



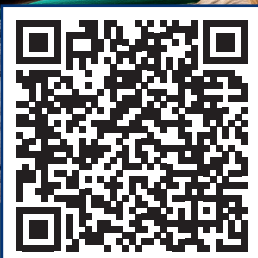
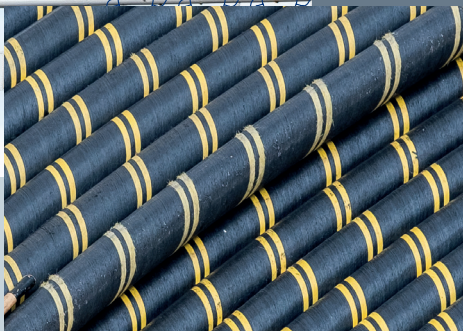
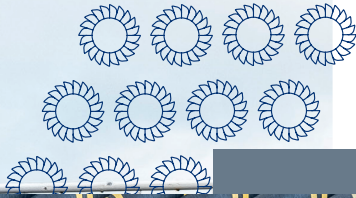
Scottish & Southern
Electricity Networks

TRANSMISSION

Eastern Green Link 3 Underground land cable


Information event

March 2025



ssen-transmission.co.uk/projects/project-map/eastern-green-link-3/

Eastern Green Link 3 – Underground land cable

A map showing the route of the Eastern Green Link 3 project. It starts in the north of Scotland, goes south to Peterhead, then crosses the sea to Lincolnshire, and continues south through England. A lightning bolt icon is placed at the Peterhead location.

To support the continued growth in onshore and offshore renewables across the north of Scotland and the country's drive towards net zero and energy security, investment in our network infrastructure is needed to connect this renewable power and transport it from source to areas of demand across the country.

Extensive system studies have been completed to inform the National Energy System Operator's 'Pathway to 2030 Holistic Network Design', confirming the requirement to develop new direct connections between the networks in Scotland and England.

To transfer the renewable power generated in the north of Scotland to demand centres in the south, a 2GW bi-pole 525kV high voltage direct current (HVDC) subsea cable link between Peterhead and Lincolnshire is required and will be known as Eastern Green Link 3. This project is being jointly developed by SSEN Transmission and National Grid Electricity Transmission.

The Eastern Green Link 3 project will use the latest technology to enable the efficient transmission of high volumes of power which can then be further distributed to demand centres throughout the UK, as required.

At each end of the HVDC link, 400kV AC substations will supply power to (or receive power from) newly constructed high voltage AC/DC converter stations at Peterhead and Lincolnshire, depending on the directional flow of power.

The subsea portion of the HVDC cable is subject to a marine licence application and a statutory consultation process, and we will be holding marine consultation events later in 2025 to support this. The onshore underground cable elements are classed as 'Permitted Development' and are not subject to statutory consultation.

 **Netherton Hub,
Peterhead**

This booklet provides details of our latest alignment of the underground cable, and we invite residents and stakeholders to contact us with information that you feel we should consider as we finalise this aspect of the project.

Our Eastern Green Link 3 project webpage can be found at ssen-transmission.co.uk/projects/project-map/eastern-green-link-3/

Find more information about our other Pathway to 2030 projects here: ssen-transmission.co.uk/2030-need



Project overview

The Eastern Green Link 3 project will provide a 2GW bi-pole 525kV high voltage direct current (HVDC) subsea cable link between Peterhead and Lincolnshire.

At each end of the HVDC link, 400kV AC substations will supply power to (or receive power from) proposed new high voltage AC/DC converter stations at Netherton Hub in Peterhead and one in Lincolnshire, depending on the directional flow of power.

Connections between these assets will be via HVDC cables buried either underground or below the seabed. In Peterhead, the proposed land cable route will stretch approximately 10 km between Netherton Hub (the location of the proposed AC/DC converter station) to Sandford Bay (the landfall location in Scotland) where it will transition to the subsea cable.

The subsea cable route would cover up to 550km before making the transition back to land cable again in Lincolnshire.

Consultation for the Eastern Green Link 3 converter station site at Netherton Hub has already occurred, and an application for Planning Permission in Principle was submitted to Aberdeenshire Council in October 2024.

This information event relates to the development of our land cable alignment for Eastern Green Link 3 project.

The story so far

June 2023 We presented our potential 2km-wide land cable corridors, our proposed landfalls and indicative converter station sites at Peterhead Football Club as part of early consultation on Netherton Hub.

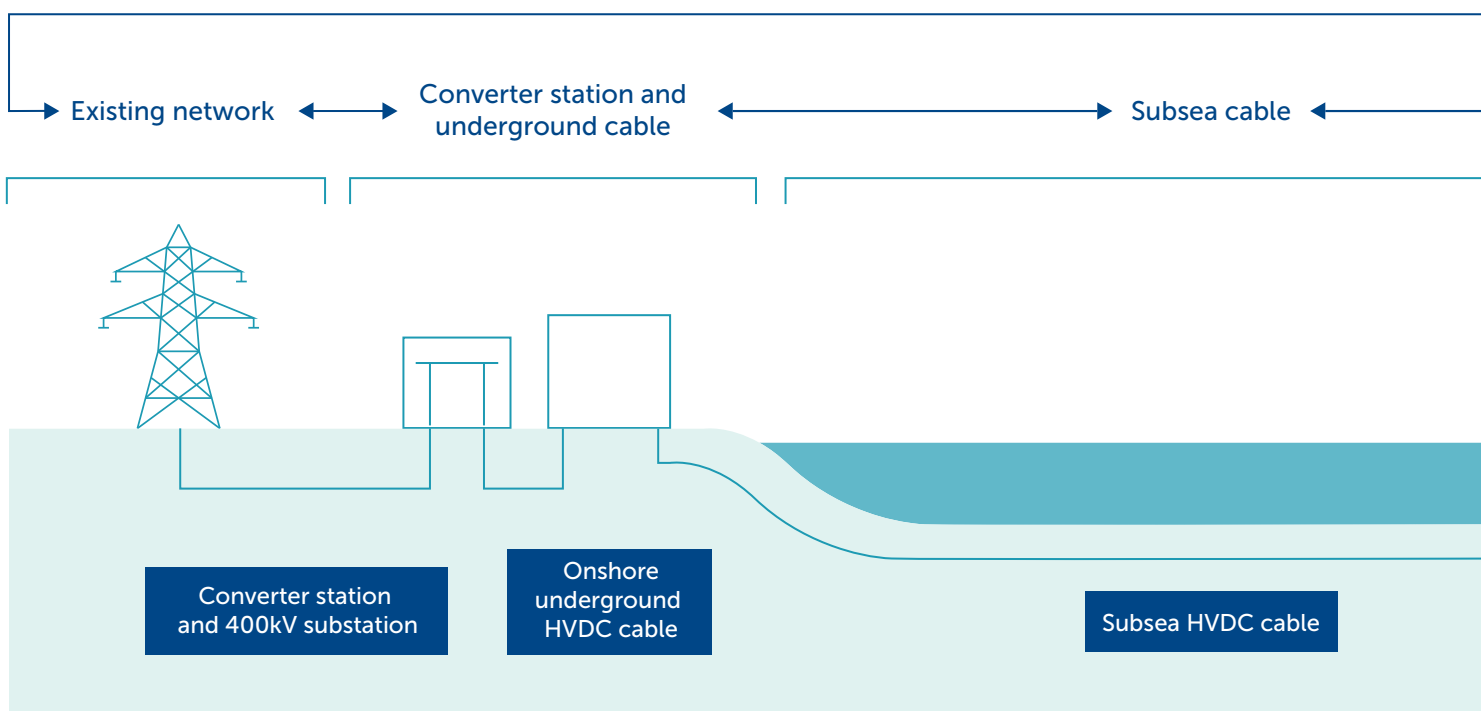
February 2024 We presented the proposed 500m-wide land cable route at Longside Parish Church Hall at the Netherton Hub consultation event.

May 2024 We presented the proposed 500m-wide land cable route at Longside Parish Church Hall at the Netherton Hub consultation event.

March – August 24 We carried out ground investigations to inform us of the suitability of ground conditions for the cable installation.

October 2024 We submitted an application for Planning Permission in Principle for the Netherton Hub, which includes the Eastern Green Link 3 converter station.

November 2024 Refinement of cable routes to 200m-wide preferred alignment.



Why we're here today

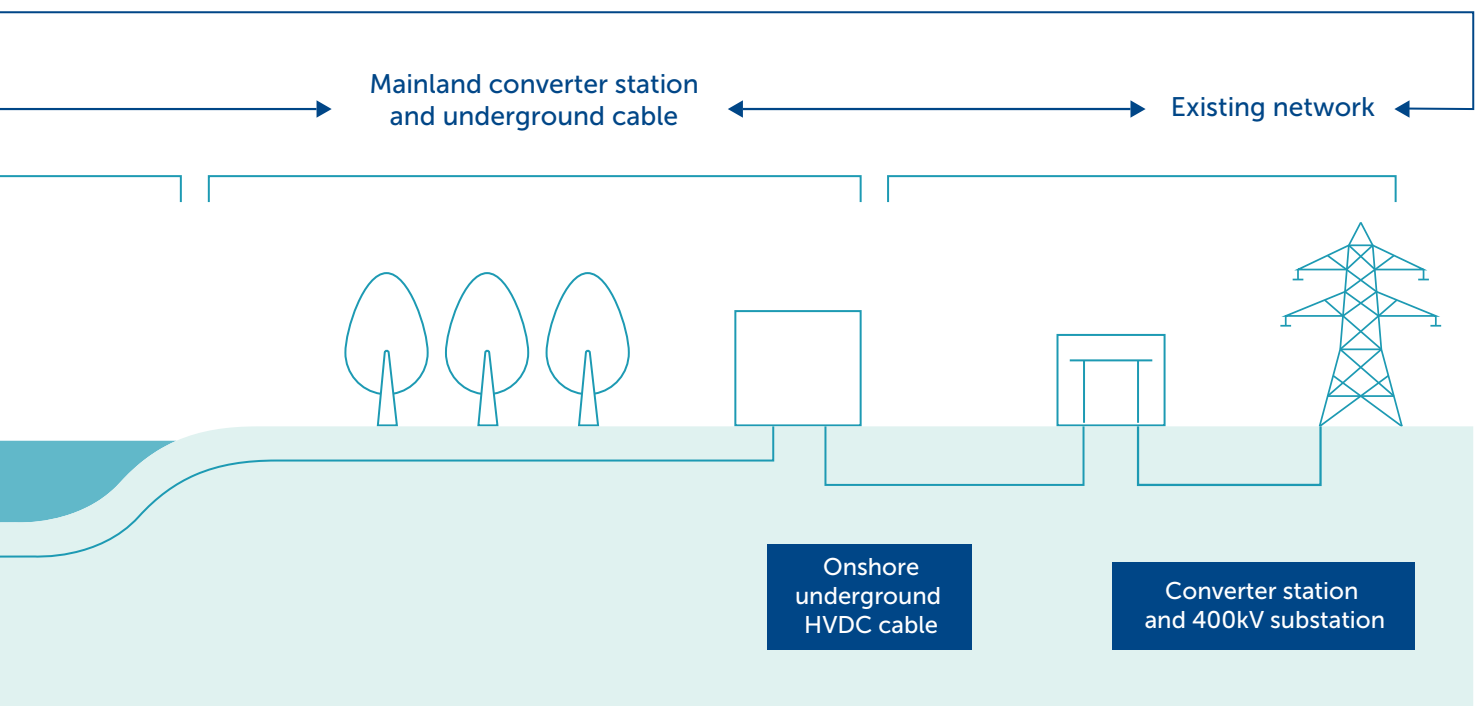
Our development of the land cable routes has seen us progress from conceptual route corridors over 1km wide linking various potential converter sites to multiple landfall locations. This has led us to refine our alignments to 200m wide.

Getting to this stage has involved a lot of engagement with key stakeholders including landowners, tenants, and statutory bodies. We have undertaken multiple engineering studies, ecological surveys and ground investigations, which have led to every section of the route being adjusted to take account of our stakeholders' feedback and the findings from our surveys.

Although the underground cable works are classed as Permitted Development, and do not require a planning application to the Local Authority, or a formal consultation process, we still consider it important to offer all our stakeholders the opportunity to consider our plans and provide feedback. While not all feedback can be acted upon, it is always considered.

We are now ready to share the outcome with the broader communities who may also have an interest in this project. We are therefore presenting our latest route alignment for information, and we welcome your questions or comments on anything that should be brought to the attention of the project team.

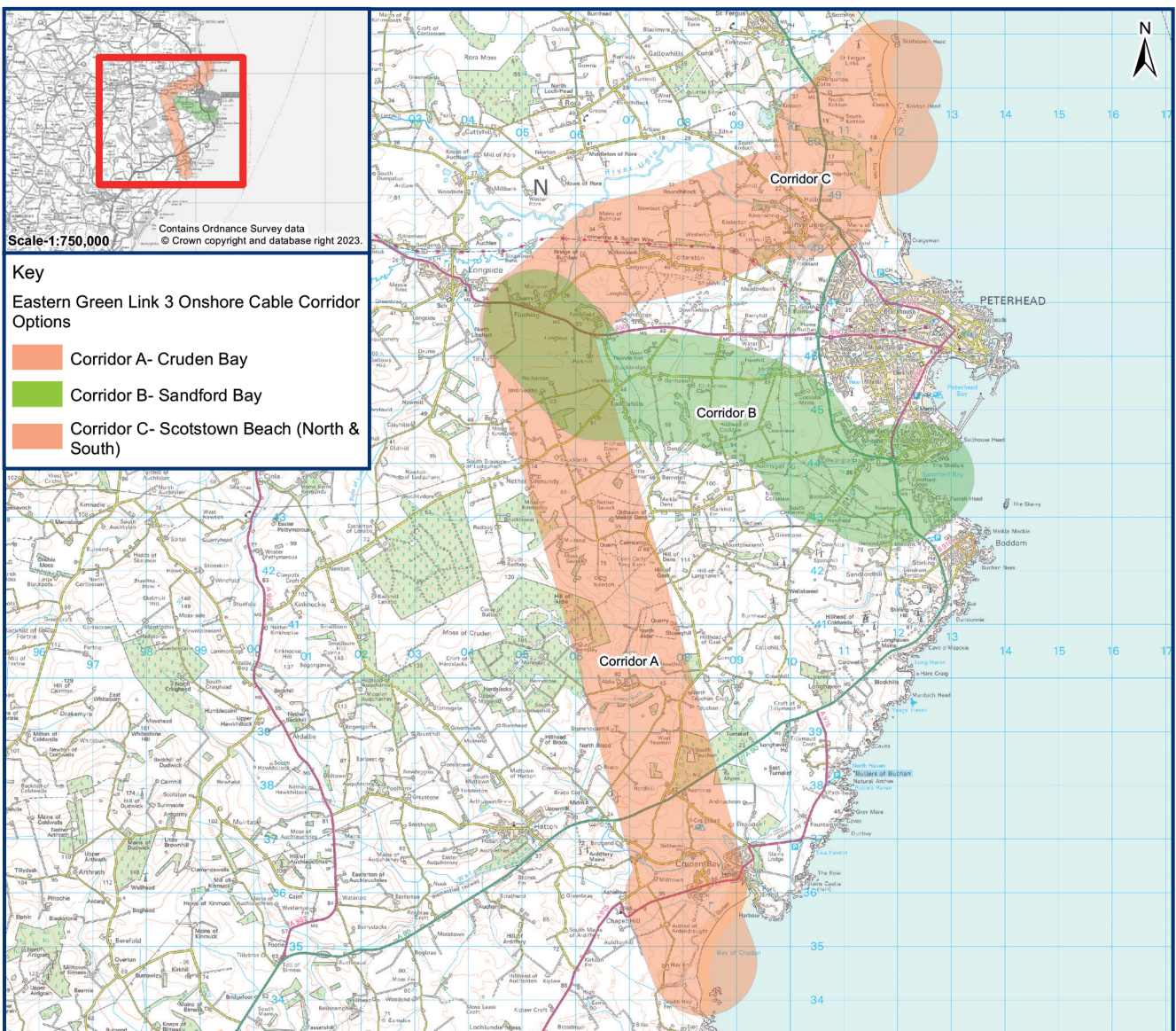
Some areas of the route continue to be under refinement and therefore we cannot present all the route in its final alignment, but the team would be happy to answer any questions you might have about particular sections.



Determining the onshore cable routes

We first shared information about Eastern Green Link 3 in June 2023. This map shows the three corridor (2km width) options into the area of Netherton Hub from the top four evaluated landfalls.

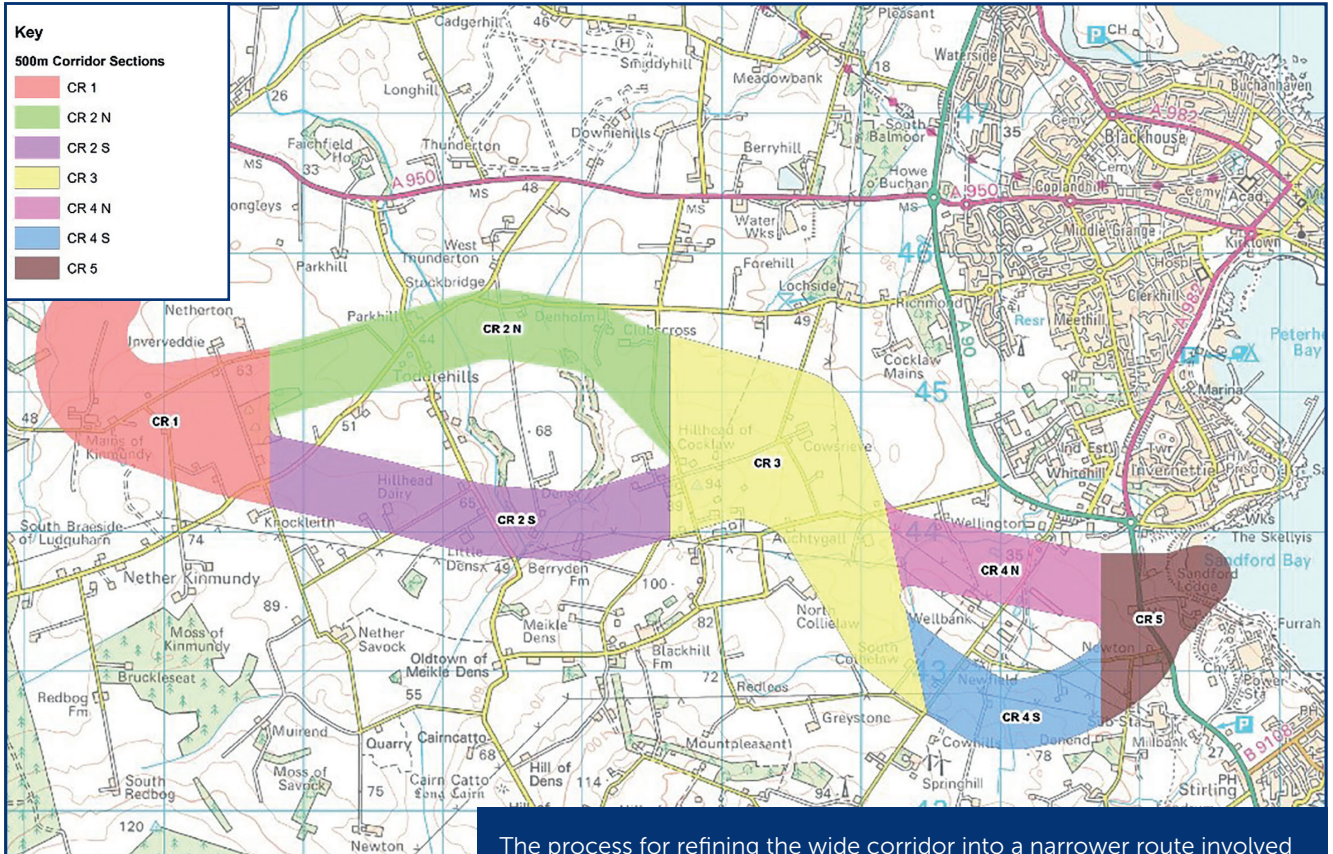
At the time we considered the route from Sandford Bay as the least constrained and following consultation we have retained this as our favoured cable corridor.



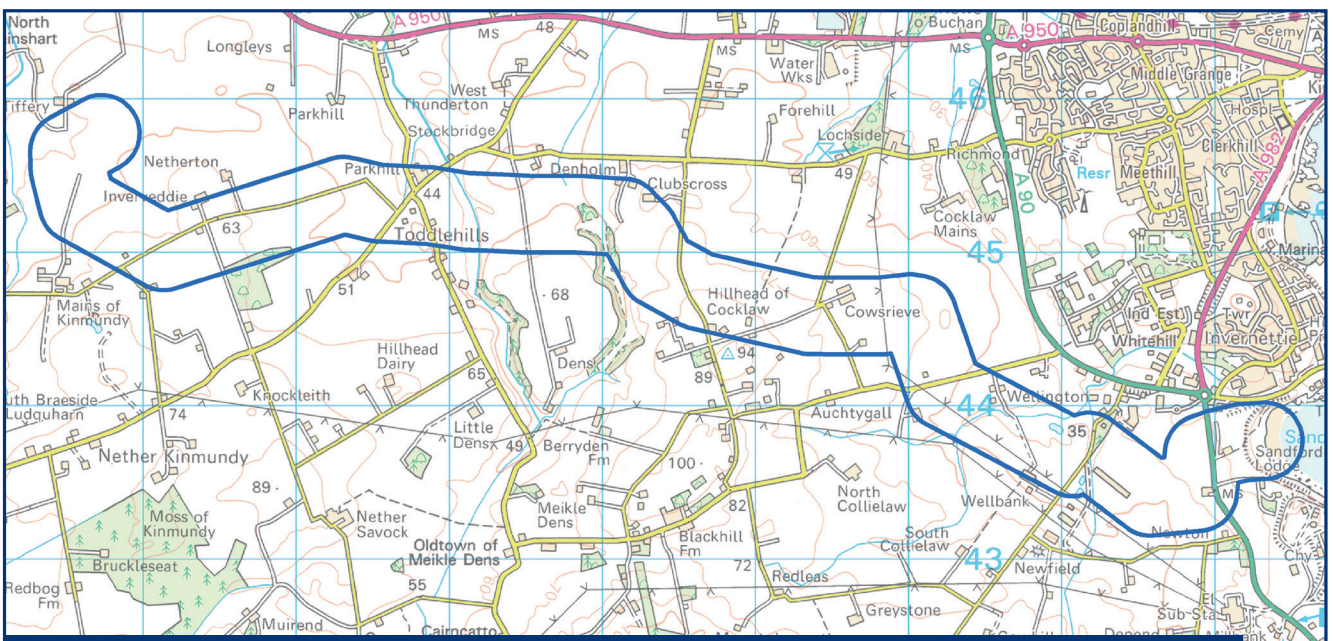
Cable route corridor options that were presented during our previous consultation events in June 2023.

Eastern Green Link 3 Underground land cable

These maps shows the refinement of the corridor to a route (500m width) and how they have been assessed by splitting the route into different options. The second image is the route that has been developed following public engagement and landowner discussions. It was shared during the Netherton Hub engagement events in February and May 2024.



The process for refining the wide corridor into a narrower route involved looking at various options as indicated by the coloured sections.

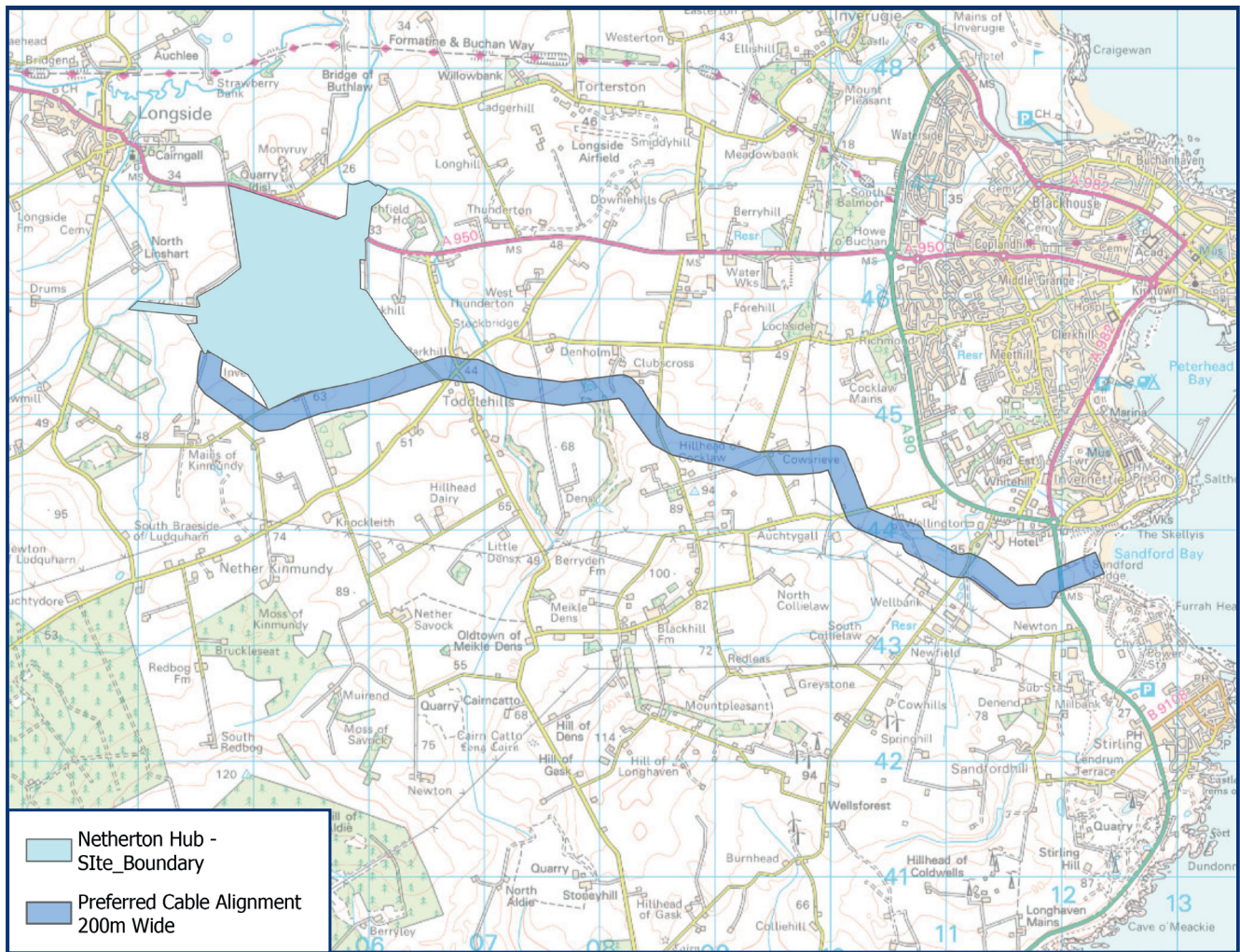


This is the route that we shared during the Netherton Hub engagement events in February and May 2024.


Our latest cable alignment

Our onshore cable alignment spans approximately 10km between Sandford Bay to the south of Peterhead and the proposed Netherton Hub near Longside.

The land cable will connect into one of the two converter stations within the proposed Netherton Hub.



Underground cable route between Netherton Hub and Sandford Bay



View large scale maps: Visit our webpage at: ssen-transmission.co.uk/projects/project-map/eastern-green-link-3/ or scan the QR code to access the large-scale maps of our cable alignments

Construction

The development of the onshore cable aspect of the project will not commence until we receive approval of the Marine Licence Application for the offshore works. We are scheduled to submit our Marine Licence application in August 2025 with an anticipated determination on this application by October 2026. If successful, the onshore cable installation is to begin no earlier than 2028.

Construction methods

The construction will be undertaken in stages. Prior to any cable installation, accesses will be formed from public roads where required. Some of these accesses may be retained permanently with the majority expected to be temporary. From these accesses a temporary road of either stone or matting will be created allowing the cable trench to be excavated.

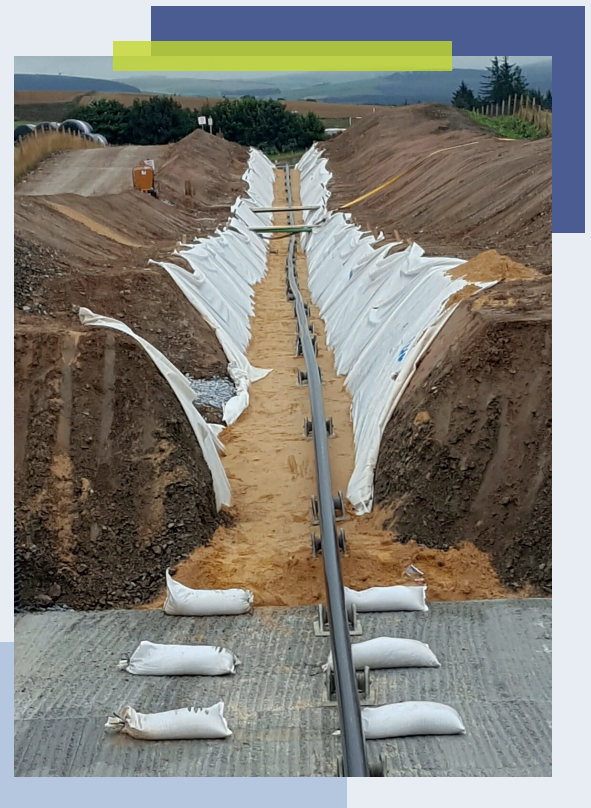
Once excavated a series of ducts for each of the assets will be laid side by side and then surrounded in a robust backfill material such as CBS (Cement Bound Sand) to protect them from any external forces they may encounter. Following installation of the ducts, the surface of the ground is reinstated in accordance with landowner's agreement.

Along the route there will be areas where each of the cable sections will be jointed. This is something that is subject to ongoing and detailed design, however in these areas there will be open excavations where each cable will enter the duct and pulled via a winch to the next joint bay.

Once cables have been jointed and the system has been tested, these joint bays will also be backfilled and reinstated. In some instances, there will be a permanent link box above ground. These will be in a mutually suitable area for both our own operations team and the landowner and will be fenced off with stock proof fencing. It may be necessary for our fibre optics to also have similar jointing locations however it is not likely for any link boxes to be required. In some more technically challenging areas, we may need to cross existing utility assets (e.g. gas pipelines, trunk roads and railways) or environmentally sensitive habitats such as rivers or peatland. It is yet to be fully determined if the standard laying methodology described on the previous page can be applied in any of these scenarios but an alternative method under consideration is known as HDD (Horizontal Directional Drilling).

Where necessary to HDD, it is the intention to drill and insert ducts at greater depths minimising impact to the environment. Where HDD is present, a drilling rig will be located within a hard standing compound. The preparation of this hard standing will likely require the import of stone or other hard materials which will later be removed with a view to full reinstatement of the area again.

Note, it is likely that a joint bay will be present in this HDD area.



Minimising our impacts

Impacts associated with the onshore underground cable are likely to be during the construction phase and therefore temporary in nature. As part of understanding and managing potential impacts to residents, we will work closely with the appointed contractors to review all activities that could cause disturbance.

This includes any noise that may be generated as part of our drilling activities. Noise assessments have been carried out around Sandford Bay with more planned along the cable route to allow us to understand, and therefore minimise, our impact. All working arrangements will be done in accordance with the relevant guidance.

Environmental considerations

Throughout the development of the cable route, including the initial identification of suitable corridors and the ongoing refinement process, the sensitivity of the environment is a key consideration for the project.

Various surveys looking for the presence of protected species and habitats including bats, otters, water vole, birds etc, have been undertaken and where identified these areas have been considered as constraints that the project has tried to avoid.

It is imperative that the project mitigates any impacts that it is likely to have through construction methods.

We have chosen our proposed alignment as it has the least constraints across engineering, environment and land topics. Specifically, we avoid designated Ancient Woodland and reduce the number of complex infrastructure crossings.

We will be carrying out a voluntary environmental assessment to understand any environmental impacts from installing and operating the underground cable and mitigation measures that will be in place during construction and operation of the scheme.

Many of these mitigations require input from our contract partners and the specifics of how we will manage the installation in these areas remains under consideration.

The nature of our cable installation means that although we will create some short-term disruption to the land, the design allows the ground reinstatement to minimise any impact.

As we expand the transmission network in the north of Scotland, we have a responsibility to design and build our projects to protect and enhance the environment.



Scan this QR code to read more about how we minimise impacts from our activities and achieve Biodiversity Net Gain.
ssen-transmission.co.uk/legacy-benefits



Engineering considerations

There are various engineering aspects to take into consideration when developing a cable route. Whilst there are different techniques to install cables there are still preferences to de-risk the installation, to minimise impact to the environment and to ensure a quality asset that will meet the intended lifespan.

Our ground investigation works give particularly good information for us to decide what method we choose and the route we take.

Below are some examples of technical challenges we take into consideration:

- **Cable bending radii**

The cables have limited bending ability so sharp angles either on the horizontal or vertical axis can cause problems when installing and if the design parameters are exceeded, there is a risk to the cable integrity.

- **Thermal properties of soils**

All electricity cables generate heat to some extent. If the soils around the cable do not allow the heat to dissipate then this can impact on the ability to run the cable at its intended capacity.

- **Ground conditions**

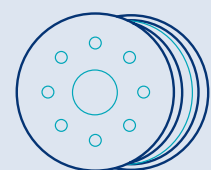
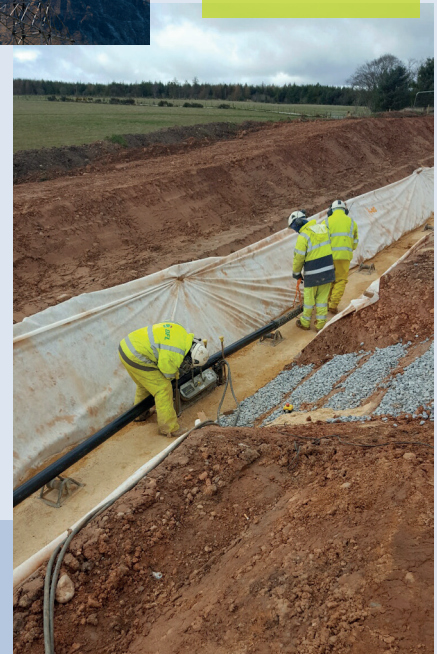
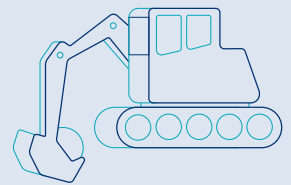
It is typically favoured to put a cable through arable farmland as this is usually the best soil conditions with enough soil to bury in. If we encounter shallow rock for example, this means we will need to do more work to get the ducts and cables in the ground.

- **Access**

The project will require large vehicles to carry plant and the cable drums. Access into the cable site can be limiting so where possible we try to stay close to main roads where access can be easier achieved without causing issues on minor or single-track roads.

- **Drilling**

In areas such as utility or river crossings where we anticipate HDD is required, we must consider the available area of land for drilling platforms, the ground conditions for drilling and the angle of the drill to crossing the utility. In some cases (e.g. gas pipelines), it is important that crossings are close to a 90-degree angle to minimise any impact.



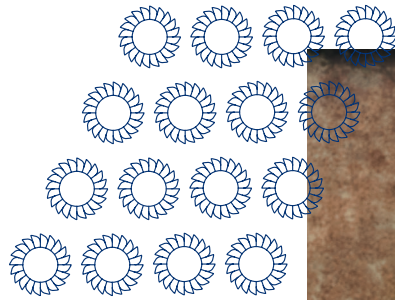
Working with landowners, occupiers and other stakeholders

Throughout the corridor selection and route refinement journey we have had numerous discussions with landowners, tenants, residents and other stakeholders directly impacted. It remains important to have all our stakeholders up to date on our progress, to be engaged in our discussions and to understand any concerns or issues that they may have, allowing us the opportunity to address these issues in whatever way is appropriate. These ongoing discussions are key to us finding a route that is acceptable to all and allows voluntary agreements to be reached.



More information on how we work with landowners is available at ssen-transmission.co.uk/landowners-and-occupiers or by scanning this QR code.





We understand that works of this nature can be disruptive to the local community, and we are committed to keeping local residents informed, which is why we are sharing the latest alignment today.

Information on our project's progress can be found at the following webpage:

ssen-transmission.co.uk/projects/project-map/eastern-green-link-3/



If you have questions

If you would like to be kept informed about this project, please register using the "Register for Project updates" section on our project webpage.

Thank you for taking the time to read this information booklet. If you have any questions about the project or information that you believe would assist the planning and delivery of this project, then please email or write to the Community Liaison Manager by **16 April 2025**.




Community Liaison Manager

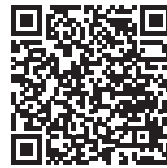
Gillian Doig

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Additional information

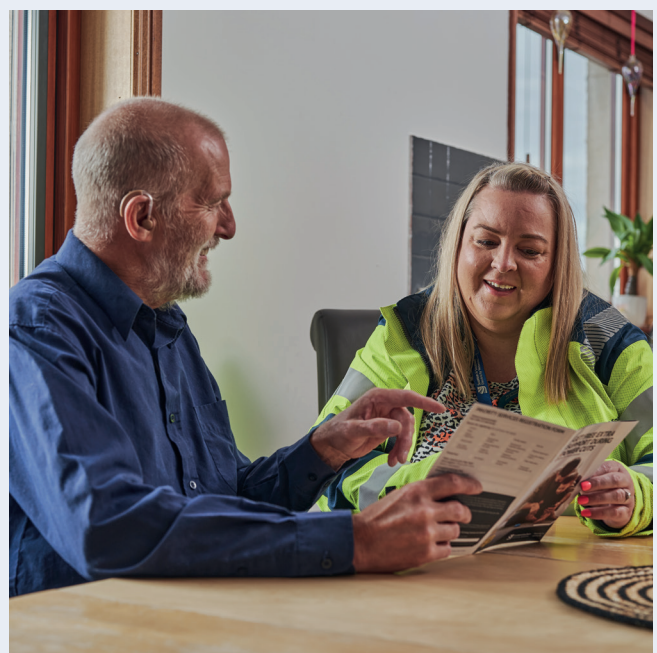


The best way to keep up to date is to sign up to project updates via the project webpage:
[ssen-transmission.co.uk/
projects/project-map/
eastern-green-link-3/](https://ssen-transmission.co.uk/projects/project-map/eastern-green-link-3/)

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