Introducing Scotland to England Green Link – SEGL1

From Torness to Hawthorn Pit

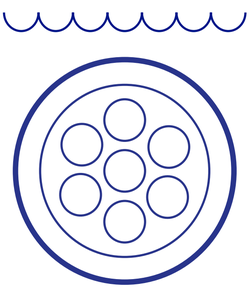
Meeting the UK's green energy ambitions

Net zero target in all greenhouse gases - 2045 in Scotland and 2050 in England and Wales.

40GW by 2030

By 2030, the Government's target is for 40GW of offshore wind to be delivered - enough to power every home in the UK.

To help deliver this greener energy to homes and businesses across the UK, we need to increase the capability of our network between Scotland, with its renewable energy reserves, and England.



To do this, we are proposing the construction of two new High Voltage Direct Current (HVDC) links which will operate as electricity superhighways from Scotland to England.

Our Scotland to England Green Link 1, or SEGL1 for short, is one of these projects and, if approved, will run from the Torness area in East Lothian, Scotland, to Hawthorn Pit (between Murton and South Hetton) in County Durham, via the North Sea. Its sister project, SEGL2, will run from Peterhead in Aberdeenshire, Scotland, to Drax in North Yorkshire, also via the North Sea.

Making the transition to net zero by 2050 is expected to generate 400,000 jobs across the energy sector.

About National Grid and our SELG1 project partners

National Grid sits at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. We're at the forefront of decarbonising the UK with ambitious projects like SEGL1.

We're working in partnership with ScottishPower Transmission (SPT) to develop SEGL1. SPT is the Transmission Owner for Central and Southern Scotland and are responsible for the onshore and offshore aspects of this project in Scotland.

For more information on National Grid please visit our website: nationalgrid.com/segl1

Our proposed SEGL1 project

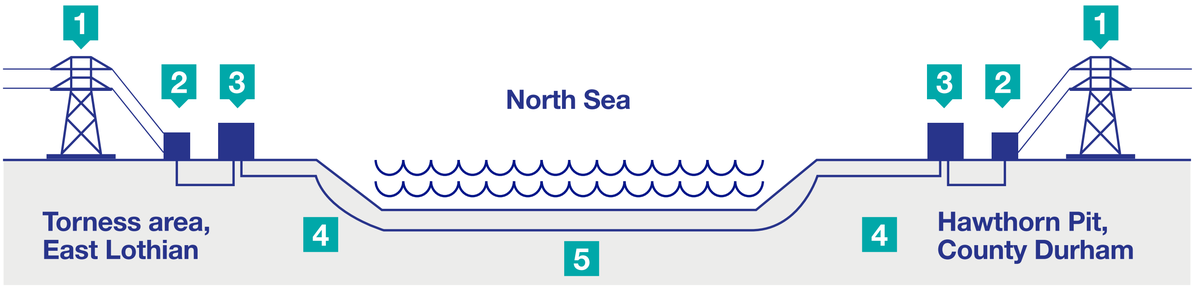
For SEGL1, we are proposing the construction of a 2GW High Voltage Direct Current (HVDC) link – an electricity superhighway between Scotland and England.

The purpose of our SEGL1 project is to scale up the capability of our network to deliver greener electricity generated in Scotland to the rest of the UK. If approved and completed, it will be able to carry enough green electricity to power up to **2 million homes** across the UK.

What we are consulting on

We are consulting with you on proposals to build and connect a new **converter station** and **substation** at Hawthorn Pit, which is between Murton and South Hetton, and install **underground cables** from the landfall point at Seaham, to Hawthorn Pit.

How SEGL1 will work



HVAC = High Voltage Alternating Current
HVAC = High Voltage Direct Current

1. Existing network
2. Substation
3. Converter station
4. Underground cable
5. Submarine cable

SEGL1 Project map

Why Hawthorn Pit?

The proposed locations for SEGL1's new converter station, substation and cable route have been selected after extensive research and planning.

Hawthorn Pit, with its existing National Grid infrastructure, provides a strong point on the UK's electricity network to connect into and has the benefit of being relatively close to the coast, which reduces the length of onshore cable routes. The site also benefits from land around the existing infrastructure on which to locate a new substation and converter station.

Connecting SEGL1 to this existing infrastructure, along with a further reinforcement of the network in Yorkshire (our Yorkshire GREEN project), provides the network capability needed to deliver cleaner, greener energy to the rest of the UK in the most optimum way. Many factors were very carefully considered, including balancing cost, benefit to the network, and minimising new infrastructure and impacts on people, places and the environment.

Take a look at the next boards for a more detailed view of the cable route, converter station and substation.

Consent for our project and the planning process

We are holding this consultation to seek your views on our early proposals for SEGL1. We have set out the vision behind our proposals, the key elements of the project and how you can share your feedback.

Your views at this early stage are important to us. We will also be holding online events throughout the consultation period, where you can speak to the team about our proposals (see the 'Next steps' board for details).

For SEGL1, we will be applying for planning permission from Durham County Council under the Town and Country Planning Act for the converter station and substation. The cable route is permitted development. We will also be applying for a Marine Licence from the Marine Management Organisation under the Marine and Coastal Access Act for the marine elements.

We intend to submit our consents applications in early 2022 and before we do, you will get another chance to hear about our plans when we hold a public information event in early 2022.

Your feedback is important to us and we will use it to shape our proposals.

Once our planning application is submitted to Durham County Council, then there will be a period of consultation by the council before they decide whether to approve our proposed project.

The planning application process

1. We will engage with public and stakeholders to introduce the project.
2. We will develop the project in detail, taking into account what the public and stakeholders have told us.
3. We will speak to local people, community groups and businesses to get their views on our detailed project.
4. We will submit our planning application.
5. The local planning authority will hold a 21-day consultation period where you can comment on the planning application.
6. The local planning authority will consider the application within the time frame.
7. The planning application will be approved or refused.

If approved

Planning permission is normally granted with conditions. Once any pre-commencement conditions are approved, we can begin construction.

If refused

If refused, the decision can either be appealed, or revised and re-submitted

In order to gain planning permission for our project, we'll be following a set process that involves a whole host of local people and groups, including the local council, businesses, residents and landowners.

2 million homes

SEGL1 will help provide the additional network capacity needed to transport renewable energy to homes and businesses throughout the UK.

Our project in detail: proposed cable route

The proposed cable route for SEGL1 runs under the North Sea for most of its 193km total length.

After travelling under the sea from the Torness area, it will come ashore just north of Seaham. The cable will then run underground onshore for around 10km, to the new converter station and substation at Hawthorn Pit, which is between Murton and South Hetton.

If approved, the works to install the cable will be laid in sections and is expected to take up to four years. Once the cable is buried, then the land above it will be returned as it was before.

Our preferred onshore cable route in County Durham

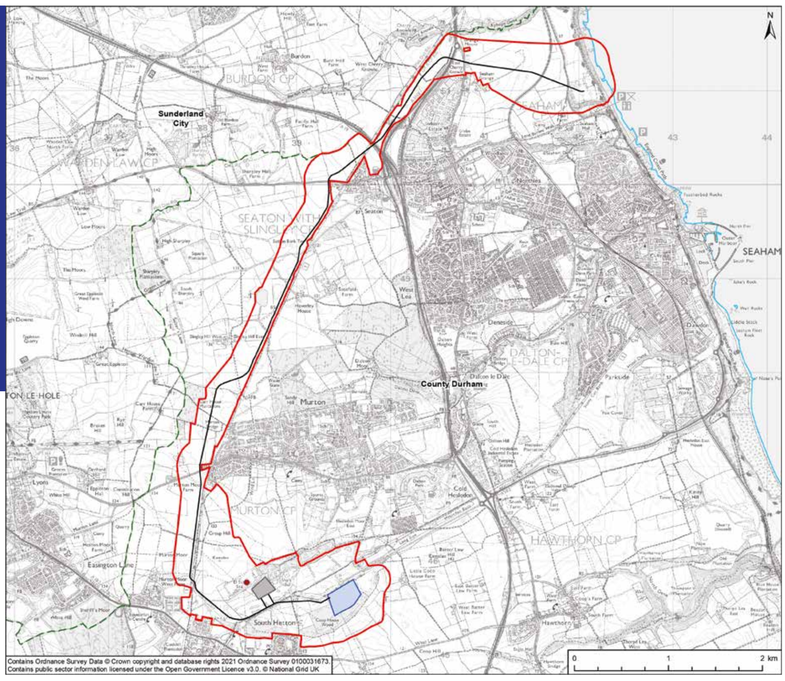
The red line shows the broad corridor that we identified for the cable route, and the area where we will conduct surveys.

The black line indicates the preferred cable route.

Please click on the map to see it in more detail.

KEY

- English Onshore Scheme Scoping Boundary
- Existing Hawthorn Pit 400kV Substation
- Proposed DC Cable Route Alignment
- Proposed Converter Station Location
- Proposed Substation Location
- Mean Low Water Springs
- District Borough Unitary Boundary



Why this route?

We considered several potential cable routes between the Durham coastline and Hawthorn Pit, and we identified that this route is the least disruptive to local communities and the environment, as well as providing a relatively direct route to our proposed converter station and substation.

What the cable looks like.

Cables will be installed 1-1.5 metres underground, as seen in the above image.

Marine cables will need to be installed in addition to underground cables.

These images are for illustrative purposes only and are taken from similar schemes.

Our project in detail: converter station and substation

The new converter station and substation are critical components of our project.

Our converter station will house the technology to enable the clean electricity to be transmitted through the 193km cable. A converter station converts electricity between Alternating Current (AC) and Direct Current (DC). AC is used in each country's transmission system, while DC is used for sending electricity long distances along the subsea cables. A similar converter station will be constructed at the other end of the cable in the Torness area.

Substations are crucial for controlling the voltage of electricity between the country-wide network and people's homes and businesses. They 'step down' the high voltage electricity running up and down the country to lower voltage electricity suitable for everyday use.

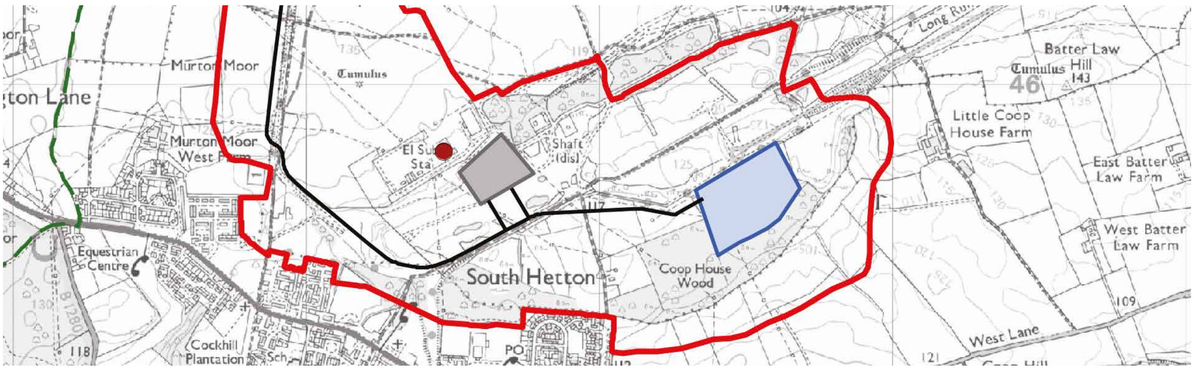
We're currently finalising the design of our converter station and substation. We expect the converter station to have a footprint of approx. 60,000 square metres and a maximum height of 28 metres. The substation will be smaller, with a footprint of approx. 15,500 square metres and a maximum height of 10 metres.

What our converter station and substation could look like

An indicative image of our proposed converter station (in the orange box).

An indicative image of our proposed new substation (in the orange box), next to existing infrastructure.

Our preferred site layout



Why here?

National Grid's infrastructure provides a strong connection point into the UK's electricity network and has the benefit of being relatively close to the coast, which reduces the length of onshore cable routes. The location also benefits from land around the existing substation on which to locate a new converter station and substation.

Environmental impacts

Helping society decarbonise is the biggest contribution we can make to the environment and this ambition is the very foundation of the SEGL1 project.

However, we must also consider our direct impact and are working to ensure that our project meets and exceeds environmental standards to protect local wildlife and local ecology.

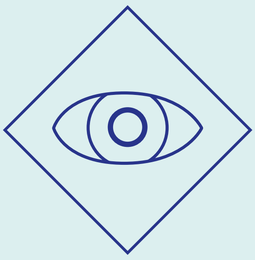
When working in an area, National Grid seeks to leave it in a better biodiversity position than it was before. We will look at opportunities to enhance and extend a variety of habitats and wildlife corridors along the route and around the converter station and substation site.

Reducing environmental impact

To minimise the impact of our work we will be undertaking an environmental assessment, both onshore and offshore, which considers the potential impacts of SEGL1 and how we could reduce or mitigate any significant impact.

As we continue to develop our plans for SEGL1 we will provide more detail on our environmental assessments as well as information about how we can minimise or mitigate any adverse environmental effects.

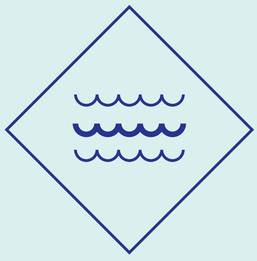
Here are some of the topics we'll be looking into:



Visual impacts

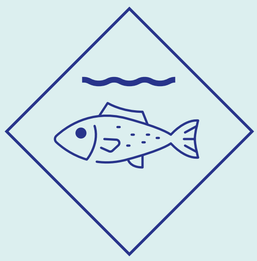
Ecology

Noise impacts



Water impacts

Air quality



Marine wildlife

Being a good neighbour

Due to the very nature of what we do – connecting people to the energy we all use – National Grid is at the heart of communities.

We want to make a positive impact in the communities we serve and each year we make significant charitable investments around the UK. When our operations impact local people, we try to give back. Here are some of the ways we do that:

- **Our community grant programme**
  We fund projects run by charities and community groups that meet local community needs by providing a range of social, economic and environmental benefits. If your project meets our criteria you can apply for a grant.

  Since the programme began in December 2015, we have awarded **over £2million** in grants.

- **We're considerate constructors**
  As members of the Considerate Constructors Scheme, we abide by a Code of Considerate Practice, which encourages best-practice approaches and policies above and beyond statutory requirements.

- **We're committed to keeping disruption to a minimum**
  We will proactively share information with affected communities through our SEGL1 project website. You can learn more about the commitments we make when undertaking work in the UK in our stakeholder, community and amenity policy.

We have partnered with five charities to donate 1,000 laptops to help young people keep up with their studies during lockdown.

With schools closed during lockdown, technology to learn from home is vital and children without access to a computer are missing out.

For National Grid's North Sea Link, the project opened an Energy Education Centre in Cambois, Blyth, in order to help provide pupils with an opportunity to gain an understanding of energy and sustainability whilst encouraging an interest in science.

Next steps

We would like to hear your feedback on our early proposals, including any queries or concerns you may have.

Your views are important to us and will help inform our plans as we continue to develop the proposed scheme.

Please take time to look around the rest of our website, where you'll find Q&As, videos and infographics about our project.

Our public consultation

This consultation will run between Monday 24 May 2021 to Friday 18 June 2021. Please provide your comments by 5pm on Friday 18 June. You can do this by completing our online survey which you can find on this **website**.

We will hold four live Q&A events as part of this consultation. This will give you the opportunity to hear more about the proposals and discuss your views directly with members of the project team via our online one-to-one chat function.

You don't need to book ahead, simply visit this website during the event times and register. You will then be able to use the live chat function.

The **live Q&A events** will be held on:

- **Tuesday 25 May 8am – 12pm**
- **Thursday 27 May 4pm – 8 pm**
- **Monday 7 June 4pm – 8pm**
- **Wednesday 9 June 12pm – 4pm**

We will also hold video meet the team sessions when you can join a member of the project team on a call and have your questions answered. These will be held on:

- **Tuesday 15 June 6pm – 7:30pm**
- **Thursday 17 June 10am – 11:30am**

You can find details on how to book a session on this website or by contacting us by email or phone using the details below.

Project timeline

Winter 2020/2021
Marine surveys

Spring – Autumn 2021
Environmental surveys

Spring 2021
Public consultation

Early 2022
Public information events

Early 2022
Submission of planning application

2023
Construction to begin, if planning consent secured

2027
Construction phase complete

If you would like a hard copy version of these boards or a leaflet, you can contact us using the details below. This information can also be made available in large print format, braille or other languages.

You can also contact us at **0808 1968 405** or **info@segl1.nationalgrid.com**

Please note that any data collected through your consultation feedback will only be used to help understand views regarding SEGL1. The data will not be used for any other purposes. For more information see our privacy policy.