



Scottish & Southern  
Electricity Networks

TRANSMISSION

# Caithness & Sutherland Information Booklet

July 2022



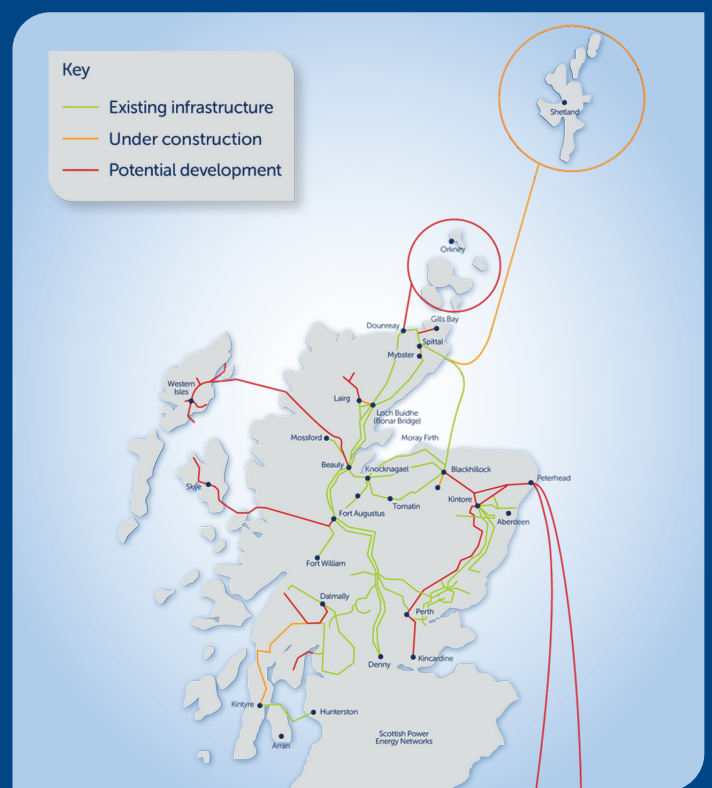
# Who We Are

We are Scottish and Southern Electricity Networks Transmission (SSEN Transmission), operating under licence as Scottish Hydro Electric Transmission Plc (SHE Transmission) for the transmission of electricity in the north of Scotland together with our sister companies, Scottish Hydro Electric Power Distribution (SHEPD) and Southern Electric Power Distribution (SEPD), who operate the lower voltage distribution networks in the north of Scotland and central southern England.



As the Transmission Network Owner we maintain and invest in the high voltage 132kV, 275kV, 400kV and HVDC electricity transmission network in the North of Scotland. Our network consists of underground cables, overhead lines on wooden poles and steel towers, and electricity substations, extending over a quarter of the UK's land mass, crossing some of its most challenging terrain. We power our communities by providing a safe and reliable supply of electricity. We do this by taking the electricity from generators and transporting it at high voltages over long distances through our transmission network for distribution to homes and businesses in villages, towns and cities.

## Overview of Transmission Projects



# Background

As the Transmission Network Owner for the North of Scotland, Scottish and Southern Electricity Networks Transmission (SSEN Transmission) is responsible for the maintenance and development of the transmission network in an economic, efficient and coordinated manner.

Due to a vast increase in connections of renewable sources of energy in this region, there is now a requirement to upgrade the transmission network to cope with this.

In the past decade there have been significant changes to the energy landscape of Great Britain. Renewable energy policy and targets, which have been set with the aim of decarbonising the economy and achieving net-zero, have helped support rapid growth in renewable energy generation. There has also been an overall reduction in electricity and gas demand.

As the electricity network owner in the North of Scotland, our primary focus of the last decade has been the economic and efficient delivery of the additional capacity and connections required for renewable energy generation, whilst ensuring reliability of supplies for our network users and consumers.

Understanding how the energy system could develop in the future is very important. Future developments in the energy system influence the network developments that are required in the north of Scotland, now and going forwards.

Looking from now out to 2050, as we work to deliver a network for net zero, the analysis shows that the East and North-East of Scotland and the Highlands will be leading the way to support the UK and Scotland's legally binding net zero targets.

This booklet provides an overview of projects currently being delivered and also in development in Caithness and Sutherland.



# Project details



There are several projects which make up the overall picture of proposed works across Caithness and Sutherland. Below is a summary of what each of these individual projects involve and the need for each project.

There will be a consultation process held for each individual project in development, this will involve the SSEN Transmission team visiting various locations to provide more in-depth information and technical knowledge about each project and how it may impact the local community in each affected area.

## Projects in Development



### Gills Bay 132kV Connection

Works Begin – 2022  
Works Completed – 2024

**Community Liaison Manager – Lisa Marchi**



- The Gills Bay project will enable the connection of Meygen Tidal and Hollandmey Wind Farm to the transmission network.
- The main elements of the project are a new 132kV switching station at Phillips Mains, near Gills Bay, 10km of underground cable and 13km of overhead line on steel lattice towers.



### Limekiln Wind Farm Connection

Works Begin – July 2022  
Works Completed – 2024

**Community Liaison Manager – Lisa Marchi**



- The Limekiln Wind Farm Connection project will enable the connection of the Limekiln Wind Farm to the transmission network.
- The connection will comprise of a single circuit 132kV “H” pole arrangement an overhead line running over approximately 4km in length between the existing Dounreay substation and the new proposed Limekiln 132/33kV substation approximately 500 meters of the connection will be undergrounded, at the Dounreay substation to avoid existing transmission infrastructure (overhead lines).



### Strathy South Wind Farm Connection

Works Begin – 2024, subject to consent being granted  
Works Completed – 2026

**Community Liaison Manager – Lisa Marchi**



- The Strathy South Wind Farm Connection project will enable the connection of the Strathy Wind Farm to the transmission network.
- The connection work includes the construction of a new 33/132kV outdoor substation the supply and installation of two new 120MVA transformers and associated electrical equipment, the construction of a new 17km trident wood pole line and 5km of 132kV underground cable, and connection at the existing 132/275kV Connagill substation.



### Strathy Wood Wind Farm Connection

Works Begin – 2024, subject to consent being granted  
Works Completed – 2026



**Community Liaison Manager – Lisa Marchi**

- The Strathy Wood project will enable the connection of the Strathy Wood Wind Farm to the transmission network.
- The work will include the construction of a new 132/33kV Air Insulated Substation (AIS) at Strathy Wood wind farm and 5km of 132kV trident wood pole overhead line (OHL) between Strathy Wood and a “T” on the existing Strathy North to Connagill OHL near Dallangwell.



### Armadale Wind Farm Connection

Works Begin – 2024, subject to consent being granted  
Works Completed – 2026



**Community Liaison Manager – Lisa Marchi**

- The Armadale Wind Farm project will enable the connection of the Armadale Wind Farm to the transmission network.
- The work will include the construction of a new 132/33kV Air Insulated Substation (AIS) at Armadale Wind Farm and 13km of 132kV trident wood pole overhead line between Armadale Wind Farm and Connagill substation.

In addition to the Strathy South, Strathy Wood and Armadale Wind Farm connection projects another two wind farm connection projects in to Connagill Substation are currently in the very early stages of development.

The Melvich Community Wind Farm connection project will connect the Melvich Community Wind Farm to Connagill Substation and is currently proposing to share the same overhead line proposed for the Armadale Wind Farm connection project. The Kirkton Wind Farm connection project will similarly connect the proposed Kirkton Wind Farm to Connagill Substation via a new 132kV overhead line approximately 2km in length.

These projects will shortly have a project information webpage where all relevant project information will be added as the projects progress.





## Projects in the construction phase



### Lairg – Loch Buidhe

Works Begin – July 2020  
Works Completed – September 2022

**Community Liaison Manager – Lisa Marchi**



- The Lairg - Loch Buidhe project will facilitate renewable energy to connect to the transmission network. Under our Network Operators Licence, this connection should be efficient, coordinated, and economic, whilst having the least possible impact on the environment.
- The main elements of the project are a new Lairg Substation (Dalchork), construct a new outdoor 132kV Air Insulated Switchgear (AIS) substation north of Lairg, adjacent to the existing 132kV single circuit overhead line.
- Construct approximately 17km of 132kV double circuit overhead line (61 towers) between the proposed new Lairg substation and the Loch Buidhe substation on a new alignment.
- Minor works at Lairg and Cassley grid supply points and the removal of 12km of existing 132kV overhead line between Lairg and Shin.



### Creag Riabhach Wind Farm Connection

Works Begin – June 2021  
Works Completed – September 2022

**Community Liaison Manager – Lisa Marchi**



- The Creag Riabhach project will enable the connection of the Creag Riabhach Wind Farm to the transmission network.
- We are constructing a new 132kV overhead line, approximately 20km in length supported by trident wooden poles from the wind farm substation to the new substation to the north of Lairg (Dalchork substation).



### Noss Head (Caithness) HVDC Switching Station

Works Begin – June 2020  
Works Completed – Summer 2024

**Community Liaison Manager – Sharon Powell**



- To enable a subsea transmission cable from Shetland to connect to the UK National Grid, we are constructing an HVDC switching station at Noss Head in Caithness.
- The switching station will allow the flow of electricity to be managed between three underground HVDC circuits - one from a converter station at Spittal in Caithness, one from a converter station at Kergord in Shetland and one to a converter station at Blackhillock in Moray.

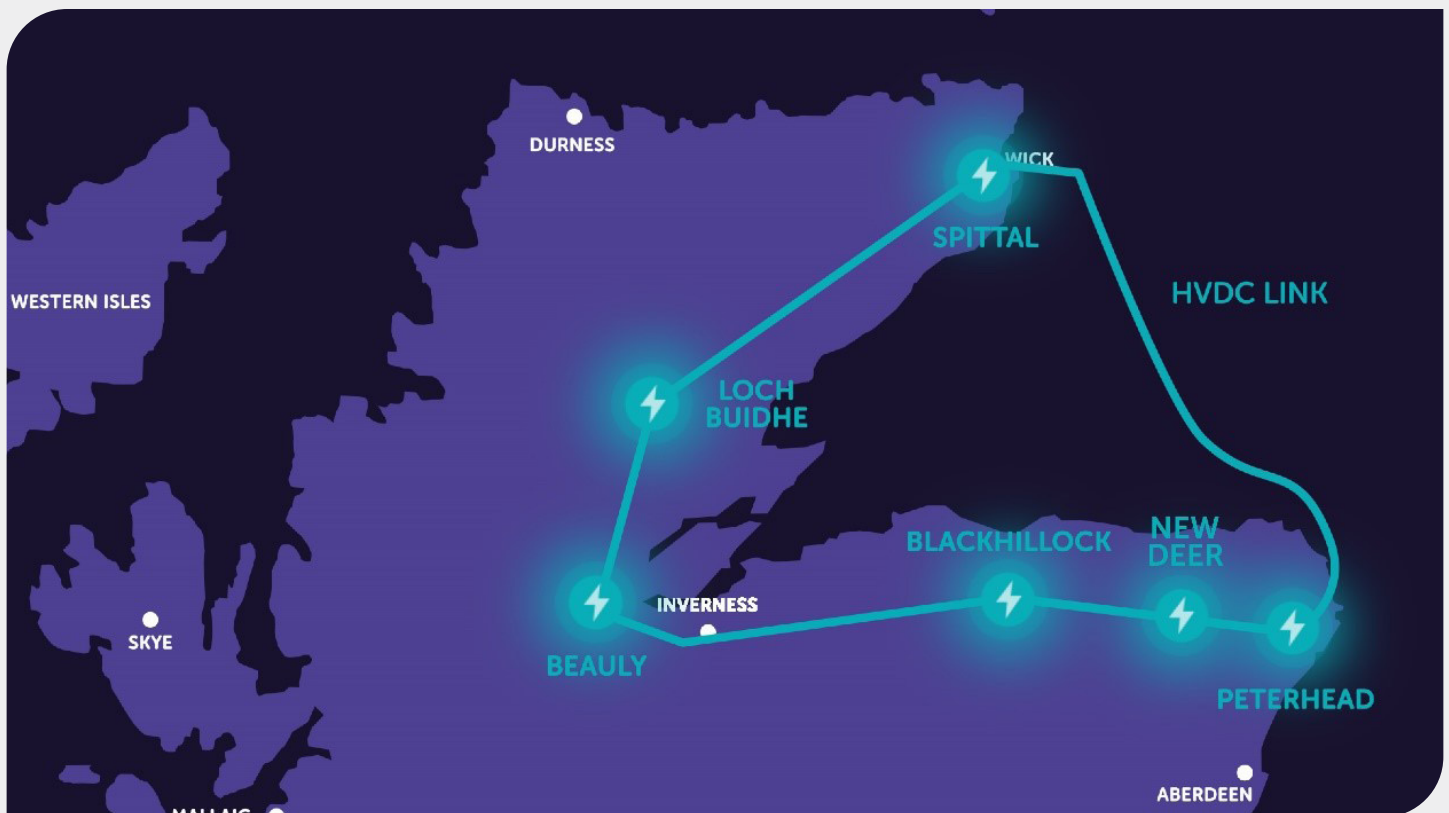
# North of Scotland Transmission network in 2030

Over recent years, the North of Scotland transmission network has seen significant investment in upgraded and new electricity transmission infrastructure to support the growth in renewable electricity generation in the region. This is predominately onshore wind, supporting the efforts to tackle the climate emergency and to deliver a network for net zero.

The outcome of the ScotWind leasing round, as well as the expected continued growth in onshore renewables across the North of Scotland, will require further investment in network infrastructure to connect this power and transport it from source to areas of demand across the country.

For the North of Scotland alone, this will require over £5bn of investment in new electricity transmission infrastructure. These investments are critical to unlock ScotWind, deliver Government 2030 targets and a pathway to net zero emissions.

**Beauly – Loch Buidhe – Spittal 400Kv:** The new electricity infrastructure required north of Beauly will involve a new 400kV transmission connection between Beauly, Loch Buidhe and Spittal. This project is in the very early development stages and will be subject to extensive consultation and stakeholder engagement to help inform design, technology, and route options.



# Working with the community

Throughout the life of our projects, we aim to work positively with local communities and keep people informed about what we are doing. This is particularly important when we are developing a proposal as we want to understand what local people think about our plans.

When our project progresses into construction, we will continue working closely with the local community to ensure that our work has as little impact on the lives of those living and working in the area and has many long term positive effects as possible.

During some operations, we will position staff in locations to help with information, provide reasonable instruction and ensure safety of the public.

Each of our projects has a dedicated Community Liaison Manager and a project specific webpage, this is where you will find regular, more specific updates regarding the latest news and timelines relating to the individual projects works. To view the complete list of projects with websites please use the following URL:

<https://bit.ly/3MShRoN>

**If you have any questions or queries on projects in this booklet, or if you would like more detailed information regarding any of the projects then please get in touch with our Community Liaison Managers:**



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