Welcome to our public information exhibition

Scotland to England Green Link – SEGL1

From Torness to Hawthorn Pit

Our public information exhibition and events

We're holding this exhibition, and accompanying online information events, to present our latest proposals to the local community ahead of the submission of our outline planning application to Durham County Council in spring 2022.

This exhibition and our online information events follow on from our public consultation, held in spring 2021, where we took feedback on our proposals from landowners, residents and stakeholders.

The purpose of our public information events is to show how our plans have evolved and answer any questions you have.

There will be further opportunity to give formal feedback during the planning application process after we have submitted our outline planning application to Durham County Council and the statutory period of consultation opens.

Why do we need SEGL1?

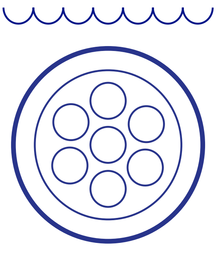
Net zero target in all greenhouse gases - 2045 in Scotland and 2050 in England and Wales.

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.

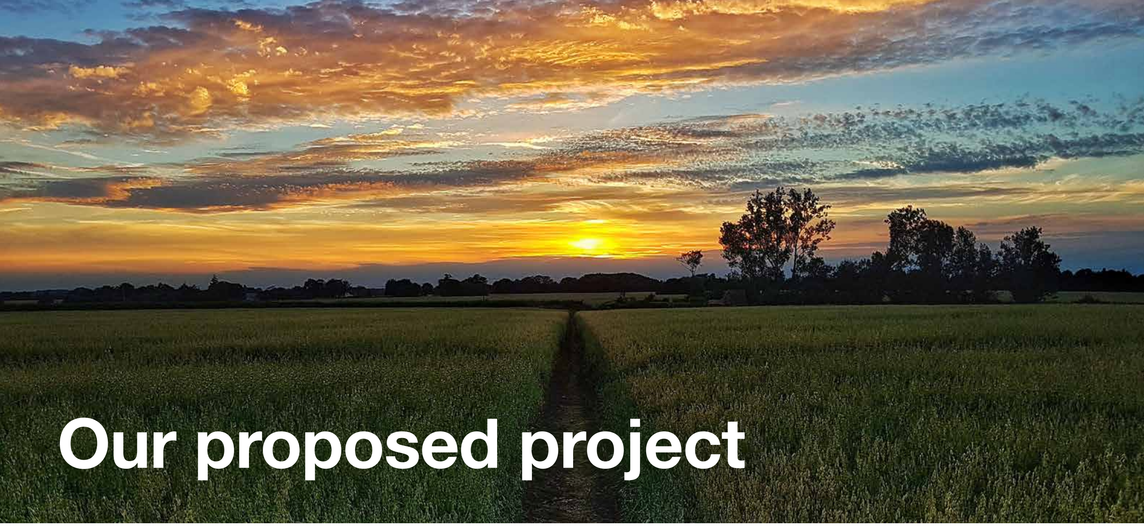
SEGL1 Project map



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 under the North Sea from the Torness area in East Lothian, Scotland, to Hawthorn Pit (between Murton and South Hetton) in County Durham. Its sister project, SEGL2, will run via the North Sea to Drax in North Yorkshire from Peterhead in Aberdeenshire, Scotland.

SEGL1 is being jointly developed with Scottish Power Energy Networks (SPEN). SPEN are the transmission owner for Central and Southern Scotland and are developing the onshore and offshore aspects of the scheme in Scotland.



Our proposed 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 more green 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.

How SEGL1 will work

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

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

Our proposed project - on land

What we propose developing

We are proposing 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 north of Seaham, to Hawthorn Pit.

There is more information about our proposed route on our project website.

Click here to view a map of our proposed route

Why Hawthorn Pit?

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

Read more about our proposed location

Why this route?

During our consultation last spring, some people suggested that making landfall at Nose's Point and following the old mineral line might be a better route for our underground cables.

Read more about our proposed route

Take a look at the next board for more details on the offshore elements of our proposed project

Why Hawthorn Pit pop up text

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 infrastructure, provides a strong point on the UK's electricity network to connect to and has the benefit of being relatively close to the coast, which reduces the length of the onshore cable route. 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, more green 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.

Why this route pop up text

Why this route?

During our consultation last spring, some people suggested that making landfall at Nose's Point and following the old mineral line might be a better route for our underground cables.

We have taken another look and after a further comprehensive review, our original route remains our preferred option for the following reasons:

- Compared to our proposed route, following the mineral line in its entirety would cause a great deal of disruption to Seaham including its harbour, and residents' homes and businesses.
- Due to the nature of the seabed around Nose's Point we don't think it possible to protect the cable by burial meaning we would need to use alternative methods which may create obstacles to vessels and disturb both operations at the port and potentially marine habitats.
- Nose's Point has very complex topography and geology, for example, its height would present significant challenges and increase both risk when installing the cable and during its lifetime.
- Making landfall at Nose's Point would increase the length of the offshore portion of the cable by approximately 5km, so overall there wouldn't be a significant reduction in cable length.

Therefore, we consider that our proposed route, from north of Seaham to Hawthorn Pit, strikes the right balance between onshore and offshore environmental considerations, minimising impacts on residents and helping us meet our responsibility to provide affordable electricity infrastructure.

Our proposed project

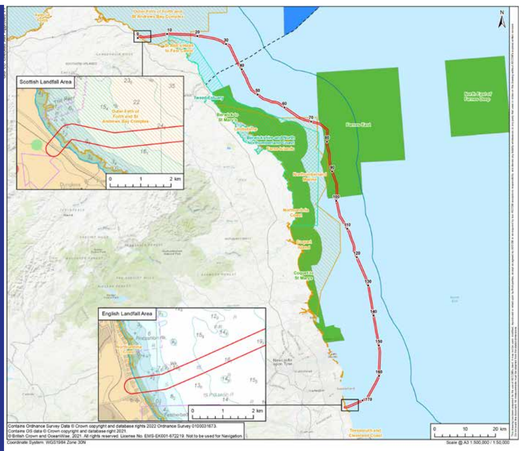
Our proposed offshore route

Proposed offshore cable route

We are proposing to install a subsea high voltage direct current (HVDC) link approximately 176km in length. The link will extend from Thorntonloch Beach, Scotland and make landfall at Seaham, England.

The red line shows the corridor that we have identified for the cable route. The proposed route has been designed to avoid ecologically important areas and minimise interactions with designated sites as much as possible.

View the map in more detail



Key

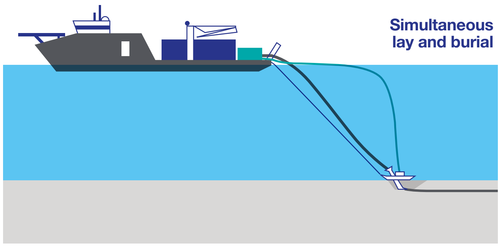
- Marine Installation Corridor
- Kilometre Point (KP)
- Scottish/English Water Border
- UK Territorial Sea Limit 12NM
- Mean High Water Springs
- Special Area of Conservation with Marine Components
- Special Protection Area with Marine Components
- Ramsar
- Marine Conservation Zone
- Nature Conservation Marine Protected Area

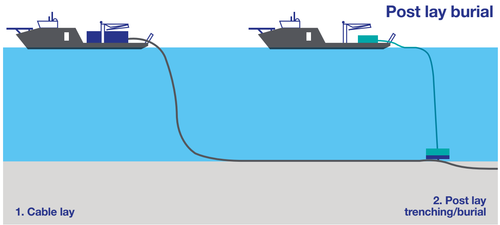
How our cable will be laid under the seabed

Our proposed HVDC link will consist of two electrical cables and a fibre optic cable. These will be installed in up to two trenches, and buried to a target depth of 1.5m.

We use two methods to lay cable under the seabed: simultaneous lay and burial, and post lay and burial. The seabed surface conditions determine which method we use. During simultaneous lay and burial, one vessel both lays and buries the cable, and during post lay and burial, one vessel will lay the cable and a second follows behind and uses equipment to bury it.

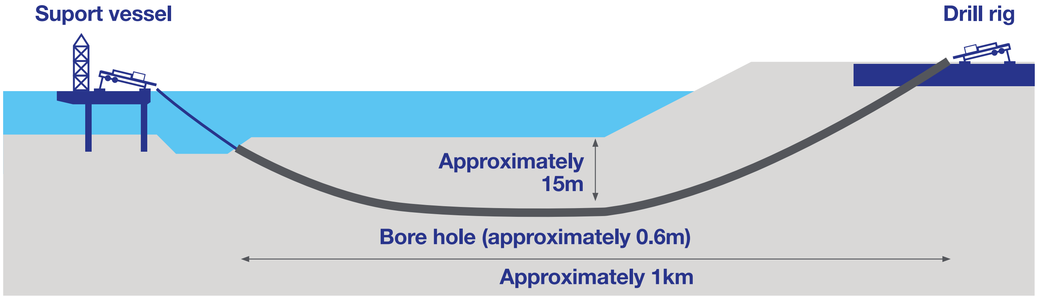
A 500m exclusion zone will be established around the cable lay vessel(s) during installation to ensure the safety of the vessel(s) and others operating in the nearby area.





How our cable will make landfall

To minimise impacts at the landfall points, the cables will be installed using Horizontal Directional Drilling (HDD). This method drills conduits to carry the cables under the intertidal zone and the near shore seabed at the landfall points and then installs ducts which the cables can later be pulled through. This approach minimises work in the intertidal zone and also reduces related environmental impacts including those on protected species and sensitive habitats, and on people using the foreshore.



Take a look at the next boards for more detail about how we will minimise environmental impacts

Protecting the environment – on land

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 have worked to ensure that our project will meet and exceed envrionmental standards to protect local wildlife and local ecology.

To minimise the impact of our work we have undertaken a range of environmental assessments around the site of our proposed converter station and substation, and along our cable route.

Environmental surveys we have carried out

Biodiversity

We have undertaken numerous habitat and protected species surveys to inform the siting of the converter station and substation, and the routeing of the underground cables. We will not only look to protect existing habitats and prevalent species but will also seek to ensure that local biodiversity is left in a measurably better condition. We will provide, as a minimum, a 10% Biodiversity Net Gain and we will work with our stakeholders to deliver this.

Landscape and visual amenity

Our proposed project is being developed in close proximity to our existing Hawthorn Pit Substation, and adjacent to the Jade Business Park development. It is intended to echo the external appearance and colours of the business park to ensure a consistency of design across the wider site.

To support this, we are developing a Landscape Masterplan to soften the visual impact of the converter station and the substation and will also contribute improvements to both public open space and biodiversity. We are also working with Durham County Council to enhance public rights of way around the site for the direct benefit of pedestrians, cyclists, and horse riders.

Soils and agriculture

Soils and agricultural land-uses have been surveyed to ensure we understand these resources so that they are carefully managed during the construction phase of the project, so that we achieve an effective and enduring reinstatement of the land.

Geology and hydrogeology

To ensure that we develop our project on safe and solid ground we have undertaken historical coal mining searches in consultation with the Coal Authority and have also consulted the Environment Agency and Durham County Council to better understand contaminated land, ground water, and water abstractions in the area.

Hydrology, drainage and flood risk

The proposed converter station and substation will both be located in areas at the lowest risk of flooding. The drainage strategy for the converter station and substation will ensure that rainwater is held before it is released so that it does not contribute to any effects downstream.

Protecting the environment – marine

We are just as dedicated to ensuring that our project will meet and exceed environmental standards for protecting marine life and ecology as we are to protecting wildlife and ecology on land.

Environmental factors we have considered

We are in the process of preparing an Environmental Appraisal Report (EAR) to help us identify, and prepare to mitigate, any anticipated impacts of our work. As part of our appraisal process, we have assessed potential effects on the following areas:

- The physical environment
- Benthic ecology (including intertidal)
- Fish and shellfish ecology
- Marine mammals
- Ornithology
- Marine archaeology
- Shipping and navigation (including Navigational Risk Assessment)
- Commercial fisheries
- Other sea users

How we are going to reduce our impact on the environment

We have researched and refined our proposed offshore cable route and landfall points over several years. We have designed our route to avoid, where possible, ecologically important areas such as rock outcrops, and have worked to minimise cross over into designated areas like the Northumberland Marine Special Protection Area and Berwickshire and North Northumberland Coast Special Area of Conservation. As part of the Environmental Appraisal we are also identifying further potential risks and mitigation measures. These will be outlined in our Marine Licence Application, in the same way that potential environmental impacts and mitigation measures will be identified in our outline planning application for the onshore elements of our proposed project.

Fisheries and harbour engagement

To develop our proposals, we have engaged with a wide range of stakeholders including the Scottish and English fishing community, including organisations such as the Northumberland Inshore Fisheries Conservation Authority (IFCA), the North Eastern IFCA, the National Federation of Fisherman's Organisations (NFFO), the North East Regional Inshore Fisheries Group (NERIFG), the Scottish Finfish Federation (SFF), and the Scottish White Fish Producers Association (SWFPA), and harbour and port authorities. Their feedback has provided valuable insight about the fishing activity that takes place in the area near our proposed cable route and will inform our Environmental Appraisal.

Consent for our project and the planning process

We are holding this public information exhibition, and accompanying online events, to share details of our proposed project, ahead of the submission of our outline planning application to Durham County Council in spring 2022.

The exhibition and events follow on from our formal public consultation, which ran between 24 May to 18 June 2021. During the consultation we received feedback on various aspects of our project from landowners, residents and stakeholders.

The purpose of our public information events is to show people how our plans have evolved and answer any questions they have at this stage. There will be further opportunity to give formal feedback during the planning application process after we have submitted our outline planning application to Durham County Council and the statutory period of consultation opens.

During this time, you will be able to comment on the planning application via the Council's planning portal. The Council will then decide whether to approve our proposed project. Please see the diagram below for more information on the process.

What planning consents are we applying for?

For SEGL1, we will be applying for outline planning permission for the proposed converter station, substation, and public open space from Durham County Council. This application will be made under the Town and Country Planning Act and will be supported by a comprehensive Environmental Appraisal Report. All underground cabling works on land will be installed under our permitted development rights.

Alongside onshore planning permisison, we will also be applying for a Marine Licence from the Marine Management Organisation for the marine cable. Much like planning permission onshore, this process involves a period of technical appraisal and consultation which will inform the outcome of the application. Our Marine Licence application will also be supported by an Environmental Appraisal Report.

The planning application process

We are here

We will engage with public and stakeholders to introduce the project.

We will develop the project in detail, taking into account what the public and stakeholders have told us.

We are speaking to local people and stakeholders to present our proposal ahead of the planning application submission.

We will submit our outline planning application.

The local planning authority will hold a 21-day consultation period where you can comment on the planning application.

The local planning authority will consider the application within the time frame.

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

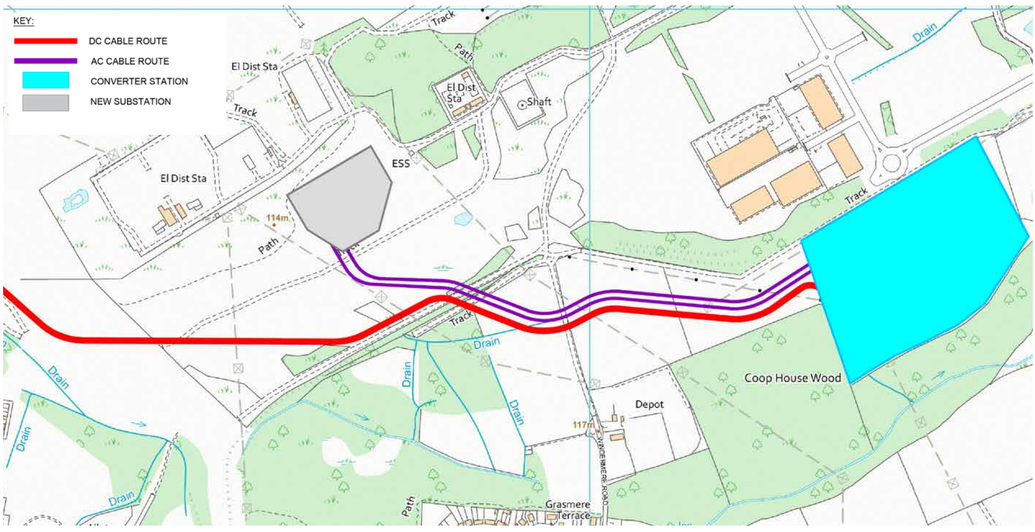
In order to gain planning permission for our project, we are following a set process that involves a whole host of local people and groups, including the local council, businesses, residents and landowners.

Take a look at the next boards for more detail on what our planning application will contain.

Our proposed converter station and substation

Our proposed location

The proposed location for the converter station and substation have been carefully considered to integrate both into the landscape.



What our converter station and substation could look like

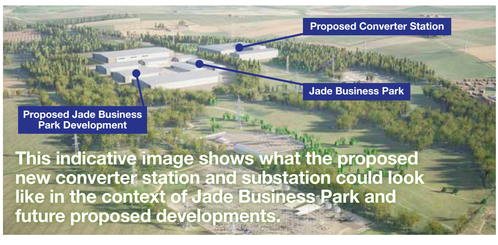
This indicative image shows what the proposed converter station could look like alongside Jade Business Park and further proposed developments. The bright green trees show where new planting is proposed.

Our proposed mitigation measures

We take great care to minimise the impact of our work, both for local communities and the environment. Below, we've listed some of the mitigation measures that will help to integrate the proposed converter station and substation into the local landscape.

- The proposed location for the converter station is south of Jade Business Park and next to woodland and the new substation is proposed alongside the existing substation. These locations have been chosen to integrate both into the landscape.
- Our project team is developing a landscape masterplan that incorporates new public open space, replacement habitats and biodiversity net gain of at least 10%, landscape planting, and public rights of way.
- We propose to remove three existing pylons and replace them with a single pylon to connect the new substation to the existing overhead line.

This indicative image shows what the approach to the proposed converter station and proposed development to Jade Business Park could look like.



This indicative image shows what the proposed new converter station and substation could look like in the context of Jade Business Park and future proposed developments.

See the next board to learn how we'll work to minimise impact during construction.

Construction impacts

If our project is approved, construction will begin in 2024 and conclude in 2027.

The substation and converter station construction will begin first, followed by the underground cables. The substation and converter station will be built at the same time and we anticipate that the substation will be completed first in 2026 and the converter station in 2027. The underground cable routes will be completed in sections, connecting to both the new substation and converter station.

Construction working arrangements

Our proposed converter station and substation will be subject to approval as part of our outline planning application. Further details of our construction working arrangements will be agreed through the planning application process.

We are in discussion with Durham County Council's Highways team to aid us as we develop a traffic management plan which we will submit with our outline planning application. Converter station and substation construction traffic will be routed to site off the A19 junction and the Jade Business Park access road. We will also seek to limit disruption by using our cross-country cable haul roads when possible.

Read more about our proposed working arragements

How our project could affect access

In addition to our proposed works, Durham County Council (DCC) are also planning further development for Jade Business Park.

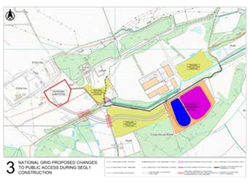
These four maps show how both our, and DCC's plans, could impact and improve informal paths and public rights of way in the Hawthorn Pit area, if all of the proposed plans are approved.

Please note, the plans represented here are indicative and may develop further in the future.

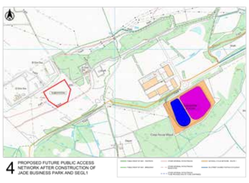
Click to enlarge each map below to see the proposed plans in more detail and follow the proposed progression of the area.

1 EXISTING PUBLIC RIGHTS OF WAY AND OTHER INFORMAL PATHS

2 DURHAM COUNTY COUNCIL PROPOSALS FOR CHANGES TO THE PUBLIC RIGHTS OF WAY NETWORK



3 NATIONAL GRID PROPOSED CHANGES TO PUBLIC ACCESS DURING BESS / CONSTRUCTION



4 PROPOSED FUTURE PUBLIC ACCESS NETWORK AFTER CONSTRUCTION OF JADE BUSINESS PARK AND BESS

Installation methods

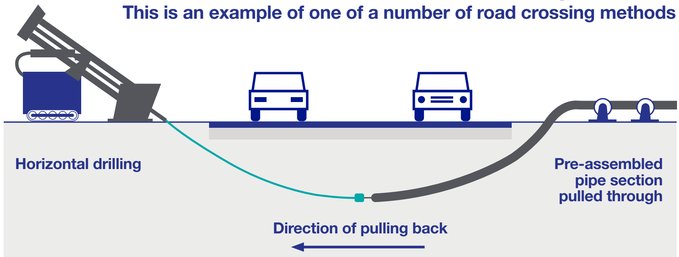
We use various methods to lay the underground cable, including open cut cable laying and Horizontal Directional Drilling (HDD).

HDD is a trenchless crossing method that we use to cross some roads and rivers and avoid impact on the surrounding area. In this method we drill under the road way and then pull the cables through the channel.

Cables will be installed 1-1.5 metres underground. The below image shows the open cut method.

Typical horizontal directional drilling method

This is an example of one of a number of road crossing methods



Construction working arrangements pop up text

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During the course of construction there will be instances where large pieces of equipment, such as electrical transformers, will need to be transported to site. These will travel as 'abnormal loads' under escort following detailed planning with highways, police and local authorities.

Based on similar projects, over the course of the construction period we expect to have around 300-350 people working on the converter station and substation build as well as the cable route installation. Our working hours will be determined through the planning application process; however, normal working hours are typically 7am to 7pm Monday to Friday and 7am to 5pm on Saturdays.

We are committed to keeping disruption to a minimum and will proactively share information with local communities throughout the project.

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 are members of the Considerate Constructors Scheme, and abide by the Code of Considerate Practice, which encourages best-practice approaches above and beyond statutory requirements. We're committed to keeping disruption to a minimum and will proactively share information with affected communities through our SEGL1 website.

We know that our responsibility as a business goes beyond safely building new energy infrastructure to enable a cleaner, fairer and affordable future. We want to make a lasting positive impact where we build our projects to help those areas and communities thrive and to support a sustainable future. Here are some of the ways we're planning to do that through this project:

- **Improving biodiversity**
  We are developing a landscape masterplan that incorporates new public open space and replacement habitat, to enhance the biodiversity of the local area.
- **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. When operating in an area, charities and community groups can apply for finding of up to £20,000 for projects that meet local community needs by providing a range of social, economic and environmental benefits.

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

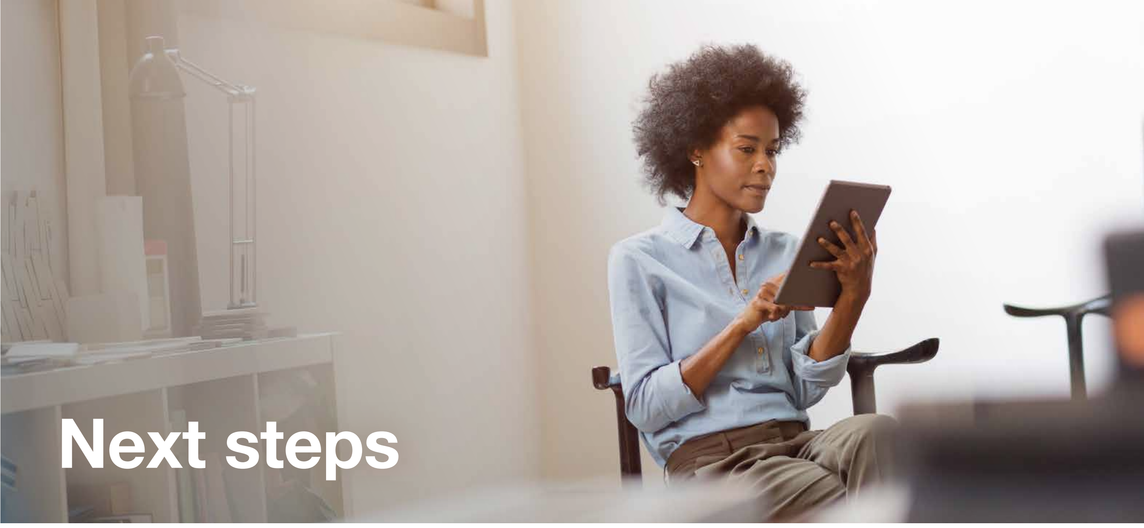
For National Grid's North Sea Link, the project opened an Energy Education Centre in Cambois, Blyth, in order to help provide pupils with an opportunity to gain an understanding of energy and sustainability whilst encouraging an interest in science.

During the construction of Hunterston converter station, we partnered with the West Kilbride Environment Group, local volunteers, and pupils from West Kilbride Primary School to plant a new community orchard.

We helped plant twenty varieties of Scottish Heritage apple trees and also areas of wildflower meadow, to support insect life and help ensure a good fruit crop.

Our Western Link project funded an outing and provided life jackets for children from Ysgol Golftyn school for a very special lesson on the River Dee all about the life of the waterways.

Accompanied by volunteers from the Quay Watermen's Association, the year six students spent the day putting their science, technology, engineering and maths (STEM) skills into practice and learning water safety and the life cycle of the common tern.



Next steps

Learn more

Thank you for taking the time to review this public information exhibition. Please take time to look around the rest of our website, where you'll find Q&As, maps, infographics and videos.

Public information events

If you have any questions, or would like to know more about our project, you're welcome to attend our online exhibition events.

Our **live Q&A sessions** will take place on:

- **10am – 2pm Tuesday 8 February**
- **2pm – 8pm Thursday 10 February**
- **11am – 5pm Saturday 19 February**

Our **online webinar** on:

- **Wednesday 16 February 6:30pm - 7:30 pm**

Alternatively, if you would like to **speak one-to-one with the project team over video call or telephone**, please get in touch with the community relations team via email or telephone (details listed below) to organise a time and date that would work for you.

Providing formal feedback on our proposals

We are planning to submit our outline planning application to Durham County Council in spring 2022. At that time, you will have an opportunity to provide formal feedback on our final proposal via the council's planning portal.

Project timeline

Winter 2020/2021
Marine surveys

Spring – Autumn 2021
Environmental surveys

Spring 2021
Public consultation

Early 2022
Public information events

Spring 2022
Submission of planning application

2024
Construction to begin, if planning permission is granted

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 this website or our information events will only be used to help understand views regarding SEGL1. The data will not be used for any other purposes.