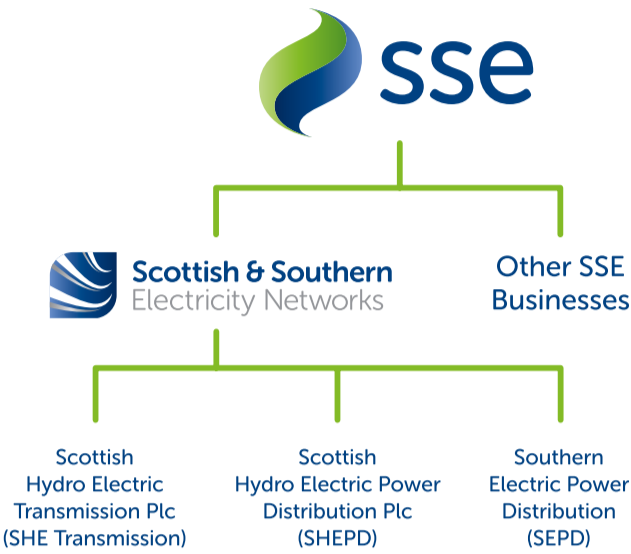


Who we are

We are Scottish and Southern Electricity Networks, operating under licence as Scottish Hydro Electric Transmission plc (SHE Transmission) for the transmission of electricity in the north of Scotland.



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

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

The landscape and environment that contribute to the challenges we face also give the area a rich resource for renewable energy generation. There is a high demand to connect from new wind, hydro and marine generators which rely on Scottish and Southern Electricity Networks to provide a physical link between the new sources of power and electricity users. Scottish and Southern Electricity Networks is delivering a major programme of investment to ensure that the network is ready to meet the needs of our customers in the future.

Our responsibilities

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

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

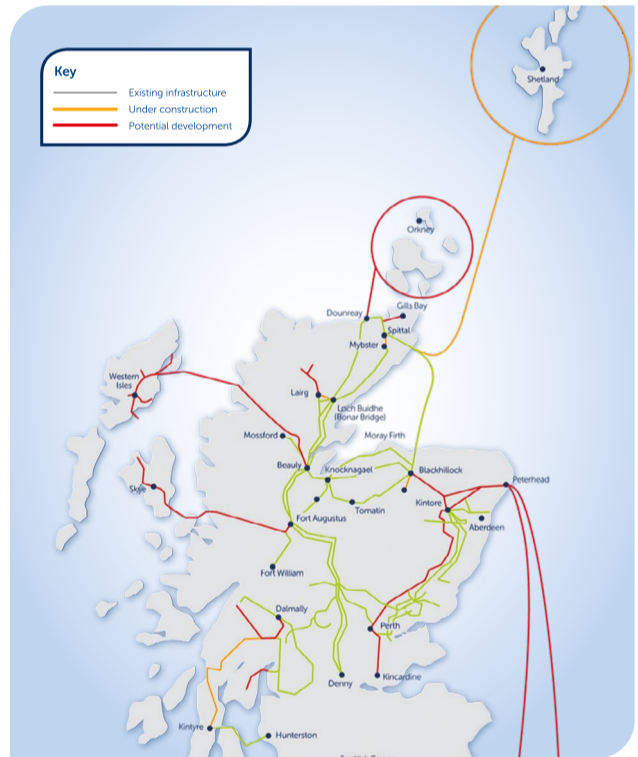
What is the difference between transmission and distribution?

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

The Electricity Transmission network, or grid, transports electricity at very high voltages through overhead lines, underground cables and subsea cables. Our transmission network connects large scale generation, primarily renewables, to central and southern Scotland and the rest of Great Britain. It also helps secure supply by providing reliable connection to the wider network of generation plants.

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

Overview of transmission projects





What is the Skye Reinforcement Project, and why is it needed?

The Skye Reinforcement Project is the replacement of the existing overhead electricity transmission line that runs from Fort Augustus to Ardmore in the north of Skye. Over the past couple of years, several assessments have been carried out to determine the condition of the existing OHL and associated electricity infrastructure, including existing substation equipment.

These assessments identified that the current line which was constructed in three distinct sections between 1956 and 1989 is now reaching the end of its operational life. Its planned replacement is essential to maintain security of supply to homes and businesses along its route, as well as to the Western Isles, which is supplied by two subsea cables from Ardmore point. In addition, more applications from new generation developers in Skye have been received over that period. This caused SSEN Transmission to develop a needs case for the project that ensured that the best sustainable long-term solutions was identified.

Given the scale of the replacement project, SSEN Transmission intends to 'future proof' the replacement line to allow the connection of additional renewables to help meet Government 'net zero' climate change targets. Taking 'a build it once, built it right approach' which it hopes will greatly reduce the need for additional major works in the future, helping keep local disruption to a minimum.



The scope of the project

The existing 132kV overhead line (OHL) from Fort Augustus to Ardmore on the Isle of Skye is a main artery in the Highland transmission network and provides the sole connection from the mainland electricity transmission system to Skye and the Western Isles and is essential for maintaining security of supply in the area.

To ensure security of supply to homes and businesses in the region and facilitate the connection of new renewable energy to the grid, SSEN Transmission is proposing the construction of a new overhead line, which will comprise of steel lattice towers, broadly similar in height to the existing towers, wood pole overhead line and sections of underground cable.

The main elements of the project are:

- From Fort Augustus substation to Broadford substation it is proposed to construct a new double circuit 132kV OHL comprising of steel lattice structures. The existing Fort Augustus to Abercalder 132kV wood pole OHL, and the existing 132kV OHL's between Abercalder and Broadford would be dismantled and removed once the new OHL is operational;
- Between Broadford substation and Edinbane substation, the existing single circuit wood pole trident 132kV OHL would be replaced with a new 132kV OHL comprising of steel lattice structures. The existing OHL would be dismantled and removed once the new OHL is operational;
- Between Edinbane substation and Ardmore substation, the existing single circuit wood pole 132kV OHL would be replaced with a new higher capacity 132kV wood pole OHL;
- A new Indoor Gas Insulated Substation adjacent to the existing substation at Broadford;
- A new indoor Gas Insulated Substation, Grid Supply Point and Wind Farm Connection, south west of the existing substation at Edinbane; and
- In order to maintain a supply of energy to the region during construction, the existing OHL would remain in place and following completion of the new line, the existing will be dismantled.

The story so far and what's next

What's been done

We consulted with stakeholders in 2020 regarding the need and scope for the project and asked feedback on the preferred route for the new 132kV OHL. We also published a Report on Consultation in November 2020 which summarised the feedback we had received and how we were going to respond to that feedback.

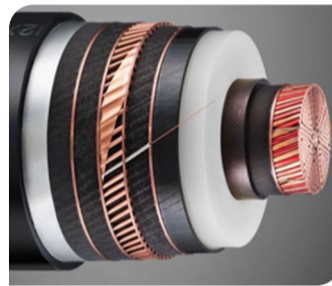
We have been working to ensure any comments or concerns raised have informed the design as it has progressed, and this will continue as we move into the next phase of detailed design and EIA stage of the project.

Some of the significant design decisions that have been put forward to ensure we progress a project which has balanced the technical, cost, environmental and stakeholder feedback requirements include:

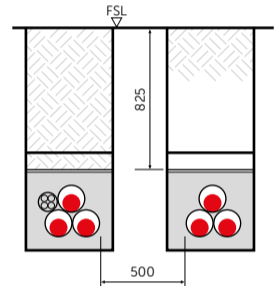
- Ensuring the OHL alignment is optimized as far as possible to take account of sensitive environmental receptors, reduce landscape and visual constraints, take account of existing land use and avoid communities as far as practicable;
- Develop complex design mitigations within the Cuillins National Scenic Area (Section 2) in the form of underground cabling in response to concerns related to potential impacts on landscape and visual issues;
- Carried out further detailed assessment work within Section 3, including working in close collaboration with specialist environmental consultants to commence a Habitats Regulations Assessment (HRA) and detailed micro-siting of the proposed development to avoid the most sensitive habitats where the technical parameters allowed. This has allowed us to identify what we believe is a feasible design solution which removes any potential landscape and visual impacts that may be associated with a preferred route through Glen Arroch that was presented at the previous consultation stage. This is subject to conclusion of the HRA and targeted consultation with key statutory bodies; and
- Develop complex design mitigations within Section 6 in the form of underground cabling in response to concerns related to current and future land use, and volume of existing electricity infrastructure in this area.



Section 4 - Kinloch Hourn



Underground Cable



Typical double circuit cable arrangement

What we are seeking feedback on

The design is well under way and we are progressing with the technical details such as ground investigations, micro-siting of tower locations, detailed design of the underground cable sections and micro-siting of the access tracks. We will also be kicking off the full EIA stage of the project.

As such, we would like to ensure your views on our proposals so far are understood and considered in these final stages of the project and prior to coming to a proposed development for consent application. As such we have included a set of questions on the feedback forms and would be grateful if you are able to submit your views on our preferred design solution.



What are we consulting on today?

Following engineering and environmental assessments, we have identified a suitable alignment and design solution for the replacement line. With the work now nearing completion, SSEN Transmission are now presenting our preferred alignment and design solution and seeking your feedback on these proposals.

The proposed alignment, which broadly follows the existing route, has been developed in a systematic manner, incorporating stakeholder feedback to develop an alignment which is technically feasible, economically viable and could be anticipated to cause the least disturbance to the environment and those living in it, working in it, visiting or using it for recreational purposes.

The alignment and design solution that has taken into consideration the views of our stakeholders ahead of the submission of the Section 37 consent application in summer 2022.

Mitigations

In line with stakeholder feedback SSEN Transmission are presenting proposals for two sections of underground cable. Underground cable installation requires significant groundworks, requiring greater access and can have a greater impact on habitats and the surrounding environment.

Therefore, it has not been viable to consider undergrounding for the entire line route.

However, in areas of particular sensitivity a preferred design solution using underground cable has been selected to mitigate likely significant environmental effects, or to facilitate rationalisation of the electricity network where it can address specific issues, subject to environmental and engineering considerations.

These areas are:

- 14km of underground cable as line passes the Cuillin Hills
- 7km of underground cable as the line joins Fort Augustus substation

In response to community views expressed, we are seeking feedback on a preferred alignment that follows closer to the existing OHL and does not follow a new route through Glen Arroch, as proposed in our June 2020 consultation.

Broadford and Edinbane Substation Proposal of Application Notice (PAN)

In addition, a separate section of the consultation event will be dedicated to Broadford Substation and Edinbane Substation, where work is required to reinforce and extend the existing substations. We welcome your feedback on these proposals at this time. The PAN process is a key first step in the town and country planning process for these sites and kickstarts a 12 week consultation period for feedback and comments.



 @ssencommunity

 @ssencommunity

www.ssen-transmission.co.uk/projects/skye-reinforcement



Technical Solutions to Meet the Project Need

Existing Infrastructure

The existing 132kV overhead line which connects Fort Augustus and Skye consists of four distinct sections, which were constructed at different times over the past 65 years in response to changing needs. These include:

- Fort Augustus to Abercalder – Wooden pole
- Abercalder to Quoich – Steel lattice towers
- Quoich to Broadford – Steel lattice towers
- Broadford to Ardmore – Wooden pole

The existing infrastructure is approaching the end of its operational life and a significant capacity increase is required to meet the needs of renewable generators looking to connect. To maintain security of supply and carry the power required to support net zero emissions targets, it has been deemed not feasible to upgrade the existing overhead line infrastructure. As such the existing 132kV overhead lines between Fort Augustus and Ardmore will be replaced.

Please note the Abercalder to Quoich section is presently being replaced with a wood pole OHL due to asset condition. This will ensure continued security of supply from Quoich Power Station and during the construction phase, can act as a temporary diversion for the development.

Fort Augustus to Edinbane

There is a greater need for higher capacity power transfer between Fort Augustus and Edinbane, as well as more technically challenging terrain to cross. In these areas, a steel lattice tower construction is required to meet the identified system need.

These towers will be approximately 28-33 meters in height.



Figure 2 An example of a Steel Lattice L7 Tower Structure

Edinbane to Ardmore

Less power will be transferred between Edinbane and Ardmore. A new trident H wood pole is suited to the terrain in this area and will be of sufficient power capacity to meet the identified electrical need.



Figure 1 An Example of a Trident H wood pole structure



Figure 3 An Example of Underground Cable installation



Consideration of Alignment Options and Design Solutions

The consideration of alignment options and design solutions brings together work by three main disciplines:



Engineering Team

Who identify engineering constraints and where overhead lines and cables can be installed from a construction and operational perspective;



Environmental Team

Who identify key environmental constraints (aspects) along the routes which the new infrastructure could impact upon; and



Land Team

Who engage with landowners to identify key land use constraints.

Identifying Key Environmental Aspects

Key environmental aspects are identified through a mixture of desktop assessment and site surveys. Work undertaken during this phase of the project development has included detailed assessment of the alignment options by identifying environmental aspects which could constrain the proposed development.

A suite of specialist environmental surveys have been undertaken by:

- Landscape architects;
- Archaeologists;
- Ornithologists and ecologists;
- Geologists and hydrologists.

to ensure detailed knowledge of potential constraints and provide advice on alignment options, micro-siting opportunities for positioning towers and indicative construction access.

The key environmental aspects that have informed the alignment options and design solutions include:

- Landscape character and visual amenity aspects;
- Special Protected Areas (SPA), for birds;
- Special Areas of Conservation (SAC), for habitat;
- Sites of Special Scientific Interest (SSSI);
- Local Nature Conservation Sites;
- National Scenic Areas;
- Protected Species and habitats
- Scheduled Monuments;
- Peat/ground conditions/water environment.





Consideration of Alignment Options and Design Solutions



Visualisation of steel structures passing Loch Sligachan (Cuillin Hills NSA)

SSEN Transmission Engineering and Construction Contractor

SSEN Transmission engineering team engaged an experienced OHL construction contractor to carry out a detailed desk-based and site walkover survey to explore the advantages, disadvantages and constructability of OHL alignment options. An OHL alignment was identified on the basis of it being the most technically feasible and economically viable alignment, giving due consideration to a range of technical, environmental, and cost criteria over the construction and operation phases.

SSEN Transmission Engineering team has been working alongside the contractor to develop a project specific access strategy, informed by NatureScot's guidance on access tracks in the Scottish Uplands and our in-house engineering knowledge. The routing of tracks has been a key consideration in the evolving

design, making best use of existing forestry and estate tracks with a focus on upgrading where possible rather than creation of new access tracks. Studies have also been undertaken on the choice of technology, including appropriate ways to mitigate environmental effects including subsea and land cabling, alternative structures (NESTS) and OHL routes.

Land Management

SSEN Transmission Land Management team are working closely with land owners to ensure working practices are taken into account, with potential land use constraints recognised as an important part of the overall design process.

Weekly Design Meetings

As the alignment work progressed on the ground, weekly design meetings with the contractor, SSEN Transmission engineering, environmental and land management teams, and external environmental consultants

were undertaken to discuss the alignment and look at potential localised alternatives to avoid and/or minimise potential environmental effects and matters concerning land use.

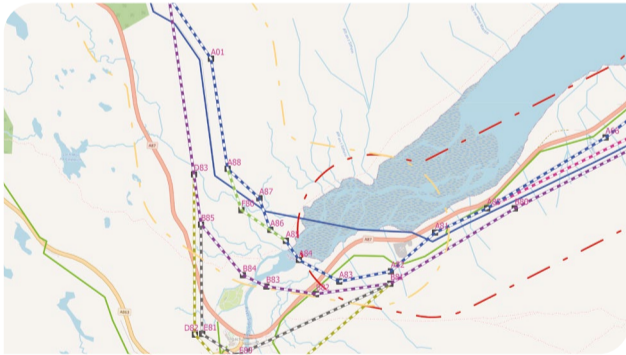
The design process has been facilitated by the use of powerful GIS and visualisation tool kits, and extensive team and specialist site walkover surveys.

Consultation Responses

Consultation responses received during the routing stage of the project in 2020 have been used to inform the design as it has progressed, including further detailed studies on the alternatives routes in some sections of the project, as reported in the Report on Consultation published in November 2020.

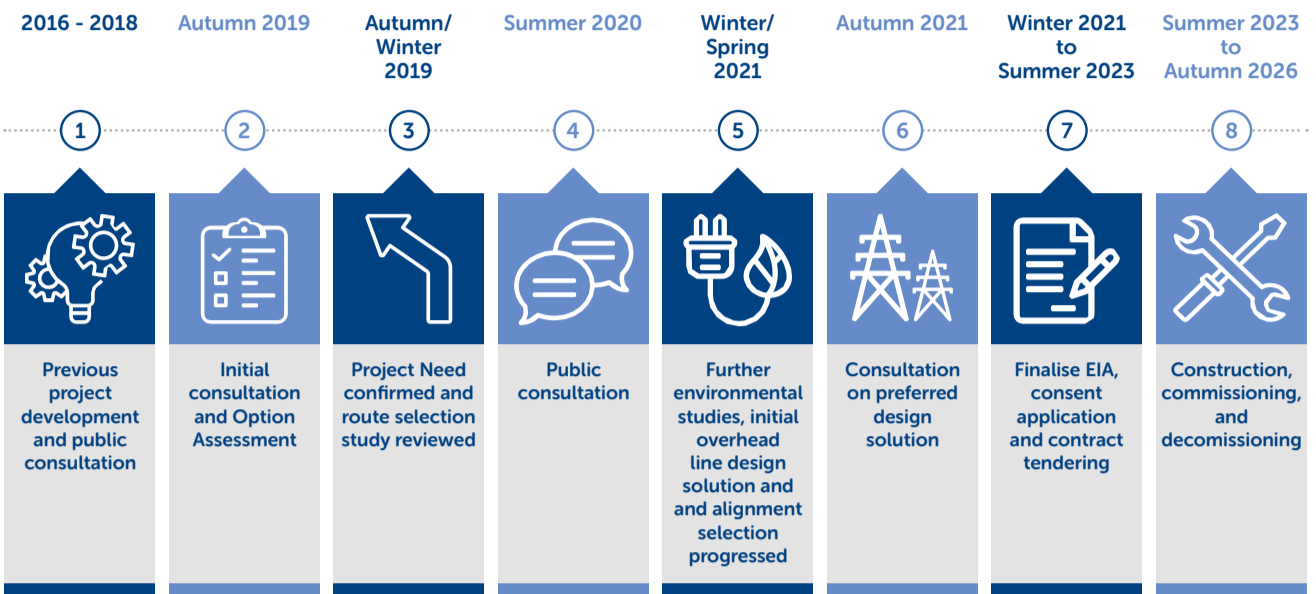
We have also undertaken workshops with statutory authorities throughout the design process to seek preliminary feedback on the preferred alignment and design solution.

Example of GIS Modelling and onsite surveys





Project Timeline



1 Previous project development and public consultation

Consultation and development work on a proposed additional overhead line between the Isle of Skye and Fort Augustus. The project driver was to enable renewable generation on Skye to connect to the transmission network. This project was stopped in 2018 to allow for a more holistic and enduring approach to meet future security of supply needs and support the transition to net zero.

2 Initial consultation and Option Assessment

Consultations with key statutory bodies such as Scottish National Heritage, The Highland Council, Historic Environment Scotland, Forestry Commission and Scottish Environment Protection Agency were undertaken to seek feedback on the project and outline the assessment methodologies used to determine the changes to project need.

3 Project need confirmed and route selection reviewed

Project needs and OHL route options reviewed and preferred route identified.

4 Public consultation

Route consultation with statutory, non-statutory bodies and communities on initial project proposals. Document detailing scope of consultation is published.

5 Further environmental studies, initial overhead line design and alignment selection progressed

Undertake further environmental studies and engineering design to identify the preferred design solution and alignment for the overhead line. Confirm the preferred alignment for the OHL and establish what structure types will be needed, including for any mitigation informed by early EIA work.

6 Consultation on preferred alignment selection

Undertake consultation on the preferred alignment for the overhead line and hold further public consultation event.

7 Consent application & contract tendering

Confirm the overhead line alignment and design solution, and publish the Report on Consultation. Progress Environmental Impact Assessment (EIA), negotiations with landowners, preparation and submission of Section 37 consent application, contract tendering and procurement detailed design.

8 Construction and commissioning

Undertake all onsite construction works, including energisation of the new OHL circuit and decommissioning and removal of the old OHL infrastructure.



Broadford Substation Project – Need and Site Selection

Project Need

There is a requirement to reinforce and extend the existing substation, driven by the Skye Reinforcement project and the associated wind farm connection commitments.

A new Indoor Gas Insulated Substation is proposed to be constructed on adjacent SSEN Transmission owned land to the east and south of the existing substation at Broadford.



Existing Broadford Substation looking eastwards

Site Selection – why the existing site?

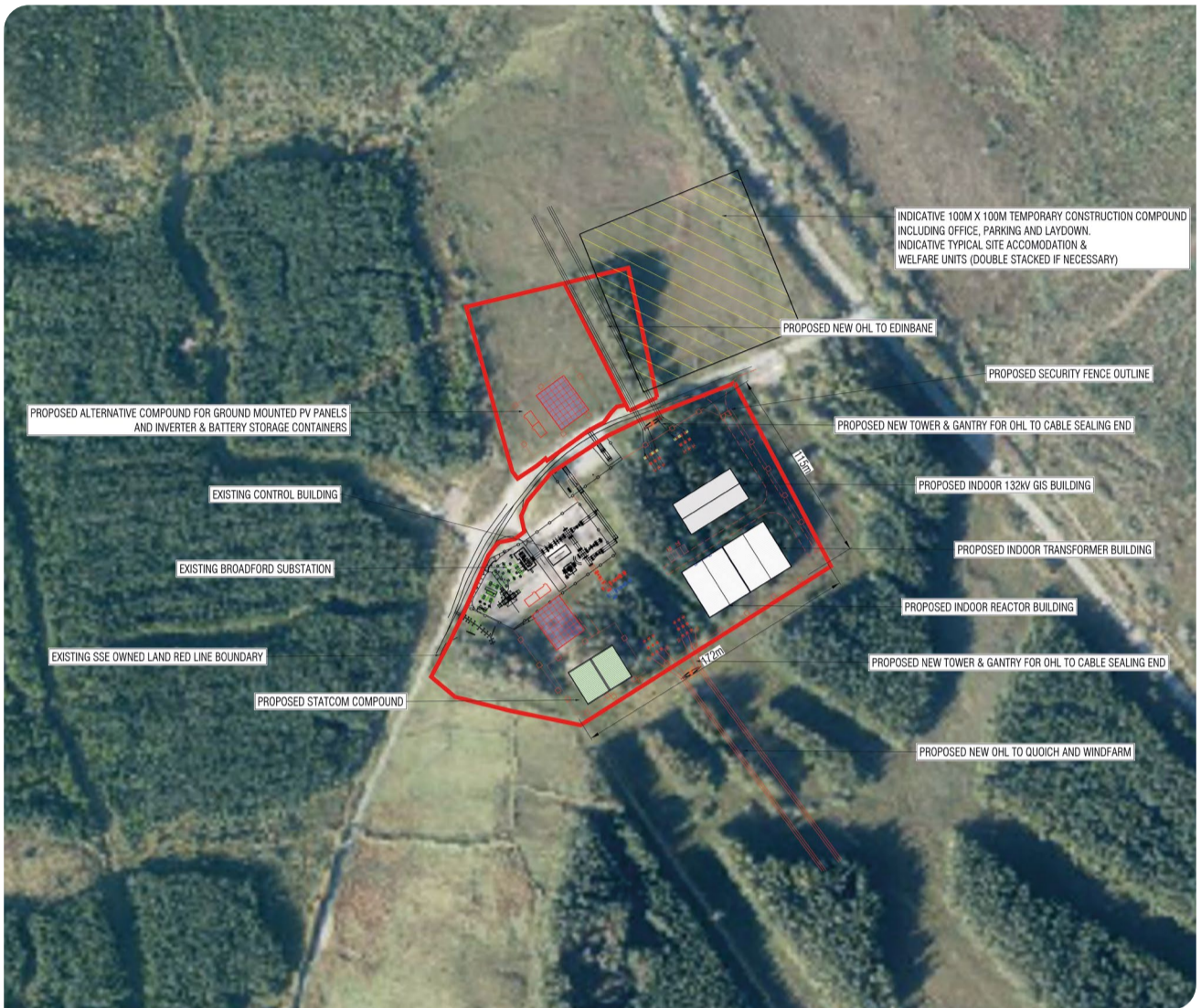
- It is efficient and optimal to utilise the existing substation sites for the required infrastructure works.
- SSEN Transmission propose utilising SSEN Transmission owned land adjacent to the existing substation, eliminating the need to extend the ownership boundary.
- Facilitates offline construction, minimising the impact on the existing infrastructure and electricity transmission and distribution systems supplying customers.



SSEN Transmission owned land east of existing substation

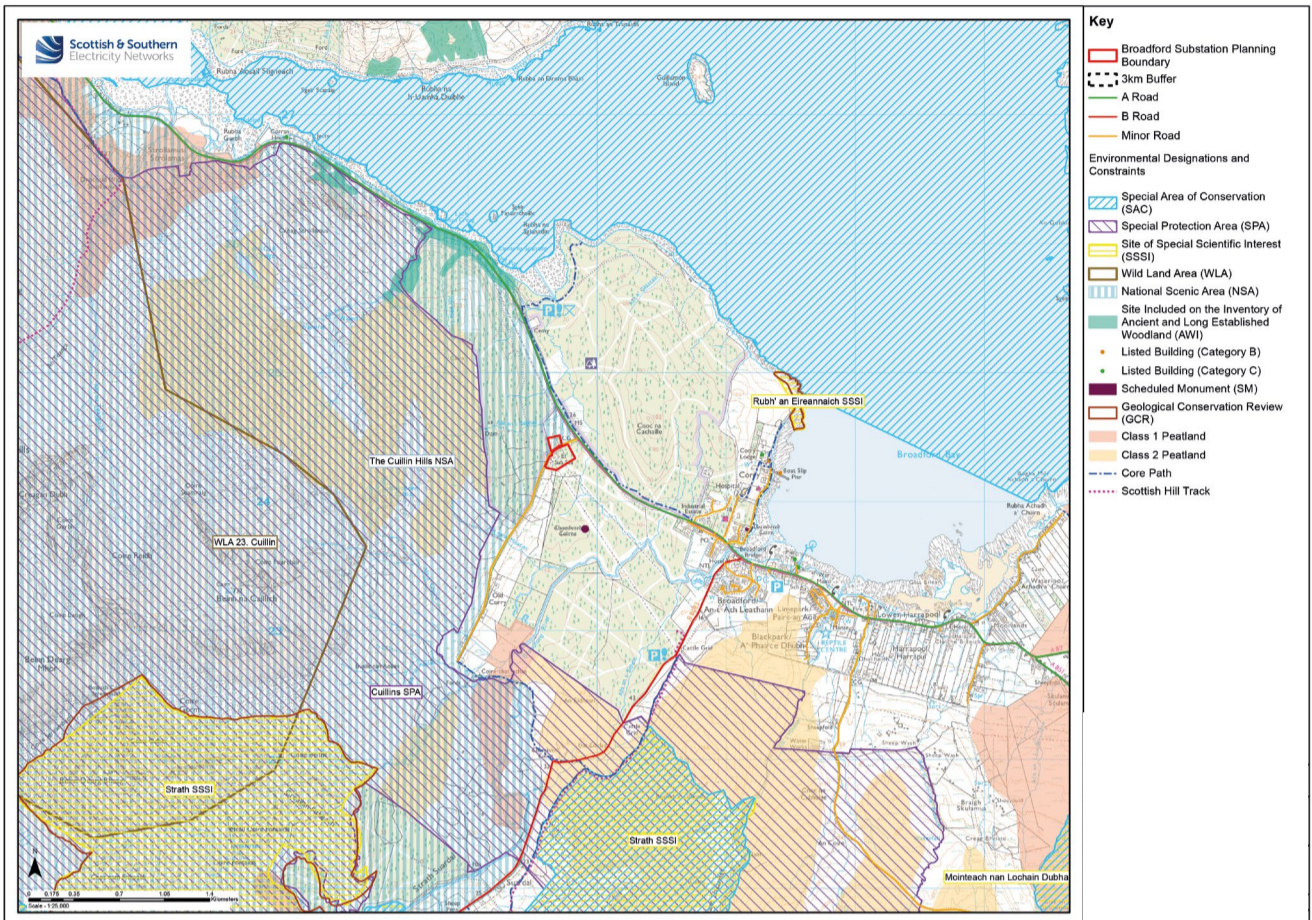


Broadford Substation Proposals – Site Layout



- Existing Broadford substation shown in black to the North West of the site.
- Proposed new Broadford substation to the South and East of the existing substation on SSEN owned land.
- New 132kV Overhead Line routes indicated running South East to North West.
- Temporary Construction Welfare area indicated on Old Corry Road off A87.
- Access will be via the existing track and public road.

Broadford Substation Project – Key Environmental Considerations



The key environmental considerations for the development of a substation extension in this location include:

- Landscape and visual receptors. The site is surrounded by commercial forestry plantation but is located on the very edge of the Cuillin Hills National Scenic Area (NSA). Potential effects in relation to the Cuillin Hills NSA, landscape character and visual receptors within the Broadford area will require consideration. A full landscape and visual assessment will be carried out and opportunities to mitigate effects would be considered in the form of appropriate landscape mitigation, where required;
- The Cuillins Special Protection Area (SPA) is located approximately 600m to the west of the proposed substation site. Potential effects on the qualifying features (golden eagle) of the SPA, as well as other potential ornithological constraints, will be considered;
- Habitats within the vicinity of the site comprise commercial forestry plantation and semi-improved neutral grassland. Minimising effects on sensitive habitats and deeper 4 areas of peat will be informed by existing habitat data and further survey work as required;
- Potential effects on European Protected Species will be informed by protected species surveys. Any identified effects could be reduced or eliminated by adopting appropriate mitigation such as the use of Species Protection Plans;
- Local hydrological constraints;
- Felling requirements within the commercial forestry plantation;
- Consideration of potential effects on cultural heritage;
- Transportation of materials and abnormal load requirements to the site; and
- Potential effects of construction and operational noise.



Broadford Substation Programme and next steps

Next Steps

- Detailed design
- Environmental surveys
- EIA screening
- Completion of an environmental survey

Indicative Programme

- Initial Consultation Period starts - June 2021
- Planning Submission - June 2022
- Contractor Award - July 2023
- Construction Starts on site - August 2023
- Construction Finishes - December 2025



Portree Harbour, Isle of Skye



Edinbane Substation Project – Need and Site Selection

Project Need & Proposals

There is a requirement to reinforce and extend the existing substation, driven by the Skye overhead line project and the associated wind farm connection commitments.

A new Indoor Gas Insulated Substation, Grid Supply Point and Wind Farm connection is proposed to be constructed on land to the South and West of the existing substation at Edinbane.

Site Selection – why the existing site?

- Proposed new substation site is adjacent to the existing substation site on land to the West and South, utilising existing screening to the West and natural topography to the North and East to minimise the visual impact.
- New substation buildings and associated infrastructure have been sited adjacent to the existing substation to limit the disturbance on the surrounding environment/ecology whilst facilitating offline construction.
- Buried HV cable connections proposed to connect the new substation to the overhead line, increasing design flexibility and minimising the footprint.
- A new 132kV Overhead Line terminal tower to cable interface compound is proposed close to the existing overhead line, reducing the number of new transmission towers that would be required.
- Proposed additional 132/33kV Grid Transformer will be located in buildings reducing noise and visual impact.

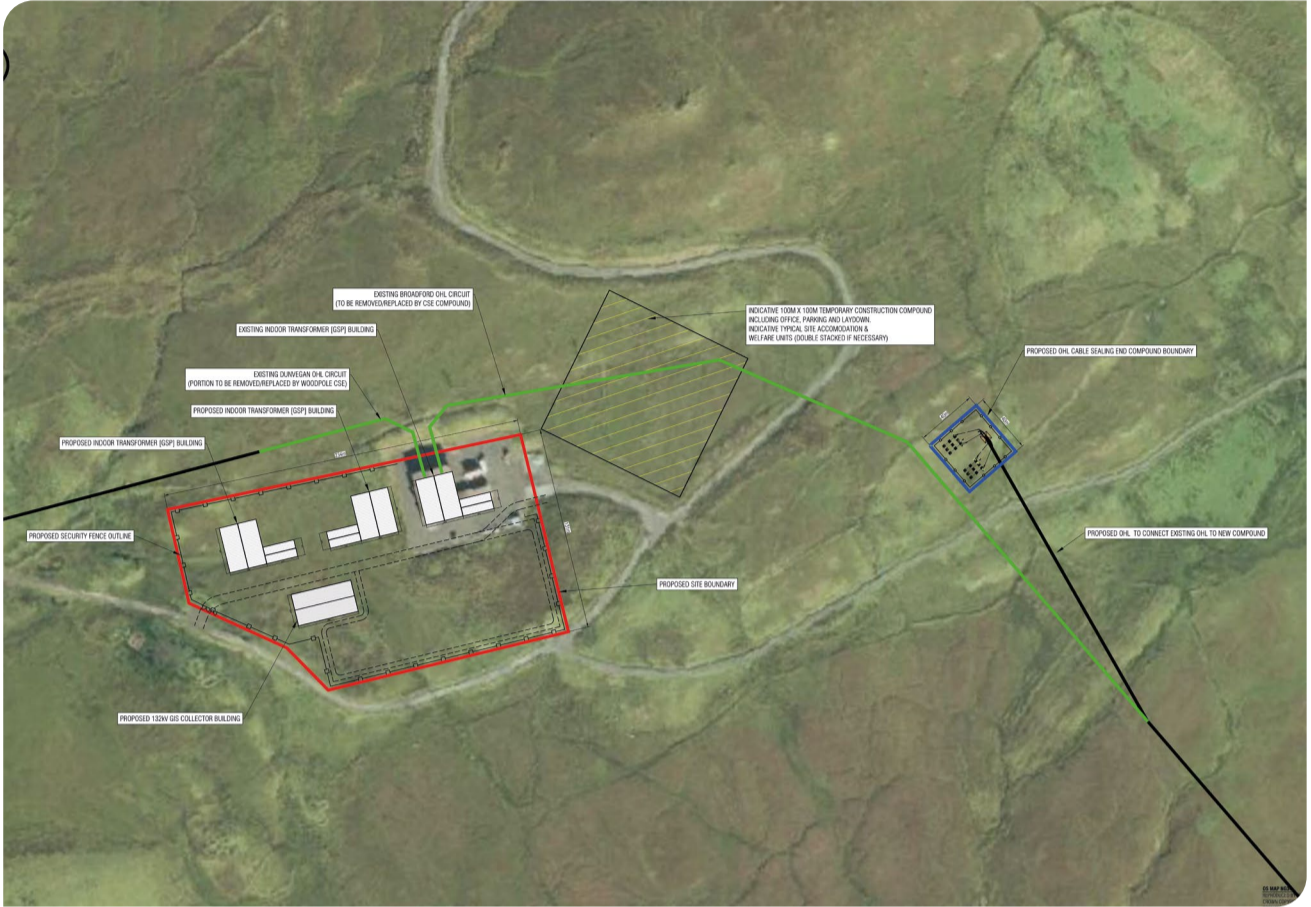


Eastern fenceline of the existing substation



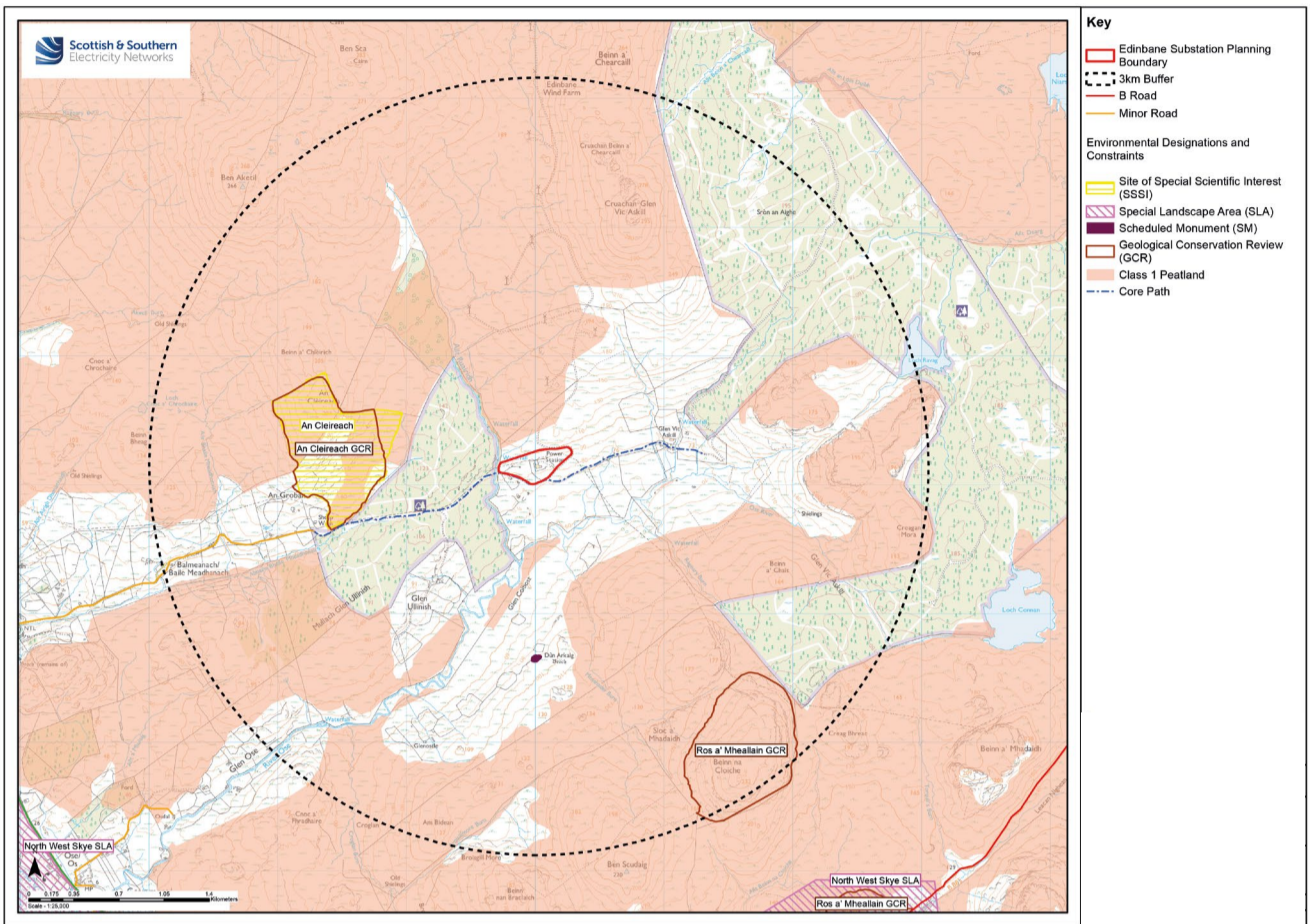
View west from wind farm access road

Edinbane Substation Proposals – Site Layout



- Existing Edinbane substation shown to the North East of the site.
- Proposed new Edinbane 132kV Collector substation, Grid Supply Point and Glenn Ullinish Wind Farm connection shown to the West and South West of the existing substation on land to be procured by SSEN.
- New 132kV Overhead Line route indicated running South East to North West in black and sections of existing Overhead Line that are to be removed shown in green.
- Temporary Construction Welfare area indicated to the North East of the existing substation.

Edinbane Substation Project – Key Environmental Considerations



The key environmental considerations for the development of a substation extension in this location include:

- Potential effects on landscape character and visual receptors within the vicinity of the site. A full landscape and visual assessment will be carried out and opportunities to mitigate effects would be considered in the form of appropriate landscape mitigation, where required;
- Potential effects on ornithology and European Protected Species, which will be informed by relevant survey data. It is anticipated that any identified effects could be reduced or eliminated by adopting appropriate mitigation such as the use of Species Protection Plans;
- Habitats within the vicinity of the site comprise semi-improved neutral grassland and wet modified bog. Minimising effects on sensitive habitats and deeper areas of peat will be informed by existing habitat data and further survey work as required;
- Local hydrological constraints;
- Potential effects on recreation given proximity to Loch Caroy to Glen Vic Askill Core Path;
- Consideration of potential effects on cultural heritage;
- Transportation of materials and abnormal load requirements to the site; and
- Potential effects of construction and operational noise.



Edinbane Substation Programme and next steps

Next Steps

- Detailed design
- Environmental surveys
- EIA screening
- Completion of an environmental survey

Indicative Programme

- Initial Consultation Period starts - June 2021
- Planning Submission - June 2022
- Contractor Award - July 2023
- Construction Starts on site - August 2023
- Construction Finishes - December 2025





What happens now and how do I have my say?

We understand and recognise the value of the feedback provided by members of the public during all engagements, consultations and events. Without this valuable feedback, the Project Development team would be unable to progress projects and reach a balanced proposal to submit for planning.

We are keen to receive your views and comments with regards to the following elements of our projects and will be seeking feedback from members of the public on this exhibition until **Friday 19th November 2021**.

You will find the appropriate feedback forms at the end of this booklet:

We're inviting your comments on our preferred alignment between Ardmore on the Isle of Skye and Fort Augustus Substation in Auchterawe.

For Broadford and Edinbane Substations, we shall shortly be submitting a Town and Country Planning Application and are seeking formal comments ahead of submitting an application to the Highland Council. Please find more information below.

Broadford Substation – PAN In regard to the Broadford substation, general comments on the proposals can be made throughout the 12-week period to 19th November 2021. To provide feedback on the proposal or to gain further information on the project, please fill in a Broadford Substation feedback form, visit our virtual consultation events or contact our Community Liaison Manager. Once planning applications have been submitted, the public will have an opportunity to make formal representations to The Highland Council for the proposed Broadford Substation before a decision is made on our application.

Edinbane Substation – PAN In regard to the Broadford substation, general comments on the proposals can be made throughout the 12-week period to 19th November 2021.

To provide feedback on the proposal or to gain further information on the project, please fill in a Edinbane Substation feedback form, visit our virtual consultation events or contact our Community Liaison Manager. Once planning applications have been submitted, the public will have an opportunity to make formal representations to The Highland Council for the proposed Edinbane Substation before a decision is made on our application.

Comments

Your views and comments can be provided to the project team by completing the feedback forms within this booklet, via the project webpage, or by writing to our Community Liaison Manager. All received feedback will be assessed and the proposed options adapted where necessary.

Community Liaison Manager, Lisa Marchi



lisa.marchi@sse.com



07825 015 507



Lisa Marchi
Scottish and
Southern Electricity
Networks,
10 Henderson Road,
Inverness, IV1 1SN



Additional information

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

Project website:

www.ssen-transmission.co.uk/projects/skye-reinforcement

Follow us on Twitter:

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

Follow us on Facebook:

[@ssencommunity](https://www.facebook.com/ssencommunity)



[@ssencommunity](https://www.facebook.com/ssencommunity)



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



How do I have my say

Join one of our face to face consultations being held along the entire route or online at our virtual consultation.

The consultation events will be taking place on:

| | | |
|----------------------|--------------|--------------------------------|
| Dunvegan Hall | 28 September | 15:00 – 19:00 |
| Broadford Hal | 29 September | 15:00 – 19:00 |
| Glenelg Hall | 30 September | 15:00 – 19:00 |
| Kyleakin Hall | 4 October | 15:00 – 19:00 |
| Glengarry Hall | 5 October | 15:00 – 19:00 |
| Fort Augustus Hall | 6 October | 15:00 – 19:00 |
| Virtual Consultation | 13 October | 13:00 – 15:00 17:00 – 19:00 |

Our virtual consultation room will open on 13th October 2021 12th July, where information regarding our proposals will be available alongside opportunities to join the project team for interactive text chat sessions. A link to view the virtual consultation platform will be available on the Skye Reinforcement Webpage

If you are unable to attend one of the face to face events or the live chat sessions, there are still plenty of ways to engage with our team: You can contact us by email, phone or post, please see details for the Community Liaison Manager.

We are happy to arrange (virtual) meetings for individuals or small groups to discuss any areas of interest and if this is something you would like us to facilitate, please contact us as soon as possible.

We are happy to post out copies of this brochure, please contact the Community Liaison Manager to arrange this.

Feedback

As part of the consultation exercise, we are seeking comments from members of the public, statutory consultees and other key stakeholders.

We kindly request that all comments are received by Friday 19th November 2021. Further information, should you require it, is available on the project webpage or can be made available in printed format by contacting the Community Liaison Manager. The feedback forms in this booklet can be detached and sent back, or you can fill them in online using the form on the project webpages. We do request that any feedback that you wish to be included in the Report on Consultation is received in written format (feedback received via phone calls will be circulated to the project team but would not be included in the Report on Consultation).

All feedback received will be collated, reviewed and included in our subsequent Report on Consultation, along with SSEN Transmission's responses to the topics raised. The report will be published later this year and will be available to view on the project webpage.

