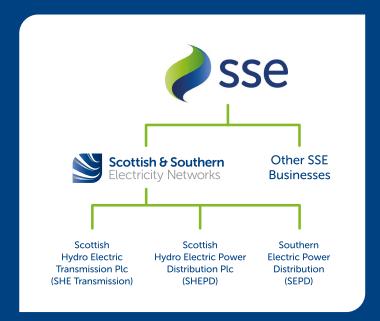






Who we are

We are 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.

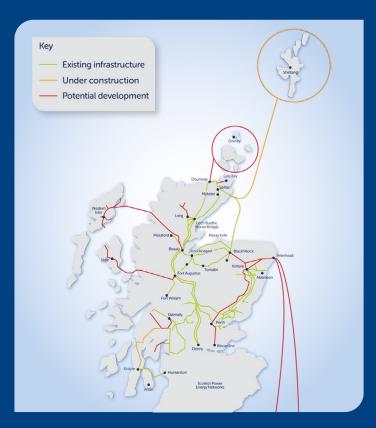
Our licence stipulates that we must develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

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



Project need and overview

Project need

As a licensed Transmission Operator, SSEN Transmission is required to maintain connections to the electricity network for it's generation customers.

The four existing transformers at Sloy Power Station, which convert the 11kV output of the hydro-electric power station to 132kV for export to the Transmission network, are coming to the end of their operational life and need replacing. The consequent deterioration in their condition poses a risk of failure, meaning the power station would no longer be able to generate renewable energy and poses risks to the reliability of supply to customers.

The existing transformers were installed when our engineering design standards were very different. Modern transformers are quieter and more efficient but also require more space around them for cooling and safe access for maintenance teams. This, together with a need to keep the power station connected to the network, means that a new substation site outwith the existing power station compound has to be found.

Sloy power station generates around 150 megawatts of renewable power, contributing to Scotland's targets for reducing carbon emissions.



Existing transformers needing to be replaced

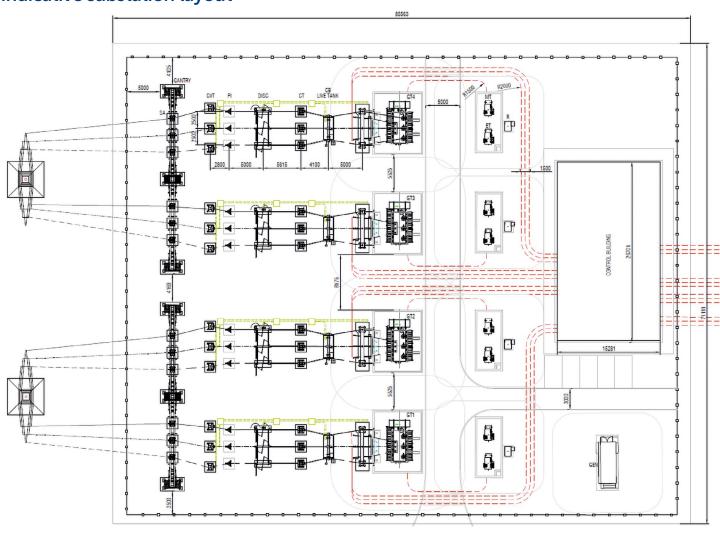
Project Overview

The proposed project, known as the Sloy Power Station Transformer Replacement scheme involves the construction of a new substation compound in proximity to the power station. This will enable us to build the four new transformers and switchgear offline, while maintaining connection for the power station to the electricity network. The connections will then be swapped over from the current transformers to the new ones under an outage.

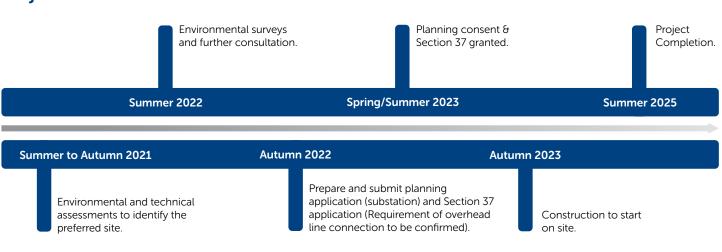
Delivery of this project will include the following project elements;

- A new substation platform, indicatively 85 x 71 metres in size, surrounded by a 2.4 metre high metal palisade security fence.
- The installation of four new 132/11kV transformers, Air Insulated Switchgear (AIS) to connect them.
- A new control building.
- A connection to the existing 132kV overhead lines which could be overhead via a new tower and gantry in the substation, or possibly via underground cable to be confirmed and dependent on which site is chosen).
- A number of 11kV underground cables will be installed to connect the new transformers back to the power station.
- Existing access from the A82 to be used, and may be subject to upgrade.
- The old transformers and associated equipment at the power station will be removed.
- Any redundant overhead line apparatus will be removed.

Indicative substation layout



Project timeline



Substation Site Selection

Overview of the substation site selection process

SSEN Transmission has developed and implemented a formal process for the selection of sites for new substations of 132kV and above. The main aim of the process is to provide a consistent approach to the selection of new substation sites and is underpinned by our statutory obligations 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'.

Our site selection process ensures the design, consenting, construction and operation of a substation is done in a manner that is technically feasible and financially viable whilst causing, on balance, the least disturbance during construction and operation to the environment and the people who live, work and use it for recreation.

Key Stages

For most new substation projects, following pre-site selection activities, the approach follows two principal stages, each iterative and increasing in detail and resolution, bringing cost, technical and environmental considerations together in a way which seeks the best balance at both stages. This staged process leads to the identification of a proposed substation site, which will be taken forward for planning.

The key site selection stages are:

Pre-Site Selection Activities

The starting point in all substation site selection projects is to establish the need for the project and to select the preferred engineering option to deliver it. This process will be triggered by the preparation of several internal assessments and documents.

Stage 1: Initial Site Screening

This stage seeks to identify technically feasible, economically viable and environmentally acceptable site options within a defined area. The search area may vary depending on terrain, other infrastructure, designated areas and features and connection options. The aim is to identify several potential sites which can be initially assessed for suitability.

Stage 2: Detailed Site Selection

This stage seeks to identify a preferred substation site, which avoids where possible physical, environmental and amenity constraints, is likely to be acceptable to stakeholders, and is economically viable, taking into account engineering and connection requirements.

This stage will be reported in a Substation Site Selection Report. Following public and stakeholder consultation, the Report will be updated to include any feedback and modifications made and confirm the proposed substation site to take forward for planning.

What happens next - the Planning Application Process

The outcome of the substation site selection process will be a development for which consent under the Town & Country Planning regime will be sought. The application will identify:

- The site boundary clearly shown in red (the Planning Red Line Boundary) including any access route (up to the public road including junction improvements).
- The proposed development in relation to the site boundary with dimensions of all permanent structures, buildings, perimeter fencing, and any key drainage features (SuDS pond) and key electrical features, such as transformers.

In some cases, the application will be subject to Environmental Impact Assessment (EIA) under the Town & Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. This may result in further alterations to the Proposed Development to reflect outcomes of the EIA consultation process. Should the Proposed Development be deemed non-EIA (due to its scale or number and significance of potential environmental effects), a voluntary Environmental Appraisal is carried out to support the application.

Further public and stakeholder consultation will be undertaken to present our proposals ahead of submitting a planning application.

Where overhead line elements are required, a similar application is made to the Scottish Ministers under Section 37 of the Electricity Act 1989. This will specifically cover the overhead line, not the main substation works.

Environmental Considerations

Due to the projects' location, the key environmental considerations are around the Loch Lomond waterbody, Loch Lomond Holiday Park and designated sites of nature conservation importance including Loch Lomond Woods Special Area of Conservation (SAC) and ancient woodland habitat. The search area lies within Loch Lomond and the Trossachs National Park and Loch Lomond National Scenic Area. The main areas of assessment during site selection are:

Landscape and Visual

The appearance of the substation within the landscape and how it would be seen is being carefully considered. Site selection will be substantially guided by effects on this nationally valued landscape, with particular consideration of:

- Loch Lomond and Inveruglas as key visitor destinations.
- The importance of the A82 as a visitor route through the National Park.
- Landscape character, visual amenity and heritage assets (including the Inveruglas Castle Scheduled Monument and several Listed Buildings).

Mitigation would likely include using the existing landform features and the creation of sympathetic hard and soft landscape. The natural landform offers opportunities for screening views of the proposed development from key visual receptors.

Land Use, Access and Recreation

No long-distance routes, core paths or public rights of way are located within the sites under consideration.

Red Squirrel







Cultural Heritage

All the sites under consideration have potential for setting impacts to the nearby Scheduled Monument of Inveruglas Castle and the Category A Listed Sloy Awe **Hydro Electric Power Station.**

There is also the potential for impacts on known and unknown archaeological remains. Setting impacts will be considered as part of the substation site selection as well as detailed design development. Mitigation may include screening measures to reduce any visual intrusion.

Hydrology and Geology

The following hydrological aspects are being considered:

- Private water supplies.
- Groundwater dependent terrestrial ecosystems (GWDTE's).
- Potential for flood risk.
- If any designated sites are hydrologically linked to the site.

An appropriate site drainage plan for both the construction and operational phases will be developed to ensure no adverse impacts on the surrounding water environment.

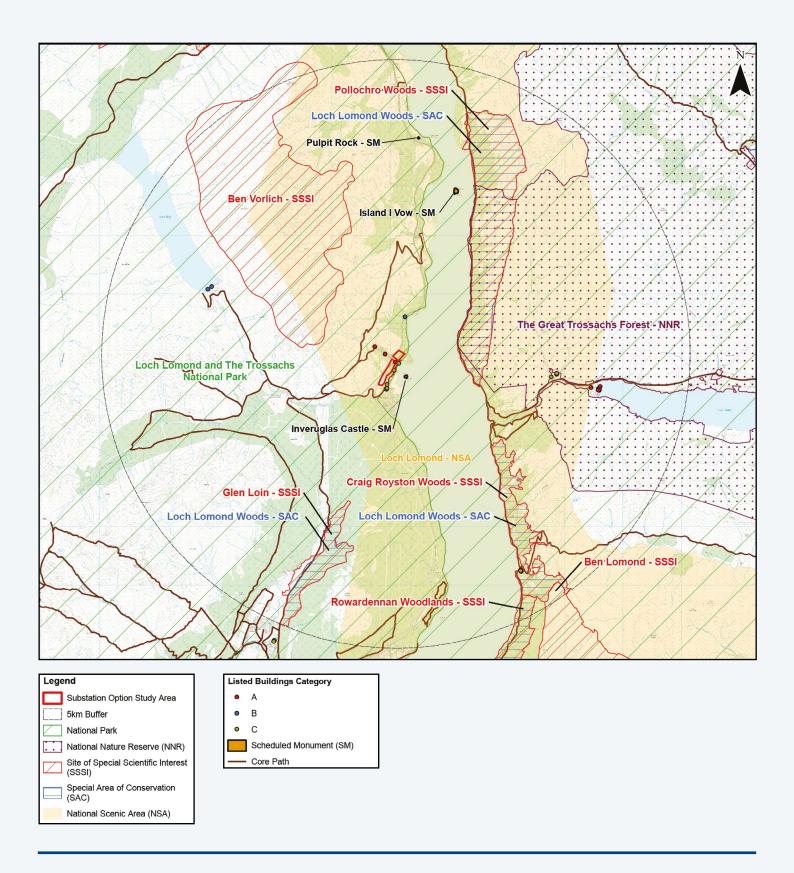
Ecology and Ornithology

Several ecology surveys and assessments have been carried out covering:

- · Habitats, including biodiversity.
- · Badger and otter.
- · Bat habitat suitability.
- · Bird habitat suitability.
- · Red squirrel and pine marten habitat suitability.

It's likely that some tree felling will be required for all the sites under consideration.

Environmental Designations



Engineering and Economic Considerations

Our Transmission Operators licence requires us to provide best value for customers and GB consumers. As a natural monopoly, SSEN Transmission are closely regulated by the GB energy regulator Office of Gas and Electricity Markets (OFGEM), who determine how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network. These costs are shared between all those using the transmission system, including generation developers and electricity consumers. We therefore work to strict price controls which means the following engineering and economic considerations form a key part of our site selection process:

Construction

The costs and practicalities associated with constructing the new platform can vary considerably with location depending on ground conditions, topography and underlying geology.

This means considering access and delivery routes, space for laydown and construction compounds, and consideration of future use. The topography and underlying ground conditions dictate how much material has to be removed and moved to create a level site with a suitable base. Importing and exporting large quantities of aggregates and spoil is expensive and is not environmentally desirable due to impacts associated with transport. We can also use topography to our advantage, using existing ridges, mounds and slopes to provide screening for the site. This can reduce the amount of additional hard and soft landscaping required.

Operations

Our sites will be operational for a long time and will require ongoing maintenance and repairs by our Operations Team.

They need to be able to easily and safely access the site in all weathers. More exposed sites will likely need more maintenance during their life. In addition, where we have created or enhanced local habitats, we take on the responsibility for long term maintenance of landscaping to ensure it is successful.

Outage requirements and constraints

Any potential impacts to the operation of the existing network and security of supply for our customers (both demand and generation) must be carefully considered and minimised where possible.

Any temporary works required to minimise outages must be considered on their costs and benefits.

Connections

The new substation requires to be connected both to the power station and the existing 132 kV overhead lines, so proximity to both of these is more desirable.

The further away from these points of connection the site is, the greater the engineering challenges and cost as more infrastructure is required to be installed. Underground cables, whilst less visually intrusive, are more expensive than equivalent overhead lines. Given the location of the power station, reducing any new overhead infrastructure is a key consideration.

Forestry and Biodiversity

The cost of felling trees and any compensatory planting has to be factored into the assessment.

SSEN Transmission are committed to a No Net Loss of forestry and biodiversity on projects. Choosing a site with more tree felling or in more ecologically rich habitats will incur greater costs both to remove the trees and then provide compensatory planting and habitat creation/ enhancements.

Technology

The plant and equipment used in the construction and connection of the substation will vary in cost.

Site location can drive the use of alternative technologies driven by factors such as wind speed, altitude, proximity to coast etc. The available footprint may also dictate the use of alternative technologies in order to fit the required plant and equipment, which comes at a price. Some plant and equipment may require to be housed indoors at an additional cost. The choices between cable and overhead line in connecting the site with the wider network will also affect the cost of the project.

Sloy Site Selection Search Area and Options

Substation Search Area

The search area is relatively small given the location of the power station in relation to Loch Lomond and its' surrounding topography. The area is defined by the following:

- To the North the A82 alignment and local topographic features preclude suitable sites further away.
- To the West the railway is the principal constraint which prevents sites sitting too nearby or uphill from it on stability grounds. Further westwards the land rises too steeply to construct a platform and would also be too visible from Loch Lomond.
- To the east the area is constrained by the A82 and Loch Lomond.
- To the south the area is constrained by the holiday park, topography and A82.



Site Options

Option A

Environmental Pros' and Cons'		
Topic	Pro	Con
Ecology and Ornithology	 Reptile species unlikely to be supported on this site location Biodiversity enhancements possible No regional or local designations 	 Woodland has potential foraging/resting habitat for protected species Schedule 1 birds could nest within site
Hydrology and Geology	Flood risk unlikely	Three private water supplies within 2km
Cultural Heritage	No designated sites directly affected	Potential setting impact to listed buildings and Scheduled Monument Inveruglas Castle
Landscape and Visual	Option offers potential visual screening if some woodland is retained	Removal of woodland which would impact the landscape character
Land Use	No best and most versatile agricultural land, not an area of commercial forestry, site would not impede highland sports	Loss of native woodland
Planning	No planning applications within the site	Within the Loch Lomond and Trossachs National Park

Engineering Pros' and Cons'		
Topic	Pro	Con
Engineering	 Closest site to the Hydro Station, allowing shorter connections Allows the use of the existing OHL towers 	 Not enough room for site compound/works lay down area – more interference with A82/ live traffic Lots of rubble/made ground, possibly poor for earthworks and drainage Works in close proximity to Network Rail Assets Known potential future interface with pumped storage and introducing interface with penstock crossings



Option B

Environmental Pros' and Cons'		
Topic	Pro	Con
Ecology and Ornithology	 Reptile species unlikely to be supported on this site location No regional or local designations Proximity to existing substation may provide baseline level of disturbance that birds could become accustomed to 	 Ancient woodland has potential foraging/ resting habitat for protected species Biodiversity enhancements not possible due to ancient woodland Schedule 1 birds could have nesting territories within site
Hydrology and Geology	Flood risk unlikely	Three private water supplies within 2km
Cultural Heritage	No designated sites directly affected	Potential setting impacts to listed buildings and Scheduled Monument Inveruglas Castle
Landscape and Visual		 Removal of woodland which would impact the landscape character and views from the A82 and the visitor centre
Land Use	No best and most versatile agricultural land, not an area of commercial forestry, site would not impede highland sports	Loss of native woodland
Planning	No planning applications within the site	Within the Loch Lomond and Trossachs National Park

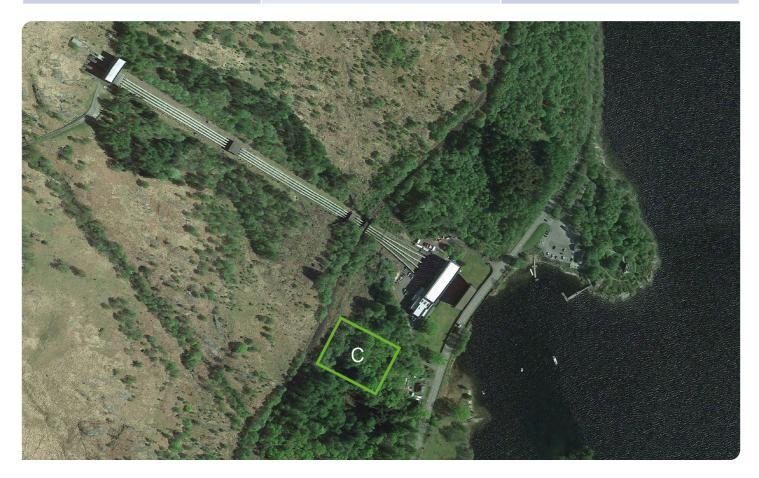
Engineering Pros' and Cons'		
Topic	Pro	Con
Engineering	Good use of available space Keeps connections short and reduces cable congestion at the power station	 Encroaches on Network Rail Asset and associated challenges of ownership issues for resulting retaining wall Not enough room for site compound/works lay down area – more interference with A82/live traffic Two sites instead of one, more access and maintenance interfaces



Option C

Environmental Pros' and Cons'		
Topic	Pro	Con
Ecology and Ornithology	 Reptile species unlikely to be supported on this site location No regional or local designations 	 Ancient woodland has potential foraging/ resting habitat for protected species Biodiversity enhancements not possible due to ancient woodland Schedule 1 birds could have nesting territories within site
Hydrology and Geology	Flood risk unlikely	Three private water supplies within 2km
Cultural Heritage	No designated sites directly affected	Potential setting impacts to listed buildings and Scheduled Monument Inveruglas Castle
Landscape and Visual		Removal of woodland which would impact the landscape character and views from the residential property
Land Use	No best and most versatile agricultural land, not an area of commercial forestry, site would not impede highland sports	Woodland loss would be required
Planning	No planning applications within the site	Within the Loch Lomond and Trossachs National Park

Engineering Pros' and Cons'		
Topic	Pro	Con
Engineering	Close to Hydro Station, relatively short connections	 Proximity to private property No space for laydown area without large tree loss



Option D

Environmental Pros' and Cons'		
Topic	Pro	Con
Ecology and Ornithology	No regional or local designations	 Ancient woodland has potential foraging/resting habitat for protected species Site could provide habitat for reptile species Biodiversity enhancements not possible due to ancient woodland Schedule 1 birds could have nesting territories within site
Hydrology and Geology		 Three private water supplies within 2km Site is partially within an area of medium flood risk
Cultural Heritage	Site should be screened from Inveruglas Castle) Scheduled Monument) and from listed buildings (Power Station)	 Setting impacts to listed buildings (Inveruglas Barn and views to and from the steading) Direct impacts on the workers camp
Landscape and Visual	Likely to be screened by key visual receptors	Removal of woodland which would impact the landscape character
Land Use	No best and most versatile agricultural land, not an area of commercial forestry, site would not impede highland sports	Woodland loss would be required
Planning	No planning applications within the site	Within the Loch Lomond and Trossachs National Park

Engineering Pros' and Cons'		
Topic Pro Con		
Engineering	 Good ground profile for earthworks Close to 132kV OHL tower for connections Good screening 	 Spate watercourse No space for laydown area would need further tree removal and burn crossing



Option E

Environmental Pros' and Cons'		
Topic	Pro	Con
Ecology and Ornithology	No regional or local designations	 Ancient woodland has potential foraging/resting habitat for protected species Site could provide habitat for reptile species Biodiversity enhancements not possible due to ancient woodland Schedule 1 birds could have nesting territories within site
Hydrology and Geology	Flood risk unlikely	Three private water supplies within 2km
Cultural Heritage	Site should be screened from Inveruglas Castle) Scheduled Monument) and from listed buildings (Power Station)	 Setting impacts to listed buildings (Inveruglas Barn and views to and from the steading) Direct impacts on the workers camp
Landscape and Visual	As option is in largely a clearing, this option could be screened from visual receptors and could be integrated within the landscape	Removal of woodland which would impact the landscape character
Land Use	No best and most versatile agricultural land, not an area of commercial forestry, site would not impede highland sports	Woodland loss would be required, some of which is native woodland
Planning	No planning applications within the site	Within the Loch Lomond and Trossachs National Park

Engineering Pros' and Cons'		
Topic	Pro	Con
Engineering	 Good for connection to existing 132kV network Space available for laydown and construction areas Relatively flat site Opportunity for removal of further 132kV towers 	Spate Watercourse Longer connections to hydro station, will still be tree felling required

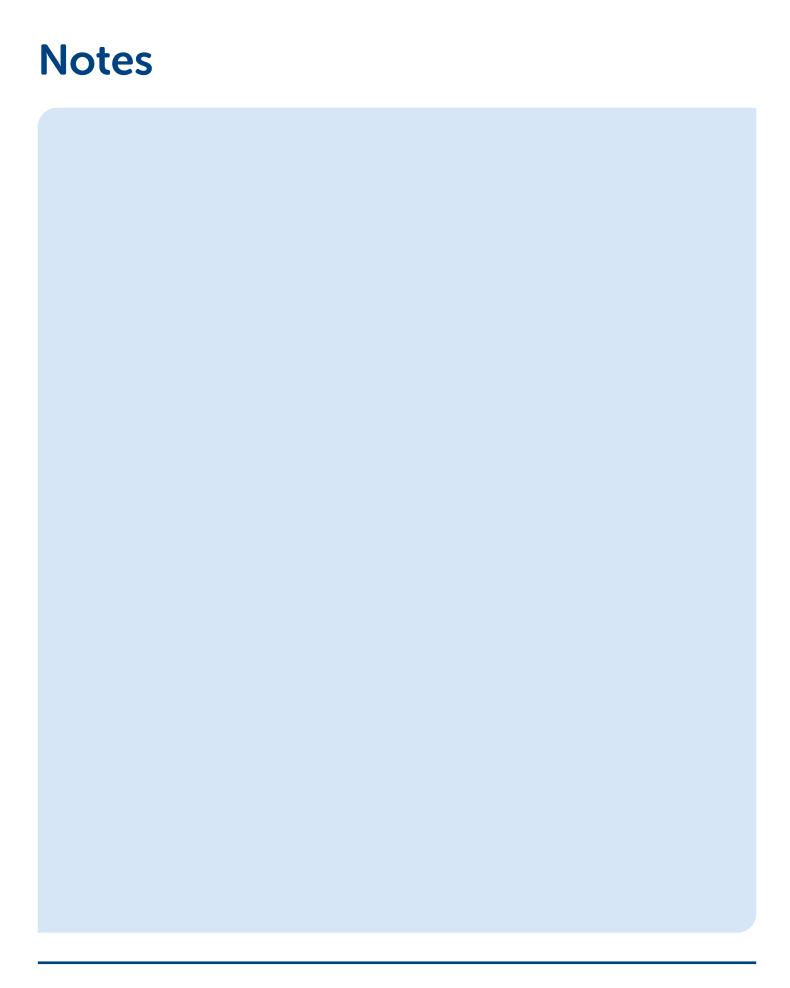


Option F

Environmental Pros' and Cons'		
Topic	Pro	Con
Ecology and Ornithology	 Biodiversity enhancements possible No regional or local designations No woodland loss As the site is predominately scrub/grassland there are unlikely to have any priority habitats 	 Site could provide habitat for reptile species Schedule 1 birds could have nesting territories within site
Hydrology and Geology	Flood risk unlikely	Three private water supplies within 2km
Cultural Heritage	Site should be screened from all listed buildings in the area	 Setting impacts to Scheduled Monument Inveruglas Castle. Direct impacts on the workers camp
Landscape and Visual	 As option is in a clearing, this option could be screened from visual receptors and could be integrated within the landscape 	Removal of woodland which would impact the landscape character
Land Use	 No best and most versatile agricultural land, not an area of commercial forestry, site would not impede highland sports Site is not in an area of woodland 	
Planning	No planning applications within the site	Within the Loch Lomond and Trossachs National Park

Engineering Pros' and Cons'		
Topic	Pro	Con
Engineering	 Reasonably flat site, good earthworks potential Mature trees offer existing screening Space available for laydown and construction areas Suitable connection point onto existing 132kV network Opportunity for removal of some existing 132kV towers 	Longest connections back to hydro station, will still be tree felling required





How do I have my say?

We understand and recognise the value of the feedback provided by members of the public during all engagements, consultations and events. 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 with regards to the following questions:

- Has the requirement for the project been clearly explained?
- Based on the information provided do you have a preferred and/or worst site location?
- Are there any additional factors, or environmental features, that you consider important and should be brought to the attention of the project team?

Comments

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

We will be seeking feedback from members of the public and Statutory Bodies until **Tuesday 14th September 2021**. All received feedback will be assessed and the proposed options will be adapted where necessary.

Community Liaison Manager, Sally Cooper



sally.cooper@sse.com



07918 470281



Sally Cooper Scottish and Southern Electricity Networks, 10 Henderson Road, Inverness, IV1 1SN



Additional information

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

Project website:

www.ssen-transmission.co.uk/projects/ sloy-power-station-transformer-replacement-project

Follow us on Twitter:

@ssencommunity



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 If No, please comment
Q2	Based on the information provided do you have a preferred and/or worst site location? Please provide comments below.
Q3	Are there any additional factors, or environmental features, that you consider important and should be brought to the attention of the project team?
	Please use the space below to provide further 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, 10 Henderson Road, Inverness, IV1 1SN

Email: sally.cooper@sse.com

Online: www.ssen-transmission.co.uk/projects/sloy-power-station-transformer-replacement-project

Download: Feedback forms and all the information from todays event can also be downloaded from the dedicated website.

The feedback form and all information provided in this booklet can also be downloaded from the dedicated website:

www.ssen-transmission.co.uk/projects/sloy-power-station-transformer-replacement-project/

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.

Closing date for feedback is Tuesday 14th September 2021

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.

Scottish and Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460; (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having its Registered Office at Number One Forbury Place, 43 Forbury Road, Reading, Berkshire, RG1 3JH which are members of the SSE Group.



