LionLink

Frequently asked questions

August 2024

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About LionLink

Q1. What is LionLink

LionLink is a new subsea electricity cable (known as an interconnector) proposed to run between Great Britain and the Netherlands. The project is being developed by National Grid Ventures (NGV).

LionLink will play an important role in reducing the UK's reliance on fossil fuels and supporting the UK government's objectives to create a secure, reliable, and affordable energy supply for UK households.

Q2. Why is LionLink needed?

Now more than ever we need more renewable energy to make energy cleaner, more affordable, and more secure. The North Sea offers an incredible opportunity for the UK and our European neighbours to deliver huge increases in offshore wind. But delivering new offshore wind will require more infrastructure, which will have an impact on communities.

LionLink will deliver a range of national benefits, including:

- The opportunity to supply up to 1.8 gigawatts (GW) of electricity – enough to power approximately 2.5 million homes
- Delivering increased interconnector capacity by 2030 towards Government targets, including the target of 18GW of interconnector capacity by 2030
- Strengthening our national energy security
- Supporting the UK and Europe's climate and energy goals
- Expected savings to UK consumers of almost £300 million in its first ten years of operation
- Providing clean, green, renewable, energy – the carbon savings of its first year is equivalent to taking nearly 600,000 cars off the road.
- Boosting competition in the energy market and improving the affordability of energy

Q3. Why does LionLink have to be in East Suffolk?

We applied for a connection point for LionLink to the **National Grid ESO** (NGESO). The NGESO conducted an appraisal process, which involved discussions with us as the applicant, to determine the best point of connection on their network. The appraisal included an evaluation of environmental, technical, and cost factors, and it was concluded that East Suffolk was the most suitable point of connection.

In 2017, we received a connection agreement from the NGESO to link to a new substation in the Leiston area. Our assumption is that LionLink will connect to the new Friston substation set to be developed by ScottishPower Renewables.

Q4. Why are alternative brownfield sites, not being considered for the LionLink converter station site?

There are no suitable brownfield sites near Leiston where our connection agreement was granted. The proposed Friston substation enables onshore coordination with other projects. Delivering coordination has been a key theme from our feedback to date.

On a Bradwell connection

Several factors weigh against LionLink connecting at Bradwell, Essex. These include significant loss of marine habitat due to the required cable crossings within European designated sites, which would require significant scouring of the seabed to ensure the security of the cables. Connecting Bradwell to other areas of the transmission network would also require substantial grid reinforcement including the provision of new overhead lines.

On a Sizewell C connection

There are significant technical challenges with co-locating infrastructure around Sizewell C due to the operational requirements of nuclear facilities and environmental protection areas.

Q5. Where will the energy be distributed once in the grid?

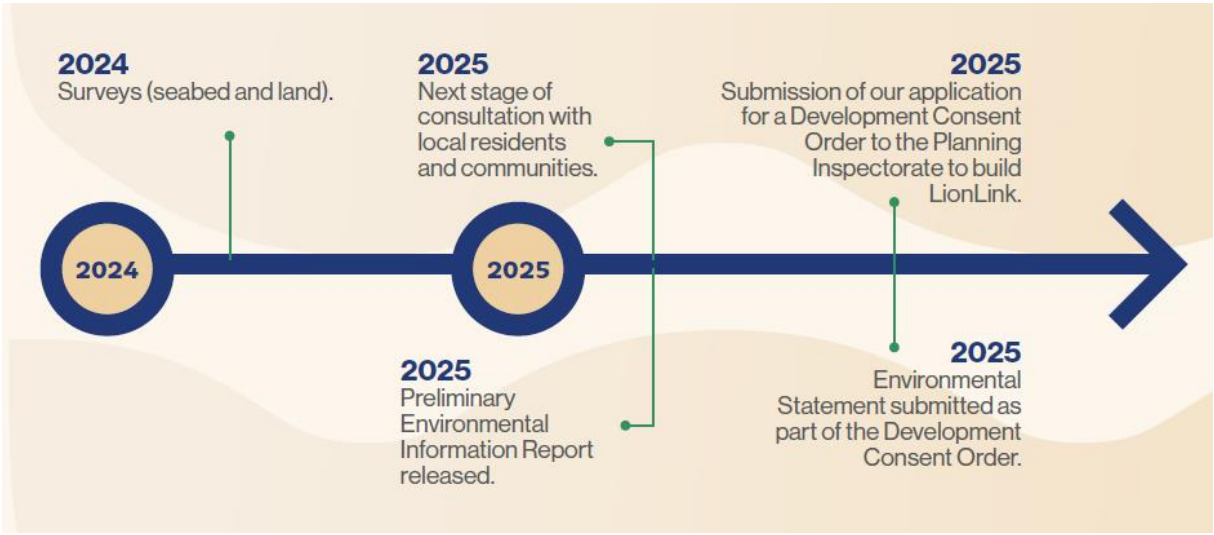
Like all other energy sources in the UK, the energy brought to the UK via LionLink will be distributed across the UK by the national grid. The purpose of this project is to bolster the security of Great Britain's energy supply rather than specific areas.

Q6. Could you build all the necessary infrastructure offshore as part of an 'offshore grid'?

LionLink is an essential part of the transition to putting more infrastructure offshore and bringing offshore energy sources into the Grid. LionLink will run between the UK and the Netherlands via the Nederweik 3 platform in the North Sea.

84% of LionLink's UK cable is offshore. Currently, there is no fully offshore solution to connecting offshore wind and/or interconnectors to the electricity grid. Putting infrastructure offshore does not remove the need for infrastructure onshore. Energy generated or transmitted offshore needs to be connected to the onshore national grid to provide the electricity needed to power UK homes and businesses.

Q7. What is the project timeline?

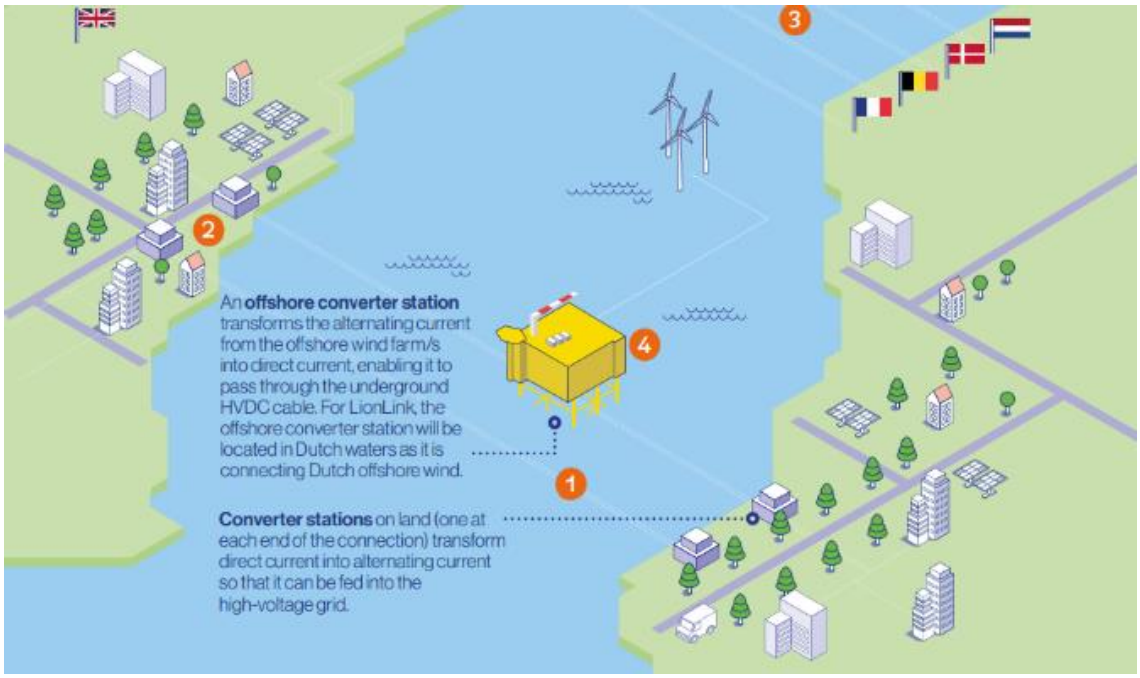


Q8. What is the lifespan of the project when operational?

The anticipated lifespan of the project is about 40 years. NGV's first interconnector, IFA, opened in 1986 and is still transmitting c. 2GW of energy between the UK and France.

Interconnectors overview

Q1. What is the lifespan of the project when operational?



LionLink is a proposed Offshore Hybrid Asset (OHA). OHAs are subsea electricity cables that connect the UK's electricity system to those of neighbouring countries and also connect offshore power generators – such as wind farms – to the shore. At the moment, offshore wind farms and interconnectors operate separately and connect to the shore individually. In the future, OHAs could enable offshore wind and interconnectors to work together, helping the UK to achieve its net zero target by integrating more renewable energy onto the network.

Q2. Why do we need interconnectors? What benefit do they deliver?

Interconnectors are making energy more secure, affordable, and sustainable for consumers. NGV currently has six interconnectors in operation, enabling the flow of energy between Great Britain and partners in Belgium, Denmark, France, Netherlands and Norway. The development of more interconnectors will:

- Promote more affordable energy by providing access to the lowest priced energy

- Increase security of supply by providing access to a more diverse pool of clean energy generation, as well as ensuring that the energy flows from where it's being generated to where it's needed most
- Achieve the UK's climate targets of 50 gigawatts (GW) of offshore wind by 2030 and net zero by 2050
- Support the transition to a cleaner energy system by providing more flexible capacity between the UK and neighbouring networks
- Maximise the use of renewable energy generation by accelerating the development of offshore wind.

Q3. Will LionLink allow a "2-way flow" of energy between the Netherlands via LionLink?

Yes, LionLink will allow a 2-way flow of energy between the UK and the Netherlands. The expectation would be that the UK transfers power when we have a surplus from, for example, excess wind power and vice versa.

As peak consumption times differ across countries based on time difference, different cultural behaviours, weather etc. this enables partners to buy excess power when there is a requirement on the network, and sell power when there is a surplus. UK exports also have the potential to increase given the increase in renewable energy projects being connected to the UK grid over the coming years.

Public consultation, engagement and feedback

Q1. What consultation has taken place?

To date we have held two public consultations:

1. October – December 2022

- The consultation provided an opportunity to view and comment on our initial siting and routing options.
- We received 234 feedback responses and had 87 attendees for our community webinar events, 8,006 website views, and 535 people attended our in-person community events. The 2022 public consultation interim report, which provides an overview of all the feedback received and how this was used to refine our project, can be read online **here**.
- As a result of this consultation we identified an alternative landfall site at Walberswick and an alternative onshore underground cable corridor to the north of Southwold.

2. September - November 2023

- We held a second public consultation to give the public the opportunity to comment on the alternative options that were identified in response to the 2022 public consultation.
- We received 1,318 feedback responses from the community and statutory consultees, including town and parish councils and Members of Parliament. 126 people attended our

community webinar events, while 1,317 people attended our in-person community events. We also had 11,853 unique views of our website and virtual exhibition.

We are using the feedback from the local community and comments received from statutory consultees to improve our proposals and determine the best locations and routes for the project.

Q2. When is the next opportunity to provide feedback?

Whilst the consultation period for the project is currently closed, we welcome any feedback which you can share with the LionLink Project Team by emailing **info@lionlink.nationalgrid.com**

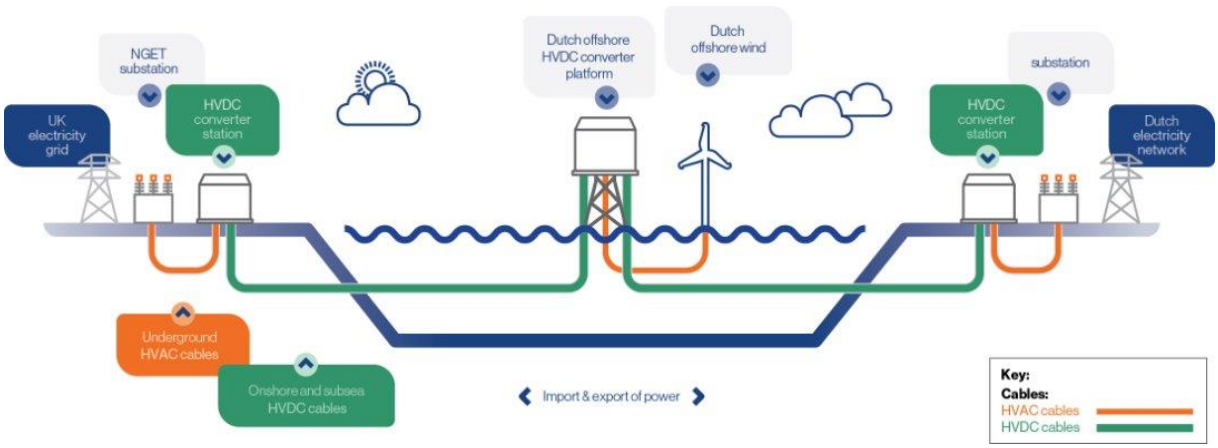
We will endeavour to answer any queries or confirm receipt of further feedback within 20 working days. There will be another round of public consultation as part of our statutory consultation in 2025.

Infrastructure

Q1. What infrastructure will be required to deliver LionLink?

LionLink will run under the sea between the Netherlands and the UK. When it reaches the UK, the cable will need to come onshore and be connected to the UK's electricity grid.

The diagram below indicates how LionLink will work, and the offshore and onshore infrastructure needed (the Exclusive Economic Zone (EEZ) represents the boundary between Dutch and British territorial waters).



Q2. What offshore infrastructure is required?

84% of LionLink's cable will be offshore. LionLink will connect Great Britain and the Netherlands via subsea cables, which will have capacity to connect to Dutch offshore wind via an offshore converter station. The offshore converter station will be in Dutch territorial waters and will be owned by our partners TenneT.

Q3. What onshore infrastructure is required?

- Landfall site – the location where the subsea cables are brought onto the land and are connected to the onshore cables. At most, a small cabin, about the size of a telecoms box, will remain at the construction area behind the shoreline. There will be no visible infrastructure left on the beach or shoreline.
- Underground HVDC cable corridor - from the landfall location to the converter station. No overhead lines or pylons will be required.
- Converter station – the location where the electricity will be transformed from high voltage direct current (HVDC) into high voltage alternating current (HVAC), which is necessary to enable the electricity to be fed into the transmission network and be used in our homes.
- Underground HVAC cable corridor - from the converter station to the substation.
- Substation – the location where the electricity from LionLink enters the UK's energy system.

Q4. Where will infrastructure be located?

Informed by the feedback received across both public consultations, the proposed locations for the onshore infrastructure are:

- Landfall: the shortlisted locations for potential landfall are Southwold or Walberswick (identified in planning documents as Landfall F (Reydon/Southwold) and Landfall G2 (alternative Walberswick)
- Converter Station: Saxmundham (identified in planning documents as Site 3). Substation: Friston, as proposed by ScottishPower Renewables.

Q5. Why has Aldeburgh been discounted?

Aldeburgh (identified as Landfall E in planning documents) was discounted due to significant environmental and technical risks associated with the nearshore approach to the site. LionLink will approach the coast from the northeast after connecting with the Dutch windfarm located in the North Sea. From an offshore perspective, this can create challenges in crossing designated protected areas. These protected areas include the Southern North Sea Special Area of Conservation and the Outer Thames Estuary Special Protection Area. These protected areas are designated to protect a range of species (e.g., harbour porpoises), habitats, and seabed features (e.g., sandbanks) which are all protected under UK law.

Although consultation feedback favoured coordination with other developers at landfall and converter station sites, the benefits of this at Landfall E (such as a reduction in construction traffic and sharing of materials), were not sufficient to outweigh the challenges presented from an environmental and technical perspective. Consultation feedback highlighted environmental sites and designations which would require mitigation. On balance, and when considering the offshore constraints outlined in this report, this has helped inform our decision to discount this site.

Q6. When will the final decision on the landfall location be made?

The final landfall preferred site will be presented in the Preliminary Environmental Information Report (PEIR) which will be published and consulted on during the Statutory Consultation in 2025. Throughout 2024 ecological and engineering studies and surveys are being undertaken both onshore and offshore to inform the decision.

Q7. What will the converter station look like?

Early design works suggest that the footprint of the converter station site will cover an area of six hectares (14.8 acres), with an additional four hectares for the temporary construction service areas. This includes space for the main converter station building, which is likely to be up to 26 m tall.

NGV will keep the design of the infrastructure under review as the project progresses. We are keen to ensure that the Saxmundham community can contribute to the external appearance in the development of the converter station in the later stages. We successfully worked with the local community on the external appearance of the converter station for our Viking Link project and utilised a special cladding as the facade of the station to help it blend into the Lincolnshire landscape.

Construction

Q1. What impact will the construction process have on local communities?

We understand the concerns raised by communities regarding impacts to the environment and tourism during the temporary construction phase of the project. We will undertake an **Environmental Impact Assessment (EIA)** prior to any application being submitted. The EIA will help us establish our preferred options and rigorously assess the potential impacts to identify how we can avoid and minimise effects wherever possible, as well as restoring and offsetting potential impacts where needed.

On timings, we expect (subject to detailed designs) the following:

- Construction of the landfall site to take at least 12 months (dependent on the landfall site chosen) and will be phased with boring works taking place first, followed by cable installation and then environmental reinstatement works.
- Construction of the cable corridor to take up to four years and be delivered on a section-by-section basis.
- Construction of the converter station to take at least 3 years.

To confirm timings for works, we will consider several elements, including bird and wildlife breeding seasons, wintering bird seasons, tourism patterns and other key considerations.

Q2. How will construction be managed?

A construction management plan will be developed to outline how works will be undertaken and what mitigations may need to be put in place. During the construction period, temporary infrastructure, such as compounds and storage areas may be necessary to facilitate construction. We expect construction at the landfall sites to last at least 12 months.

Q3. Will additional pylon installations be required as part of LionLink?

The capacity of the network around Friston is adequate to accommodate LionLink. There are no additional pylons required to connect LionLink to the network at Friston.

Q4. How will the impact on sea life be considered during construction?

Our offshore cable routes have been developed to avoid or minimise impacts to protected habitats and species, as well as commercial and leisure marine users.

Q5. How are restoration works undertaken along the cable route?

Trenchless construction methods such as Horizontal Directional Drilling will be used to install the cable at sensitive locations such as the landfall site. Where the cable is installed via a trench it is intended that all soil excavated will be stored and reused on site to reinstate the land to pre-construction conditions on conclusion of works.

Excavated soils from trenched installation will be reinstated in sequence – sub-soil and then topsoil. Where seeding is required to restore that land to its original condition, this will take place after the backfilling of the trenches and replacement of the topsoil. The land will be reinstated to pre-construction condition and to the reasonable satisfaction of the landowner. Post-restoration surveys will be carried out across all reinstated land to determine whether the land has been restored to the required standards.

An aftercare programme will then be agreed with the landowner, and (if applicable) tenant farmer, to ensure the long-term success of the restoration works. In similar projects, landowners/farmers were able to use their land immediately after reinstatement was completed. For sample images of the restoration process, please see our **Spring 2024 newsletter**.

Coordination

Q1. How does LionLink strategically align with other projects happening in East Anglia?

We are working closely with other developers in the area to explore opportunities to coordinate activities and minimise impacts on local communities and the environment.

Coordination could include aligning specific works to reduce impacts on the environment and local communities, alongside re-using materials, sharing site compounds, landscaping, and mitigation opportunities and how we invest in communities.

NGV and NGET are working collaboratively to explore opportunities to co-locate onshore infrastructure for the LionLink and Sea Link projects. This work has led us to identifying a singular preferred converter site at Saxmundham.

Further engineering studies and assessments are being progressed to understand if shared underground cable route corridors are possible. As the project is refined and a more detailed construction programme developed, we will explore opportunities to coordinate construction activity between LionLink, Sea Link and other developers in the local area.

Q2. Is coordination with Nautilus being considered?

We understand that people are concerned about the impact of energy projects on their local area and want to see us coordinate our projects as much as we can. Once we have approval from Ofgem, the Nautilus and LionLink teams can start coordinating on development. Both projects are due to connect at the proposed substation at Friston, so we expect to be able to collocate on some cabling routes as well as the converter stations.

Q3. How are you coordinating with local businesses?

We are talking to the Suffolk Chamber of Commerce, the Suffolk Destination Management Organisation and Federation of Small Businesses in the East of England about the project about how we can work with their members to support our supply chain and ensuring impacts on local business are minimised.

Environmental impact

Q1. How will you assess and manage impacts on the environment?

We understand the community's concerns about the impact of the project on the natural environment. Reducing the environmental impact is front of mind as we plan the project, and this includes marine impacts as well as land.

NGV will undertake an Environmental Impact Assessment (EIA) prior to any application being submitted, which will cover a wide range of environmental subjects. As part of the EIA, documents will be publicly available as the project develops with the first being the scoping report released in March 2024.

As the project progresses, a construction and environmental management plan will be developed. This plan will take into consideration key times of the year, to mitigate construction – the breeding season, wintering bird season and tourism patterns will all be considered among other elements.

Q2. How will NGV approach Biodiversity Net Gain (BNG)?

NGV is committed to minimising the effects of new infrastructure, mitigating adverse effects of works, offsetting where mitigation is not practicable, and enhancing the environment around our works.

The Government is in the process of introducing 'Biodiversity Net Gain' (BNG), which is a strategy to develop land and contribute to the recovery of nature. It is a way of making sure the habitat for wildlife is in a better state than it was before development.

A 10% BNG will be required for Nationally Significant Infrastructure Projects such as LionLink from 2025. We are committed to delivering at least 10% BNG for the project.

Q3. How will impacts on air quality be assessed?

As part of the Environmental Impact Assessment (EIA) process, air quality will be assessed and where appropriate mitigation measures will be implemented. It should be noted best practice construction methodologies will be utilised, to reduce and control emissions. This is a key part of the design process.

Any potential impacts on the health of local communities will be covered by the health assessment of the EIA. This also includes cumulative assessments of other projects in the area.

Further information, including the methodology of the air quality, health and cumulative assessment, is provided in the recently submitted EIA scoping report.

Economic impact

Q1. How will tourism impacts be assessed?

The potential impact on the local economy and any associated mitigation, such as compensation, is being closely assessed as the project progresses. At present, it is too early to provide a detailed understanding of what these may be; this will become clearer as we refine our preferred sites and progress further studies. We will produce a socio-economic report that will be submitted as part of the final application. This will also be informed by engagement with communities and local businesses.

Background to National Grid Ventures and National Grid Group

Q1. Who are National Grid Ventures (NGV)?

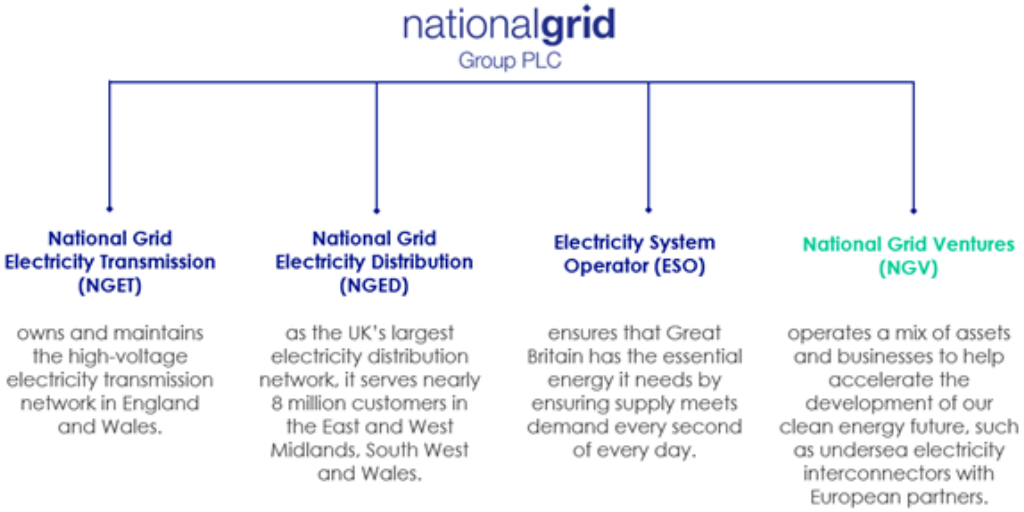
National Grid Ventures (NGV) is at the forefront of the energy transition. We operate across the UK, Europe and US, developing, operating, and investing in large-scale clean energy infrastructure. We're helping to accelerate society's drive towards net zero while maintaining security of supply today.

NGV runs separately from National Grid plc's core regulated operations. We've built a broad portfolio of businesses that work together to keep the lights on, decarbonise the economy and power a clean, fair and affordable energy future for consumers.

It is NGV who is leading on the LionLink project. NGV currently has six interconnectors in operation: **IFA** and **IFA2** to France, **Nemo Link** to Belgium, **BritNed** to the Netherlands, **North Sea Link** to Norway, and a new interconnector, **Viking Link**, has recently started operation to Denmark.

Q2. What is the structure of National Grid and what do all the business units do?

There are four distinct electricity business entities under the umbrella of National Grid plc, as detailed in the diagram below, all with different roles and responsibilities. NGV is a legally separate entity from National Grid Electricity Transmission plc (NGET), National Grid Electricity Operator (NGESO) and National Grid Electricity Distribution plc (NGED), which are subject to separate regulations. NGV operates and invests in energy projects, technologies, and partnerships to accelerate the development of a clean energy future.



National Grid LionLink Limited
Company number 14722364
1-3 Strand
London
WG2N-5EH
United Kingdom
nationalgrid.com/lionlink