Scottish & Southern Electricity Networks

TRANSMISSION

Report on Consultation

Shin to Loch Buidhe 132 kV OHL Rebuild

January 2026

Scottish & Southern Electricity Networks
TRANSMISSION

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GLOSSARY

Term	Definition
Alignment	A centre line of an overhead line OHL, along with location of key angle structures.
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of SSEN Transmission's works on communities, such as the effects of noise and disturbance from construction activities.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views and, normally, with the objective of influencing decisions, policies or programmes of action.
Corridor	A linear area which allows a continuous connection between the defined connection points. The corridor may vary in width along its length; in unconstrained areas it may be many kilometres wide.
Environmental Impact Assessment (EIA)	A formal process set down in *The Electricity Works (EIA) (Scotland) Regulations 2017* used to systematically identify, predict and assess the likely significant environmental impacts of a proposed project or development.
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities.
Kilovolt (kV)	One thousand volts.
Micro-siting	The process of positioning individual structures to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation or alleviation of adverse impacts.
National Scenic Area (NSA)	A national level designation applied to those landscapes considered to be of exceptional scenic value.
Overhead line (OHL)	An electric line installed above ground, usually supported by lattice steel towers or poles.
Planning application	An application for planning permission under the Town and Country Planning (Scotland) Act 1997, as amended by the Planning etc. (Scotland) Act 2006. It should be noted that consent under section 37 of the Electricity Act 1989 usually carries with it deemed planning permission from the Scottish Ministers under Section 57 of the Town and Country Planning (Scotland) Act 1997.
Plantation Woodland	Woodland of any age that obviously originated from planting.
Preferred Alignment	An alignment for the overhead line taken forward to stakeholder consultation following a comparative appraisal of Route Options.
Proposed Alignment	An alignment taken forward to consent application. It comprises a defined centre line for the overhead line and includes an indicative support structure (tower or pole) schedule, also specifying access arrangements and any associated construction facilities.
Proposed OHL	The proposed new 132 kV overhead transmission line between the existing Shin Substation and Loch Buidhe Substation in the Scottish Highlands.

Term	Definition
Preferred Route	The Route Option which is considered to represent the optimum balance between the various environmental considerations.
Proposed Route	The final route taken forward following stakeholder consultation within which alternative OHL route alignments will be defined and appraised.
Sites of Special Scientific Interest (SSSI)	Areas of national importance. The aim of the SSSI network is to maintain an adequate representation of all natural and semi-natural habitats and native species across Britain.
Span	The section of overhead line between two structures.
Special Area of Conservation (SAC)	An area designated under the EC Habitats Directive to ensure that rare, endangered or vulnerable habitats or species of community interest are either maintained at or restored to a favourable conservation status.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive74/409/EEC) to protect important bird habitats. Implemented under the Wildlife and Countryside Act 1981.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
Study Area	The area within which the corridor, route and alignment study takes place.
The National Grid	The electricity transmission network in the Great Britain.
Volts	The international unit of electric potential and electromotive force.
Wayleave	A voluntary agreement entered into between a landowner upon whose land an overhead line is to be constructed and SSEN Transmission

EXECUTIVE SUMMARY

SSEN Transmission invited members of the public, statutory consultees and other key stakeholders to provide comment on the Preferred Alignment identified for a 132 kV overhead line (OHL) connection between existing Shin Substation and Loch Buidhe Substation in the Scottish Highlands.

This Report on Consultation documents the consultation process undertaken from August-September 2025. The programme of consultation was designed to engage with statutory and non-statutory organisations, in order to invite feedback on the study undertaken to identify the Preferred Alignment. Consultees were also invited to provide feedback on any factors or environmental features that may have been overlooked during the Preferred Alignment selection process.

The consultation process included the publication of a Consultation Document (27 August 2025) to describe the evaluation of the different Alignment Options and invite stakeholders to provide their views. In addition, SSEN Transmission published a Consultation Booklet, and held an in-person Consultation Event at Bonar Bridge Community Hall. This report presents a summary of the stakeholder consultation undertaken by SSEN Transmission, the feedback received, and SSEN Transmission's responses to the issues raised.

Key issues emerging from consultation responses include:

- Potential impacts on ecology designated sites - Strath Carnaig & Strath Fleet Moors Special Protection Area (SPA)/Site of Special Scientific Interest (SSSI), River Evelix SAC and River Oykel SAC; and
- Potential impacts on habitats and peatlands.

This report also sets out the next steps in the project design process and identifies where specific issues raised in the consultation responses will be addressed by the scope of the Environmental Impact Assessment.

1. INTRODUCTION

1.1 Purpose of Document

SSEN Transmission is proposing to construct and operate a new double circuit 132 kV overhead line (OHL) between the existing Shin Substation and a proposed cable sealing end (CSE) compound approximately 2 km west of Loch Buidhe Substation and an Underground Cable (UGC) from the CSE compound to the existing Loch Buidhe Substation, Highlands, Scotland, to replace an existing 132 kV line. This Report on Consultation has been prepared to document the consultation undertaken on the alignment selection process. The study area for the project is shown on **Figure 1.1 (Appendix 1)**.

Transmission licensees, such as SSEN Transmission, have a duty under Section 9 of the Electricity Act 1989 to develop and maintain an efficient, coordinated and economical system of electricity transmission; and to facilitate competition in the generation and supply of electricity. These works are necessary in order to replace and strengthen the existing 132 kV OHL connection between these two connection points, in accordance with the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS).

The programme of consultation was designed to engage with key stakeholders including statutory and non-statutory consultees, local communities, landowners and individual residents in order to invite feedback on the rationale for and approach to, the selection of the Preferred Alignment.

The Report on Consultation describes the key feedback received and details SSEN Transmission's responses to the issues raised.

1.2 Document Structure

This report is comprised of five sections as follows:

1. Introduction – sets out the purpose of the Report on Consultation;
2. The Proposals – outlines the background to the project and provides a description of the key elements;
3. The Consultation Process – describes the framework for consultation and methods which have been employed;
4. Consultation Feedback and Project Responses – summarises the range of responses and describes how the comments and issues raised during consultation will be addressed; and
5. Conclusions and Next Steps – provides a summary of the conclusions reached and actions going forward.

The main body of this document is supported by a series of figures and appendices.

2. THE PROPOSALS

2.1 Project Need

Scottish and Southern Electricity Networks Transmission (SSEN Transmission) operating under licence held by Scottish Hydro Electric Transmission plc has a statutory duty under Schedule 9 of the Electricity Act 1989 to develop and maintain an efficient, co-ordinated, and economical electrical transmission system in its licence area. Where there is a requirement to extend, upgrade or reinforce its transmission network, SSEN Transmission's aim is to provide an environmentally aware, technically feasible and economically viable solution.

There is a need to reinforce the online transmission infrastructure between the existing Shin Substation and Loch Buidhe Substation in the Scottish Highlands. The significant increase in contracted generation necessitates network reinforcement to enable SSEN Transmission to maintain compliance with the National Electricity Transmission System Security and Quality of Supply Standard. The existing 132kV overhead line (OHL), supported by steel towers and constructed in the 1960s, was originally intended to be reconductored. However, assessments have shown that the existing towers are unsuitable for the heavier conductor needed to achieve the target rating of 348 MVA. To address this, it is proposed to replace the current line with a new overhead line. This upgrade will facilitate the integration of renewable energy into the Transmission Network while ensuring compliance with required electrical capacity standards.

To enable this reinforcement, SSEN Transmission is proposing to construct and operate a new 132 kV double circuit Overhead Line (OHL) and Underground cable (UGC) of approximately 9 km in length (depending on the Preferred Alignment) and dismantle the existing 132 kV OHL between Shin and Loch Buidhe Substations (the 'Proposed Development').

2.2 Proposal Overview

2.2.1 Overhead Line (OHL)

The Proposed Development would comprise the construction of a new 132 kV OHL supported by steel lattice tower structures (Plate 1.1 below). The new connection is expected to consist of roughly 5.72 km of OHL supported by steel lattice towers, and approximately 3.18 km of UGC to connect into Loch Buidhe Substation. A cable sealing end (CSE) compound will be required at the transition point between the overhead and underground sections. Construction and dismantling will also necessitate the use of access tracks.

The 132 kV steel tower construction would meet the requirements of the line rating and would have a similar visual profile to the existing OHL. It would have improved reliability over the existing OHL, meeting increased climatic design parameters, and would also include a fibre-optic cable, which meets the requirements for modern communication for protection and operation of the circuit. The new OHL would replace the existing 132 kV OHL, which would be removed once the new OHL is operational.

Photo 1.1: Steel lattice tower design

The 132kV steel lattice towers will average 33 meters in height, ranging from 26 to 42 meters depending on terrain, design, and safety clearance needs. Towers are typically spaced between 100 to 290 meters apart, though this can vary, and micro-siting may be used to avoid sensitive areas. Foundations generally range between 4.9m x 4.9m to 10m x 10m footprint, potentially up to 15m x 15m, with two foundation types pad and column or piled, chosen based on ground conditions and load requirements during detailed design.

Towers are assembled at ground level and erected using various equipment such as cranes, helicopters, or telehandlers, depending on site conditions. New access tracks, both temporary and permanent, may be constructed, but existing tracks will be used where feasible. An operational corridor will be maintained along the line, including vegetation management, to reduce the risk of faults.

Underground Cable (UGC)

For the Shin to Loch Buidhe circuit, a three-phase 132kV double circuit is needed, requiring two underground cables per phase totalling 12 parallel cables for any underground sections. To meet electrical design requirements, the cables must be spaced appropriately, which involves excavating a group of trenches up to 15 meters wide and 1 to 3 meters deep. During construction, a working corridor of up to 45 meters in width is necessary to accommodate cable installation.

Additional Infrastructure

Cable joint bays are temporarily excavated areas used to connect sections of underground cable, with some permanent above-ground infrastructure such as link pillars for ongoing maintenance and safe operation. At transition points between overhead lines and underground cables, cable sealing

ends are required, housed within a fenced compound built around the tower. This compound includes a stoned hardstanding area and typically has a footprint of around 50m x 50m.

2.3 Alignment Selection Study

The alignment selection study has been completed using a three-step approach, as detailed below:

- Step 1: Identification of Baseline Alignment;
- Step 2: Review of Baseline Alignment with reference to environmental and cost criteria;
- Step 3: Alignment Options Analysis.

From this process, a 'Preferred Alignment' was taken forward for consultation and for further analysis to identify an Indicative Proposed Alignment. According to the SSEN Transmission OHL Routing Guidance, a 'Indicative Proposed Alignment' is defined as "an alignment for the overhead line identified following public consultation that is taken forward to EIA and detailed design."

2.3.1 Study Area

The existing OHL presents a constructable, direct alignment between the existing Shin and Loch Buidhe Substations. It was considered unlikely that the Proposed Development would deviate significantly from its existing alignment, and reviewing various route options was deemed unnecessary. Therefore, a detailed routing assessment stage (as per the SSEN OHL Route Selection guidelines) and associated deliverables was not undertaken as part of this project. Instead, a high-level Route Constraints Report was completed to provide a baseline for the alignment selection stage (Stage 3).

The high-level constraints analysis was completed to capture an approximate 1 km corridor from the existing OHL. The corridor extends approximately 10 km in length, stretching eastward from Shin Substation to Loch Buidhe Substation as shown on Figure 1.1 (Appendix 1). The environmental factors considered comprise of natural heritage, hydrology, geology and soils, cultural heritage, people, landscape character, visual amenity, transport routes, land use and recreation, and planning policy. A summary of engineering considerations was also provided as part of this analysis.

2.3.2 Step 1: Identification of Baseline Alignment

The Baseline Alignments for a 132 kV OHL and UGC was developed by SSEN Transmission, within the extents of the route corridor. SSEN OHL design engineers developed the Baseline Alignment via the following steps:

- initial alignment and alternative routes were identified, considering environmental and engineering constraints, required protection buffers and feedback received from stakeholders;
- baseline alignment was determined through appraisal of all potential (initial and alternative) options.

The appraisal involved systematic valuation against all engineering constraints, as summarized in **Table 2.1** below.

Table 2.1 Baseline Alignment – Engineering Appraisal Criteria

Category	Engineering Appraisal Criteria
Infrastructure Crossing	Major Crossings: Review of major crossings (132kV, 275kV, Rail, 200 m+ wide river, navigable canal, and hydro/gas pipeline) (Holford Rule 6). Road Crossing: Review number of road crossings.
Ground Conditions	Terrain: Review of topography, with a preference for lower gradients and avoiding slope gradients >50% where possible. Peat: Site survey to avoid unfavourable ground, such as peat, extensive areas of rocky outcrops and wet areas and water courses/ bodies.
Construction and Maintenance	Angle Poles: Review of angle pole requirements. Least number of angle towers is preferable (Holford Rule 3).
Proximity	Clearance Distance: Review distance to existing buildings or properties. Aiming at least 100 m distance.

2.3.3 Step 2: Review of Baseline Alignment

The next stage comprised the analysis of the Baseline Alignment in terms of the environmental criteria summarised below.

Table 2.2 Baseline Alignment – Environmental Appraisal Criteria

Environmental Features	Environmental Appraisal Criteria
Natural Heritage	Ecology designations, protected species, habitats, ornithology, hydrology, geology.
Cultural Heritage	Designated and non-designated assets.
Proximity to Dwellings	Residential properties.
Landscape and Visual	Designations, landscape character and visual amenity.
Land Use	Agriculture, forestry, and recreation.
Planning	Policy and proposals.

In addition, cost criteria were considered. To comply with SSEN Transmission's licence obligations under the Electricity Act 1989, there is a preference for financially less cost options over more expensive options when selecting an OHL alignment. This preference is balanced with a consideration of the need to avoid or mitigate environmental impacts and engineering & constructability factors. The lowest cost alignment is considered to represent the base cost option. The Baseline Alignment is not always the lowest cost; an alternative alignment option may be of a lower cost than the Baseline Alignment.

Four Alignment options for the OHL and two alignment options for the UGC, were considered for comparative assessment. The alignment options are shown on Figure 2.1 (Appendix 1) and described below.

Baseline OHL Alignment Option A1

A 6.2 km route that begins at Shin Substation, heading northeast across the A837 before curving east to cross the B864 and Shin River, where it merges with Option A2; it then continues eastward over the Far North Railway and A836, passing through forestry and moorland areas containing nationally important Class 1 and 2 peatlands. The route runs approximately 5.6 km along this trajectory, staying 80–130 m north of the existing Shin to Loch Buidhe OHL and 130–170 m north of Option B, before connecting with the underground cable section at the proposed CSE near an existing access track.

OHL Alignment Option A2

A 6.3 km route that begins at Shin Substation, heading northeast over the A837 before turning north to join Option A1 and cross the B864 and Shin River, then continuing east over the Far North Railway and A836 through forestry and moorland with Class 1 and 2 peatlands. It follows this path for approximately 5.6 km, staying 80–130 m north of the existing Shin to Loch Buidhe OHL and 130–170 m north of Option B, before veering southwest to rejoin Option A1 near an existing access track, where both routes connect to the underground cable section into Loch Buidhe Substation.

OHL Alignment Option B

A 6.4 km route beginning at Shin Substation, heading northeast over the A837 before veering east to cross the B864 and Shin River approximately 190 m south of the A1 and A2 crossings, then continuing east for 2.6 km across the Far North Railway, the A836, and a 240 m Scheduled Monument through forested land. It then crosses approximately 3.5 km of moorland with underlying Class 1 and 2 peatlands, running 70–100 m south of the existing OHL and 130–170 m south of A1 and A2, before connecting to its CSE near an existing access track, around 330 m southeast of the A1, A2, and CSE junction.

OHL Alignment Option C

A 6.6 km route that takes a more northerly path than the other options, starting at Shin Substation and travelling northeast before heading north for 0.88 km along an existing track, then veering east to cross the B864, River Shin, approximately 110 m of Ancient Woodland, the Far North Railway, and the A836, about 0.59 km north of where Options A1 and A2 cross. It continues east for 0.88 km over predominantly Class 2 peatland with a short section of Class 1 peatland, then curves southeast for 1.9 km to join Options A1 and A2 near an access track, following their shared route for 2.6 km across Class 2 peatland to reach the proposed CSE.

UGC Alignment Option 1

A 2.2 km route starting at the CSE, approximately 2 km west of Loch Buidhe Substation, and follows a more direct path than Option 4. It travels east for 0.2 km across Class 1 peatland, then southeast for 100 m, before continuing east for 1.3 km through mostly Class 2 peatland, crossing an access track and the Allt an Dubh watercourse before joining Option 4 at Lochbuie Road and following it into the substation.

Baseline *UGC Alignment Option 4*

A 2.3 km route that follows the preferred alignment of the LT430 Garvary Wind Farm to Loch Buidhe Substation underground cable connection within a shared cable corridor. It travels southeast for 0.66 km across Class 1 peatland, then east across an access track just south of a junction, continuing for

1 km through Class 2 peatland and over the Allt an Dubh watercourse before joining Option 1 at Lochbuie Road, crossing it, and entering Loch Buidhe Substation from the south.

UGC Alignments 2 and 3 were discounted as they were not considered viable from an engineering perspective due to potential interface with another OHL project.

2.3.4 Step 3: Alignment Options Analysis

A comparative appraisal for each Alignment Option was completed in accordance with SSEN Transmission guidance, which states that each Option should be evaluated with reference to agreed environmental, engineering and cost criteria and should be considered in terms of the potential for the Proposed Development to be constrained. A Red/Amber/Green (RAG) rating was applied to each criterion, with Red indicating a high potential for constraint, Amber indicating intermediate potential for constraint and Green indicating low potential for constraint.

Based on the comparative analysis of the environmental, technical and cost appraisals of the alignment options of OHL and UGC, the Preferred Alignment was chosen. The Preferred Alignment consisted of Baseline OHL Alignment Option A1 and Baseline UGC Alignment Option 4 as shown on Figure 3.1 (Appendix 1).

3. THE CONSULTATION PROCESS

3.1 Consultation History

The Proposed Development was first presented to the consultees in Feb 2025 in Bonar Bridge Community Hall through the Project introduction event and again in August 2025 through the publication of Consultation Document.

3.2 Consultees

Comments on all Alignment options were sought from a range of stakeholders both with statutory and non-statutory interest in the consenting process. The list of consultees invited to comment as part of the consultation on the Preferred Alignment is provided in **Table 3.1**.

Table 3.1 List of Statutory and Non-Statutory Consultees

Statutory Consultees	
The Highland Council	NatureScot
Historic Environment Scotland (HES)	Transport Scotland
Scottish Environment Protection Agency (SEPA)	Scottish Forestry
Scottish Water	
Non-Statutory Consultees	
Defence Infrastructure Organisation Highland/Scottish Raptor Study Group John Muir Trust Joint Radio Company (JRC) Kyle of Sutherland District Salmon Fisheries Board Kyle of Sutherland Fisheries Trust Mountaineering Scotland Royal Society for the Protection of Birds (RSPB) Scottish Rights of Way and Access Society (ScotWays) Scottish Wildlife Trust Sustrans Scotland Visit Scotland	Criech Community Council

3.3 Methods of Consultation

Consultation Document

SSEN Transmission published a Consultation Document on the SSEN project webpage[1] prior to the consultation event (27 August 2025) to describe the Alignment Options evaluated and invite

[1] SSEN Transmission. Shin to Loch Buidhe 132kV OHL Rebuild. https://www.ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild/

interested parties to provide their views. The Consultation Document was sent via email to statutory and non-statutory stakeholders (as detailed in **Table 3.1**) on 27 August 2025. Comments were requested by 26 September 2025.

Consultation Booklet

In addition, SSEN Transmission published a Consultation Booklet on the SSEN project webpage[2] prior to the consultation event (27 August 2025) which provided an overview of the project and consultation process, along with providing details of the public consultation. The Consultation Booklet is included in **Appendix 2**.

Promotion of Consultation

Consultation was advertised using several methods, as summarised in **Table 3.2**.

Table 3.2 Promotion and Virtual Consultation

Method	Details
Consultation Document	Shared via SSEN Transmission project website: https://www.ssen-transmission.co.uk/globalassets/projects/shin-to-loch-buidhe-132kv-overhead-line-rebuild/shin---loch-buidhe---consultation-document---alignment-options---august-2025.pdf
Consultation Booklet	Shared via SSEN Transmission project website: shin---loch-buidhe-consultation-booklet.pdf
Mail drop	Mail drop of properties within a defined distance of the project
Email to stakeholders	Statutory consultees and non-statutory consultees

3.4 Consultation Questions

SSEN Transmission asked participants in the consultation to consider the following questions:

1. Has the project information provided explained the need for the Shin – Loch Buidhe 132 kV Rebuild project?
2. Do you feel sufficient information has been provided to enable you to understand what is being proposed and why?
3. Are there any additional factors, or environmental features, that you consider important and should be brought to the attention of the project team?
4. Do you have any other comments about the proposed alignments?
5. Following review of the provided information, how would you describe your understanding of the Shin – Loch Buidhe 132 kV Rebuild project?
6. Are there any particular concerns or queries you would like to highlight to the team about this project?

[2] SSEN Transmission. Shin to Loch Buidhe 132kV OHL Rebuild. https://www.ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild/

4. CONSULTATION FEEDBACK AND PROJECT RESPONSES

4.1 Overview

Eight written consultation responses were received during the consultation period from August to September 2025. All of these were from statutory and non-statutory consultees. This section of the report provides a response from SSEN Transmission on the comments provided by stakeholders invited to provide feedback on the Alignment Options.

4.2 Statutory and Non-Statutory Stakeholder feedback

Table 4.1 provides a summary of the feedback provided by statutory and non-statutory consultees, along with a reply from SSEN Transmission regarding how the project will be developed to take account of the comments provided as it moves forward into the next phase of development.

In addition, a summary of the feedback and questions from the public consultation and SSEN Transmission's responses to these will be provided on the project website: https://www.ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild

Table 4.1 Statutory and Non-Statutory Consultee Respondents

Organisation	Comment	SSEN Transmission Response
Statutory Consultees		
Historic Environment Scotland (HES)	**Options A1 and A2 are broadly similar, while Option B is the least preferred as it would bisect the scheduled area of Invershin Primary School, settlement 600m E of (SM5498) and likely require the construction of a new pylon within the scheduled area, resulting in unacceptable direct impacts and notable adverse effects on the monument's setting. Option C is the preferred alternative as it avoids direct impacts on scheduled monuments and is not anticipated to generate significant adverse setting effects.** **Any works within scheduled areas would require Scheduled Monument Consent, and policy maintains a strong presumption against direct physical impacts.** **Should an EIA be undertaken, it must comply with National Planning Framework 4, the Historic Environment Policy for Scotland, and associated guidance. Historic Environment Scotland would welcome the opportunity to comment further as more detailed project information becomes available.**	SSEN will continue to engage with HES throughout the EIA process. SSEN Transmission have shared design information regarding the Preferred Alignment with HES to inform pre-application engagement. HES have provided their comments on a preferred alignment based on Option A1 provided by the Applicant following the alignment consultation. These comments have been noted, and responses will be provided in the EIA Report. The requirement for Scheduled Monument Consent for works within Scheduled Monuments is noted. The cultural heritage assessment for the EIA will comply with National Planning Framework 4, the Historic Environment Policy for Scotland, and associated guidance.
Scottish Environment Protection Agency (SEPA)	**SEPA welcomes early engagement on large-scale proposals and provides preliminary advice based on the current stage of development, noting that further information may be requested as the project progresses.** **A meeting to discuss key issues is welcomed once peat probing, peat condition assessments, and habitat surveys are completed and the layout is further refined, ideally post-application submission to the Energy Consents Unit.** **To avoid delays or objections to the Section 37 application, SEPA requires comprehensive, scaled drawings showing environmental sensitivities (e.g., peat depth, waterbodies, GWDTE) alongside all proposed development elements. A detailed assessment comparing overhead line (OHL) and**	A meeting will be arranged post-survey completion and layout refinement, following submission to the Energy Consents Unit. However, a pre-application engagement following the surveys will be undertaken to understand any known issues. Scaled drawings showing peat depth, waterbodies, GWDTEs, and all development elements will be included in the Section 37 application. A comparative assessment of OHL and underground cable options was carried out as part of the routeing and alignment assessments that the Consultation Document refers to and will be included within Chapter 3: Site Alternatives of the EIA report.

Organisation	Comment	SSEN Transmission Response
	underground cable options must be included, especially in relation to peat impacts. The application should include a robust Peat Management Plan, habitat and NVC surveys where applicable, flood risk considerations, watercourse buffer mapping, and clear demonstration of avoidance and mitigation in line with the mitigation hierarchy. **SEPA also advises on geomorphic risks, riparian planting opportunities, pollution prevention, biodiversity enhancement, groundwater abstraction protection, and flood risk compliance under National Policy Framework (NPF4).** **Additionally, the proposal must consider potential cumulative effects with nearby developments and include all relevant planning and regulatory requirements for water, waste, and environmental authorisations under the Environmental Authorisations (Scotland) Regulations.** **Appendices provide further scoping details and development-specific requirements, including for OHL projects.**	The Section 37 application will include a Peat Management Plan, results of habitat and NVC surveys, flood risk mapping, details of watercourse buffers, and mitigation measures aligned with the mitigation hierarchy. Geomorphic risks, riparian planting, pollution prevention, biodiversity enhancement, groundwater abstraction, and flood risk will be addressed in line with NPF4. Cumulative effects with nearby developments will be assessed. All relevant planning and regulatory requirements under the Environmental Authorisations (Scotland) Regulations will be incorporated. Development-specific requirements outlined in the appendices, including those for OHL, will be addressed.
The Highland Council	**The proposed underground cable route falls within a Special Protection Area (SPA) and will require prior approval under regulations 60–63 of The Conservation (Natural Habitats, &c.) Regulations 1994, in accordance with Part 2, paragraph 3 of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (as amended).**	A Habitats Regulations Appraisal (HRA) for both OHL and UGC will be submitted as part of the EIA and EA documentation, prepared in accordance with regulations 60–63 of the Conservation (Natural Habitats, &c.) Regulations 1994 and the Conservation of Habitats and Species Regulations 2017, as applicable to Section 37 applications under the Electricity Act 1989. This will ensure compliance with relevant environmental legislation for developments affecting European sites.
Transport Scotland	**It is noted that the site lies approximately 11.2 km west of the A9(T) at its nearest point.** **Based on the development's nature and scale, it is not expected that construction traffic associated with the overhead line (OHL) will significantly impact the trunk road. However, if Abnormal Load Deliveries (ALDs) are required, Transport Scotland will**	Should abnormal loads be required SSEN will carry out and provide an Abnormal Loads Assessment.

Organisation	Comment	SSEN Transmission Response
	need assurance that the selected route can accommodate them without adversely affecting road structures. **In such cases, an Abnormal Loads Assessment should be submitted, including identification of key pinch points, swept path analysis, and any necessary modifications to street furniture or structures.** **If ALDs are not required, no further assessment is necessary.**	
NatureScot	**A key concern is the section of the proposed UGC that falls within the Strath Carnaig & Strath Fleet Moors Site of Special Scientific Interest (SSSI) and Special Protection Area (SPA), which is of international importance for hen harrier. The Protected Area is currently in poor condition due to cumulative woodland creation, which has led to the loss of open moorland foraging habitats. NatureScot notes that the current alignment option report provides insufficient information on the likely impacts of UGC construction on supporting habitats. They recommend considering alternative routes, such as running the UGC along the Garvary access track or terminating at the new Carnaig Substation, to reduce impacts on the SPA. Opportunities for habitat enhancement, including the removal of conifer regeneration to restore open ground, are encouraged, while compensatory planting is considered inappropriate due to ongoing pressures on these habitats.** **NatureScot also provided guidance regarding potential impacts on the River Evelix and River Oykel Special Areas of Conservation (SACs). They advise that watercourse crossings should be avoided and that OHL pylons should be sited away from water features to prevent impacts. Good route planning and adherence to Best Practice Pollution Protection measures are recommended to safeguard these SACs.** **Additional environmental considerations include blanket bog habitats and rare bird species. The proposed UGC options, which are greater than 2 km in length, could affect blanket bogs. NatureScot recommends alternative routing to avoid or**	Potential impacts to over 2 km of sensitive habitat within the Strath Carnaig & Strath Fleet Moors SPA/SSSI are noted. Hen harrier foraging grounds have been assessed through targeted survey and the results will be presented in the EIA report and the HRA report. Broader VP Surveys and Breeding Bird Surveys will be carried out to inform the assessment of the EIA and EA in relation to bird species including but not limited to Hen Harrier and Goshawk. Stage 1 Peat surveys and Phase One Habitat Surveys have been carried out to inform the design of the OHL and UGC with the aim of minimising disturbance to blanket bog and other high value habitats. Further surveys including Stage 2 Peat Survey and Peat condition surveys will be undertaken to further refine the design to minimise impacts on high value habitats. Habitat enhancement measures, including conifer regeneration control, will be reviewed for inclusion in the mitigation strategy. Impacts to watercourses linked to the River Evelix and River Oykel SACs will be avoided through design and best practice construction methods. Both Protected Areas will be fully addressed in the EIA scoping and assessment. SEN Transmission have considered terminating at the proposed new Carnaig substation, however it is considered that terminating at the existing Loch Buidhe substation is the preferred option for the following reasons:

Organisation	Comment	SSEN Transmission Response
	minimize impacts, following the mitigation hierarchy where avoidance is the preferred approach. For bird species, goshawk has been recorded along the route, and as this area is at the northern edge of its national range, potential impacts such as disturbance, displacement, or collision risk should be mitigated. Guidance on marking OHLs to reduce collision risks for goshawk and hen harrier is highlighted. **Finally, NatureScot advises that all relevant Protected Areas, habitats, and species should be considered within EIA screening and scoping documentation, with surveys undertaken where required. They emphasize assessing alternative routes and including habitat restoration measures to support SPA and SSSI conservation objectives. Overall, the response seeks to ensure that the project minimizes environmental impacts while providing opportunities for proactive habitat enhancement.**	• UGC Alignment - The underground cable route for the Shin – Loch Buidhe 132kV Rebuild project has been developed in consideration of the proposed location of the underground cable for the Garvary wind farm connection underground cable project. The project team have coordinated cable routes for efficiency and to reduce impact where possible. • Network Configuration – the need for reinforcement of the Shin to Loch Buidhe circuits is driven by the requirement to provide efficient capacity to accommodate the increase in renewable generation seeking connection to the local network, predominantly onshore wind farms around Shin substation. The most feasible reinforcement option from Shin substation was identified as an increase in capacity via rebuild of the existing Shin to Loch Buidhe connection. • The existing 132kV underground cable from the existing Shin – Loch Buidhe 132kV circuit currently connects into Loch Buidhe substation. This UGC circuit will be removed and the new underground cable installed. This is identified as the most efficient and least disruptive solution. • Loch Buidhe substation is a 275/132kV substation, and is equipped with an existing bay which will be utilised, therefore no new bay installation is required inside the substation. The proposed Carnaig substation is a 400kV substation, which would require additional electrical equipment given the Shin to Loch Buidhe Reinforcement is a 132kV circuit, therefore adding expense and additional costs. • The planning application for Carnaig substation is awaiting consent determination.

Organisation	Comment	SSEN Transmission Response
		• The preferred alignment considers a balance of technical and environmental constraints to minimise impact. This also avoids interface/crossing of other infrastructure where possible. A connection route into Carnaig would likely require the new Shin – Loch Buidhe circuit to cross further infrastructure (existing Shin – Loch Buidhe 132kV OHL, proposed Beauly – Loch Buidhe 400kV OHL (if consented)), creating challenges, complexities and additional interfaces within the design and construction.
Non-Statutory Consultees		
Defence Infrastructure Organisation (Ministry of Defence (MOD))	**MOD ensures that new developments do not impact the operation of defence sites or training areas, including those used for low flying. As the proposed development lies within Low Flying Area 14, the MOD notes the potential risk posed by tall structures like overhead power lines but raises no objection, provided the lines are marked on aviation maps**	Noted. In case of any amendment to the Proposed Development, MOD will be consulted and provided with adequate time for response before implementation of the said amendment.
Kyle Fisheries Organisation	**It was informed that each of the proposed options appears to present potential risks to watercourses, particularly the Oykel Special Area of Conservation (SAC), making it difficult to determine which route poses the least impact. Therefore, we plan to attend future consultation events and review forthcoming supporting information before providing a formal response.**	Noted. SSEN will continue to engage with Kyle Fisheries Organisation throughout the EIA process.
RSPB Scotland	**RSPB Scotland could not provide a detailed response but has submitted general recommendations for consideration.** **They emphasise the need for a comprehensive desk study and field surveys for breeding and roosting Hen Harrier within 2 km of the proposed alignment, in accordance with NatureScot guidance, as well as for other key bird species such as Merlin, Short-eared Owl, Red Kite, Osprey, and Golden Plover.**	A desk study and field surveys for Hen Harrier and other key species (Merlin, Short-eared Owl, Red Kite, Osprey, Golden Plover) has been undertaken in accordance with NatureScot guidance. One year of flight activity surveys has been completed to assess collision risk.

Organisation	Comment	SSEN Transmission Response
	At least one year of flight activity surveys is recommended to assess collision risk. **The assessment should also consider cumulative impacts from other developments in the area on the SPA, including wind farms (Spittal-Loch Buidhe-Beauly 400kV, the Garvary wind farm, the Lairg II wind farm and the Balblair wind farm) and woodland creation, and must include the potential effects of removing the existing line.** **Additionally, the proposed alignment overlaps borrow pit 2 and habitat management areas associated with the consented Garvary wind farm, which should be safeguarded. RSPB Scotland requests to be consulted at the EIA scoping stage and kept informed as the project progresses.**	Cumulative impacts from nearby developments (Spittal-Loch Buidhe-Beauly 400kV, Garvary, Lairg II, Balblair wind farms, and woodland creation) will be assessed. Potential effects of removing the existing line will be included in the assessment. Overlap with borrow pit 2 and Garvary wind farm habitat management areas will be reviewed and safeguarded. SSEN Transmission have engaged with the Garvary wind farm project team regarding the search area for borrow pit 2, whose LoD overlaps with the proposed alignment, and understand that the borrow pit is proposed to be moved further north within the borrow pit LoD to avoid conflict with the proposed alignment. In addition, the vertical limit of deviation for the proposed alignment has been increased to provide greater ground clearance between the spans closest to the proposed borrow pit. SSEN Transmission are engaging with the Garvary wind farm project team regarding any potential overlap with proposed habitat management areas. RSPB Scotland will be consulted during EIA process and kept informed as the project progresses.
Joint Radio Company (JRC) on behalf of the UK Energy Industry	**JRC assesses wind and other developments for potential interference with essential radio systems used by UK and Irish energy companies.** **At this stage, JRC objects to the proposed development due to insufficient information, specifically the absence of location data (NGR easting and northing) and tower heights required for a full assessment.** **However, JRC remains open to working with developers to resolve potential conflicts, including proposals within coordination zones, and encourages the applicant to get in touch for further guidance.**	SSEN will continue to engage with JRC throughout the EIA process and provide more detailed information to allow JRC to carry out a full assessment.

4.3 Summary of Public Feedback

No completed feedback forms were received from stakeholders during the public consultation period.

5. CONCLUSIONS AND NEXT STEPS

This document has set out stakeholder feedback and project responses following the alignment consultation event.

Key issues emerging from consultation responses include:

- potential impacts on ecology designated sites - Strath Carnaig & Strath Fleet Moors Special Protection Area (SPA)/Site of Special Scientific Interest (SSSI), River Evelix SAC and River Oykel SAC,
- potential impacts on habitats and peatlands; and
- potential cumulative effects from the Proposed Development.

Having reviewed the comments and issues raised, SSEN Transmission will aim to address these in the next stage of the development process, the EIA. Therefore, the Preferred Alignment Option as set out in Chapter 2 of this report will now be adopted as the Proposed Alignment.

The location of the Proposed Alignment is shown on Figure 4.1 (Appendix 1).

The next stages of the Projects are as follows:

1. EIA – SSEN Transmission will continue to undertake further surveys, and a detailed EIA will be carried out as the project progresses. Further consultation with statutory and other stakeholders is anticipated to take place in early 2026, which will be the final phase of pre-application consultation prior to the application being submitted for Section 37 consent.
2. Application – Following the formal consultation stage, SSEN Transmission will consider the final details of its proposals before submitting an application for consent under Section 37 of the Electricity Act 1989. There will be a further opportunity for comments to be submitted in relation to the application and accompanying EIA Report to the Energy Consents Unit of the Scottish Government.
3. Further information will also be posted on the project website, including the summary of the feedback/ questions and SSEN Transmission's responses at:: https://www.ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild

APPENDIX 1: FIGURES

Scottish & Southern Electricity Networks
TRANSMISSION

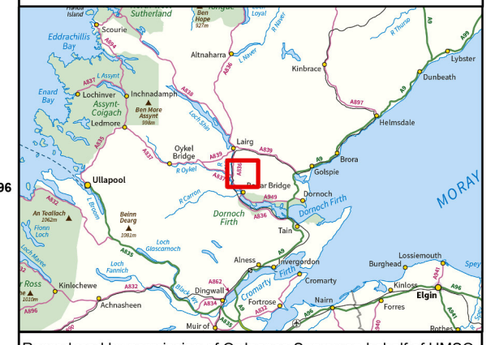
Legend

Proposed Route

Substation

Shin

Loch Buidhe



Project No: LT000499

Project: LT499 Shin to Loch Buidhe

Title:

Figure 1.1: Proposed Route

Drawn by: AMYM Date: 22/05/2025

Drawing: 1620017309-RAM-MA-IA-00001_Fig1.1ProposedRoute_05

Scale @ A3: 1:30.000

0 0,5 1 1,5 2 km

Scottish & Southern Electricity Networks
TRANSMISSION

Legend

- Proposed Route

Substation

- Loch Buidhe
- Shin

Overhead Line Alignment

- A1
- A2
- B
- C

Underground Cable Alignment

- 1
- 4

Project No: LT000499

Project: LT499 Shin to Loch Buidhe

Title:

Figure 2.1: Alignment Options

Drawn by: AMYM Date: 30/07/2025

Drawing: 1620017309-RAM-MA-IA-00031_Fig1.1AlignmentOptions_02

Scale @ A3: 1:30,000

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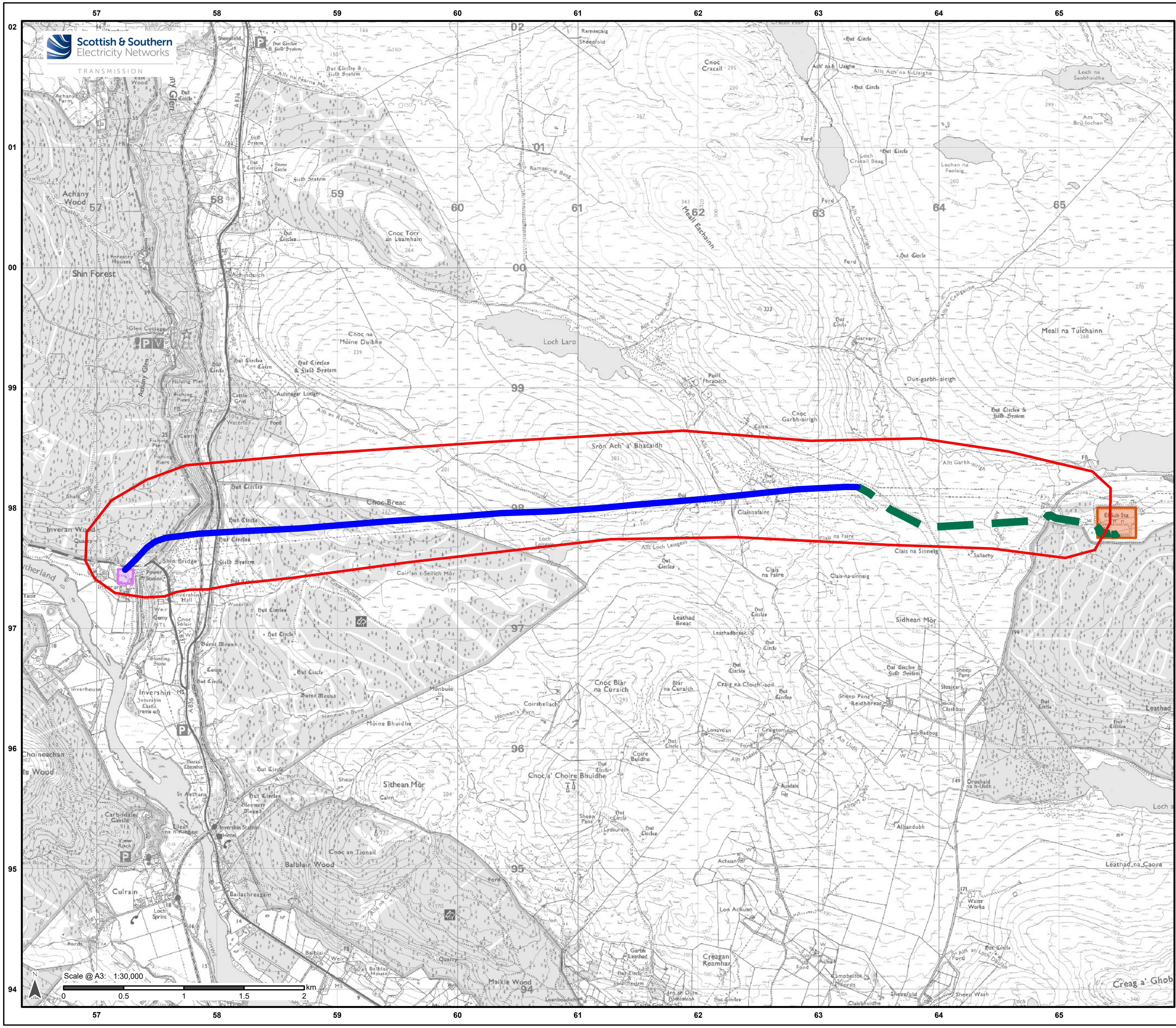


Legend

Proposed Route

Substation

Shin

Loch Buidhe

Overhead Lines Alignment

A1 - Preferred Alignment

Underground Cable Alignment

4 - Preferred Alignment

Project No: LT000499

Project: LT499 Shin to Loch Buidhe

Title:

Figure 3.1: Preferred Alignment

Drawn by: AMYM

Date: 30/07/2025

Drawing: 1620017309-RAM-MA-IA-00046_Fig4.8PreferredAlignment_02

Scottish & Southern Electricity Networks
TRANSMISSION

Legend

- Proposed Route

Substation

- Shin
- Loch Buidhe

Overhead Lines Alignment

- A1 - Proposed Alignment

Underground Cable Alignment

- 4 - Proposed Alignment

Project No: LT000499

Project: LT499 Shin to Loch Buidhe

Title:

Figure 4.1: Proposed Alignment

Drawn by: AMYM Date: 30/07/2025

Drawing: 1620017309-RAM-MA-IA-00046_Fig4.8PreferredAlignment_02

Scale @ A3: 1:30,000

0 0.5 1 1.5 2 km

Scottish & Southern Electricity Networks

TRANSMISSION

APPENDIX 2: CONSULTATION BOOKLET

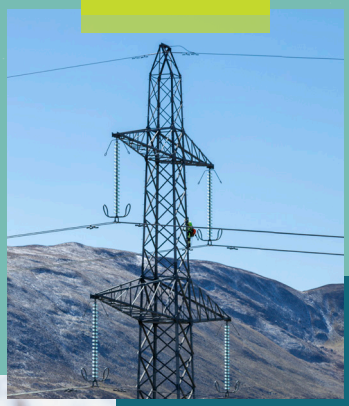
Scottish & Southern Electricity Networks

TRANSMISSION

Shin – Loch Buidhe 132kV Rebuild

Alignment Public Consultation

27 August 2025



ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild

Contents

The consultation event will be taking place on:

27 August 2025
Bonar Bridge Community Hall,
Lairg Road, Bonar Bridge IV24 3EA

Shin – Loch Buidhe 132kV Rebuild

Powering change together

The time has come to further enhance Scotland's energy infrastructure, providing power for future generations as we move towards net zero.

The shift to a cleaner, more sustainable future is about more than climate change. It's about ensuring future generations have the same opportunities to thrive as we have all had.

Countries around the world are investing in their energy infrastructure to support the demands of modern economies and meet net zero targets. The UK is leading the way in building a modern, sustainable energy system for the future.

We all have a part to play

When it comes to net zero, we have to be in it together. The UK and Scottish governments have ambitious net zero targets, and we're playing our part in meeting them.

We work closely with the National Energy System Operator (NESO) to connect vast renewable energy resources—harnessed by solar, wind, hydro and marine generation—to areas of demand across the country. Scotland is playing a big role in meeting this demand, exporting two thirds of power generated in our network.

But there is more to be done. By 2050, the north of Scotland is predicted to contribute over 50GW of low carbon energy to help deliver net zero. Today, our region has around 9GW of renewable generation connected to the network.

At SSEN Transmission, it is our role to build the energy system of the future.

We are investing over £20 billion into our region's energy infrastructure this decade, with the potential for this to increase to over £30bn. This investment will deliver a network capable of meeting 20% of the UK's Clean Power 2030 target and supporting up to 37,000 jobs, 17,500 of which will be here in Scotland.

Scan the QR code with your smartphone to find out more about how these policies have been assessed and determined.

Who we are

We are responsible for maintaining and investing in the electricity transmission network in the north of Scotland. We're part of SSE plc, one of the world's leading energy companies with a rich heritage in Scotland that dates back more than 80 years. We are also 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.

What we do

We manage the electricity network across our region which covers a quarter of the UK's land mass, crossing some of the country's most challenging terrain. We connect renewable energy sources to our network in the north of Scotland and then transport it to where it needs to be. From underground/subsea cables and overhead lines to electricity substations, our network keeps your lights on all year round.

Working with you

We understand that the work we do can have an impact on communities. So we are committed to minimising our impacts and maximising all the benefits that our developments can bring to your area. We are regularly assessed by global sustainability consultancy AccountAbility for how we engage with communities. That means we provide all the information you need to know about our plans and how they will impact communities like yours. The way we consult is also a two-way street. We want to hear people's views, concerns, or ideas and harness local knowledge so that our work benefits their communities: today and long into the future. You can share your views with us at: **ssen-transmission.co.uk/talk-to-us/contact-us**

Project need and overview

The existing 132kV overhead line (OHL) which runs between Shin substation and Loch Buidhe substation was constructed in the 1960s. Due to an increase in onshore wind generation around the existing Shin and Loch Buidhe substations, our electricity network must be upgraded to ensure we can efficiently deliver this renewable energy to homes and businesses across the country.

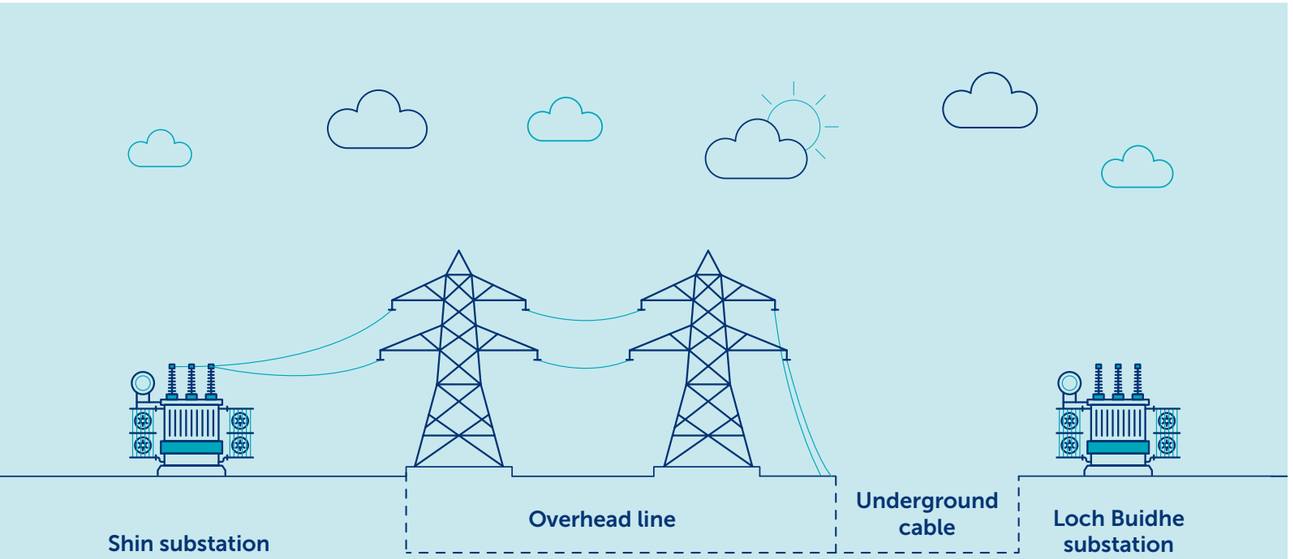
This project plays a key role in supporting national Net Zero targets, and by strengthening our transmission network, we are not only enabling more renewable energy to connect but also enabling a secure and reliable electricity supply for the future. In compliance with our Network Operators Licence, we aim to deliver the project in an efficient, coordinated and economic manner whilst minimising impact on the environment.

The project is looking to construct a new offline 132kV OHL steel lattice tower line between Shin Substation and Loch Buidhe substation, replacing the existing circuit. The length of the new OHL will be approximately 6km. The proposed works also include a new section of underground cable (approximately 2km) to connect into Loch Buidhe substation.

The main elements include:

- Offline construction of double circuit 132kV overhead line on steel lattice towers and double circuit 132kV underground cables
- New cable sealing end (CSE) compound to transition overhead line to underground cable
- Access tracks
- Dismantling of existing steel lattice tower structures, existing CSE compound and existing underground cables.

Diagram not to scale, for illustration purposes only



Project timeline

*Dates may be subject to change.

February 2025
- Project introduction event

August 2025
- Alignment consultation event

Late 2025/Early 2026
- Pre-application consultation events (dates to be confirmed)

Spring 2026
- Section 37 application submission

November 2027
- Start on site (if Section 37 Consent Granted)

October 2030
- Construction/commissioning complete, and dismantling of redundant OHL between Shin – Loch Buidhe

Meeting our obligations

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 environmental, engineering and economic considerations form a key part of our alignment selection process.

Biodiversity Net Gain

Following the mitigation hierarchy approach, our environmental commitments mean that when developing routeing and siting options for our overhead lines, underground cables and substations our projects will avoid, mitigate and restore any environmental impacts wherever possible.

Our environmental teams are embedded in project development to consider and consult upon the most suitable location from the very start of the optioneering phase, using well established data sets and additional detailed survey work.

We are committed to delivering 10% Biodiversity Net Gain on all sites gaining consent going forward. This ensures that we don't just restore our natural habitats but actively improve them for the benefit of local communities, wildlife, flora and fauna.

Consenting

The OHL element of the project will be subject to a consent application to the Energy Consents Unit (ECU) under Section 37 of the Electricity Act 1989. An Environmental Impact Assessment (EIA) will accompany the Section 37 Application. Additionally, because the works lie within a number of designated sites additional consent and notifications will be required.

It is anticipated that the Underground Cable (UGC) works will be undertaken using permitted development rights as set out in Class 40 1(a) of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 as amended.

Environmental assessments

Desk-based assessments using available mapping and GIS (Geographic Information Systems) data, together with initial site walkovers by specialists, have been undertaken to gather baseline information. This is crucial to enable us to understand the key environmental constraints and sensitivities within the route corridor.

This work has been carried out between 2024 and 2025 and has helped to identify key environmental issues including landscape and visual amenity, sensitive habitats, protected species, ornithology, forestry, cultural heritage and hydrology and hydrogeology.

Following confirmation of a preferred alignment, further detailed studies and assessment work will be undertaken in 2025 and 2026 to support the consenting process going forwards.

Engineering and economic considerations

In addition to the suite of environmental assessments undertaken, the following engineering and economic considerations form a key part of our alignment process:

- Construction costs and buildability (largely affected by ground conditions, such as peat/rock/flooding/ contaminated land, etc).
- Operations and maintenance requirements.
- Outage requirements and network constraints.
- Proximity to other electrical OHL and underground structures.
- Proximity to any other utility, overhead or underground.
- Proximity to wind turbines and wind farm infrastructure.
- Communications masts and infrastructure.
- Urban development.
- Forestry and biodiversity.
- Technology costs and design parameters.
- Site accessibility.
- Alignment length.

Shin – Loch Buidhe 132kV Rebuild

Help shape our plans

The work we have planned is significant and has the potential to deliver massive benefits in your community, Scotland, and beyond. Yet we know that achieving our goals will require a lot of work that will impact your lives. That's why we want to work with you every step of the way throughout the planning and delivery stages of these essential and ambitious works.

We're committed to delivering a meaningful consultation process that actively seeks the views of everyone affected by our plans. That means making our plans clear and easily accessible, so that you can give us input throughout each stage of the development process.

Throughout the consultation, we'll present our approach to developing the project, including changes made since we last consulted with you. We will also provide some visualisations and maps to show you where everything will be located.

We want you to share your thoughts and opinions on our plans, where you think we can make improvements, concerns about the impact of our work and what you think of any changes and refinements we've made. By telling us what you think, you will help shape our proposals. We want to harness your local knowledge so that we spot any unforeseen challenges early and maximise the potential benefits and opportunities for your communities.

Because, ultimately, we want you to work with us to ensure that the energy infrastructure we build will be the best it can possibly be.

Who we're consulting with

As well as communities, we are keen to hear feedback from a broad range of other stakeholders including but not limited to landowners, businesses, non-statutory consultees and statutory consultees such as local authorities, NatureScot, Scottish Environment Protection Agency (SEPA), Historic Environment Scotland (HES).

Our alignment selection process

We have developed and implemented formal Guidance for the selection of routes and alignments for new Overhead Lines (OHL) and Underground Cables (UGC).

The main aim of the Guidance is to provide a consistent approach to the selection of new alignments 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'.**

These duties capture the principal objective of the process which is to balance technical and cost considerations with environmental considerations, to select a proposed alignment which is economically viable, technically feasible, minimises impacts on important resources or features of the environment and reduces disturbance to those living in it, working in it, visiting it or using it for recreational purposes.

Alignment selection

As part of the alignment selection process, a high-level route constraints report was prepared for a 1km wide study area around the existing overhead line within which to identify a number of alignment options.

Alignment selection seeks to identify an alignment within the preferred route and to define the access strategy which will be adopted in terms of, for example, the nature and extent of temporary and/or permanent access tracks and possible road improvements.

The alignment will be defined by, amongst other things, the location of terminal and angle support structures for OHLs and CSE compounds for UGCs. It will be influenced by local constraints, such as individual properties, their aspect, and amenity; ground suitability; habitats; and cultural heritage features and setting.

There may be more than one distinct alignment option through the optimal route. It is more likely however that variants to sections of an alignment may arise where there are different ways to avoid a constraint.

Shin – Loch Buidhe 132kV Rebuild

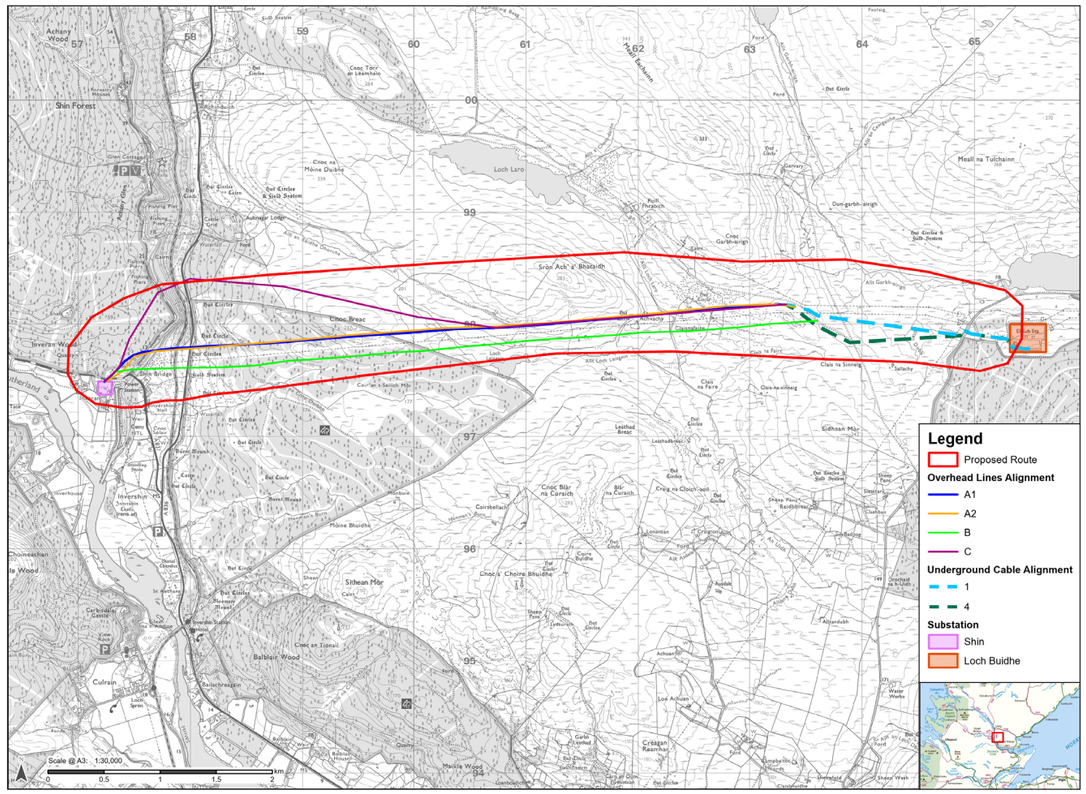
Alignment Stage: selection consultation

We are consulting on the selection of a preferred alignment. The consultation document posted on the project website provides a detailed appraisal of the environmental and engineering considerations for our alignment options and provides justification for the identification of a preferred alignment.

Overhead lines (OHL) and underground cables (UGC) are subject to a detailed alignment selection process. This provides a balance between environmental, engineering and economic considerations.

The process that we follow will include consideration of stakeholder feedback and concerns so that they can be addressed, or further data collection and appraisal is undertaken to better understand the nature and extent of potential constraints and their materiality.

Figure 1: Proposed alignments



UGC options 2 and 3 were previously ruled out due to technical constraints, and are therefore not subject to this consultation.

Key engineering constraints

The engineering appraisal of the alignments takes into consideration constraints including road crossings, elevation, topography, terrain, peatland, existing infrastructure and the requirement for access, amongst others. It follows the same process as the environmental and economic appraisal in order to find the least constrained alignment. It has been determined that the OHL alignment options A1 and A2 and UGC Option 4 are feasible from an engineering perspective.

Key environmental constraints

In selecting the alignment on the environmental grounds, consideration has been given to a number of factors and topic areas. Whilst there are potential constraints that are consistent across all topic areas, the key differentiators to consider in this alignment selection exercise are as follows:

Overhead line alignment options

- **Ecology:** All options have potential to indirectly impact the River Oykel Special Area of Conservation (SAC), designated for Atlantic salmon and freshwater pearl mussel and located approximately 450m from Shin Substation. All options cross woodland habitat, wet heath, blanket bog, watercourses and likely habitats which are dependent on groundwater. Option B is most favourable regarding ecology as it avoids legally protected sites and ancient woodland habitat (which is protected due to its irreplaceable nature).
- **Water Environment:** All options cross the Shin River northeast of Shin Substation. Options A1 and A2 are more favourable, as these options interact with fewer surface water features compared to Options B and C. Where watercourse crossings are required, best practice measures would be implemented, including micrositing of steel towers to reduce risk of impact to surface water features.
- **Peat:** Options A1, A2 and B are more favourable than Option C, as these interface with shorter areas of Class 1 and Class 2 peatland (which have a high or potentially high conservation value). Option C crosses Cnoc Breac, which is predominantly mapped as an area of Class 2 peatland.
- **Cultural Heritage:** All options have potential for direct or indirect impacts on the Scheduled Monument east of Inveran, and on non-designated heritage assets. Option C is most favourable as it avoids a potential crossing of the Scheduled Monument.

  Landscape and Visual: All options have potential to impact on landscape character and views. However, Option A1 is preferred, as it minimises the removal of woodland and habitats along watercourses, and passes through the area with minimal intrusion to the skyline. It also benefits from greater screening by trees, and is relatively distant from views in some locations.

Underground cable alignment options

- **Ecology:** Both options have potential for impacts on Strath Carnaig and Strath Fleet Moors Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Important Bird Area (IBA). These sites are located around Shin Substation and are unavoidable, however good practice mitigation measures will be identified to reduce potential impacts.
- **Water Environment:** Both options cross the same watercourses, however Option 1 is located close to additional watercourses and drains and also an area with a high flood risk associated with nearby drains. Option 4 is more preferable as it is located further south, away from the area of flood risk and surface water features.
- **Peat:** Peat is not a key differentiator between the options, as both options cross large areas of Class 1 and 2 peatland with little difference between the total interface of each option.

  Cultural Heritage: Cultural heritage is not a key differentiator between the options, as there are no designated heritage assets that would be crossed by or located close to either option.
- **Landscape and Visual:** Both options would result in the removal of a section of existing OHL, which would have a beneficial impact on landscape character and views. Option 1 is more preferable as it is a shorter route which would require less vegetation clearance.

Shin – Loch Buidhe 132kV Rebuild

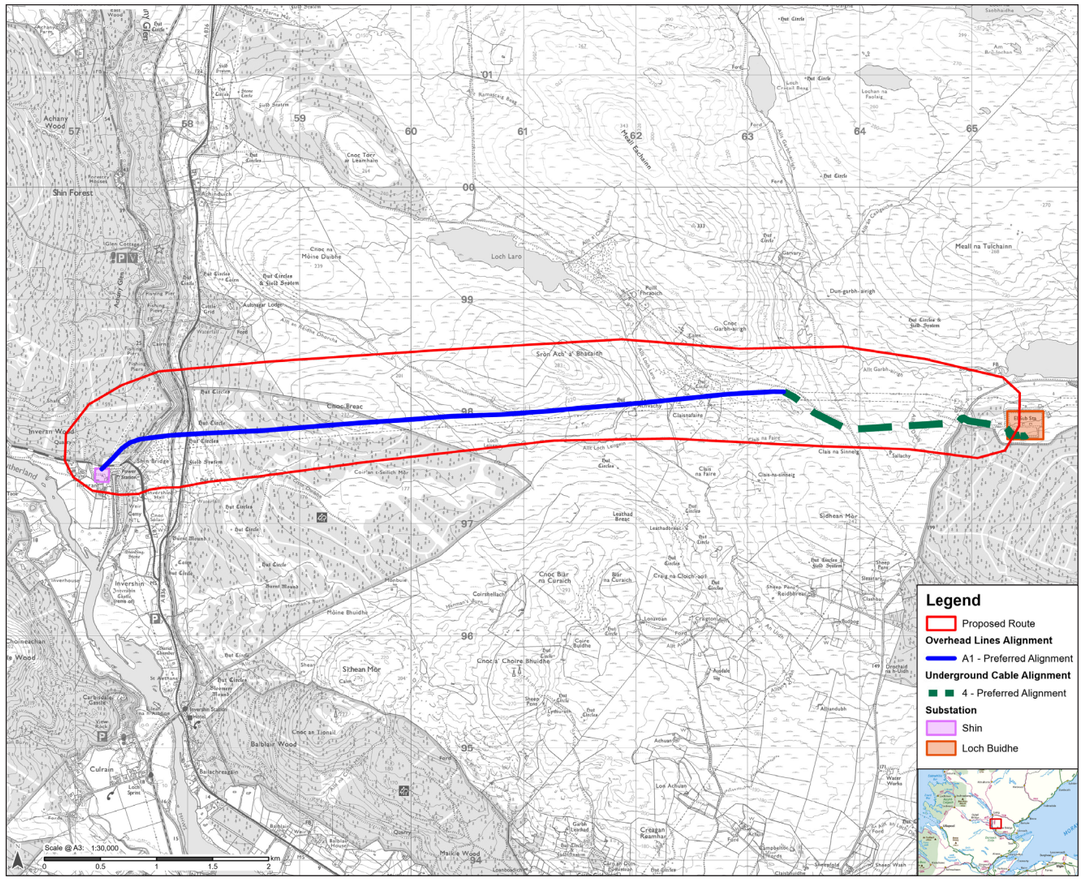
Alignment Stage: preferred alignment

In selecting the preferred alignment, consideration has been given to a variety of environmental, technical and cost considerations relevant to this proposal.

Following consultation with statutory consultees and stakeholders, the preferred alignment will be confirmed. This will then form the basis to take forward into detailed design, further assessment and consent.

Based on the detailed appraisal of the alignment options, the preferred alignments identified are OHL Option A1 and UGC Option 4.

Figure 2: Preferred alignments



Construction of a Steel Lattice Tower

The proposed new 132kV double circuit overhead line between Shin and Loch Buidhe will be supported on steel lattice tower structures.

The 132kV steel lattice towers will have an average height of 33m, however the height of individual towers can vary in the range of 27m to 42m depending on specific design, terrain and required clearances to maintain safety standards.

The average span length between towers is approximately 290m which can vary depending on design requirements. There is also opportunity to micro-site towers away from sensitive areas.

The tower foundation will have an average footprint of 10m x 10m; this may vary for individual towers depending on design factors, with maximum 15m x 15m. There are two possible foundations for the construction of steel lattice towers; pad & column and piled—the selection of which is dependant on ground conditions and type of loads to be considered at detailed design stage.

Once foundation is installed, the assembly of tower is carried out at ground level, followed by the erection using a combination of equipment including telehandlers, winch, crane and/or helicopter, depending on terrain, access, weather and proximities.

New purpose built access tracks will be required for some strategic locations; this may include temporary and permanent access. Where possible, the existing network of tracks will be utilised for construction and operational maintenance activities.

An operational corridor will be maintained either side of the overhead line, including vegetation management, to minimise the risk of faults occurring.

132kV Steel Lattice Tower

132kV tower erection

Underground cable

The proposed works also include a new section of underground cable to connect into Loch Buidhe substation. Underground cable is the optimal solution for this section due to engineering constraints, including proximity to existing overhead lines and associated Transmission infrastructure in this area.

For the Shin to Loch Buidhe circuit, a three-phase 132kV double circuit is required. For underground sections, two underground cables are required per phase to achieve the necessary circuit capacity. This means that a total of 12 parallel cables are required to be installed for any underground sections.

For electrical design reasons, these cables need to be suitably spaced out. To achieve the required spacing, a group of trenches at a combined width of up to 15m wide would be excavated, typically between 1m and 3m deep. During the construction period,a working corridor of up to 40m wide is required for cable installation.

Typical 132kV cable trench arrangement

Cable sealing end (CSE) compound

Additional infrastructure

To facilitate the underground cable circuits, some additional infrastructure is required along the cable route.

Cable joint bays are necessary to connect minor sections of cable together. These joint bays would be a temporary excavation, however there is some permanent above-ground infrastructure in the form of link pillars which are required to enable future maintenance and safe operation of the circuit.

Cable sealing ends are also required at the point where the overhead line transitions to underground cable. A compound would be constructed around the overhead line tower and cable sealing ends, comprising a stoned hard standing platform with a security fence around its perimeter.

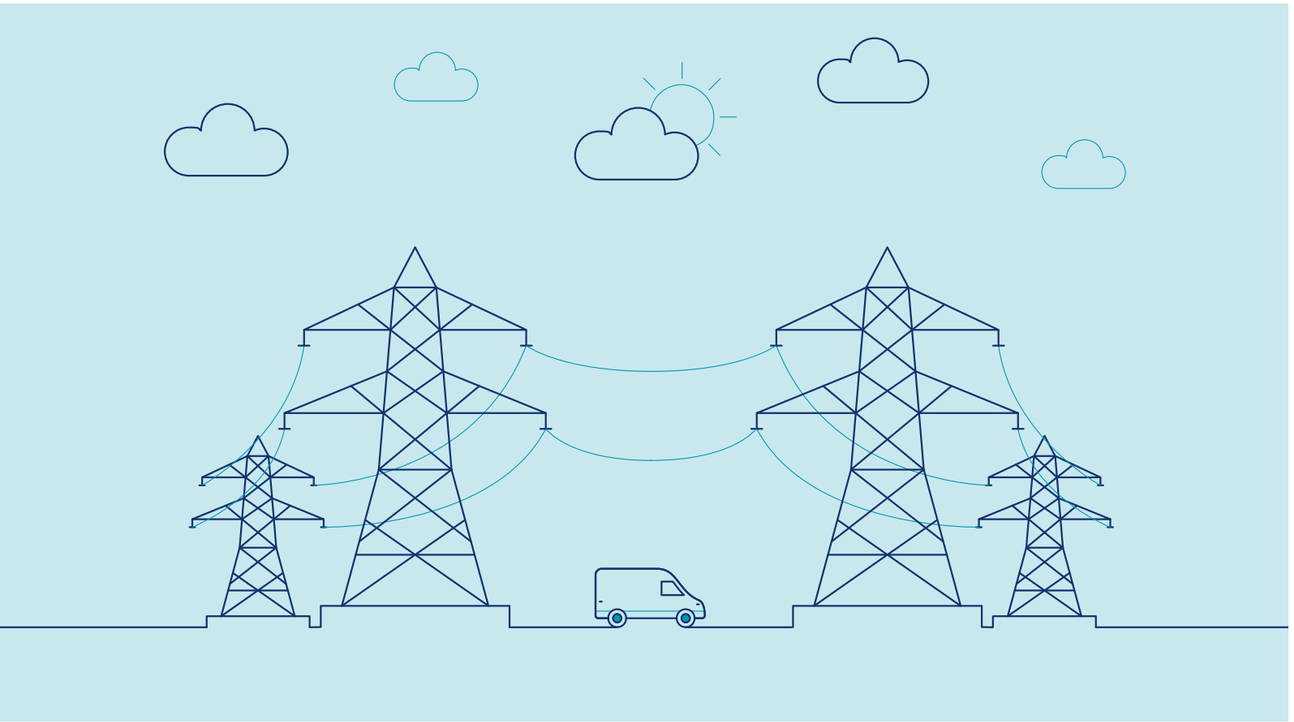
The footprint of a typical cable sealing end compound would be approximately 50m x 50m.

Next steps

All feedback/comments on the alignment selection process are requested by Friday 26 September 2025.

Following consultation events and a review of consultation responses, a Report on Consultation will be produced which will document the feedback/comments received, and the decisions made in light of these responses to inform the selection of a proposed alignment.

An Environmental Assessment will be undertaken and further pre-application consultation prior to the submission of a Section 37 Application.



Shin – Loch Buidhe 132kV Rebuild

Notes

Have your say

We understand and recognise the value of feedback provided by the community and stakeholders. Without this valuable feedback, we would be unable to progress projects and reach a balanced proposal.

The feedback period

We will accept feedback from now until **Friday 26 September 2025.**

How to provide feedback:

- Submit your feedback online by scanning the QR code on this page or via the form on our project webpage.
- Email the feedback form to the Community Liaison Manager, or write to us enclosing the feedback form at the back of this booklet.

What we're seeking views on

We want to know your thoughts on the alignments under consideration. We'll be actively looking to mitigate the impacts of the project as much as possible over the coming months, but it would be helpful to understand what you believe we should be doing to help minimise these impacts and if there are any opportunities to deliver a local community benefit you would like us to consider.

We encourage all interested community members to fill in a feedback form when submitting feedback, however if you prefer, you can email us to provide your feedback or ask any questions.

Our Community Liaison team

Each project has a dedicated Community Liaison Manager who works closely with community members to make sure they are well informed of our proposals and that their views, concerns, questions or suggestions are put to our project teams.

Throughout the life of our projects, you will hear from us regularly. We aim to establish strong working relationships by being accessible to key local stakeholders such as community councils, residents' associations and development trusts, and regularly engage with interested individuals.

Recite me

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."

Community Liaison Manager

Lisa Marchi-Grey

SSEN Transmission
10 Henderson Road, Inverness, IV1 1SN

lisa.marchi@sse.com

+44 7825 015 507

Additional information:

The best way to keep up to date is to sign up to project updates via the project webpage:

ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild

You can also follow us on social media:

@ssentransmission @SSETransmission

Shin – Loch Buidhe 132kV Rebuild

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 project information provided explained the need for the Shin – Loch Buidhe 132kV Rebuild project?**

☐ Yes ☐ No ☐ Unsure

Comments:

Q2. **Do you feel sufficient information has been provided to enable you to understand what is being proposed and why?**

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

Q4. **Do you have any other comments about the proposed alignments?**

Comments:

Q5. **Following a review of the provided information, how would you describe your understanding of the Shin – Loch Buidhe 132kV Rebuild project?**

☐ Excellent ☐ Good ☐ Average ☐ Poor

Comments:

Q6. **Are there any particular concerns or queries you would like to highlight to the team about this project?**

Comments:

Full name: ..... **Email:** .....

Telephone: ..... **Address:** .....

We would like to send you relevant communications via email such as invitations to stakeholder events, surveys, updates on projects, services and future developments from the Scottish and Southern Electricity Networks group listed below. If you are happy to receive email updates please opt in by ticking the box below. You can unsubscribe at any time by contacting us at stakeholder.admin@sse.com or by clicking on the unsubscribe link that will be at the end of each of our emails.

☐ **If you would like to be kept informed of progress on the project, 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 Hydro Electric Transmission, 10 Henderson Road, Inverness IV1 1SN

Email: lisa.marchi@sse.com

Online: ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild

For information on how we collect and process your data please see our privacy notice available at today's event. This can also be obtained online at: ssen-transmission.co.uk/privacy

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

We intend to use Artificial Intelligence (AI) to assist our experienced teams in the analysis of your feedback, so we can categorise key points raised more quickly. You can learn more about how we're utilising AI at: ssen-transmission.co.uk/AIFAQ

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 & Southern
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