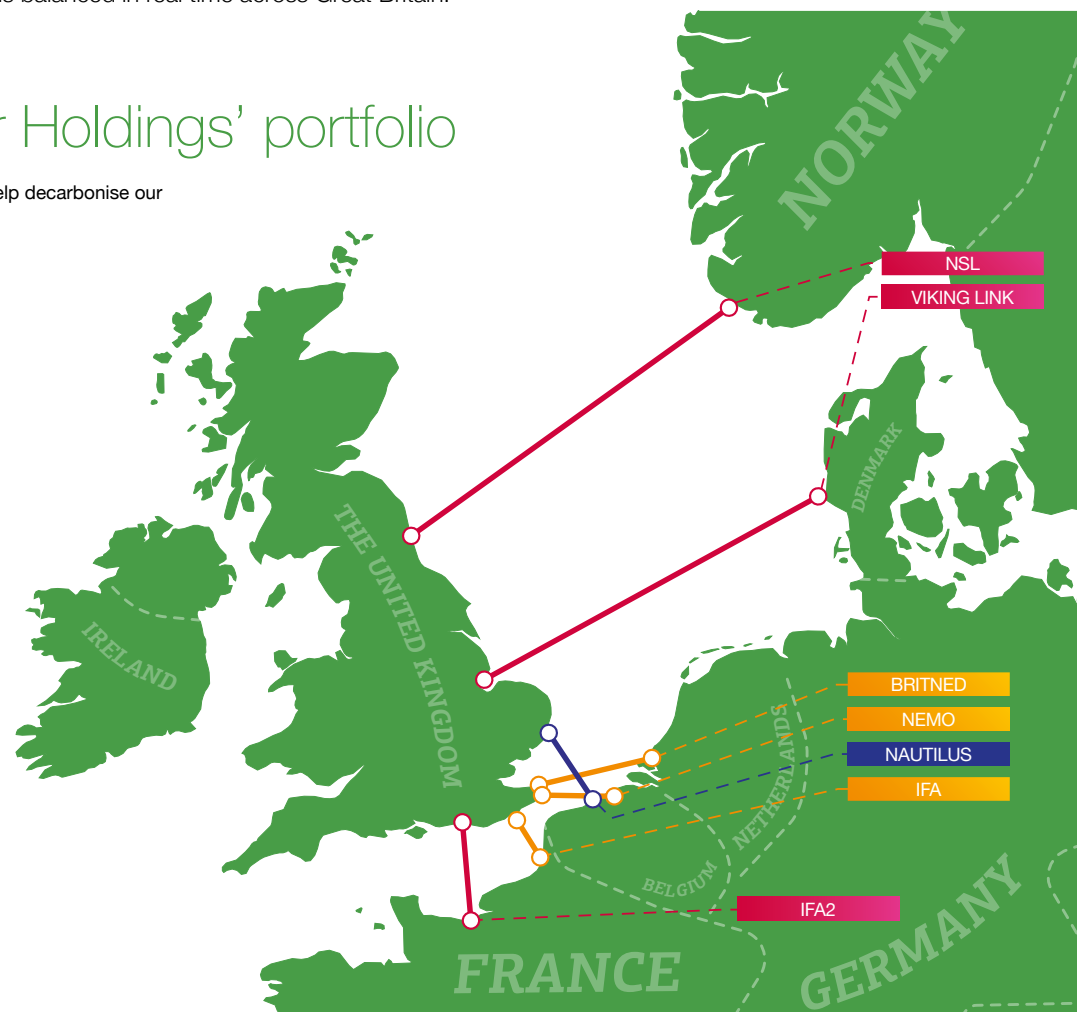
NGET is responsible for ensuring electricity is transported safely and efficiently from where it is produced; reaching homes and businesses safely, reliably and efficiently. National Grid is also the Systems Operator. The Electricity Systems Operator (ESO) now operates as a separate company within National Grid effective from 1 April 2019. It is responsible for making sure supply and demand of electricity is balanced in real time across Great Britain.

National Grid Interconnector Holdings' portfolio

Interconnectors are the perfect tool to help decarbonise our energy system.

- Operational
- Under construction
- Under development

Project:	Go-live date:
IFA	1986
BritNed	2011
Nemo	2019
IFA2	2020
NSL	2021
Viking Link	2023
Nautilus	2028



¹ Elia System Operator is listed on Euronext Brussels and is part of the BEL Mid-index. Its core shareholder is Publi-T. Elia System Operator has been listed on the regulated market of Euronext Brussels, since June 2005.

Connecting for a cleaner future

Interconnectors are making energy more secure, affordable and sustainable for consumers.

These projects have helped to lower electricity prices, increase the security of supply and stabilise energy in the Great Britain transmission network.

Interconnectors are the perfect tool to help decarbonise our energy system. So far this year it is estimated that almost 65% of electricity coming into Britain through National Grid's Interconnectors comes from zero carbon sources. It is expected that this figure will reach 90% by 2030.

They also help to strengthen security of supply, by providing access to a much larger and more diverse mix of generation.

Reducing our reliance on energy from fossil fuels

The transition to a low-carbon energy system is necessary to avoid the catastrophic effects of climate change.

The UK's climate change ambitions are among the highest in Europe. To achieve these goals, the UK needs to improve cross-border electricity Interconnections so that reliable, sustainable energy can be imported to the British energy network at times when UK renewable energy generation is limited.

Connecting the UK with Europe's electricity systems will allow the UK to boost its security of electricity supply and to integrate more renewables into energy markets.

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 British and Belgian networks.

Keeping the lights on in low-carbon Britain

Renewable sources of generation are crucial to helping the UK achieve its legally binding climate change targets, but they also provide challenges for managing the complexity of the future electricity system.

This, along with other Interconnectors will give UK system operators the critical tools they need to balance rapid changes in supply and demand – helping to smooth hourly variations in production from wind and solar farms in the UK.

Nautilus will 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.

Providing access to affordable energy for consumers

Interconnectors make the market more economically efficient, by ensuring everyone has access to the lowest priced electricity available.

Nautilus will provide access to 1.4 GW of electricity so that when the market is tight in the UK, but there is surplus wind or sun in Belgium, it is possible to import power from these less expensive generation resources.

As more Interconnectors help to bring down wholesale prices, consumers will benefit from lower bills.

Nautilus will provide access to more affordable energy for British consumers.



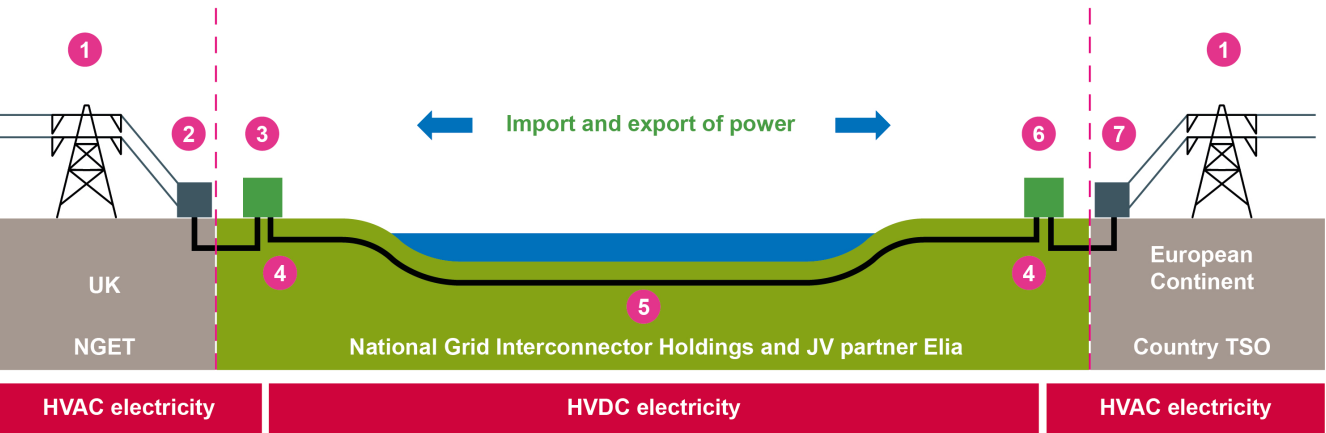
Nautilus Interconnector

National Grid Interconnector Holdings is proposing to develop Nautilus, a second Interconnector between Belgium and Great Britain, to provide a 1.4 GW HVDC electricity link between the two countries.

Electricity provided by Nautilus will be transported under the North Sea via underground subsea cables which will be buried onshore at a point known as ‘landfall’ before connecting into an onshore converter station and the national grid. Potential high level cable route options and various landfalls along the East Suffolk Coast are currently being assessed for Nautilus.

In order to connect Nautilus to the national grid, discussions have been ongoing with National Grid Electricity Transmission (NGET) and the System Operator. From this, NGET have provided a Connection Agreement to use a new 400 kilovolts (kV) substation provisionally referred to as “Leiston 400kV substation”. This is the same substation that Scottish Power Renewables (SPR) offshore windfarms East Anglia 1N and 2 are proposed to be linked to. NGIH, SPR and NGET are currently working on the premise that all projects will be connecting to the same substation – “Leiston 400kV substation”.

Nautilus is currently at a very early stage of its development. Should consent be granted, a Final Investment Decision is planned for 2024. Following this, construction will commence, and the project could be operational by 2028.



HVAC = High Voltage Alternating Current HVDC = High Voltage Direct Current TSO = Transmission System Operator

- 1. Existing network
- 2. NGET onshore substation
- 3. National Grid Interconnectors onshore converter station
- 4. Underground HVAC/HVDC cables
- 5. Subsea HVDC cables
- 6. Elia onshore converter station
- 7. Belgian transmission network substation

Key benefits



Enough power for 1.4 million homes



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



More Interconnectors help the transition to a zero carbon future

Design

The design for the converter station has not yet been developed. A typical operational footprint for a converter station covers an area of five hectares (12 acres) with a maximum height of 24 metres. The exact size and height will depend upon the specific proposals for mitigation and construction.

The business is constantly challenging its supply chain to bring down the size of converters. The final design of the converter station will be developed through a thorough consultation process with stakeholders and the local community, as well as through collaboration with the supply chain.

The development process

For the purposes of the development process, Nautilus has been classified as a Nationally Significant Infrastructure Project (NSIP) in the UK and a Project of Common Interest (PCI) in Europe.

NSIP classification

Confirmation has been received from the Secretary of State for Business, Energy and Industrial Strategy (BEIS) that Nautilus will be treated as an NSIP and as development requiring a Development Consent Order (DCO). This means that the final decision-maker for the project will be the Secretary of State.

The DCO regime requires a robust Environmental Impact Assessment and consultation process prior to any application being submitted. The DCO consent process will provide a single, unified consenting process with clear and fixed timescales.

It is anticipated that a DCO application will be submitted in 2022. Prior to this a series of public and statutory consultations will be undertaken for Nautilus. Once the Planning Inspectorate have received the DCO application, they will consider whether to accept it for Examination. To be accepted, PINS will need to be satisfied that the pre-application consultation, both with statutory consultees (such as the local planning authorities and Natural England) and local communities, has been undertaken.

To help demonstrate this to the Planning Inspectorate, a Consultation Report will be submitted alongside the DCO application, outlining how the consultation process has been carried out in accordance with the Planning Act 2008. This report will contain details of the consultation methodology and the feedback submitted in response to the consultation. Explanations will also be provided as to how feedback has influenced the proposals.

If the application is accepted, it will enter a six-month Examination period. During the Examination, either a single inspector, or a panel of inspectors appointed by the Planning Inspectorate, will evaluate the application and ask questions of the applicant and of statutory consultees. The inspector(s) will also consider the representations of all stakeholders who have made valid representations.

Following the Planning Inspectorate's Examination, there will be a determination of the application by the Secretary of State. If the application is approved, the DCO will be granted and given authorisation to begin construction and operation of Nautilus.

What is a Project of Common Interest (PCI)?

PCIs are key cross border infrastructure projects that link the energy systems of countries in Europe. They are intended to help Europe achieve its energy and climate objectives: affordable, secure and sustainable energy for all citizens. In the long-term, PCIs are also aimed at realising the decarbonisation of the economy in accordance with the Paris Agreement signed by the UK, which aims to achieve climate neutrality by the end of the century.

In the case of Nautilus Interconnector, the project has been identified as a PCI due to its significant impact on the energy market and market integration between the UK and Belgium. The project will boost competition in the energy market, achieve energy security from a more diverse supply and contribute to our climate and energy goals. The selection process for PCI projects is determined by the Trans-European Networks for Energy (TEN-E) Regulation, which will be complied with throughout the development process for Nautilus.

Environmental Impact Assessment process

In parallel to the public consultation we will be undertaking extensive environmental surveys and studies and consulting with a range of statutory stakeholders.

Scoping Report

A Scoping Report will be submitted to the Planning Inspectorate. This will present the development proposals and will describe how we will assess any potential impacts to the existing environment. The feedback received on this document from the local planning authorities and statutory consultees will result in a Scoping Opinion from the Planning Inspectorate, which will be made publicly available.

Preliminary Environmental Information Report (PEIR)

The PEIR will build upon the findings from the earlier scoping documents, as well as the feedback received through consultation. It will incorporate the findings of the surveys and environmental assessments that have been carried out. This will enable consultees to develop an informed view of the potential impacts Nautilus may have on the local environment.

Environmental Statement (ES)

The ES will advance the content of the PEIR and will incorporate the responses from the consultation and results of the surveys undertaken. It will also describe any changes to the project and any mitigation measures proposed to be implemented. The ES will form part of the DCO application for submission.

Copies of these reports will be made available during the public consultation. Options and ideas will be presented to consultees and environmental authorities as the proposals develop to understand the best approach chosen for the final proposals.

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:

www.nationalgrid.com/interconnectors

www.nationalgridcleanenergy.com