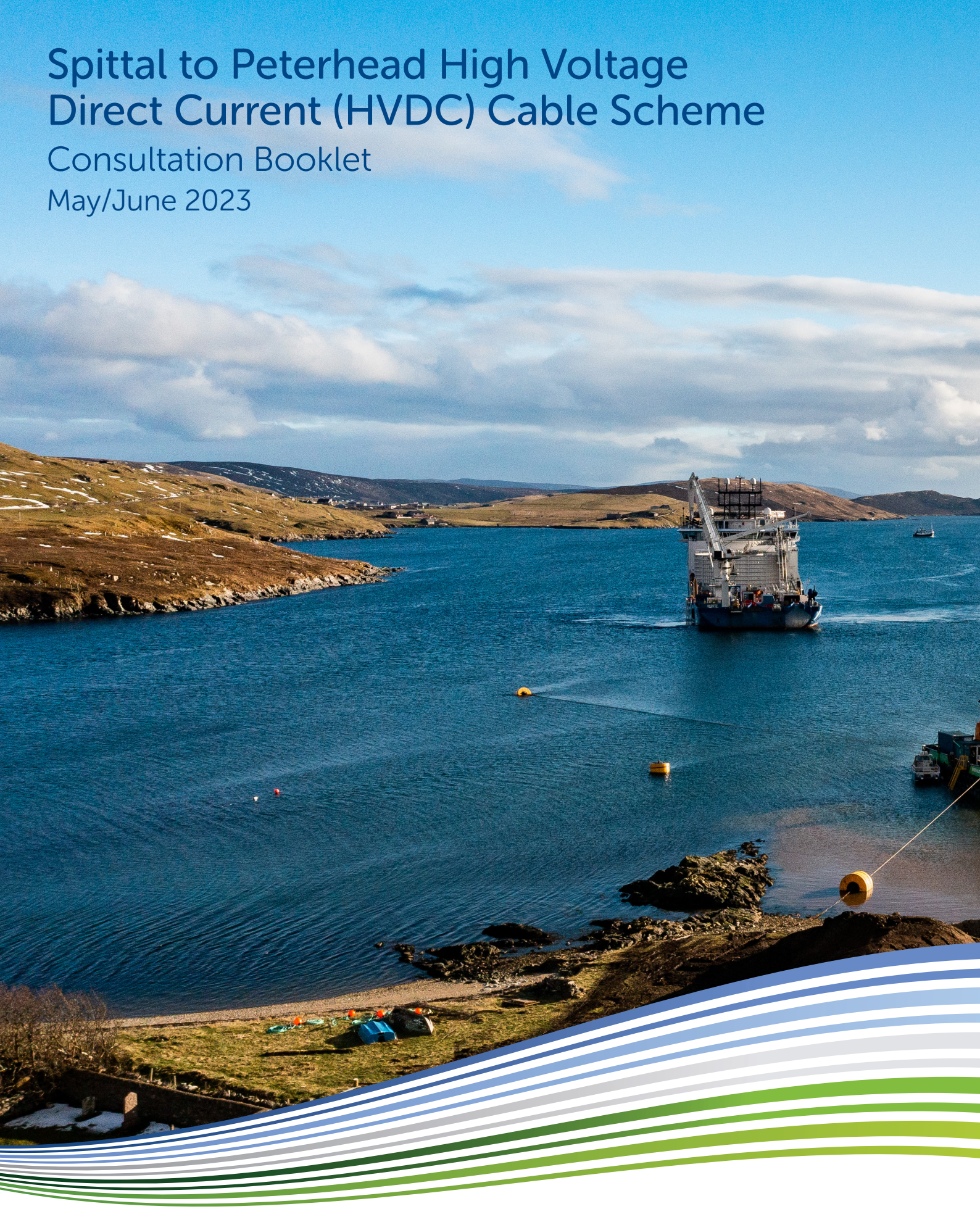
Spittal to Peterhead High Voltage Direct Current (HVDC) Cable Scheme

Consultation Booklet

May/June 2023



Scottish & Southern Electricity Networks

TRANSMISSION

Contents

Who we are

We are SSEN Transmission, the trading name for Scottish Hydro Electric Transmission. We are responsible for the electricity transmission network in the north of Scotland, maintaining and investing in the high voltage 132kV, 220kV, 275kV and 400kV electricity transmission network.

Our network consists of underground and subsea cables, overhead lines on wooden poles or steel towers, and electricity substations. It extends over a quarter of the UK's land mass, crossing some of its most challenging terrain.

Our first priority is to provide a safe and reliable supply of electricity to our communities. We do this by taking the electricity from generators and transporting it at high voltages over long distances through our transmission network for onwards distribution to homes and businesses in villages, towns and cities.

Our operating area is home to vast renewable energy resources and this is being harnessed by wind, hydro and marine generation. Working closely with National Grid, the GB transmission System Operator, we also enable these electricity generators to connect to the transmission system by providing their connections and allowing the electricity generated by them to be transported to areas of demand across the country.

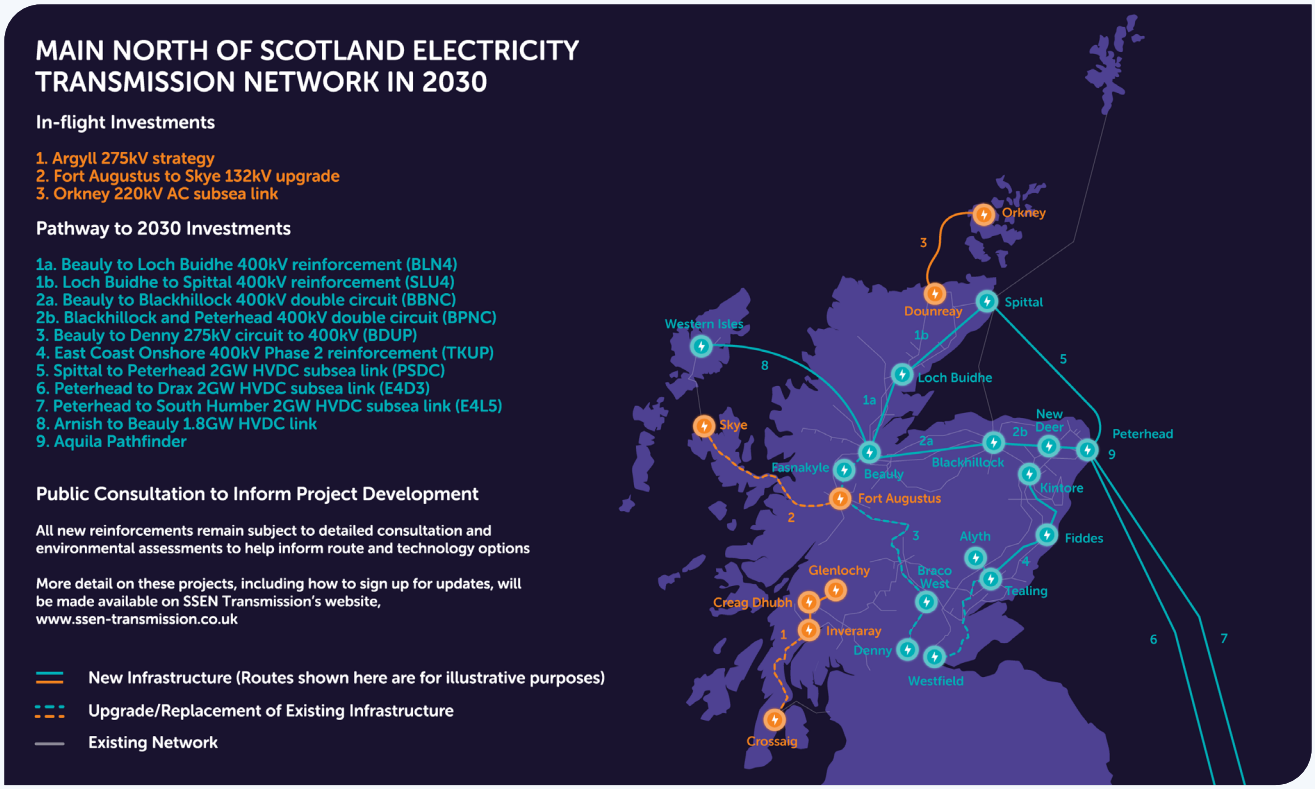
Scotland's transmission network has a strategic role to play in supporting delivery of the UK and Scotland's Net Zero targets. We're already a mass exporter of renewable energy, with around two thirds of power generated in our network area exported to demand centres further south. By 2050, the north of Scotland is expected to need 40GW of low carbon energy capacity to support net zero delivery. For context, we currently have around 8GW of renewable generation connected in the north of Scotland.

As a natural monopoly, we are closely regulated by the GB energy regulator, Ofgem, who determines how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network in the north of Scotland. These costs are shared between all those using the transmission system, including generation developers and electricity consumers. Following a minority stake sale which completed in November 2022, we are now owned 75% by SSE plc and 25% by Ontario Teachers' Pension Plan Board.

As a stakeholder-led business, SSEN Transmission is committed to inclusive stakeholder engagement, and we conduct this at an 'Advanced' level as assessed by AccountAbility, the international consulting and standards firm.

The Pathway to 2030 Holistic Network Design

In July 2022, National Grid, the Electricity System Operator (ESO) who are responsible for making sure that the electricity flows across the UK's system, balancing supply and demand at all times, set out how the transmission network needs to develop to accommodate the growth in renewable electricity across Great Britain. This also included the UK and Scottish Government's 2030 offshore wind targets of 50GW and 11GW. For the north of Scotland, this needs over £7 billion of investment in the transmission network to deliver the 2030 targets and help the country on its pathway to net zero and greater energy independence.

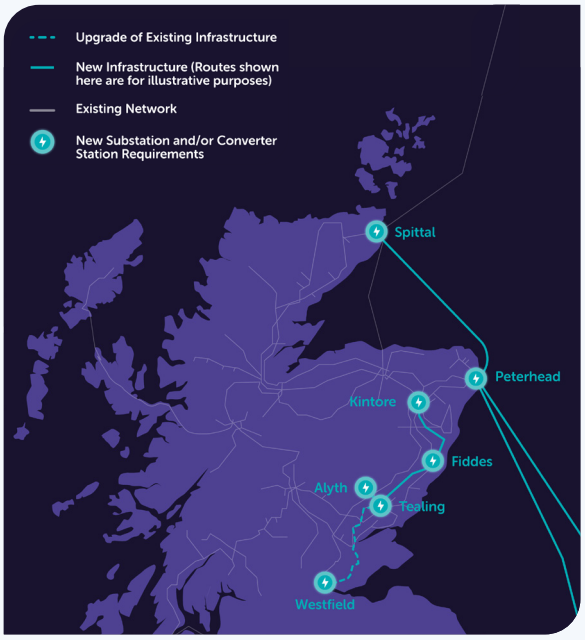


What does this mean for the North and North East of Scotland specifically?

Extensive studies informing the ESO's Pathway to 2030 Holistic Network Design confirmed the need to reinforce the onshore electricity transmission corridors between Beauly and Peterhead, Beauly and Spittal and the need for an offshore subsea cable between Spittal and Peterhead.

Providing a combination of new 400kV overhead lines and a 525kV subsea cable connection between these sites provides the significant capacity required to take power from large scale renewable energy generation (mainly wind farms) to the northeast mainland of Scotland. From there, it will be transported to demand centres further south including England by sia subsea High-Voltage Direct Current (HVDC) links.

To enable these connections, new 400kV substations are also required at key locations as shown on the map above. At Spittal, Beauly and Peterhead high voltage Alternating Current/Direct Current (AC/DC) converter stations are also required to convert AC electricity to DC (and vice versa), from offshore subsea connections from the Western Isles, between Spittal and Peterhead and between Peterhead and England. These 'hub' areas will also allow offshore and onshore renewable generation to connect to the reinforced electricity network. These projects are critical to enable the delivery of the UK and Scottish Governments 2030 net zero targets, and have a requirement for accelerated development and delivery.

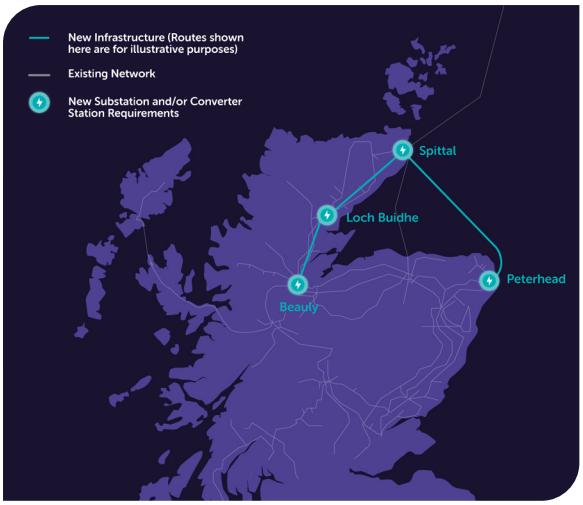


Spittal to Peterhead HVDC project need and overview

Project need

To meet the requirements of increasing renewable energy generation, multiple projects are being developed by SSEN Transmission. Extensive system studies have been completed to inform the ESO's 'Pathway to 2030 Holistic Network Design', confirming the requirement to develop new substations near Spittal in Caithness and Peterhead in Aberdeenshire.

To transfer the increasing amounts of renewable power generated in the North of Scotland to demand centres in the South, a 525kV HVDC link via subsea cable from Spittal to Peterhead is required in addition to a new 400kV overhead line between Spittal and Beauly. Additional transmission infrastructure will also be developed as part of other projects to support onward transfer of power, such projects include the Eastern Green Link 2. Further information on the Eastern Green Link 2 project can be found on our website: **ssen-transmission.co.uk/projects/project-map/eastern-green-link-2/**



Project overview

This project will use the latest technology to provide a 2GW bi-pole, 525kV HVDC link between Spittal in Caithness and Peterhead in Aberdeenshire. This will enable the efficient transmission of high volumes of power from the North of Scotland to the network at Peterhead, where other infrastructure will facilitate further transmission to demand centres.

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 Spittal and Peterhead, depending on the directional flow of the power. Consultations for the converter station sites have begun and future consultations will be held throughout 2023 and 2024.

Connections between these assets will be via HVDC cables buried either underground or below the seabed. In Caithness, the land cable corridor is likely to stretch approximately 30 km between the Spittal converter station and the area of Sinclair's Bay where it will transition to the subsea cable.

The subsea cable route is subject to final determination of the landfall in Aberdeenshire or Morayshire however the subsea cable may cover up to 170km before making the transition back to land cable again. The length of the land cable corridor in Morayshire or Aberdeenshire will also depend on the final landfall location, however it could be as long as 57km to reach the site for the Peterhead Net Zero 2030 Developments. The cables will also pass through a neighbouring HVDC switching station which will provide further resilience to the network.

Unlike previous projects, the design of this system requires the inclusion of an additional cable to reinforce the network in the event of a cable or other equipment fault. This additional cable is referred to as the Dedicated Metallic Return (DMR) and will be installed alongside the standard bi-pole arrangement of two HVDC cables and a fibre optic cable for communications.

Peterhead Net Zero 2030 Developments

To achieve the planned Pathway to 2030 investments, there is a requirement to develop a second 400kV substation, a second 132kV substation, and two HVDC link converter stations at Peterhead. All of these developments will occur at a single site to help to minimise impact to the local community. Further information about the Peterhead Net Zero 2030 Developments can be found at:

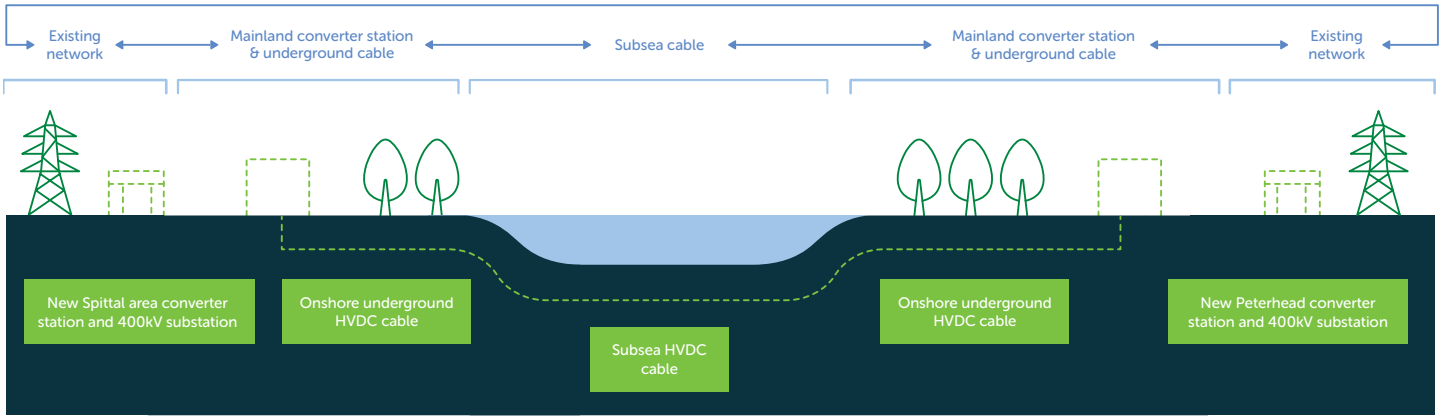
ssen-transmission.co.uk/projects/project-map/peterhead-net-zero-2030-developments

Spittal Hub Developments

A new 400kV substation at Spittal is required to connect a number of new developments, including the new converter station for this project and the Spittal – Loch Buidhe – Beauly 400kV overhead line. These developments will be subject to extensive consultation.

Further information about these projects can be found at North Highlands - SSEN Transmission (ssen-transmission.co.uk)

Spittal to Peterhead HVDC project need and overview



Project timeline

2023
- Consultations with stakeholders and statutory consultees.
- Onshore, offshore, and engineering surveys commence.

2024
- Marine Licence Pre-Application Consultation.
- Marine Environmental Assessment and Licence Application submission.
- Onshore Voluntary Environmental Assessment completion.

2025
- Project receives Marine Licence.
- Commencement of cable manufacture.

2026
- Commence onshore cable installation.
- Marine pre-installation activities.

2027 –2028
- Continue onshore cable installation.
- Marine cable installation.

2029 – 2030
- Marine cable installation completed.
- Onshore cable installation complete.
- Commissioning and energization.

Our consultation process

At SSEN Transmission, we are committed to delivering a robust and transparent consultation process underpinned by inclusion and accessibility. As a stakeholder led business, we understand the importance of involving communities and key stakeholders throughout each stage of our development process.

This period of engagement in the development phase is vital in shaping our proposals and to do this effectively, we need to capture feedback from stakeholders, harness local knowledge to identify key risks and explore potential community benefit opportunities. Today we are presenting our approach to developing this project, including environmental considerations, preliminary landfall selection, routing processes, and presenting maps which aim to give all stakeholders a better visual representation of the project to date.

This event is intended to provide a high-level overview of the project, and to specifically present information about the potential locations of landfall for the marine scheme elements and associated cables. If you require additional support to submit your views, please contact our Lead Community Liaison Manager Dav Lynch who will happily assist you.

What we're consulting on today

Desktop surveys and early analysis have enabled us to identify our preferred options for this project's marine cable landfall locations, onshore cable corridors and potential subsea cable corridors. Sharing our approach to developing this project and the rationale behind our early proposals, we are keen to hear stakeholder views around these proposals and if there are further considerations you believe need to be included during the next stage of the development process.

Who we're consulting with

We are interested in hearing feedback from a broad range of stakeholders including, but not limited to, local residents, landowners, businesses, non-statutory consultees and statutory consultees including local authorities, SEPA, Nature Scot, Historic Scotland, the Maritime and Coastguard Agency, Northern Lighthouse Board, and Marine Scotland.

Subsea cables and landfall

Why are subsea cables important?

Subsea electricity transmission cables are important critical infrastructure that carry power from areas where power is generated to areas of high demand, where the power is consumed. Subsea cables provide an alternative to onshore power transmission and can help to increase redundancy and security of the energy system.

The proposed HVDC system will be approximately 200km - 220km in length, with up to 170km of subsea cable linking potential landfall sites. The subsea HVDC system will consist of two conductor cables, one dedicated metallic return cable and one fibre optic communications cable which are planned to be installed in a single trench. These cables will be installed within one of the proposed marine cable corridors. These corridors are 1km wide to allow for route refinement informed by detailed landfall assessment, marine surveys and engineering activities.

Wherever possible, the offshore cables will be buried in the seabed to protect them. Where burial is not possible, they will be protected using rock berms placed on top of the cables or an external cable protection system.

Cable landfall

Cable landfalls, or landing points, are the locations where our subsea cables come ashore.

Where possible, subsea cables are buried under the seabed to protect the cable from damage. When bringing the cable ashore, a section of the shoreline is excavated and ducts installed that will carry the cable from under the seabed onto land. The cable is then pulled through the installed ducts, which are then buried, and the shoreline is reinstated. This method is called 'open-cut trenching'.

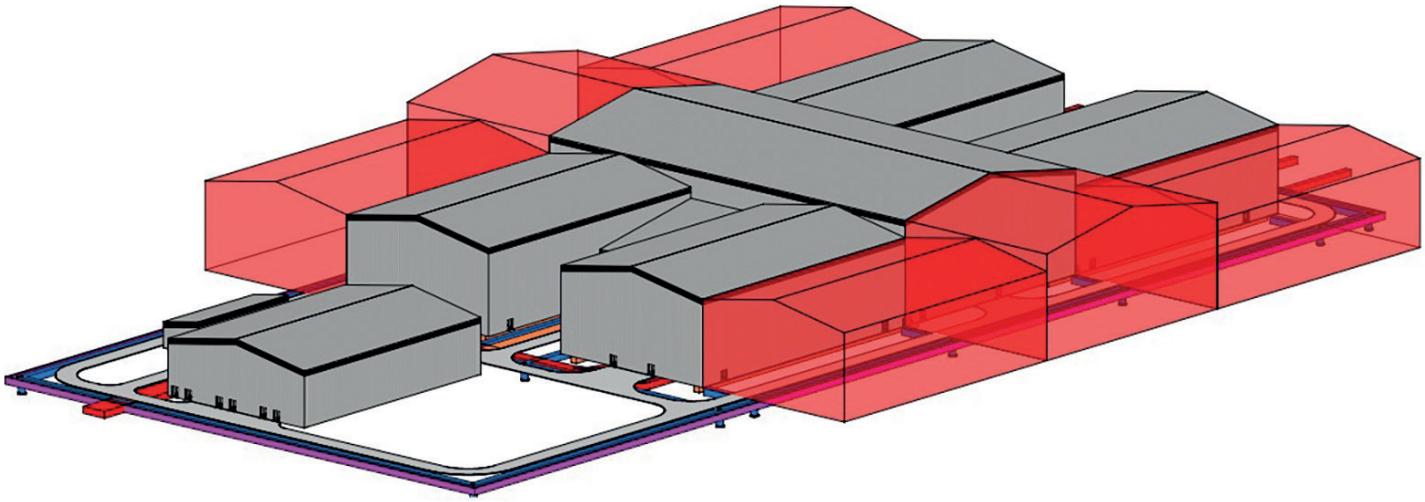
Where open-cut trenching is not possible, a horizontal directional drilling (HDD) approach can be used to drill and install ducts underground through the shoreline, providing an alternative method for cable landfall in areas of bedrock or challenging geology.

DC switching station

What is a DC switching station?

A modern component in the UK's energy network, switching stations facilitate the option to connect and disconnect DC transmission lines or other components such as generation to and from the system through a series of switches providing redundancy in the network. The switching station will provide redundancy in the network by allowing connections to the northern and southern elements of the UK network while providing uninterrupted connections for maintenance and similar works.

Conceptual drawing of a 4 bay DC switching station with provisional expansion



Switching station requirements

A switching station requires a large area of level ground similar to that required for a HVDC converter station.

All equipment would be contained within a large metal cladded, climate-controlled building, with other smaller auxiliary buildings adjacent.

The buildings would typically consist of suitably coloured steel cladding with a pitched roof.

All of the finished building designs are subject to approval with the local planning authority.

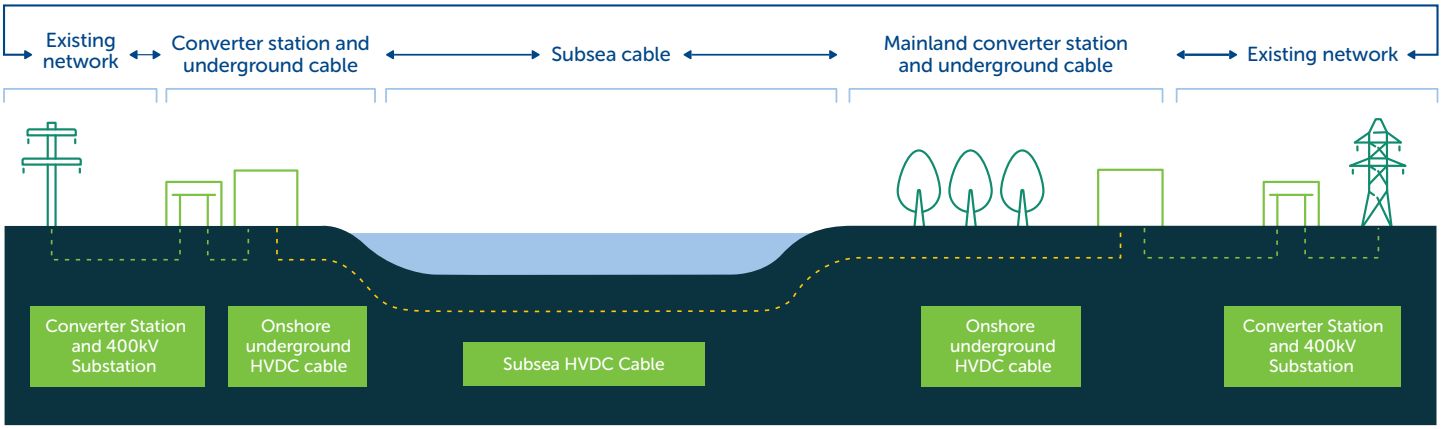
Switching stations are located along the DC transmission network between converters to provide the facilities described above.

This project will connect to a DC switching station at the Peterhead Net Zero 2030 Developments.

HVDC converter station

What is a converter station?

This is a site which converts Direct Current (DC) to Alternating Current (AC) or AC to DC. AC is how our houses and businesses use electricity from the grid. HVDC is a well-established technology that allows the efficient transmission of large quantities of electricity across long distances, with much reduced electrical losses compared with AC. It also introduces greater flexibility and resilience in the operation of the network and the management of variable outputs from renewable generation. A converter station needs to connect to a substation or switching station to access the AC network.



Converter station requirements

A Converter station requires a large area of generally level ground. Approximately 290m x 325m. Most of the equipment would be contained within a large metal cladded, climate controlled building, with other smaller auxiliary buildings adjacent.

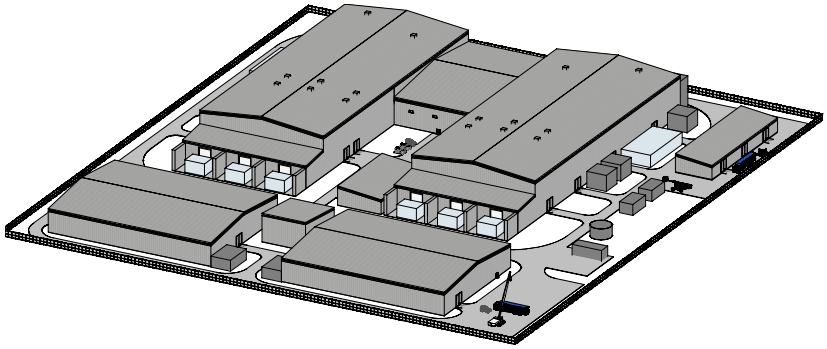
The buildings would typically consist of suitably coloured steel cladding with a pitched roof.

The proposed rating of the subsea links requires the main building to taller than the other buildings being proposed.

This is due to the clearance distance required between the high voltage equipment and the buildings' structure.

All of the finished building designs are subject to approval with The Aberdeenshire Council.

Converter stations need to be located as close to the AC transmission network as is practicable to minimise additional infrastructure and improve network operation.



Indicative conceptual design for 2GW 525kV Bipole converter station

The 320kV DC 1200MW Blackhillock HVDC converter station

Our landfall selection and routing process

SSEN Transmission's approach to cable landfall selection and cable routing is underpinned by our statutory obligations and industry recommended practice.

As defined by our statutory obligations, SSEN Transmission aims to: 'Develop and maintain an efficient, coordinated and economical electricity transmission system in its licenced area' and in so doing, to 'have regard to the desirability of preserving the natural beauty, of conserving flora, fauna and geological and physiographical features of special interest and protecting sites, buildings and objects of architectural, historic or archaeological interest; and do what we reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites buildings or objects'.

These duties capture the principal objective of the landfall selection and routing process which is to:

- Balance technical and cost considerations with environmental considerations;
- Select a proposed alignment which is economically viable and technically feasible;
- Minimise impacts on important resources or features of the environment to reduce disturbance to those living in it, working in it, visiting it or using it for recreational purposes.

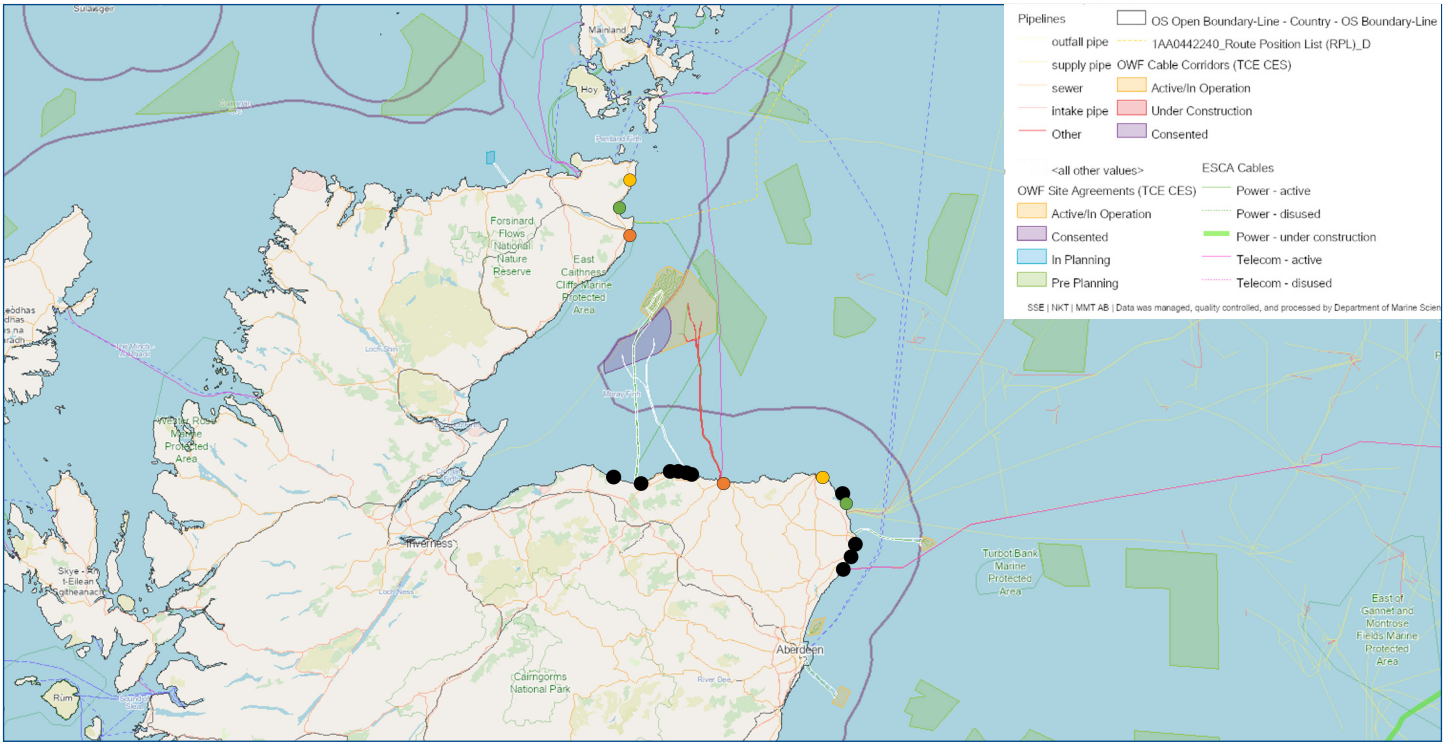
The starting point for all marine cable projects is to establish the need for the project and to select the preferred strategic option to deliver it. This process is triggered by the preparation of several internal assessments and documents which identify the cable technology to be used and the point on the existing transmission network where a connection can be made. In this case the new Spittal Area 400kV substation and the Peterhead Net Zero 2030 Developments were identified as key connection points for the project.

Once connection points have been identified, cable landfall selection and associated onshore and offshore routing follows a number of refinement stages to determine the most appropriate landfall locations. When selecting subsea cable routes and landfall locations, SSEN Transmission follows industry-wide guidance provided by regulatory bodies and standards organisations including DNV-GL, NatureScot, and SEPA.

ssen-transmission.co.uk/projects/project-map/spittal--peterhead-subsea-cable-link

Landfall selection: what we considered

Preliminary marine cable landfall search areas were identified along the Caithness, Morayshire and Aberdeenshire coastlines to allow for connections to new substations at Spittal and at the Peterhead Net Zero 2030 Development. Within these search areas, potential landfalls characterised by soft sediment (sandy or gravelly) bays were identified and assessed using a 'Red/Amber/Green (RAG) assessment approach considering high, medium and low impacts.



All potential landfalls identified for this project are illustrated in the map above. Black dots represent landfalls that were not taken forward for detailed investigation. Green, amber, and orange dots are potential landfall sites that have been taken forward for further investigation.

A RAG assessment is an evidence based, qualitative evaluation method based on a series of agreed criteria that allow for comparison and differentiation between options. Through this process, each potential landfall was assessed as red, amber or green based on the following criteria:

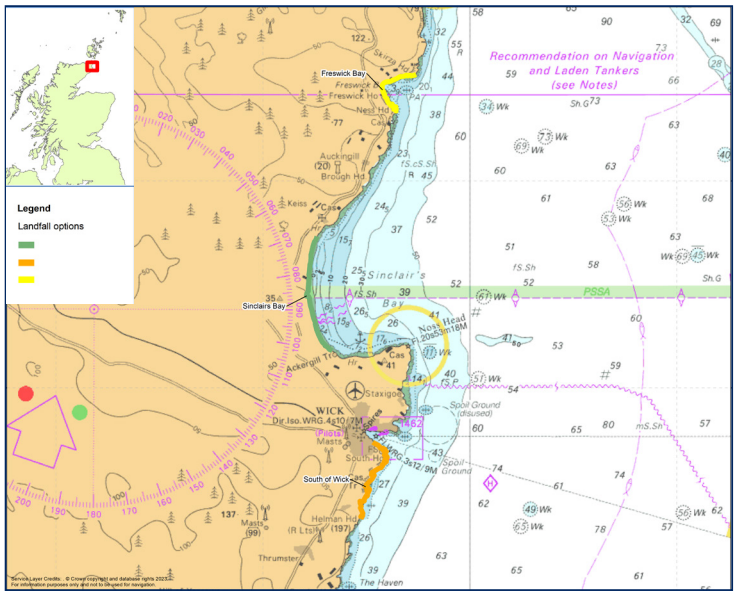
- Terrestrial environment: designated areas and features such as Special Site of Scientific Interest (SSSI), Special Protected Areas (SPA), Special Area of Conservation (SAC) and nature reserves, and features determined through landscape character assessments (LCAs), cultural heritage, water designations.
- Marine environment: seabed conditions and constructability, designated areas and features such as Marine Protected Areas (MPAs), interactions with other sea users (e.g. commercial fisheries, offshore wind farms, shipping/navigation), cultural heritage, and marine cable length.
- Geotechnical: sediment depth, presence of bedrock, glacial till, deposits, blown sand.
- Landfall engineering: constructability, site access, cliff gradients, environmental effects on cable ratings.

A summary of the outcomes of these preliminary RAG assessments can be found in the tables that follow.

Landfall site options: North

Of the landfall zones identified, three locations have been taken forward for further investigation and a RAG assessment:

- Freswick Bay, which features a soft sediment bay east of Freswick;
- Sinclair's Bay, a wide soft sediment bay north of Wick; and
- South of Wick, cliffs along the stretch of coastline south of Wick.



The following table summarises the outcomes of the RAG assessment for the potential three landfall locations in Caithness:

Category	Freswick Bay	Sinclair's Bay	South of Wick
Marine environment landfall and offshore cable	M	M	H
Environment and consent landfall	H	M	H
Geotechnical engineering	L	L	M
Engineering landfall	L	L	M

Freswick Bay

Freswick Bay is a soft sediment bay, surrounded by cliffs. There are numerous heritage and environmental designation at or near the site that would make the landfall more challenging to deliver including the North Caithness Cliffs SPA and a Viking settlement (a scheduled ancient monument). Extensive areas of peat along the cable route from the landfall site also pose environmental and cable engineering constraints. Strong offshore currents and mobile sand waves could make subsea cable installation challenging at this location.

Sinclair's Bay

Sinclair's Bay is a long wide soft sediment bay with an established sand dune system. There are no environmental designations along the bay and there are relatively few engineering constraints in terms of constructability (provided that the Subsea7 pipeline launch facility and operations can be avoided). Sinclair's Bay has good access to the shore, although construction works would need to avoid nearby heritage features. Any potential interactions with the Loch of Wester SAC located west of the site would require careful planning and approvals. There are no major offshore constraints to a landfall in this location, provided that the charted anchorage and aforementioned Subsea7 pipeline launch route can be avoided. It is also noted that Wick Golf Club is sited within the middle section of Sinclair's Bay and should be considered in landfall refinement.

South of Wick

The area to the south of Wick is characterized by sea cliffs, and so construction of a cable landfall is considered feasible but more challenging when compared with larger soft sediment bays. A significant constraint in this location is the number of designations within both the marine and onshore environments, including the East Caithness Cliffs (MPA, SPA and SAC) and Castle of Old Wick to Craig Hammel SSSI.

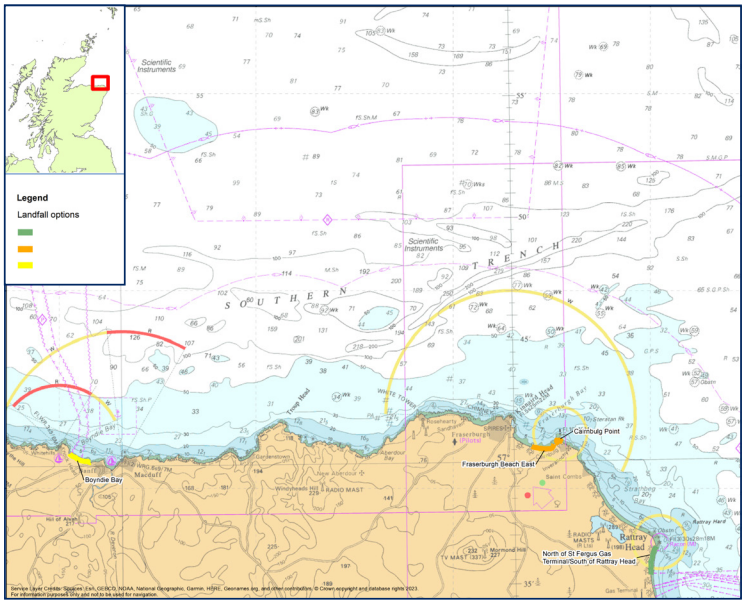
Overall finding

Sinclair's Bay is considered to be the option with the least constraints across engineering, environmental onshore and offshore constraints. Further investigations will be undertaken to choose a preferred location and site for the landfall. This process will be informed by stakeholder feedback and further technical analysis.

Landfall site options: South

Following identification of suitable landfall zones, 14 potential landfall locations were taken forward for further investigation, of which 3 were subjected to a detailed RAG assessment:

- Boyndie Bay, which features a soft sediment bay near to Banff;
- Fraserburgh East, a wide soft sediment bay located to the east of the bay near Cairnbulg; and
- North of St. Fergus, a wide bay with established sand dunes, located to the North of St. Fergus and the nearby gas terminal.



The following table summarises the outcomes of the RAG assessment for the potential three landfall locations:

Category	Boyndie Bay	Fraserburgh	North of St. Fergus
Marine environment landfall and offshore cable	M	M	L
Environment and consent landfall	M	M	M
Geotechnical engineering	M	M	M
Engineering landfall	H	H	M

Boyndie Bay

Boyndie Bay is a wide, soft sediment bay, with good access to the shoreline. This landfall would result in potentially the shortest offshore cable route and the longest onshore cable route to the Peterhead Net Zero 2030 Development. Rock escarpments at the edges of the bay could impact successful offshore burial of the cable. The bay is also well used for recreational activities and any potential effects on users must be minimised during construction. The landfall is located near to a water framework directive waterbody and there is a known flood risk in the area.

Fraserburgh East

Fraserburgh East is an open, soft sediment bay, with a potential landfall location at the eastern end. There is significant onshore and offshore recreational activity in the area, and a high density of vessel traffic including commercial fisheries. The proposed landfall location is also in the vicinity of planned housing developments and a cemetery which would constrain construction activities. Offshore, strong currents, rock outcroppings, and mobile sand waves would provide challenging conditions for cable installation and burial.

North of St Fergus

There is a wide soft sediment bay with an established dune system North of St Fergus. Due to this dune system, there are additional challenges around access and a more complex landfall solution. This option presents the shortest onshore cable route, but conversely the longest marine cable route. The marine cable route has comparatively less interaction with marine habitats and species when compared with the other landfall options, and lower vessel traffic immediately offshore. Onshore there are fewer interactions with existing infrastructure such as roads.

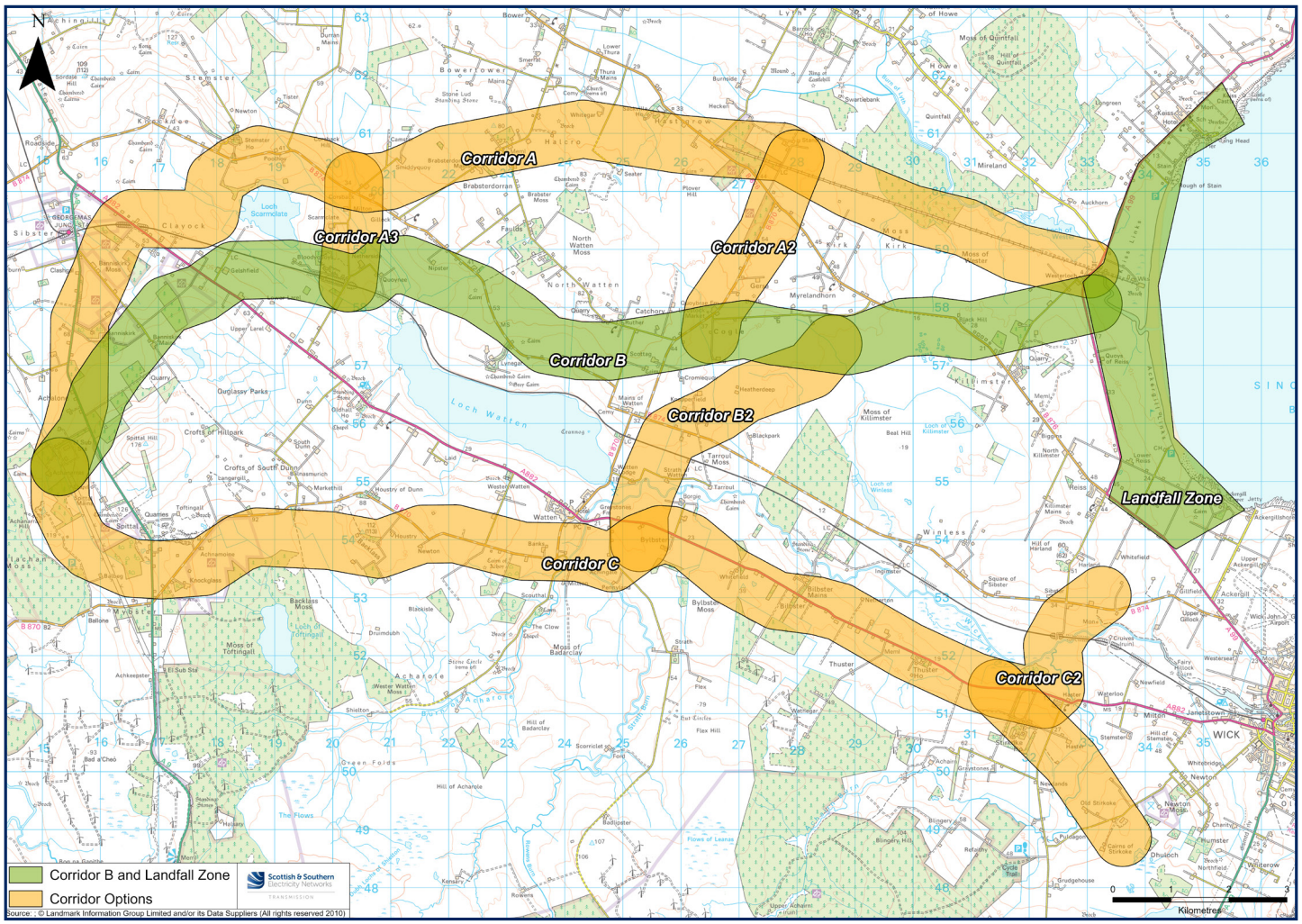
Overall Findings

North of St Fergus is considered to be the option with the least constraints across engineering, environmental onshore and offshore constraints. Further investigations will be undertaken to choose a preferred location and site for the landfall. This process will be informed by stakeholder feedback and further technical analysis.

Onshore cable corridor options: North

Onshore cable corridors were developed in three broad areas connecting the Spittal Hub to the landfall zones. A number of subsidiary options were also considered as part of the appraisal, but these were not investigated further as they did not reduce any of the identified potential impacts. The three broad areas are:

- Corridor A: From Spittal travelling north of Loch Scarmclate and moving east towards the Subsea7 rail link with landfall connections either at Freswick Bay or Sinclair's Bay;
- Corridor B: From Spittal travelling between Loch Scarmclate and Loch Watten, and through to landfall connections either at Freswick Bay or Sinclair's Bay; and
- Corridor C: From Spittal travelling south of Loch Watten and along the A882, connecting to landfall around Wick or Sinclair's Bay.



Onshore cable corridor options: North

The following table summarises the outcomes of the RAG assessment for the potential three landfall locations in Caithness:

Category	Corridor A	Corridor B	Corridor C
Natural Heritage Designations	H	M	H
Cultural Heritage Designations	H	H	H
Landscape Designations	H	H	H
Agriculture	L	L	L
Forestry	M	M	M
Infrastructure Crossings	M	M	H
Environmental Design	L	L	L
Ground Conditions	H	H	M
Construction/Maintenance	M	M	M
Proximity to other infrastructure	L	L	M
Design	M	M	M

Corridors A and B both overlap lochs that are designated European sites (SPA/SAC). Corridor B's overlap is marginal and can likely be avoided with additional route refinement. Corridor A's impact to the Loch of Wester is likely to be more intrusive than Corridor B. The Wick River Marshes SSSI is in close proximity to Corridor C.

All three corridors contain various cultural heritage assets. However, the presence of Stirkoke House (a Grade B listed building) within Corridor C is a significant constraint, creating a tightly restricted section for the cable alignment to pass through.

Corridors A and B must both cross an area of peatland, although area of impact is likely to be less for Corridor B. This area of peatland also poses engineering challenges for cable construction. Conversely, Corridor C would require more complex crossings of the River Wick and River Achairn.

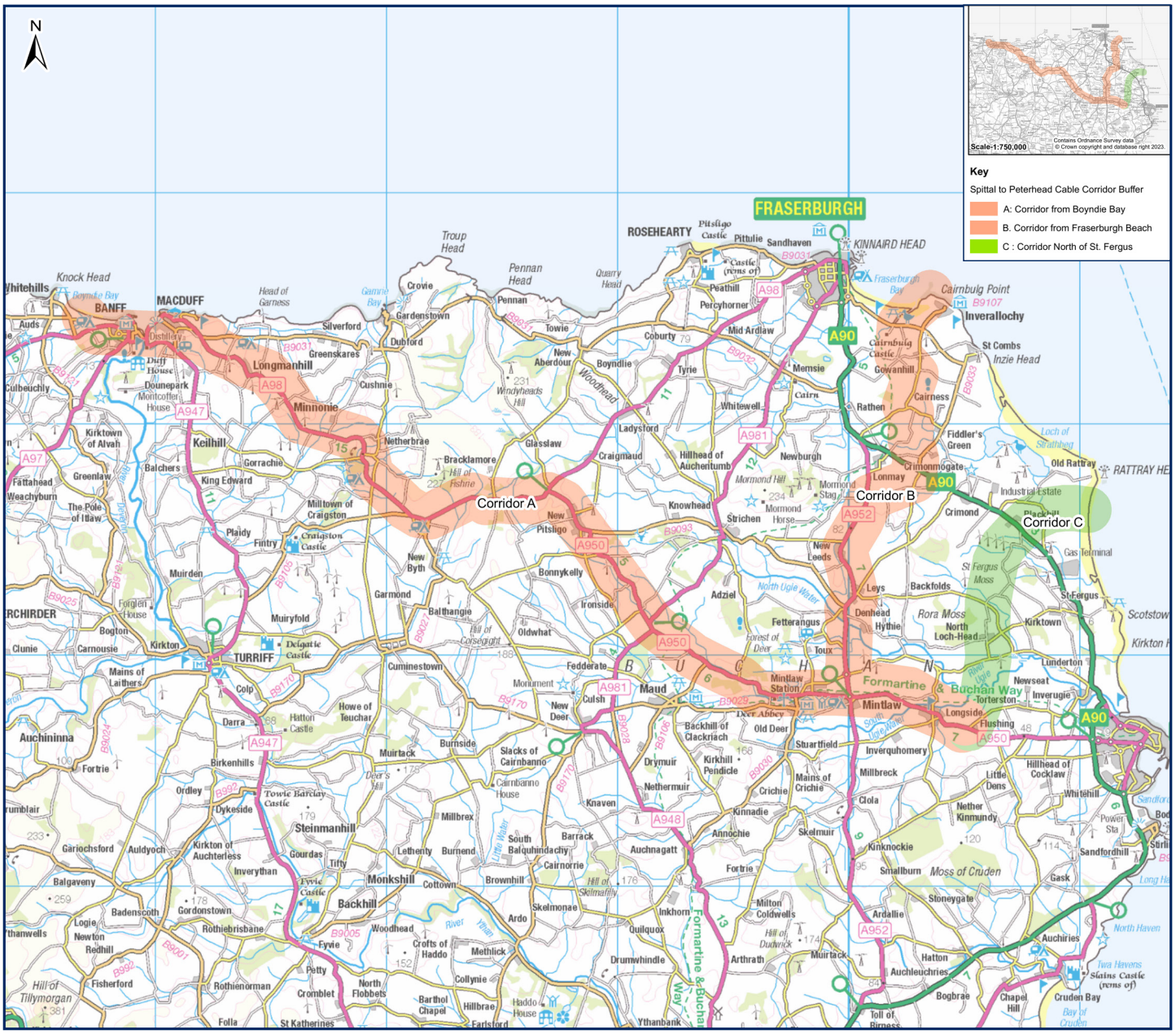
Corridor C is closer to settlements, including Wick and Watten, whereas Corridors A and B are largely set in open countryside. Corridor A also has a potential interface with Subsea7.

Overall Corridor B is considered to present the fewest engineering and environmental constraints. Further investigations will be undertaken to choose a preferred corridor and this process will be informed by stakeholder feedback, further technical analysis and the location of the preferred landfall.

Onshore cable corridor options: South

Terrestrial cable corridors were developed in three broad areas connecting the Peterhead Net Zero 2030 Development to the proposed landfall areas:

- Corridor A: From Banff largely following the main roads of the A98 and A960 through to Peterhead Net Zero 2030 Development;
- Corridor B: From Cairnbulg travelling south until the corridor meets with the A952 through to Peterhead Net Zero 2030 Development; and
- Corridor C: Connecting from a site north of St Fergus, and north of the gas terminal, travelling south through Blackhill to the Peterhead Net Zero 2030 Development.



Onshore cable corridor options: South

The following table summarises the outcomes of the RAG assessment for the three potential landfall locations:

Category	Corridor A	Corridor B	Corridor C
Natural Heritage Designations	H	M	M
Cultural Heritage Designations	H	M	M
Landscape Designations	M	M	M
Agriculture	H	H	H
Forestry	L	L	L
Infrastructure Crossings	H	H	H
Environmental Design	L	L	L
Ground Conditions	M	M	L
Construction/Maintenance	L	M	L
Proximity to other infrastructure	L	L	M
Design	M	M	M

The corridors are similar in terms of their potential impacts. Corridor A is much longer than Corridors B and C and is therefore more likely to contain a greater number of environmental features. Corridor C is the shortest in length.

All corridors lie in close proximity to designated sites (international, national and local) and all corridors contain habitat suitable to support protected species and features including birds, peatland and ancient woodland. It is expected that through further detailed routing it will be possible to minimise or avoid impacts to these habitats and features.

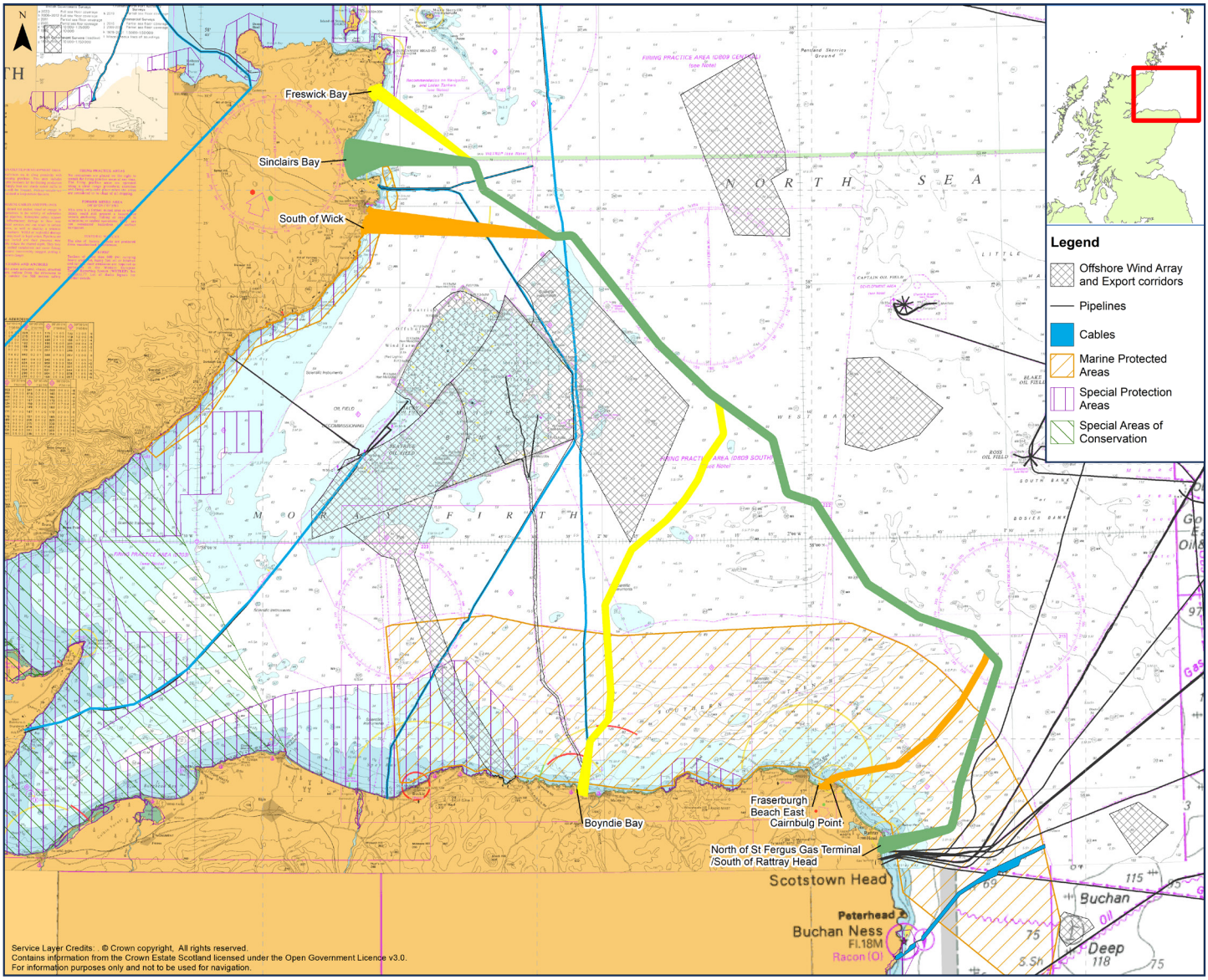
Corridor A also crosses a number of designated watercourses and contains a greater number of cultural heritage features to route around, making this corridor more challenging than Corridors B and C.

All corridors contain Grade 3.1 and 3.2 agricultural land, which is capable of supporting high yield crops. Detailed routing exercises would enable impacts to Grade 3.1 agricultural land to be avoided where possible.

From an engineering perspective, all corridor routes would require multiple crossings, including gas pipelines, rivers, and roads, although there are the fewest major road crossings on Corridor C. The terrain on Corridor C is generally flatter compared to Corridors A and B. Along Corridor C there are two windfarms that should be avoided during route refinement.

Overall Corridor C is considered to present the fewest engineering and environmental constraints. Further investigations will be undertaken to choose a preferred corridor and this process will be informed by stakeholder feedback, further technical analysis and the location of the preferred landfall.

Marine cable route options - overview



An initial offshore area of search was defined between the Caithness coast and the Moray or Aberdeenshire coasts in 2022. Within this area, subsea cable corridor options joining each of the three potential northern and southern landfall areas are currently under investigation, each with different constraints. Corridor options have been identified according to technical, environmental, economic, and permitting criteria.

Additional technical and stakeholder feedback will be taken into account during the corridor selection and refinement processes, and will inform selection of a cable corridor for detailed offshore survey and mapping activities.

Criteria for subsea cable corridors

Technical criteria

The subsea cable corridors have been selected to avoid:

- Known seabed hazards and obstructions such as wrecks and dumping grounds;
- Areas where installation would be difficult or hazardous, such as steep slopes or irregular rocks;
- Areas of marine activity such as shipping lanes, anchorages and fishing grounds;
- Areas of geological instability such as earthquake zones and landslips; and,
- Areas where recovery of the cable for maintenance would be difficult.
- Subsea cable corridors will be selected to prioritise cable burial and will be reviewed for UXO (Unexploded Ordinance) and other potentially dangerous areas.

Permitting criteria

The subsea cable corridor must be acceptable to:

- The owners of the offshore seabed;
- The owners of the foreshore; and,
- Military authorities.

Environmental criteria

The subsea cable corridors have been selected to avoid:

- Known areas of environmental concern, such as designated areas (MPAs, SACs, SPA), marine conservation areas, and fishing grounds; and
- Areas where prevailing climatic or sea conditions would make installation and maintenance activities difficult or hazardous.

Economic criteria

The corridors also make careful consideration of the number and type of potential crossings of other infrastructure and make appropriate consideration of proximity to other infrastructure.

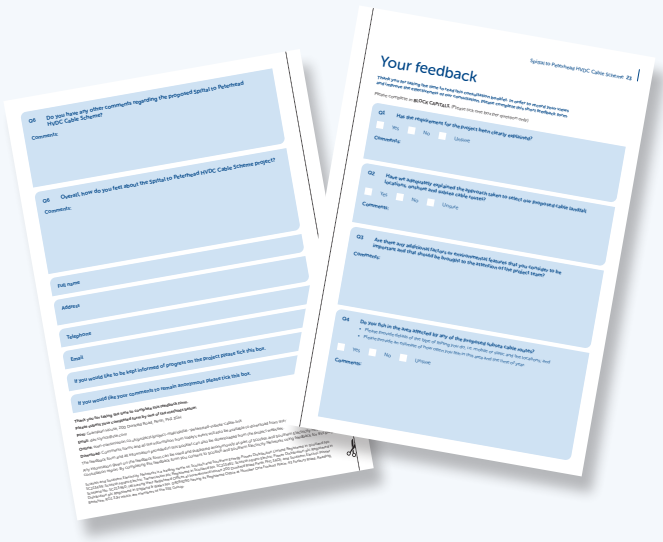
Notes

What happens now and how do I have my say?

We understand and recognise the value of the feedback provided by members of the public during all engagements and consultations. Without this valuable feedback, the project development team would be unable to progress projects and reach a balanced proposal.

We are keen to receive your views and comments in regards to the following questions:

- Has the requirement for the project been clearly explained?
- Have we adequately explained the approach taken to select our proposed cable landfall locations, onshore and subsea cable routes?
- Are there any additional factors or environmental features that you consider to be important and that should be brought to the attention of the project team?
- Do you fish in the area affected by any of the proposed subsea cable routes?
  - Please provide details of the type of fishing you do, i.e. mobile or static and the locations; and
  - Please provide an estimate of how often you fish in this area and the time of year.
- Do you have any other comments regarding the proposed Spittal to Peterhead HVDC Cable Scheme?
- Overall, how do you feel about the Spittal to Peterhead HVDC Cable Scheme project?



Comments

Your views and comments can be provided to the project team by completing the feedback form or by writing to our Community Liaison Manager. All feedback received will be assessed and the proposed options adapted where necessary.

Dav Lynch
Lead Community Liaison Manager

dav.s.lynch@sse.com

+44 (0) 1738 341283

Grampian House
200 Dunkeld Road
Perth, PH1 3GH

Additional information

Information will also be made available via the project webpage and social media channels:

Project website:
ssen-transmission.co.uk/projects/project-map/spittal--peterhead-subsea-cable-link

Follow us on Facebook:
@ssencommunity

Follow us on Twitter:
@ssetransmission

Your feedback

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in **BLOCK CAPITALS.** (Please tick one box per question only)

Q1 Has the requirement for the project been clearly explained?

☐ Yes ☐ No ☐ Unsure

Comments:

Q2 Have we adequately explained the approach taken to select our proposed cable landfall locations, onshore and subsea cable routes?

☐ Yes ☐ No ☐ Unsure

Comments:

Q3 Are there any additional factors or environmental features that you consider to be important and that should be brought to the attention of the project team?

Comments:

Q4 Do you fish in the area affected by any of the proposed subsea cable routes?

- Please provide details of the type of fishing you do, i.e. mobile or static and the locations; and
- Please provide an estimate of how often you fish in this area and the time of year.

☐ Yes ☐ No ☐ Unsure

Comments:

Q5 Do you have any other comments regarding the proposed Spittal to Peterhead HVDC Cable Scheme?

Comments:

Q6 Overall, how do you feel about the Spittal to Peterhead HVDC Cable Scheme project?

Comments:

Full name

Address

Telephone

Email

If you would like to be kept informed of progress on the project please tick this box. ☐

If you would like your comments to remain anonymous please tick this box. ☐

Thank you for taking the time to complete this feedback form.

Please submit your completed form by one of the methods below:

Post: Grampian House, 200 Dunkeld Road, Perth, PH1 3GH

Email: dav.s.lynch@sse.com

Online: ssen-transmission.co.uk/projects/project-map/spittal--peterhead-subsea-cable-link

Download: Comments forms and all the information from today's event will also be available to download from the project website.

The feedback form and all information provided in this booklet can also be downloaded from the project websites.

Any information given on the feedback form can be used and published anonymously as part of Scottish and Southern Electricity Networks consultation report. By completing this feedback form you consent to Scottish and Southern Electricity Networks using feedback for this purpose.