

South Yell Switching Station

Information event

May 2023

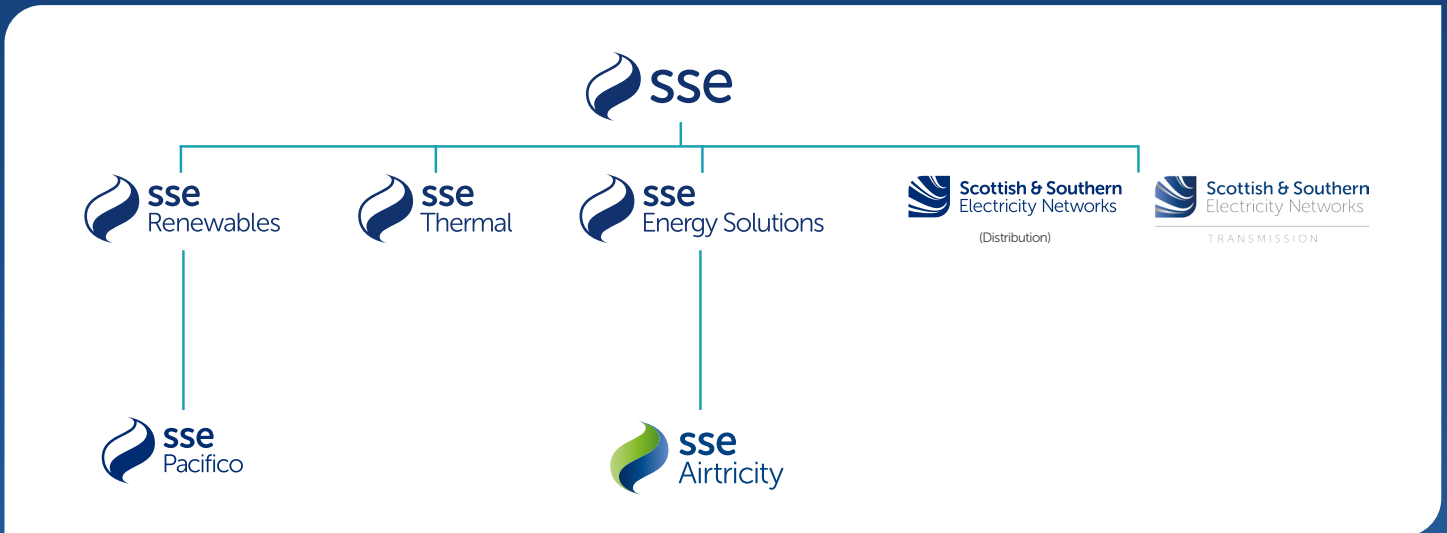


Scottish & Southern
Electricity Networks

TRANSMISSION

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.



Project need and overview

Project background existing network in Shetland

As Transmission Operator for the North of Scotland, we have a license obligation to provide connections for generators looking to connect to the GB transmission network.

There is currently significant renewable generation contracted on Shetland. To provide these generators with a connection we will need to create a new 132kV transmission network to connect from each wind farm to a new 132kV substation and Converter Station at Kergord. This is a separate project which will form part of a new High Voltage Direct Current (HVDC) Link which will enable power generation from Shetland to be transferred to the Scottish mainland via a 260km subsea cable connecting to a new Direct Current (DC) Switching Station at Noss Head in Caithness.

We are also contracted to provide a new 132kV Grid Supply Point (GSP) Substation as part of this project for Scottish and Southern Electricity Networks Distribution (SSEN Distribution) which will supply Shetland Island demand. The GSP is now under construction and is located at Lower Black Hill Industrial Estate, close to the existing SSEN Distribution 33kV substation at Lerwick Power Station. Connections from Kergord 132kV substation to the GSP and from the GSP to the 33kV substation will enable island demand to be supplied from transmission network connected renewable wind generation.

To enable these connections, the following 132kV transmission infrastructure is planned:

- A new 132kV Switching Station located on South Yell to connect Statkraft's Energy Isles and Beaw Field Wind Farms;
- New 132kV connections from the proposed South Yell Switching Station to Energy Isles and Beaw Field Wind Farms using a combination of Overhead Line (OHL) and Underground Cable (UGC);
- A new 132kV transmission connection from South Yell Switching Station to Kergord 132kV Substation and HVDC Converter Station. This will consist of a combination of 132kV UGC, OHL and a subsea cable between South Yell and mainland Shetland.



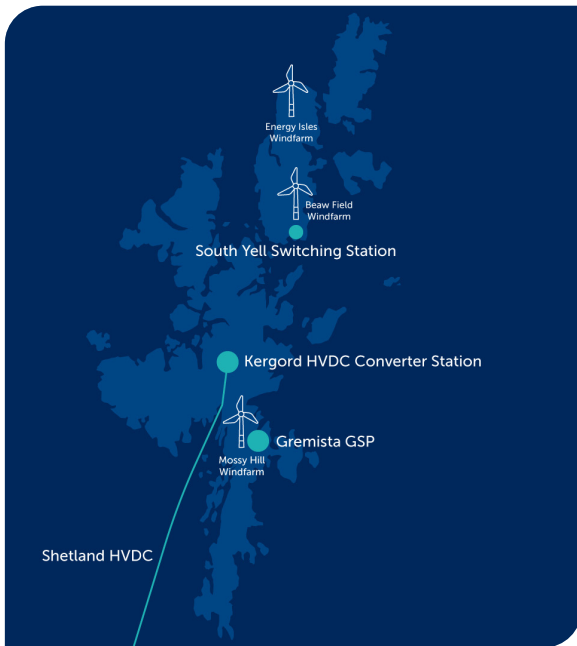
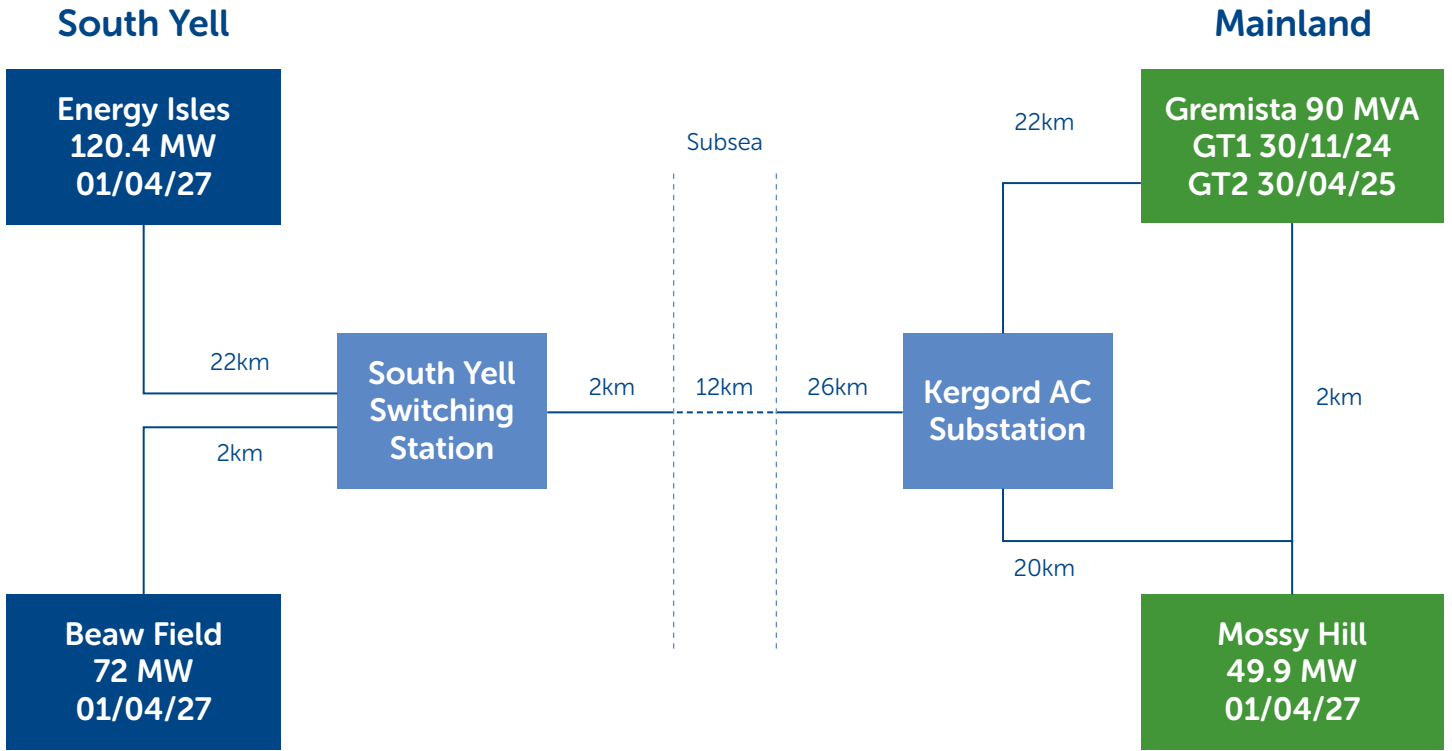
Project status update

Public consultation events were held in June and September 2021 where we invited feedback on the preferred location of the South Yell Switching Station and the preferred connection routes between the Kergord HVDC Converter Station, Statkraft's Mossy Hill Wind Farm and the Gremista Grid Supply Point (GSP). We also invited feedback on the preferred connection routes between the Kergord HVDC Converter Station, South Yell Switching Station and Statkraft's Beaw Field and Energy Isles Wind Farms.

Since the consultation events in 2021 we have developed the South Yell Switching Station design and would like to provide an update to the public as we prepare the planning application.

Project diagram

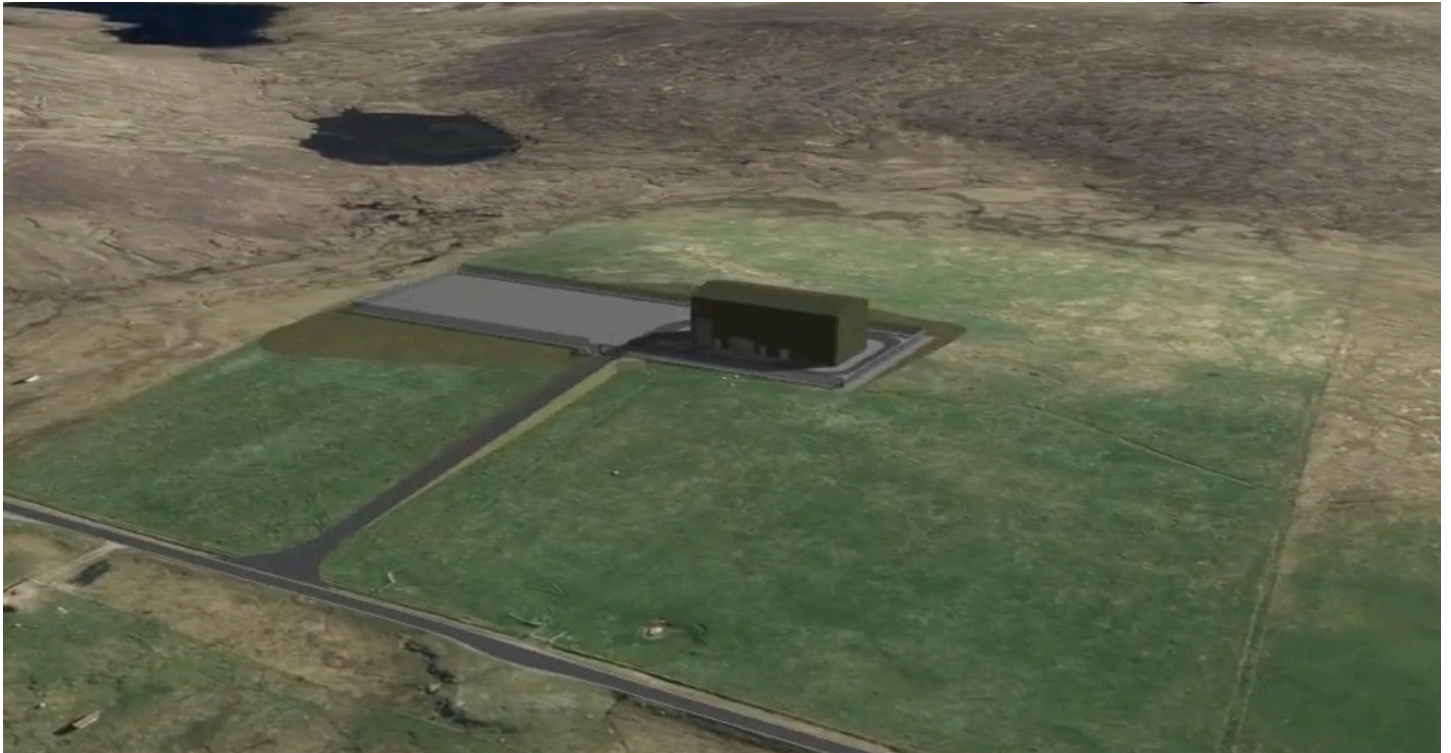
Planned 132kV transmission infrastructure



User	Type	Site
Gremista Grid Supply Point (GSP)	Demand Distribution (SHEPD)	90 MVA GT
Mossy Hill Wind Farm	Onshore Wind (Statkraft)	49.9 MW
Beaw Field Wind Farm	Onshore Wind (Statkraft)	72 MW
Energy Isles Wind Farm	Onshore Wind (Statkraft)	120.4 MW

South Yell 132kV Switching Station

South Yell Switching Station will house the Gas Insulated Switchgear (GIS) and accommodate the 132kV connection from Kergord Converter Station and the connections to Beaw Field and Energy Isles wind farm substations.



The Switching Station will act as a connector and will enable the Beaw Field and Energy Isles wind farms to connect onto the new 132kV network, supply Shetland demand and export to the Scottish mainland GB electricity network. This is more efficient than taking the Energy Isles and Beaw Field connections back separately to Kergord. It will also be available to connect future developments on South Yell.

To reduce the size of the station footprint, Gas Insulated Switchgear (GIS) has been selected which requires a footprint approximately 2/3 smaller than that of traditional Air Insulated Switchgear. A permanent access road into the site will come off the B9081 road.

The switching station will be enclosed within a building due to the proximity to the coast and the saline environment. Preliminary GIS building dimensions are approximately 35m (long) x 16m (wide) x 13m (high). This building will be two-storey with ancillary equipment on the ground floor including control and protection panels, communication equipment, low voltage switchgear, batteries and welfare facilities.

06 South Yell Switching Station

The overall platform dimensions proposed in the design are approximately 130m x 50m. It is proposed this area be utilised as a temporary compound during construction of the Switching Station. The proposed location for the development is shown in the red line boundary map below.



South Yell 132kV Switching Station

The proposed switching station will become part of a new 132kV electricity transmission network on Shetland, and is likely to be classed as a 'National Development'.

A Proposal of Application Notice (PoAN) was submitted to SIC in July 2021, after which public consultation events were held in September to gather feedback on topics such as location, design and amenity. That feedback will be reported to SIC along with the detailed plans and reports in support of our planning application.

An Environmental Impact Assessment (EIA) Screening Opinion was also submitted to SIC in February 2022 and the Council confirmed that there was no requirement to undertake a formal EIA in July 2022. The application will be accompanied by a voluntary Environmental Assessment however. This assessment will consider the likely effects of the development on the environment.

Planning and consents

South Yell Switching Station will form an important part of the new national infrastructure on Shetland and will be subject to a separate planning application and consents to the associated OHL connections.

We are currently undertaking environmental assessments which will accompany the planning application. It will include all supporting information to justify the selection of technology, location and design.

Project timelines

Project	Comments	Timescales
Kergord to Gremista GSP and Mossy Hill Wind Farm	A mix of 132kV UGC and OHL. A S.37 submission covering both OHLs to Energy Consent Unit (ECU) was made in Feb 2022 and the UGC will be installed using our Permitted Development (PD) Rights.	S.37 determination expected Q2 2023.
Kergord Converter Station to South Yell	A mix of 132kV UGC and OHL. A s37 submission to ECU will determine the OHL and the UGC will be installed using our PD Rights. The new Switching Station on South Yell will require planning consent from Shetland Islands Council (SIC).	A S.37 is due for submission early 2024. The planning application is due for submission Q3 2023 and should take around 9 months to be determined as it will be classed as a 'national' development.
South Yell Switching Station to Beaw Field Wind Farm	Connection will be 132kV UGC to be installed using our PD rights.	No application expected.
South Yell Switching Station to Energy Isles Wind Farm	A mix of 132kV UGC and OHL. A S.37 submission to ECU will determine the OHL and the UGC will be installed using our PD Rights.	S.37 likely to be submitted in 2024.

Considering the environment

Consideration of Environmental Effects

The environment, ecology and cultural heritage are considered at every step in project development. To date there has been a detailed environmental appraisal of switching station site options, as well as all landfall options and all potential connection routes.

Site surveys and desk based assessment has included consideration of:

- Consideration of landscape and visual impact;
- Special Protection Areas (SPA), for birds;
- Special Areas of Conservation (SAC), for habitat;
- Sites of Special Scientific Interest (SSSI);
- Local Nature Conservation Sites and RSPB Reserves;
- National Scenic Areas;
- Scheduled Monuments;
- Listed Buildings; and
- Peat depths and cover.



Environmental survey work

Bird surveys were undertaken in April 2020 and continued into 2022 to gather baseline information on the movement of bird species in relation to the proposals.

A range of environmental surveys have been undertaken to inform the design of the switching station site. The surveys also provide important baseline environmental information to the planning application.

The following surveys have been undertaken:

- Landscape and visual walkover by landscape architects;
- Cultural heritage walkovers;
- Habitat Surveys;
- Noise surveys;
- Protected Species Surveys; and
- Peat probing and ground investigation surveys.



Voluntary Environmental Appraisal

Although not subject to formal EIA, the planning application for the switching station will be accompanied by a voluntary Environmental Appraisal.

The Environmental Appraisal will summarise the findings of all desk based studies and baseline environmental surveys undertaken. Following an appraisal of potential interactions between the construction and operation of the switching station and the environment, the report will highlight any proposed mitigation or enhancement measures to be taken forward as part of the development.



Timeline and next steps

September 2021

- Pre-application public and statutory body consultation on selection of technology, connection alignments and South Yell Switching Station location.
- Pre-application public and statutory body consultation on selection of South Yell subsea cable route and landfall locations.



Q1/Q2 2022

- Subsea cable Marine license application submission.



Q2 2023

- Marine surveys undertaken.
- Commence construction of connection for GSP.



Q3 2023

- South Yell Switching Station planning application submission.



2024

- Submission of S.37 Planning Application for Energy Isles.



Q2 2025

- Marine License Determination.



Q2 2025

- Full Energisation of Gremista Connection and GSP.



Q3/Q4 2025

- Commence construction of connections for, South Yell Switching Station, Beaw Field Wind Farm, Energy Isles Wind Farm.



Q2 2027

- Energisation of Energy Isles Wind Farm and connection.
- Energisation of Beaw Field Wind Farm and connection.
- Energisation of South Yell Switching Station and connection.
- Energisation of Mossy Hill Wind Farm and connection.



What happens now?

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

- Has the need for the South Yell Switching Station been clearly explained?
- Has a clear overview of the project been provided?

Next steps

Upcoming activities: May 2023 – Q3 2023:

- Ongoing stakeholder and landowner engagement;
- EA reports to support planning application; and
- Submit application for South Yell Switching Station.



To support everyone online, we provide accessibility and language options on our website through 'Recite Me'. The accessibility and language support options provided by 'Recite Me' include text-to-speech functionality, fully customisable styling features, reading aids, and a translation tool with over 100 languages, including 35 text-to-speech.

Please select "Accessibility" on our website to try out our inclusive toolbar."



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Additional information

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

Project website:

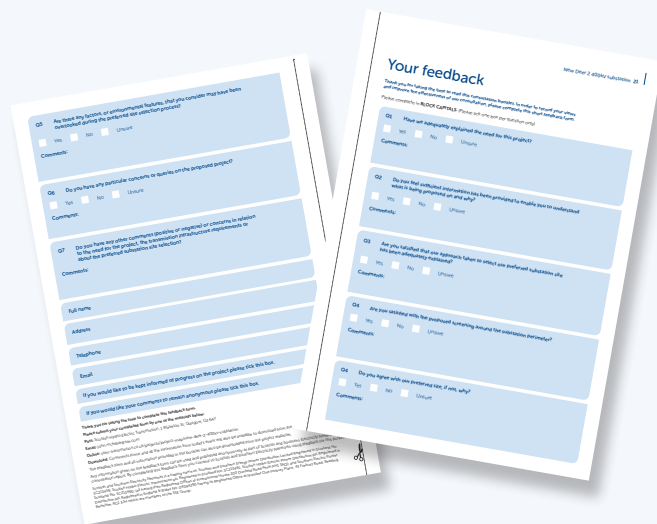
ssen-transmission.co.uk/projects/shetland-renewable-connections/

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Follow us on Twitter:

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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 need for the South Yell Switching Station been clearly explained?

Yes No

Comments:

Q2 Has a clear overview of the project been provided?

Yes No

Comments:

Any additional 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: Scottish and Southern Electricity Networks, Lerwick Power Station, Gremista, Shetland, ZE1 OPS

Email: thea.groat@sse.com

Online: ssen-transmission.co.uk/projects/shetland-renewable-connections/

Download: Comment 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.

Comments made to SSEN Transmission are not representations to the Scottish Ministers and if SSEN Transmission submit an application there will be an opportunity to make representations on the application to Scottish Ministers.

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