



Scottish & Southern  
Electricity Networks

TRANSMISSION

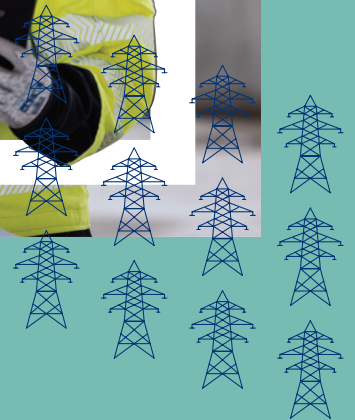
# Shin – Loch Buidhe 132kV Rebuild

Alignment Public Consultation

27 August 2025



[ssen-transmission.co.uk/projects/project-map/  
shin-to-loch-buidhe-132kv-overhead-line-rebuild](https://ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild)



# Contents

|                                         |    |                                       |    |
|-----------------------------------------|----|---------------------------------------|----|
| Powering change together                | 03 | Alignment stage: preferred alignment  | 11 |
| Project need and overview               | 04 | Construction of a Steel Lattice Tower | 12 |
| Project timeline                        | 05 | Underground cable                     | 13 |
| Meeting our obligations                 | 06 | Next steps                            | 14 |
| Help shape our plans                    | 07 | Notes                                 | 15 |
| Our alignment selection process         | 08 | Have your say                         | 16 |
| Alignment stage: selection consultation | 09 | Your feedback                         | 17 |

## The consultation event will be taking place on:

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



# 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](https://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.

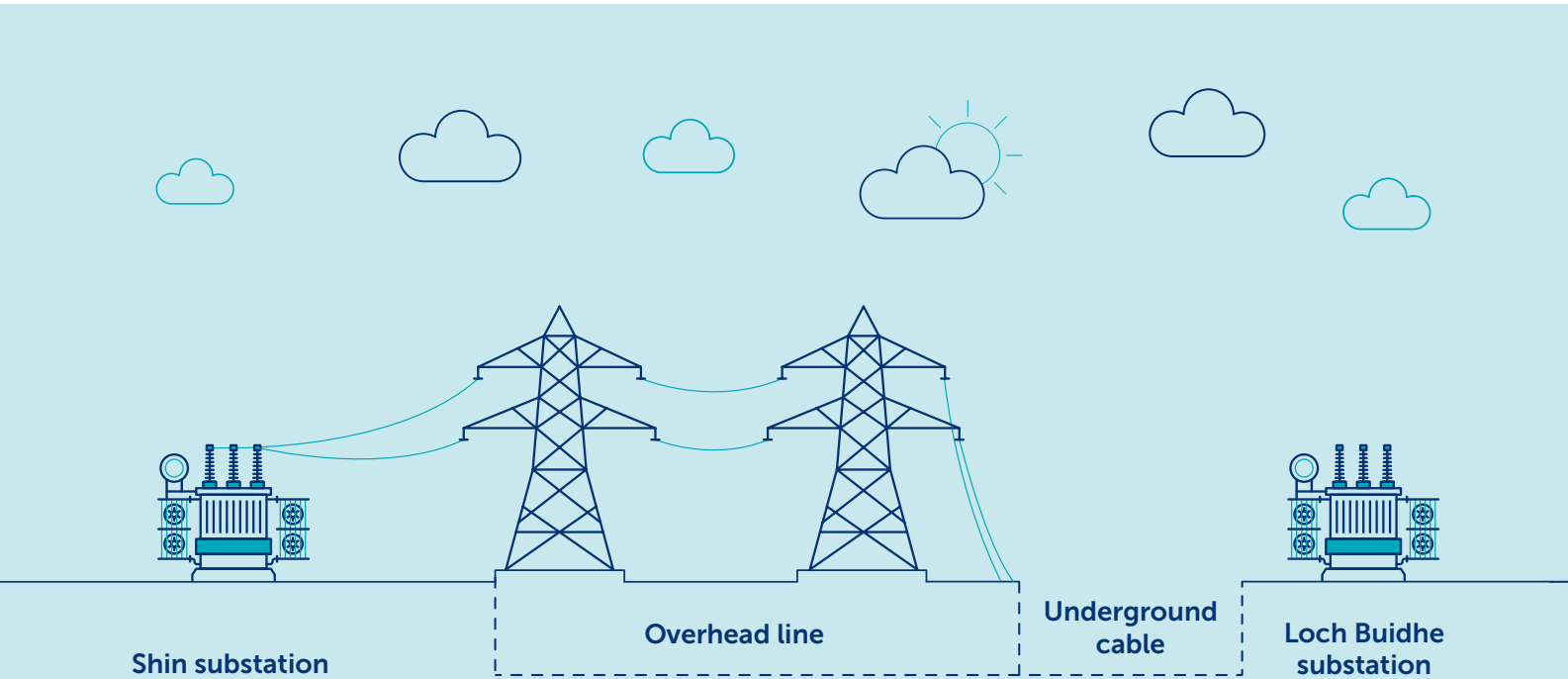
This project plays a key role in supporting national Net Zero targets, and by strengthening our transmission network, we are not only enabling more renewable energy to connect but also enabling a secure and reliable electricity supply for the future. In compliance with our Network Operators Licence, 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:**

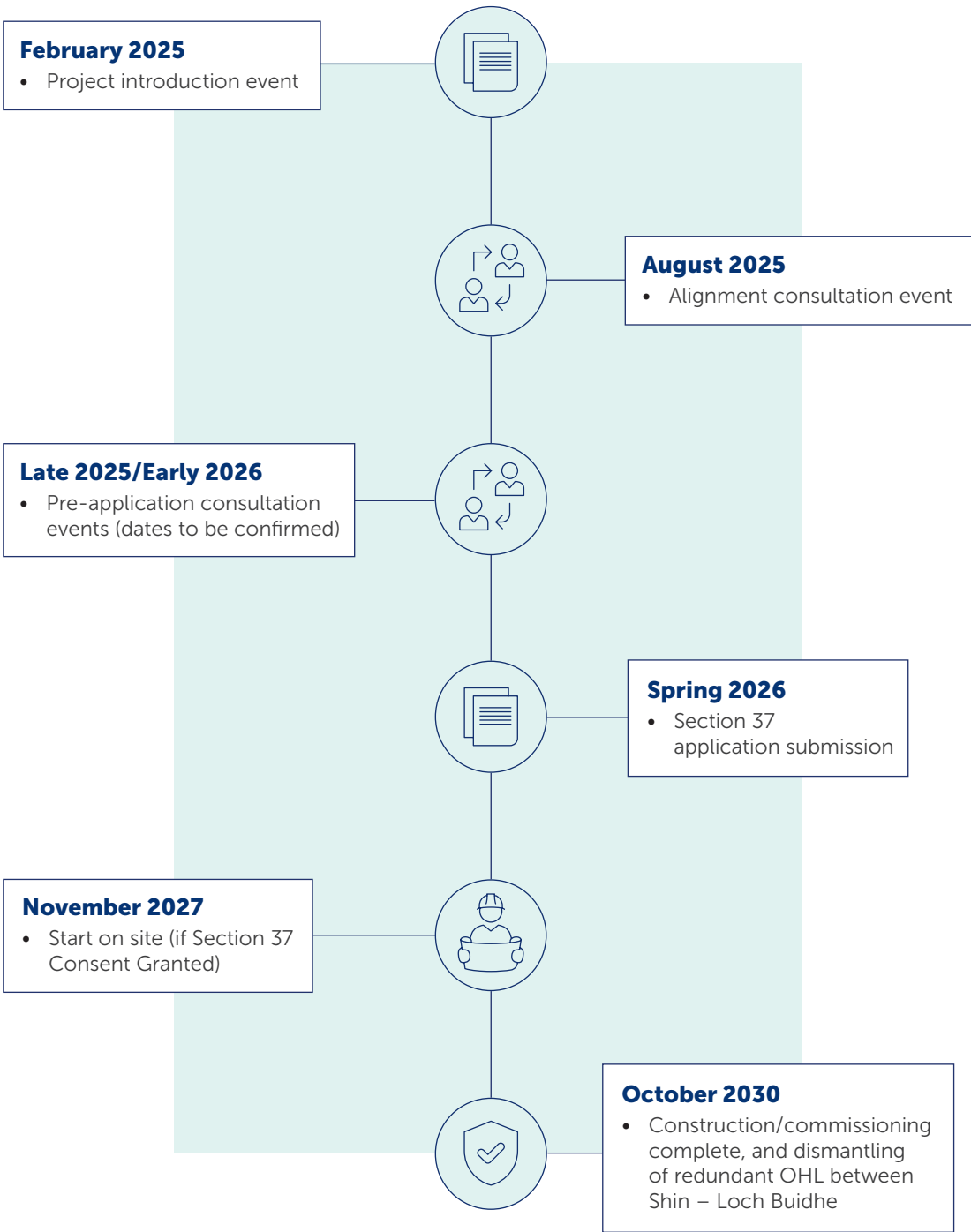
- Offline construction of double circuit 132kV overhead line on steel lattice towers and double circuit 132kV underground cables
- New cable sealing end (CSE) compound to transition overhead line to underground cable
- Access tracks
- Dismantling of existing steel lattice tower structures, existing CSE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

Diagram not to scale, for illustration purposes only



# Project timeline

\*Dates may be subject to change.





# 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 routing 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.

## 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.

## 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.

# 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.

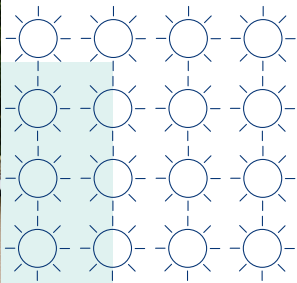
Throughout the consultation, we'll present our approach to developing the project, including changes made since we last consulted with you. We will also provide some visualisations and maps to show you where everything will be located.

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.



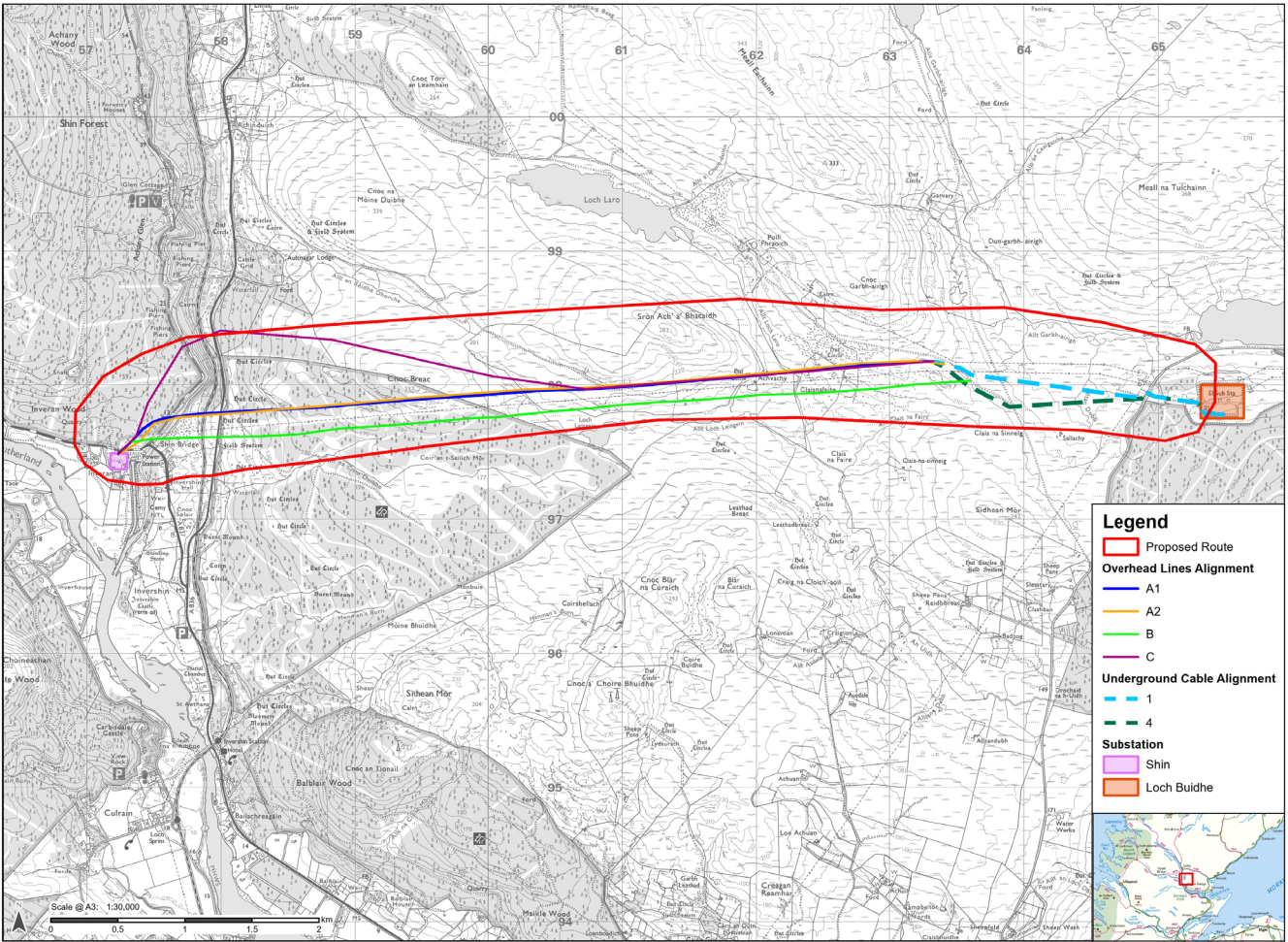
# Alignment Stage: selection consultation

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.

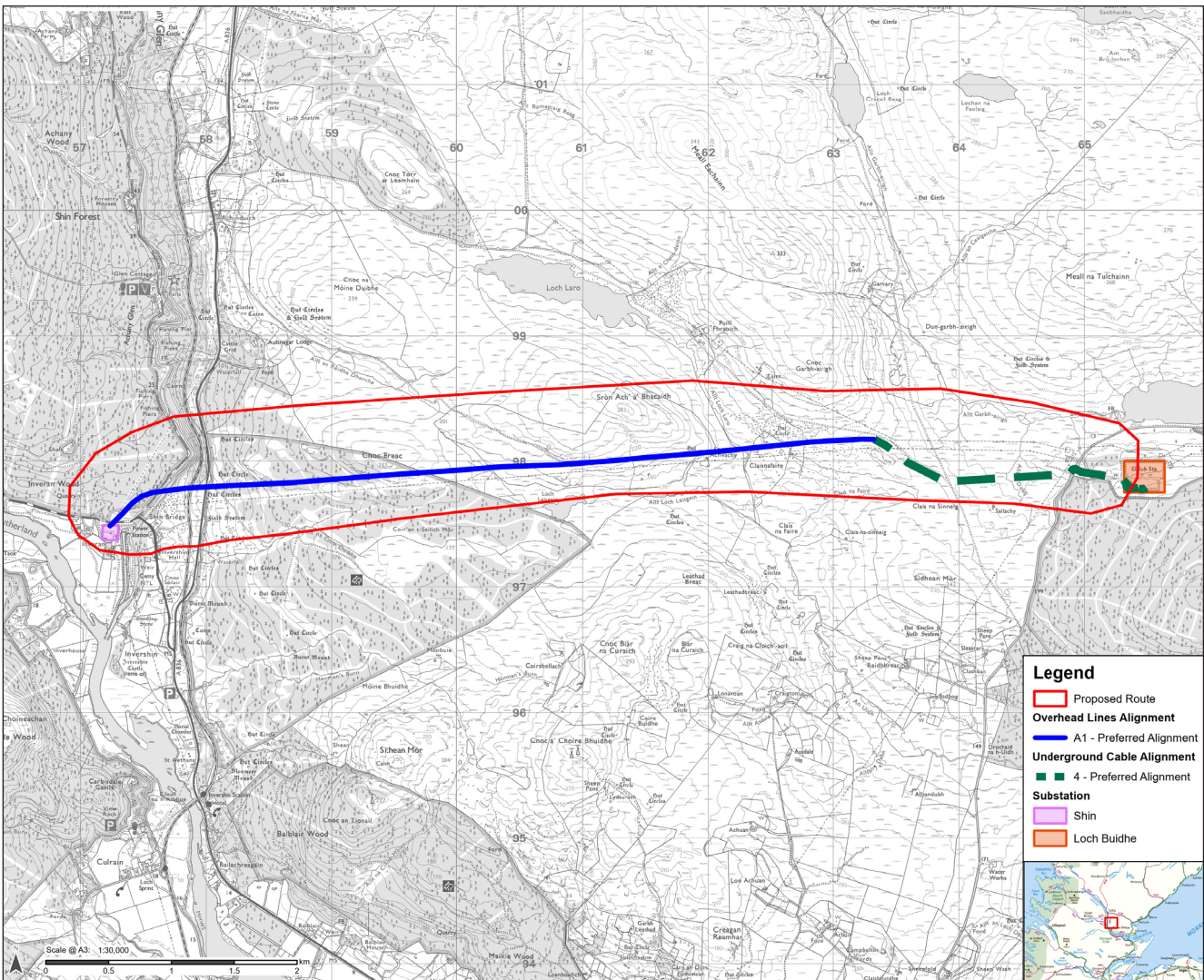
Alignment Stage: preferred alignment

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

## 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.



Cable sealing end (CSE) compound



# Next steps

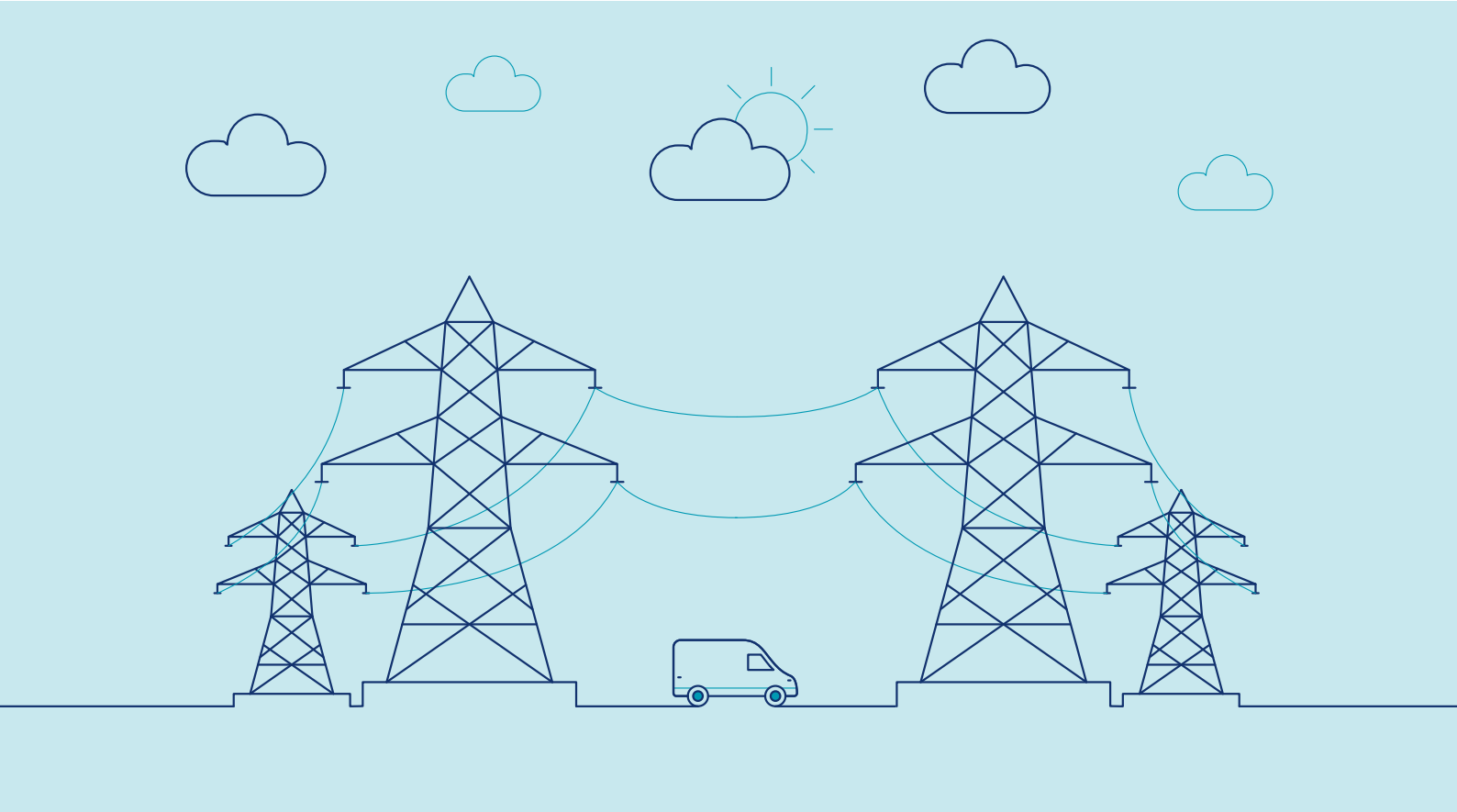
All feedback/comments on the alignment selection process are requested by **Friday 26 September 2025.**

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.



# 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.



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](mailto: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](https://ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild)

You can also follow us on social media:



[@assentransmission](https://www.instagram.com/assentransmission)



[@SSETransmission](https://twitter.com/SSETransmission)

# 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](mailto: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](mailto:lisa.marchi@sse.com)

**Online:** [ssen-transmission.co.uk/projects/project-map/shin-to-loch-buidhe-132kv-overhead-line-rebuild](https://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: [ssn-transmission.co.uk/privacy](https://ssn-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: [ssn-transmission.co.uk/AIFAQ](https://ssn-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.

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