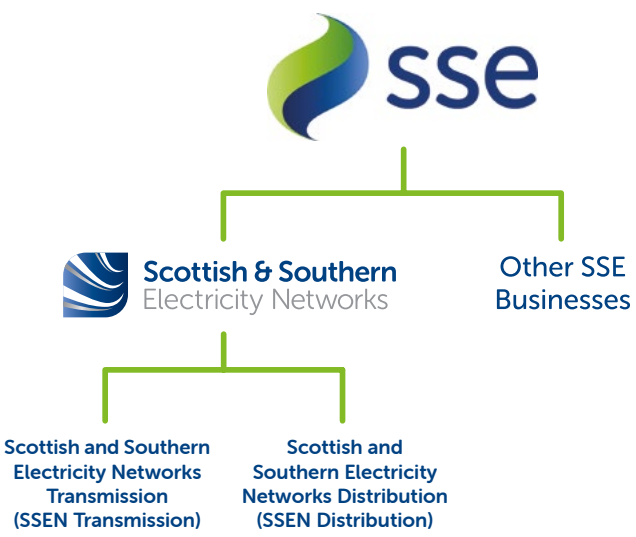
Scottish & Southern Electricity Networks

TRANSMISSION

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.



In total we maintain about 5,000km of overhead lines and underground cables – easily enough to stretch across the Atlantic from John O'Groats all the way to Boston in the USA.

Our network crosses some of the UK's most challenging terrain – including circuits that are buried under the seabed, are located over 750m above sea level and up to 250km long.

The landscape and environment that contribute to the challenges we face also give the area a rich resource for renewable energy generation. There is a high demand to connect from new wind, hydro and marine generators which rely on Scottish and Southern Electricity Networks to provide a physical link between the new sources of power and electricity users.

Scottish and Southern Electricity Networks is delivering a major programme of investment to ensure that the network is ready to meet the needs of our customers in the future.

Our responsibilities

We have a licence for the transmission of electricity in the north of Scotland and we are closely regulated by the energy regulator Ofgem.

Our licence stipulates that we must develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

What is the difference between transmission and distribution?

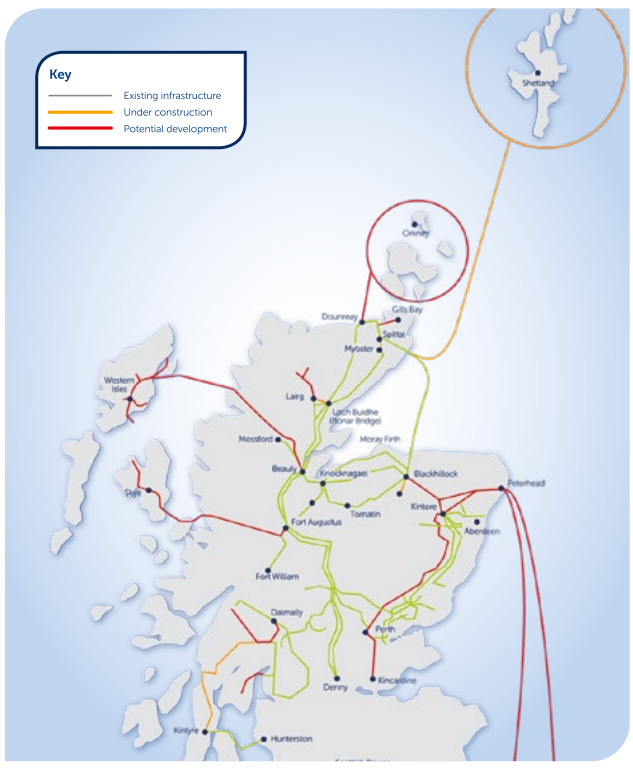
Electricity transmission is the transportation of electricity from generating plants to where it is required at centres of demand.

The electricity transmission network, or grid, transports electricity at very high voltages through overhead lines, underground cables and subsea cables.

Our transmission network connects large scale generation, primarily renewables, to central and southern Scotland and the rest of Great Britain. It also helps secure supply by providing reliable connection to the wider network of generation plans.

The electricity distribution network is connected into the transmission network but the voltage is lowered by transformers at electricity substations, and the power is then distributed to homes and businesses through overhead lines or underground cables.

Overview of transmission projects



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Project need and overview

Project requirement

Our sister company, SSEN Distribution (SSEND) have applied to SSEN Transmission to increase the power capacity at Tummel Bridge Grid Supply Point (GSP). This means SSEN Transmission need to install larger transformers and upgrade the associated electrical plant.

There is insufficient space to meet modern safety and security of supply standards at the existing location beside Tummel Bridge power station, therefore the proposed solution is to construct a new Grid Supply Point at the nearby Errochty switching station, to be called Errochty GSP.

The corresponding increase in capacity on the local distribution network will allow restrictions on the quantity of renewable energy being exported from the local area to be lifted.

Main elements

The works will comprise of:

- Extension of the existing compound at Errochty switching station, to the west.
- Civil works and formation of concrete bases for new equipment.
- Installation of two new grid transformers, HV switchgear, busbars and underground earth tape.
- Construction of a new switch room to house SSEND's switchgear. SSEND will install new cables between Tummel Bridge GSP and the new Errochty GSP.
- The fence around the site will be upgraded to modern standards whilst the project is underway.

2021
Environmental & technical assessments to identify the preferred site

Q1 2022
Public consultation event

Q3 2022
Submission of planing application

Q2 2023
Construction commences

Q1/2 2022
Environmental surveys

Q2 2022
Review of consultation feedback

Q1 2023
Planning consent expected

Q3 2025
Project completion

Planning application

This public event forms part of the pre-application consultation and feedback received will help inform the scope of assessments and ultimately the forthcoming planning application. We are aiming to submit the planning application to Perth and Kinross Council in August 2022 allowing for 12 weeks of pre-application consultation.

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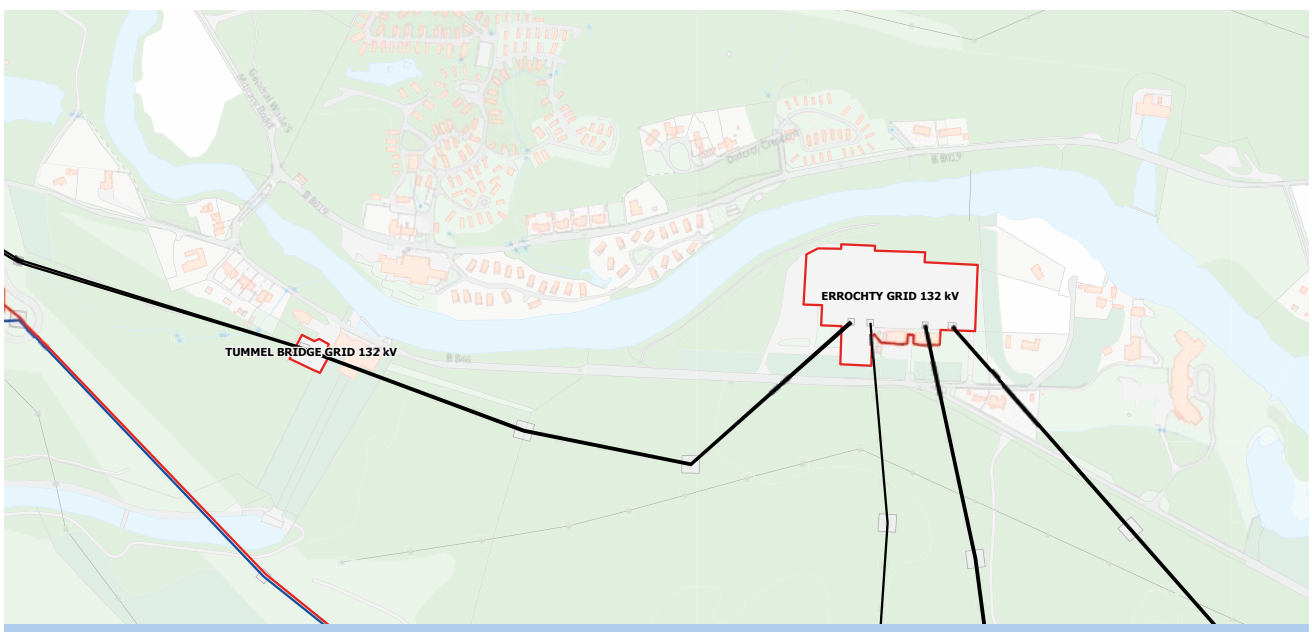
Site layout

This site has been chosen because there is insufficient room at the existing site; Tummel Bridge GSP, which is also over sailed by 132kV overhead lines, providing a considerable construction challenge. Therefore the proposal is for the new transformers to be relocated to Errochty along with construction of a new 33kV switch room for SSEN Distribution.



Direct upgrading of the two existing 21MVA transformers currently in place at Tummel Bridge GSP was considered as a possible option. This option was discarded however due to:

- The lack of available space at Tummel Bridge GSP to accommodate the new transformers, oil containment bunds and the fire damage zone to meet the most recent specifications and separation between main plant items required for the proposed 90MVA transformers.
- The existing transformers would have to be decommissioned and removed prior to commencement of construction works for the proposed upgraded transformers. To minimise outage times and ensure security of energy supplies to our network and customers, the preferred practise is to build off-line where feasible and practicable.
- The existing site is also over sailed by 132kV overhead lines, which would present a considerable construction challenge, as well as leaving a significant residual risk to the proposed plant and maintenance staff, should it be installed in situ.

Therefore, the proposal is that the new transformers will be relocated to Errochty switching station, along with construction of a new 33kV switch room for SSEN Distribution. The initial outline design shown on page 6 shows Errochty switching station extended to the west of the existing compound, to facilitate construction of the proposed 90MVA grid transformers, directly connected to the existing Errochty 132kV busbar, with a new 33kV switchroom building for the connection to the generator at Tummel Bridge power station and the wider distribution network. This 33kV connection will be via underground cable and will be undertaken by SSEN Distribution.


Existing Tummel Bridge GSP

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Our proposed solution

As well as insufficient space, modern safety and security of supply standards require separation between main plant items, which cannot be achieved at Tummel Bridge GSP.

Locating the transformers alongside existing 132,000V busbars at Errochty means there is no requirement to install more cables or overhead lines to connect the transformers to the network.

The proposed extension to Errochty switching station achieves a balance of minimising the visual impact by building alongside almost identical infrastructure, which is familiar and relatively well screened.

By extending an existing site, many existing infrastructure items can be shared, rather than having to be replicated if a new site was proposed elsewhere.

The type and style of the new equipment will match what is already installed and will complete the layout of Errochty switching station.

As part of the works the security of the switching station will be upgraded to be in compliance with the latest requirements. The existing plastic-coated wire fence will be replaced with a galvanised steel palisade fence.

Key components

The key components of the Errochty GSP project will comprise of :

- Two new grid transformer bays, connecting onto the existing busbar at Errochty switching station, comprising:
  - Foundations to support the grid transformers, and associated electrical plant.
  - Oil containment bunds for the transformers.
  - Two new 90MVA grid transformers, with 132,000V outdoor circuit breakers and associated busbars.

- A new switch room to house SSENDs 33,000kV indoor Gas Insulated Switchgear (GIS). This is expected to be in a 1 storey steel portal frame building with metal cladding, in the style of a typical agricultural building.

The works are proposed on the developed area to the west of the existing Errochty switching station, with access being taken through the existing entrance onto the B846.

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Key considerations

Transport, infrastructure and construction methods

Construction will require plant and machinery, along with vehicles to transport materials and workers to the site. We anticipate that normal construction traffic will utilise the existing road infrastructure.

However, we are undertaking investigations to confirm if improvements are required. A construction traffic management plan shall be produced to outline and manage vehicle movements associated with the development.

The largest plant item to be delivered to the substation will be the two new 90MVA transformers.

Laydown and office

Temporary offices, welfare and storage facilities for the main work force will be established during the planned construction period. These will be located in close proximity to the site.

Proposed site for Errochty GSP

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Environment

Detailed site surveys by specialists including ecologists and landscape architects are currently underway and these will be used to inform the detailed environmental appraisal and subsequent identified mitigation that will be submitted as part of the consent application.

Protected species

Habitats present within and adjacent to the Errochty GSP site have the potential to support protected and/or notable species such as red squirrel, otter, beaver, pine marten, water vole, bats, reptiles, breeding birds and amphibians.

As such, protected species surveys and breeding bird surveys are underway and any potential impacts on flora or fauna will be avoided and mitigated where required.

Noise

As part of site selection appraisals, a review of potentially noise sensitive receptors will be undertaken, including consideration of existing noise levels from the existing plant already in operation at Erochty GSP.

Landscape and visual amenity

A landscape and visual amenity appraisal will be undertaken of the site and surroundings to identify the key considerations for the proposals. At a local scale, this will include the trees and woodland surrounding the site, their contribution to the landscape character, and opportunities they create for natural screening of the proposals. Retention of trees and woodland will be a key priority with potential to plant more trees to strengthen screening and enhance landscape value and visual amenity.

At a wider scale, this also has the potential to support the special qualities of the Loch Tummel National Scenic Area, and character of the lower upland glen landscape.

The visual amenity of local residents, road users and holiday makers around the site and Loch Tummel will also be an important factor in the location and design of the site.

Hydrology

The Errochty GSP is situated within the River Tay catchment. The River Tummel, a tributary of the River Tay, located immediately to the north of the site and joins Loch Tummel approximately 1km downstream. Both the river and loch were designated a Water Framework Directive (WFD) Status of 'good' in 2020. The site is underlain by the Rannoch groundwater body, that was also designated a WFD status of 'good' in 2020. SEPA flood maps indicate that there is a risk of localised surface water flooding within the site, and a medium risk of fluvial flooding from the River Tummel where the current switching station is situated.

The Errochty GSP is situated at the edge of a Surface Drinking Water Protected Area. Potential impacts on the water environment will be assessed in detailed and avoided or mitigated where identified.

Habitats

The existing Errochty GSP is located adjacent to the River Tummel. It is not located within any designated sites for nature conservation although three Special Areas of Conservation (SAC) are located within 10km which are River Tay, Tulach Hill and Glen Fender Meadows and Keltneyburn. The nearest is River Tay SAC directly adjacent. Additionally, two Special Sites of Scientific Interest (SSSI) are located within 2km; Meall Reamhar and Dalcroy Promontroy. No woodland classified on the Ancient Woodland Inventory (AWI) is present within or adjacent to the Errochty GSP site, however, the woodland along the River Tummel is recorded as an area of native woodland on the Native Woodland Survey of Scotland (NWSS). Connectivity to all sites of nature conservation, and any potential impacts on these from Errochty GSP, will be fully considered as part of the ecological assessment and will be avoided and mitigated where required.

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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 explained the approach taken to select the proposed site adequately?
- Are there any additional factors, or environmental features, that you consider important and should be brought to the attention of the project team?
- Following review of the provided information, how would you describe your understanding of the Errochty GSP project?
- Overall, how do you feel about the Errochty GSP project?

Comments

Your views and comments can be provided to the project team by completing a feedback form or by writing to Louise Anderson, Community Liaison Manager.

We will be seeking feedback from members of the public and Statutory Bodies by 13 May 2022.

All received feedback will be assessed and the proposed options adapted where necessary.

Feedback can be submitted online via the project website or via the project Community Liaison Manager:

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Community Liaison Manager

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Additional information

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

Project website:
www.ssen-transmission.co.uk/projects/errochty-gsp

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