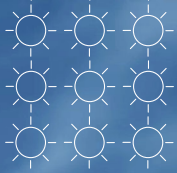




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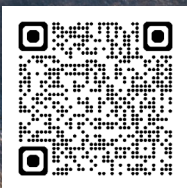


# Kintore to Tealing 400kV Overhead Line

Including Emmock and Tealing Section 37 Tie-Ins

Final Pre-Application Consultation  
(PAC) Events

February/March 2025



[ssen-transmission.co.uk/TKUP](https://ssen-transmission.co.uk/TKUP)

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## The events will be taking place on:

**Monday 24 February, 2–7pm**  
Kintore Public Hall, 12 School Road, Kintore, AB51 0UX

**Tuesday 25 February, 2–7pm**  
Echt Hall, Echt, Westhill, AB32 6UL

**Wednesday 26 February, 2–7pm**  
Durris & Crathes Bowling Club, Sunnyside Avenue, Drumoak, AB31 5EF

**Thursday 27 February, 2–7pm**  
Durris Kirkton Hall, Kirkton of Durris, Banchory, AB31 6BP

**Monday 3 March, 2–7pm**  
Drumlithie Village Hall, Station Road, Drumlithie, AB39 3YT

**Tuesday 4 March, 1–6pm**  
Inglis Memorial Hall and Library, High Street, Edzell, Brechin, DD9 7TF

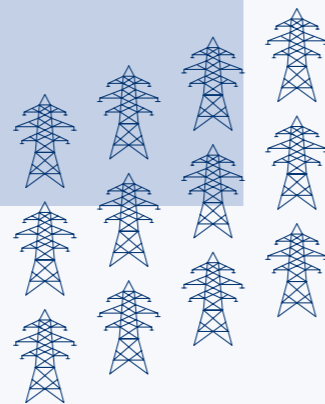
**Wednesday 5 March, 2–7pm**  
Dickson Memorial Hall, Station Road, Laurencekirk, AB30 1BE

**Monday 10 March, 2–7pm**  
Menmuir Hall, Brechin, DD9 7RN

**Tuesday 11 March, 2–7pm**  
Memus Community Hall, Memus, Forfar, DD8 3TY

**Wednesday 12 March, 2–7pm**  
Forfar Reid Hall, Castle Street, Forfar, DD8 3HX

**Thursday 13 March, 2–7pm**  
Tealing Village Hall, Hall Road, Inveraldie, Tealing, DD4 0QW



# 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 are 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're investing over £20 billion into our region's energy infrastructure this decade, with the potential for this to increase to over £30 billion. 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 smart phone 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 are 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're 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)

# The Pathway to 2030

**Building the energy system for the future will require delivery of significant infrastructure over the next few years. In partnership with the UK and Scottish governments, we are committed to meeting our obligation of connecting new, renewable energy to where it's needed by 2030.**

## Achieving Net Zero

By 2030, both the UK and Scottish governments are targeting an expansion in offshore wind generation of 50GW and 11GW respectively. The Scottish Government has also set ambitious targets for an additional 12GW of onshore wind by 2030.

Across Great Britain, including the north of Scotland, there needs to be a significant increase in the capacity of the onshore electricity transmission infrastructure to deliver these 2030 targets and a pathway to net zero.

## Securing our energy future

And it's not just about net zero. It's also about building a homegrown energy system, so that geopolitical turmoil around the world doesn't severely impact the UK and push up energy prices.

The UK Government's British Energy Security Strategy further underlines the need for this infrastructure, setting out plans to accelerate homegrown power for greater energy independence. The strategy aims to reduce the UK's dependence on and price exposure to global gas wholesale markets through the deployment of homegrown low carbon electricity generation supported by robust electricity network infrastructure.

## Meeting our 2030 targets

In July 2022, the National Energy System Operator (NESO) published the Pathway to 2030 Holistic Network Design (HND). This set out the blueprint for the onshore and offshore transmission infrastructure that's required to support the forecasted growth in the UK's renewable electricity.

It's an ambitious plan that will help the UK achieve net zero.

## What does this mean for the East of Scotland?

The East of Scotland will play a key role in meeting these goals. The extensive studies that informed the NESO's Pathway to 2030 HND confirmed the requirement to increase the power transfer capacity of the onshore corridor from Kintore to Tealing.

This requires a 400kV connection between these sites to enable the significant capability needed to take power from onshore and large scale offshore renewable generation, connecting on the East Coast of Scotland before transporting power to areas of demand.

As part of these plans, we are proposing to build a new 400kV overhead line (OHL) between Kintore and Tealing. This also requires two new 400kV substations to be constructed in Fetteresso Forest (Hurlie) and Tealing (Emmock) which the new OHL will connect into and enable future connections and export routes to areas of demand.

In addition, two of the existing 275kV OHLs out of the existing Tealing substation to Alyth and Westfield require upgrades to 400kV operation and to be connected to the proposed new Emmock 400kV site.

These five projects, collectively are called the Kintore to Tealing 400kV projects, and are critical to enable the delivery of the UK and Scottish Government's targets.

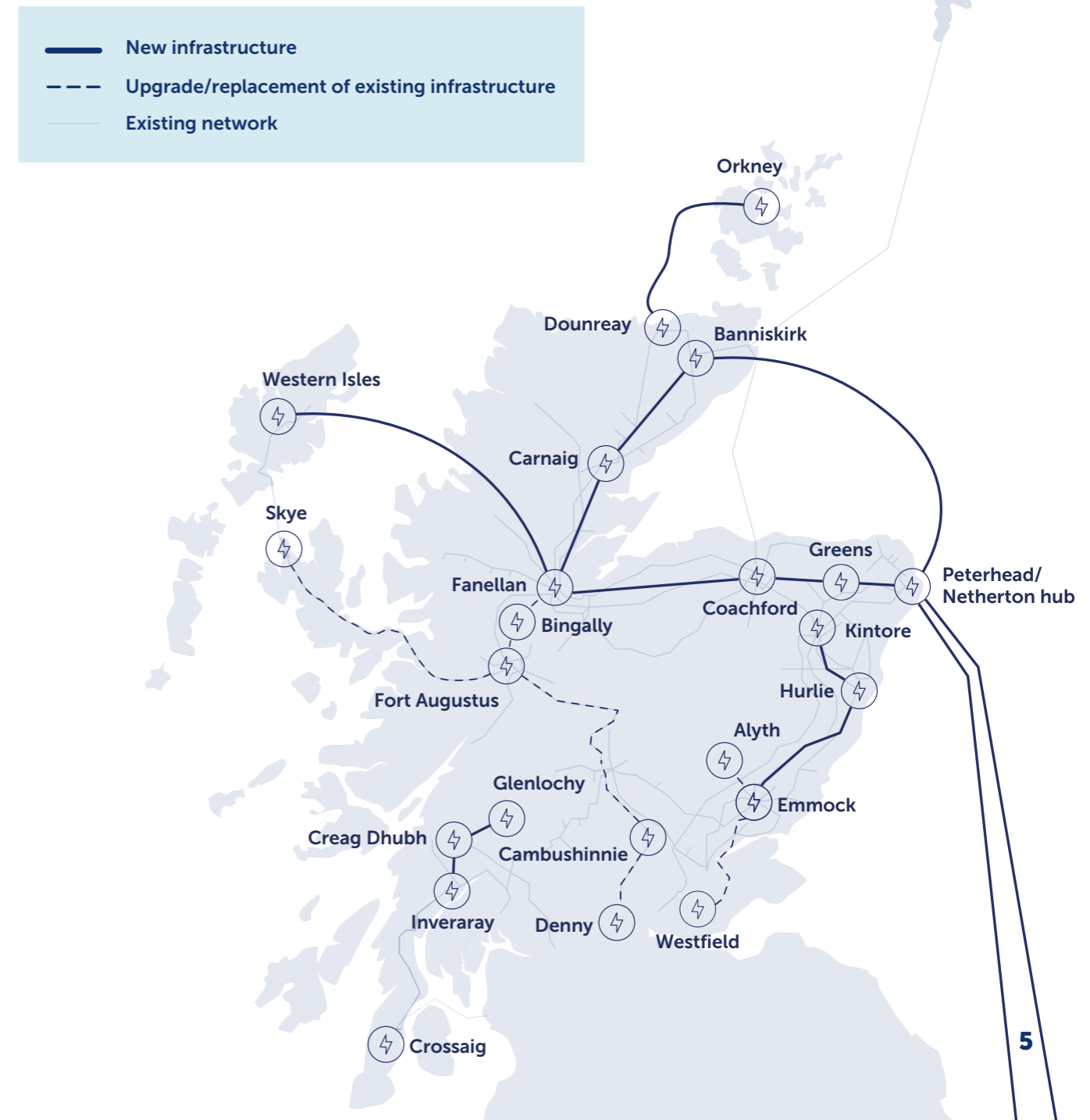
## Future network investment requirements

To deliver energy security and net zero, further investment in new low carbon electricity generation and the enabling electricity transmission network infrastructure will be required across Great Britain, including the north of Scotland.

In March 2024, the independent National Energy System Operator (NESO) published its 'Beyond 2030' report, which confirmed the need for several new, replacement and upgraded transmission infrastructure projects in the north of Scotland. In December 2024, Ofgem approved the next phase of regulatory funding to take these projects through the development phase.

These additional investments will soon be subject to extensive public consultation and engagement to help inform their development, with early development activity, consultation and engagement expected to take place within 2025.

Additional regional investments are also likely to be required to deliver the UK Government's Clean Power 2030 ambition. Further details on these will be communicated once the need and scope for these investments has been established.





# About the Kintore – Tealing 400kV projects

**We are leading on the delivery of critical infrastructure projects to power change in the UK and Scotland. To support the delivery of 2030 offshore wind targets set by the UK and Scottish Governments, and to power local communities, we need to upgrade our existing network. In some key areas, we need to develop entirely new infrastructure.**

The Kintore – Tealing 400kV project consists of five key onshore projects comprising of works to develop new infrastructure and upgrade existing infrastructure in both SSEN Transmission and Scottish Power Transmission's areas. Due to the criticality of these works, there is a requirement for accelerated development and delivery to meet the 2030 connection dates.

## Kintore – Tealing 400kV OHL connection

This project spans a significant length of the North East of Scotland and will involve the construction of a new 400kV overhead line between new proposed substations near Tealing (Emmock), Fetteresso Forrest (Hurlie) and Kintore (Existing Kintore substation).

The connection will be delivered via an overhead line of steel lattice towers (commonly referred to as pylons) likely to average around 57m in height, with the overhead line spanning a total length of approx. 106km. This is split into two sections:

- Approximately 35km between the 400kV substation currently under construction at Kintore and the proposed new 400kV Hurlie substation.
- Approximately 72km between Hurlie and the proposed new 400kV Emmock substation.

Since the project was first consulted on in May 2023, our project team have been working to refine our proposals, considering feedback from local stakeholders and we are now able to share our Proposed Alignment. This is the alignment option that we will look to take forward to the consent application (Section 37) that will be submitted to the Energy Consents Unit (ECU) of the Scottish Government.

## Hurlie 400kV substation

A new 400kV substation, known as Hurlie, is located near the existing substation in Fetteresso Forest to provide a connection for the new proposed Kintore – Tealing 400kV OHL.

The planning application for Hurlie was submitted to Aberdeenshire Council in December 2024 (APP/2024/1951).

## Emmock 400kV substation

A new 400kV substation is essential to enable the connection of the proposed Kintore – Tealing 400kV OHL as well as allowing the upgraded Alyth – Tealing and Tealing – Westfield OHLs to connect at 400kV. Tealing has been selected as the preferred area as it reuses existing infrastructure via Westfield and Alyth down to Kincardine that can be upgraded to 400kV operation.

A new substation site near Tealing, close to the existing Tealing substation, minimises the requirement for new infrastructure.

The planning application for Emmock was submitted to Angus Council in November 2024 (24/00699/FULN).

## Upgrade to 400kV for Alyth – Tealing and Tealing – Westfield OHL

To support the increased capacity from the proposed Kintore - Tealing 400kV OHL, the export routes to areas of demand must be upgraded to 400kV. This means the existing Alyth - Tealing and Tealing - Westfield OHLs, which currently operate at 275kV need to be upgraded to operate at 400kV. This is known as 'reconductoring' and is achieved by replacing the existing conductors with larger capacity conductors and other associated fittings. This will require other elements of works including access track construction and foundation upgrades. Once upgraded, these lines will connect into the proposed new 400kV substation at Tealing (Emmock).

Section 37 applications have been submitted for both upgrade projects to the ECU in November 2024 (Alyth – Tealing 400kV Upgrade ECU Ref. ECU00005167 & Tealing – Westfield 400kV Upgrade ECU Ref. ECU00005168).

# Emmock and Tealing Section 37 tie-ins

**The Emmock and Tealing tie-ins comprise the diversion of short sections of the Alyth to Tealing (A-T OHL) and Tealing to Westfield (T-W OHL) 275kV OHLs, which currently connect at their eastern extent with the existing Tealing 275kV substation, to connect with the proposed Emmock 400kV substation.**

Consent for this work will be applied for via a standalone Section 37 application under the Electricity Act 1989 to Scottish Ministers. Consent is also sought under the same application for the installation of two short sections of parallel 275kV OHL 'tiebacks' between Emmock substation and Tealing substation.

The project is essential to the completion of the Kintore to Tealing projects, as it would provide the tie-ins for the reconducted A-T OHL and T-W OHL to the proposed Emmock substation as part of the upgraded 400kV transmission infrastructure. This would allow power to keep flowing whilst the wider upgrade works are undertaken.

The key issues arising from this project are likely to be landscape and visual and cumulative impacts arising from the other proposed electrical infrastructure in the area.

An Environmental Impact Assessment (EIA) Screening Request was submitted in August 2024 and response received in November 2024 confirming an EIA would be required to be undertaken as part of the Section 37 submission. This is expected to be submitted in summer 2025. It is anticipated a decision will be made later this year and we expect to commence construction in relation to these elements in 2026.

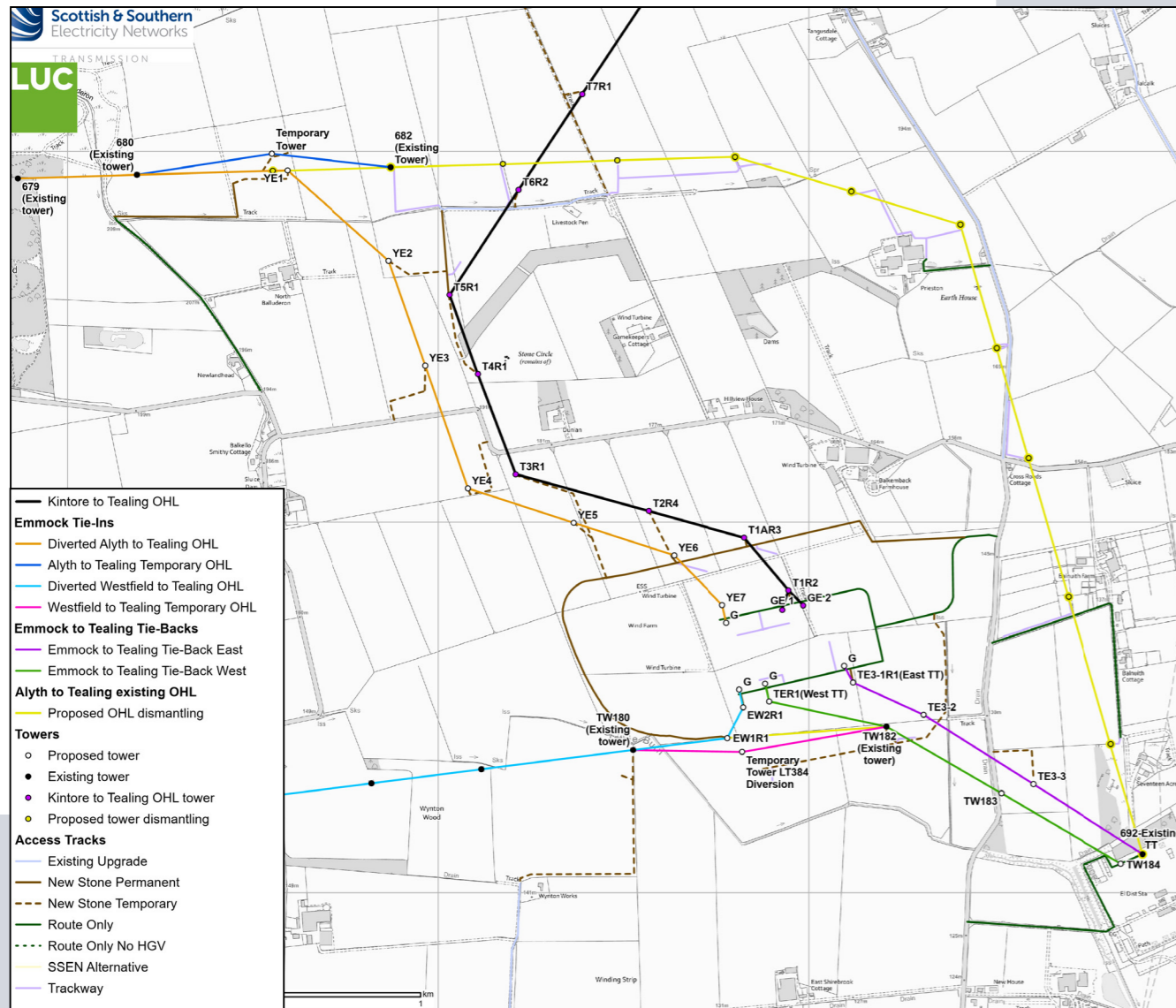
Key feedback from consultees in relation to the tie ins is highlighted in the following pages.



## Emmock and Tealing Section 37 tie-ins

### Feedback

There was limited specific feedback provided on the scope of the tie-in application. However, it is noted that comments on this section of the project was provided in the overarching feedback to the wider project, specifically in relation to section A. This feedback and our response to it is covered in detail in Table 3.5 in the [Alignment Selection Report on Consultation](#) published January 2025.



## Feedback table (Emmock and Tealing Section 37 tie-ins)

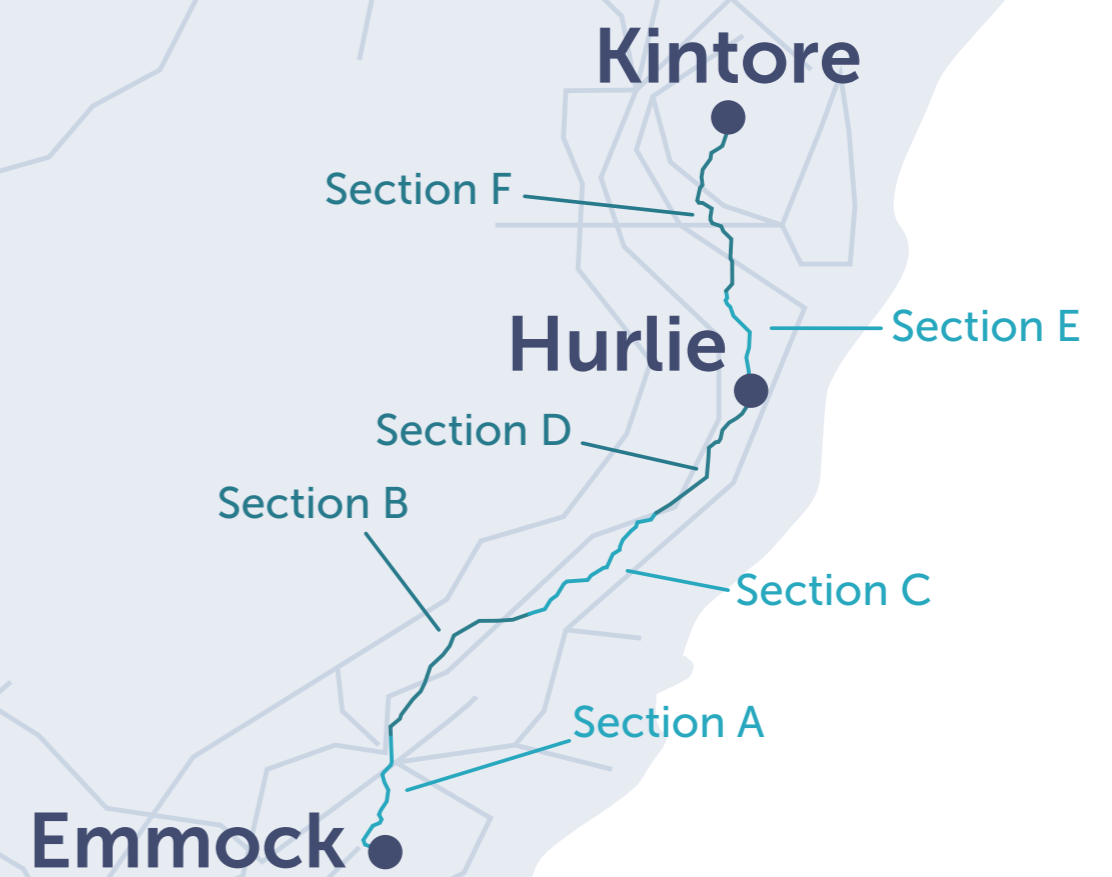
| Feedback  | Response  |
|---|---|
| <p><b>Impacts on Scheduled Monuments</b></p> <p>There are 9 scheduled monuments within 3km of the proposed development which the development could have an impact on.</p>         | <p>Whilst there will be some impact on the setting for some of the referenced scheduled monuments in the immediate vicinity of the proposed development, there will be no direct impacts on these assets either through construction or operation of the OHL's.</p>   |
| <p><b>Impacts on views</b></p> <p>Many attendees have highlighted concerns about the impact the proposed development will have on views around Tealing from their properties.</p> | <p>At this stage the alignment for the route is now fixed, however there is the opportunity for further refinement to limit impacts further within the Limit of Deviation which will be applied for. This LoD will allow for micro siting in specific circumstances to help alleviate impacts as far as is practical and reasonable.</p>  |
| <p><b>Impacts on Birds</b></p> <p>Potential impacts have been highlighted by consultees in relation to sites designated for various bird species.</p>                             | <p>Impacts on bird species will be limited and where there is the potential for impacts this has been addressed through mitigation by design through the development for the alignment and applied mitigation through things like screening, planting and specific mitigation through a Breeding Bird Protection Plan all of which will be agreed with the relevant consultees prior to construction.</p> |



# Project location

Our overhead line project spans around 106km and throughout the development of the project, we have presented the project within six sections, to allow you to focus and comment on the areas of most interest to you.

| Section | Location                   |
|---------|----------------------------|
| A       | Tealing (Emmock) to Forfar |
| B       | Forfar to Brechin          |
| C       | Brechin to Laurencekirk    |
| D       | Laurencekirk to Hurlie     |
| E       | Hurlie to River Dee        |
| F       | River Dee to Kintore       |



### Consult our maps

We have split our maps into sections so that you can refer to the areas of most interest to you in clearer detail. Copies will be available at the events to take away with you, or alternatively, you can download the copies you need from our project webpage.

# The story so far

## May – Jul 23



We first introduced this project in May 2023, consulting on corridors and route options.

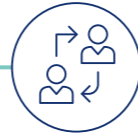
The consultation closed on 20 July 2023, with **3,236** written responses received.

## Dec 23



We published a Report on Consultation on the combined corridor and route section consultation and to document how the routes being taken forward to the next stage have been informed by this process.

## Mar 24



After refining our proposals, we held public consultations where we presented new route options in Sections D, E and F following the change in location of Hurlie 400kV substation. We requested feedback on these potential route options and further updates to the refined routes.

## Apr/Aug 24



The consultation closed on 30 April 2024, with **1,610** written responses received.

We published a Report on Consultation in August 2024 confirming the proposed route options being taken forward to alignment and detailing how consultation has informed this process.

## Sept – Oct 24



We held a further series of public consultations where we presented our potential alignment options as well as alternative alignment options in some sections and sought feedback on these proposals.

The consultation closed on 21 November 2024, with **872** written responses received.

## Jan – Mar 25



Following consideration of the feedback received during our 2024 engagement and further studies and survey work, we published our Alignment Selection Report on Consultation in January 2025. Within the Alignment Selection Report on Consultation, we confirmed the Proposed Alignment that we will look to take forward in our consent application.

Final pre-application consultation (PAC) events will be held in February/March 2025.

## Why we are here today

We are at the alignment stage of the development of our Kintore to Tealing 400kV Overhead Line project and have identified the Proposed Alignment we are taking forward to further develop and submit as part of an application for consent. The Proposed Alignment has been refined from the various options that we have investigated during the development of the project.

We are implementing the Scottish Government's Best Practice Guidance which can be found [here](#) for pre-application consultation with stakeholders who may be affected by our development proposals. The pre-application consultation comprises two consultation events that should be held in advance of applying for Section 37 consent.

Our first event was held in September 2024, where we presented the Potential (preferred) and Alternative Alignment options. Following that event we considered stakeholder feedback, completed further survey and review of our appraisals, and identified the Proposed Alignment, which is the alignment we intend to take forward to a Section 37 application.

This second event presents further detail on the Proposed Alignment and provides feedback to stakeholders in respect of comments they have provided on the proposals. The feedback is also provided in the Alignment Selection Report on Consultation.

Prior to the pre-application consultations, we have held consultations (during 2023 and 2024) on the corridor and routing stages of our project development. These consultations were in addition to the pre-application consultation events and the feedback received has been fundamental in shaping the design of the Proposed Alignment that we are now presenting.

We will provide updated 3D visualisations and maps to show what the proposed overhead line will look like and where it will be located. These are available to view and download from our project website: [ssen-transmission.co.uk/TKUP](https://ssen-transmission.co.uk/TKUP)

We want to know if you have any further comments in relation to how we have responded to feedback and how you would like us to best engage with you in the future, prior to the submission of our Section 37 application.

**It should be noted that our alignment proposals presented at this event are the result of extensive engagement and project design, as such, there is limited scope to make significant changes to the proposals at this stage.**

## Working with you

The work we have planned is significant and has the potential to deliver wide ranging benefits in your community, Scotland, and beyond. We know that delivering our projects will require a lot of work that has the potential to impact on you. That's why we want to work with you at every step of the way throughout the planning and delivery stages of these essential works. We are committed to ensuring a meaningful engagement 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. We appreciate all feedback received to date which has been analysed by the project team. Feedback has been actioned where constraints allow.

A more detailed appraisal of feedback regarding our alignment, can be accessed via our Alignment Selection Report on Consultation, published January 2025.



Scan the QR code to access our Report on Consultation (ROC)



# Selecting an alignment

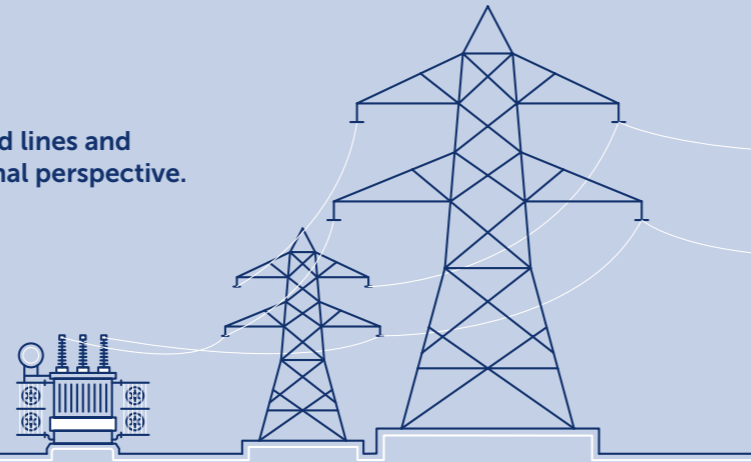
The consideration of alignment options and design solutions brings together work by four main disciplines:

## Engineering Team

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

Key considerations include:

- Infrastructure crossings
- Environmental design
- Ground conditions
- Accessibility
- Proximity to existing infrastructure and properties



## Communities Team

Who work with communities and make sure that their feedback during the consultation process is closely considered during project refinement.

Key considerations include:

- Community engagement
- Consultation responses review
- Recreational areas and areas of local interest



## Land Team

Who engage with landowners to identify key land use constraints.

Key considerations include:

- Landowner engagement
- Mitigating effects of infrastructure on land and properties
- Reaching land agreements



## Environmental Team

Who identify key environmental, community and social constraints along the routes which the new infrastructure could impact upon.

Key considerations include:

- Engagement with statutory consultees and planning authorities
- Results of specialist environmental surveys including archaeology, ornithology, ecology, geology and hydrology
- International environmental designations including Special Areas of Conservation (SACs - designated for habitats), Special Protected Areas (SPAs - designated for bird species), Sites of Special Scientific Interest (SSSI), Ramsar sites (wetlands of international importance identified under the terms of the Ramsar Convention) and World Heritage Sites
- National designations including Scheduled Monuments, Listed Buildings, National Scenic areas, National Nature Reserves, Gardens and Designed Landscapes
- Regional environmental sensitivities including Wild Land Areas and Special Landscape Areas
- Local environmental aspects including visual amenity, local and RSPB nature reserves, recreation uses



## Striking a balance

When selecting an alignment, we need to carefully balance key considerations relating to engineering, environment, cost and social aspects, in each section of the overhead line route.

We then consider the likely effect and level of impact of each consideration, which will vary from section to section.

This can be based on how populated the area is, the outcomes of environmental and engineering surveys, the presence of peat, the local water environment, if there is existing infrastructure we need to avoid, if the effects on land and property can be mitigated and if a constructable alignment can be identified.

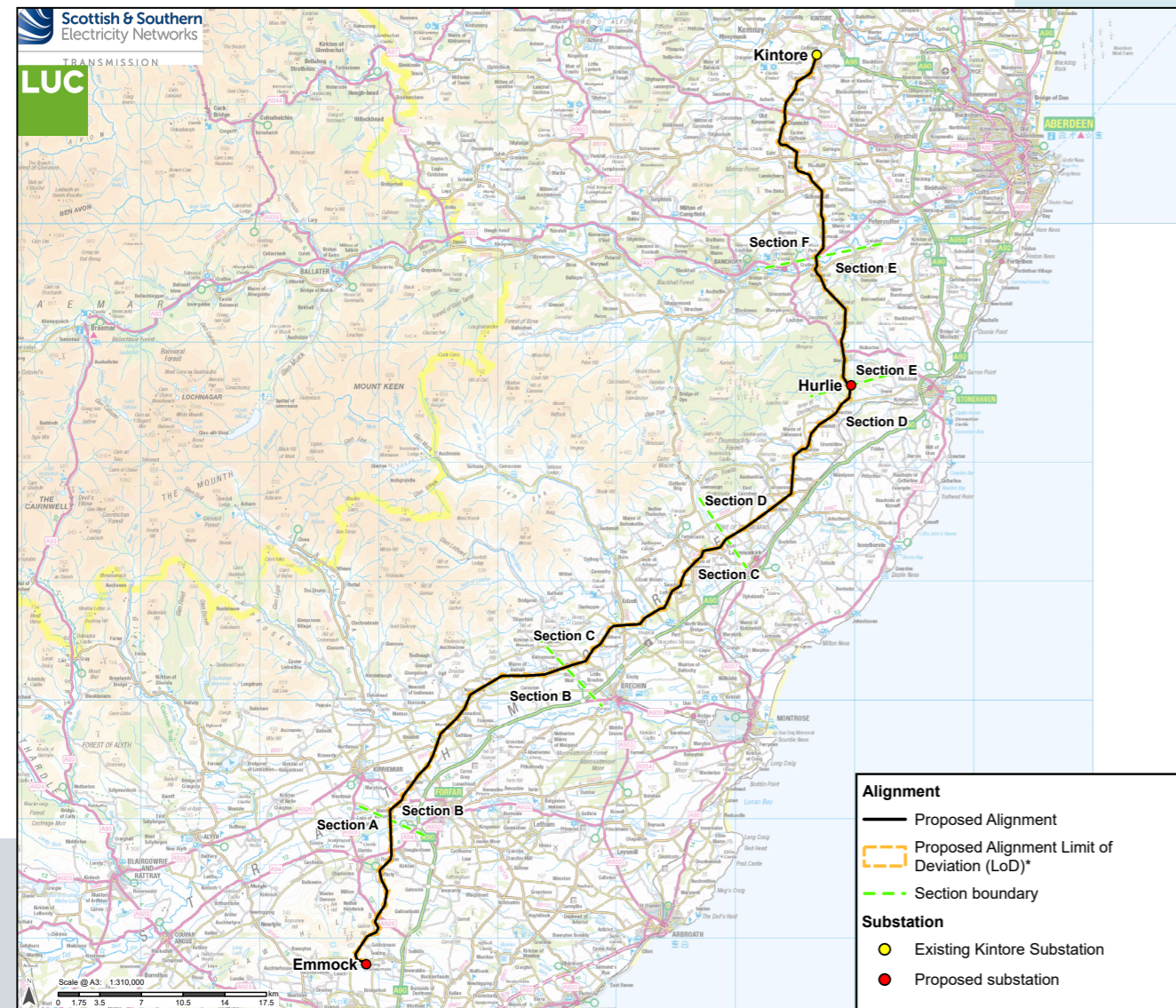
Ultimately, we need to balance a range of factors and present the solution we consider most viable for consultation. We consulted on our Potential Alignment in September 2024 and have now confirmed the alignment option we are taking forward as the Proposed Alignment within our Alignment Selection Report on Consultation published January 2025.

Our Alignment Selection Report on Consultation documents the consultation responses received as part of our alignment consultation process for the project and where appropriate, shows how the Proposed Alignment being taken forward to consent has been informed by this process. This can be downloaded from the project webpage or viewed during the events.

You can download our Alignment Maps, Alignment Consultation Document from our website: [ssen-transmission.co.uk/TKUP](https://ssen-transmission.co.uk/TKUP)



# Proposed Alignment overview



# The consenting process

The legislation governing the consenting of overhead line (OHL) projects in Scotland is the Electricity Act 1989. Applications for consent to construct and operate new overhead lines are made under Section 37 of this Act and are referred to as "Section 37 Consents".

The Section 37 application will be accompanied by an Environmental Impact Assessment (EIA) Report, as well as standalone reports such as a planning statement, and detailed design drawings. A Pre-Application Consultation (PAC) Report will also be provided, and this will provide details of the public and stakeholder consultation undertaken, a summary of the feedback received, and our response to that feedback.

**We plan to submit our Section 37 application to the Scottish Government's Energy Consents Unit (ECU) in Spring 2025.**

Once an application for consent has been submitted, all documents relating to the submission will be made publicly available on the ECU portal and our own website. Printed copies will also be available at publicly accessible locations. There will be an opportunity for the public to make formal representations to the ECU before a recommendation is made by them to the Scottish Ministers for a decision.

**Please note that feedback provided as part of this final alignment consultation event are not formal representations to the Energy Consents Unit (ECU). Once an application for consent has been submitted, there will be an opportunity for the public to make formal representations to the ECU before it takes a decision.**

We will update stakeholders once the application for consent has been submitted and we will also publish newspaper advertisements to inform local communities and the general public of the applications being made to Scottish Ministers.

## Determining a Section 37 application and communicating outcomes

Section 37 applications are determined on a case-by-case basis by the Scottish Ministers.

We anticipate receiving a decision on the consent application within 12 months from the application date, however timescales may vary.

When a decision is made, the ECU will send us a decision notice, copying in the local planning authorities and other consultation bodies. The decision notice is a record of the reasons for the decision and, if consent is granted, it contains the conditions that must be satisfied in order to implement the consent.

The ECU and local planning authority will publish the decision notice via their own channels, and we must publicise the outcome on our website, in the Edinburgh Gazette, and in a local newspaper. We will also communicate the decision by mainstream media and other various means, including email updates to Elected Members and those signed up to project updates, social media, and press releases.



**Read more here about the Section 37 process here**



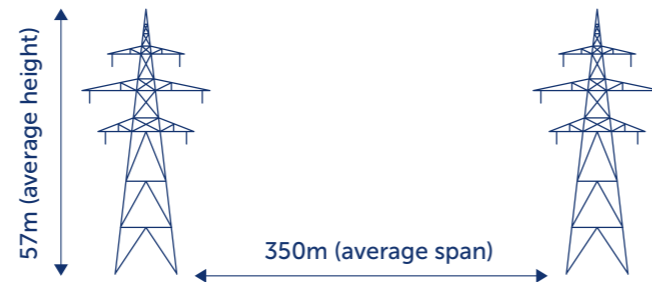
# About the overhead line

## 400kV double circuit overhead line

The required technology for the new Kintore – Tealing 400kV OHL connection has been determined to be a new double circuit 400kV HVAC (High Voltage Alternating Current) overhead line.

The overhead line would consist of steel lattice towers with an average height of approximately 57m which would support six conductor bundles on six cross arms and an earth wire between the peaks for lightning protection. The average distance between towers is expected to be 350m. Tower height and the distance between them will vary dependent on several factors such as altitude, climatic conditions and topography.

On the proposed Kintore - Tealing 400kV OHL, 55% of the towers are below 57m. Towers range from 49.5m in height to 69.6m in height. One tower, situated within Hurlie substation, is 72m to overcome the change in elevation.

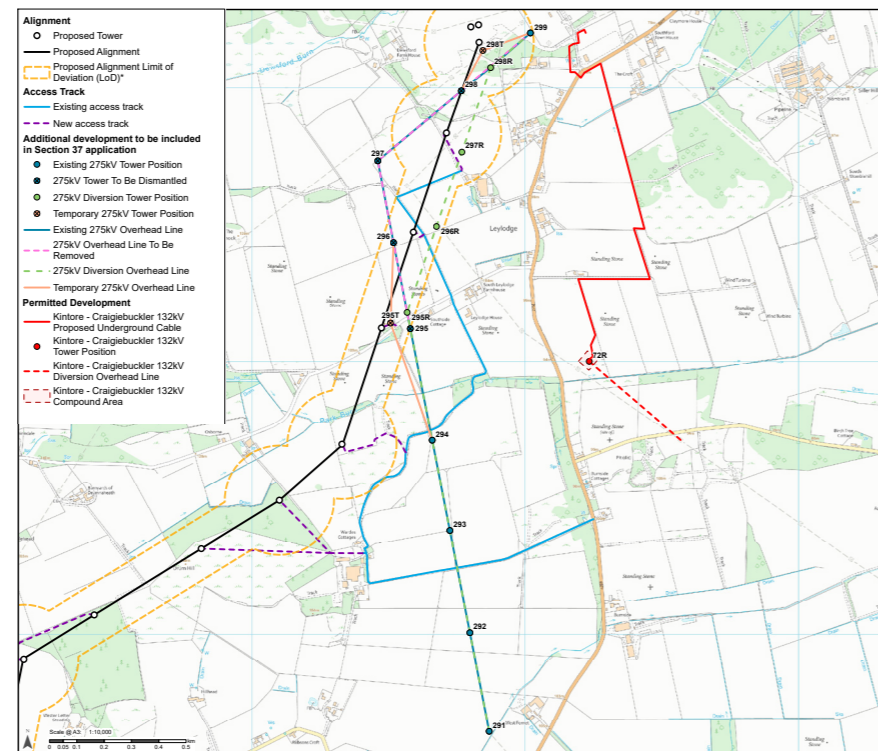


## Ancillary development

Additional works that will also be required as part of the construction of the new overhead line include the following:

- Upgrade of existing and creation of new access tracks, described in more detail on page 22;
- Vegetation clearance and management;
- Temporary working areas around the proposed tower locations to facilitate construction;
- At some tower locations, the formation of temporary flat areas from which the conductors (wires) will be pulled through during construction. These areas will contain earthed metal working surfaces referred to as Equipotential Zones (EPZs);
- Other temporary measures required during construction, such as measures to protect road, railway and water crossings during construction (e.g. scaffolding);
- Temporary construction compounds will also be required at locations along the overhead line route; The final location and design of temporary site compounds will be confirmed by our Contractor and separate planning consents will be sought as required.

## Works required around Kintore substation



## The challenges with undergrounding at 400kV

The environmental, technical, and operational constraints associated with undergrounding at 400kV make it extremely challenging to deliver in many areas of Scotland. For underground cables at this capacity, longer than 1-2km, additional substation infrastructure would also be needed, enlarging the project's footprint.

Underground cables at 400kV are estimated to be between 5 and 10 times more expensive than overhead lines, and since these costs are reflected in consumer bills, it is a factor that needs to be considered. To deliver the necessary capacity, up to 30 parallel cables will be required. To achieve the required spacing, a trench of over 40m wide would need to be excavated, typically between 1m and 7m deep. During construction, a working corridor of over 70m wide is required for cable installation. This can result in significant land use constraints, typically more so than overhead line construction activities, particularly for farming operations.

**BETWEEN  
5–10x**  
More expensive than  
overhead lines

**UP TO  
30**  
Parallel cables  
required

Trench of  
**OVER 40M  
WIDE AND  
1–7M DEEP**  
would need to  
be excavated

**OVER  
70M WIDE**  
working corridor,  
which can result  
in significant land  
use constraints

## Why the development cannot be placed offshore

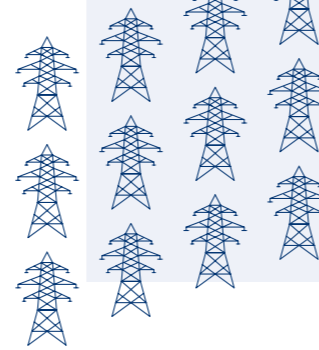
In its assessment of what is required to meet 2030 targets, the National Energy System Operator (NESO) concluded there is a need for both onshore and offshore projects. Overhead lines can carry roughly three times more power than subsea cables, making them more efficient and cost effective for energy bill payers, whilst technical challenges and constraints limit the use of only offshore solutions.

Moreover, onshore energy infrastructure helps support local electricity needs and improves the network's reliability across northern Scotland. Visit our Frequently Asked Questions page to find out more about our engineering and technology considerations including more details regarding underground and offshore cables: [ssen-transmission.co.uk/2030faqs](https://ssen-transmission.co.uk/2030faqs)

## Managing construction impacts

We are committed to minimising the impact of construction through avoiding potential issues by designing them out, undertaking thorough environmental assessments and working closely with the local community. Our focus includes mitigating effects, for example to people, biodiversity, water, soil, and traffic disturbances. A Construction Environment Management Plan will be set up, to ensure mitigation is put in place and its effectiveness is monitored throughout the construction phase.

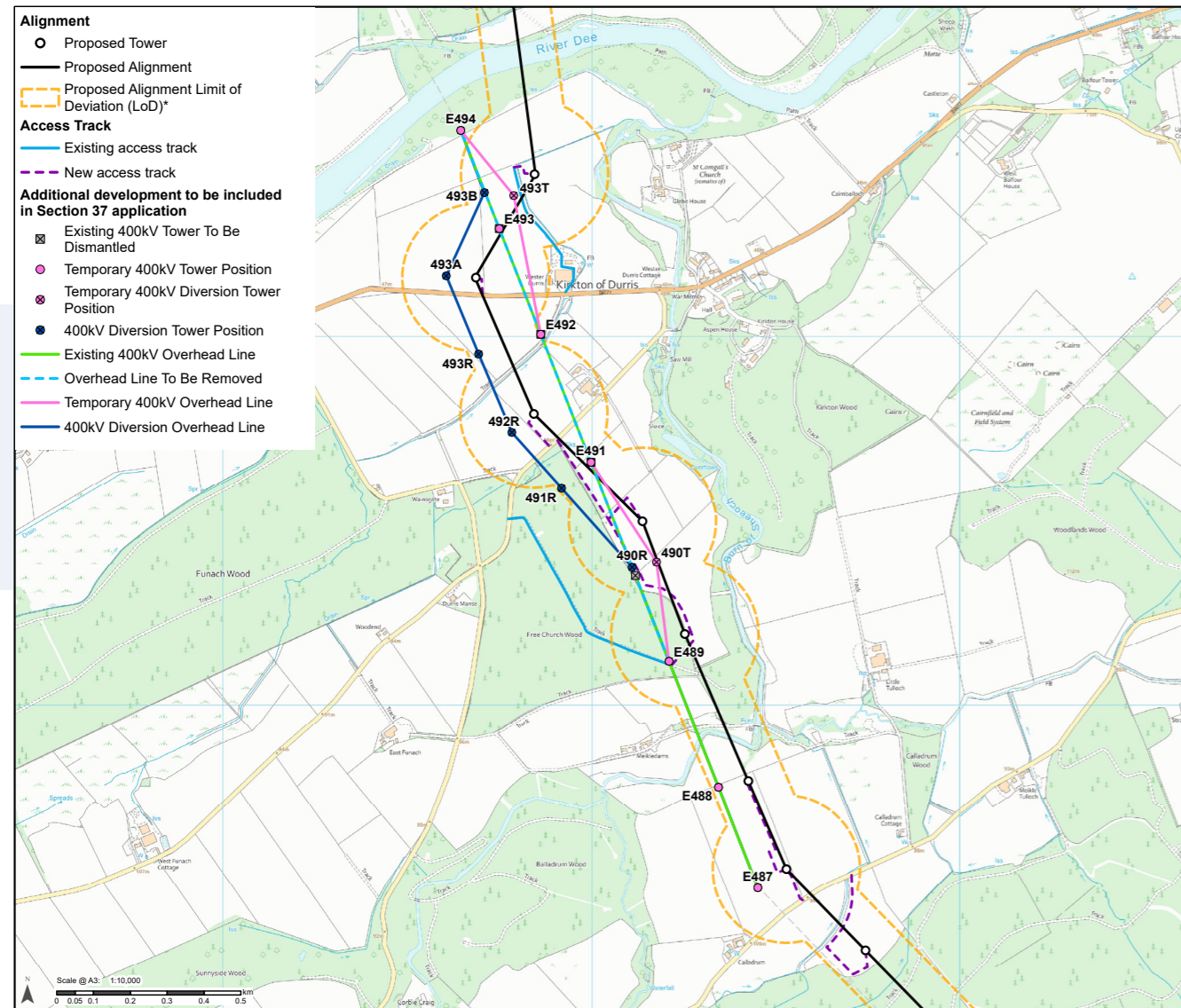
During construction, expected short-term impacts may include noise and traffic disruptions. Before starting, we will have a plan to manage these, including organising deliveries and travel to avoid busy times and sensitive areas. We will work closely with community groups and contractors to ensure adherence to mitigation measures. Typically, most project components will take around four years to complete, however these works will be phased across the length of the overhead line with bursts of activity and quiet periods.



# About the overhead line

## Permanent Diversion of Existing Transmission Infrastructure

To enable sufficient space for the new 400kV OHL to connect into Kintore 400kV substation, we are having to permanently divert two existing transmission OHLs. Similarly, to create sufficient clearance between properties and the existing Kintore – Fetteresso OHL, we are having to permanently divert a short section of the existing line. Details of these diversions are set out below.



## Permanent undergrounding of the Kintore – Craigiebuckler 132kV overhead line

Prior to installation of the proposed Kintore to Tealing 400kV Overhead Line, approximately 1.5km of the existing 132kV overhead line between Kintore substation and Craigiebuckler requires to be undergrounded near Kintore. This will involve the construction of a new compound, structure and associated substructures to underground the OHL. Following completion of this work, any redundant towers will be dismantled and removed. Tower removal is typically completed by cutting the tower legs and felling the tower in a controlled manner.

## Permanent realignment of the existing Kintore – Tealing 275kV overhead line south of Kintore

A 1.6km section of the existing Kintore - Tealing 275kV overhead line south of Kintore needs to be realigned slightly further south east, to allow space for the proposed 400kV overhead line to connect into the Kintore 400kV substation. The section of realigned overhead line will be constructed using a standard 275kV tower design, with an average height of 45m. Following construction and energisation of the realigned section of overhead line, the redundant section of the existing overhead line will be dismantled and removed.

## Permanent Realignment of the existing Kintore – Fetteresso 275/400kV overhead line west of Kirkton of Durris

A 2.4km section of the existing Kintore – Fetteresso 275/400kV OHL west of Kirkton of Durris needs to be realigned slightly further west, to allow space for the proposed 400kV whilst maintaining the property buffers defined by the project. The section of realigned overhead line will be constructed using a standard 275/400kV tower design, with an average height of 45m. Following construction and energisation of the realigned section of overhead line, the redundant section of the existing overhead line will be dismantled and removed.

## Temporary overhead line diversions

A number of temporary overhead line diversions will also be needed to enable the changes to existing overhead lines (realignments, diversions and crossings), to allow for continued operation of the electricity network during the construction works. It is currently anticipated that five temporary diversions will be required along the route of the overhead line, the locations of which are illustrated on the maps provided. Temporary diversions will require the construction of temporary towers, or poles, onto which the existing overhead line conductors (wires) will be moved. Once the main construction works have been completed, the temporary towers will be dismantled and the surrounding areas reinstated.



### Existing overhead line crossings

Where the proposed 400kV overhead line crosses existing transmission infrastructure, either a 'diamond crossing' or 'duck under' tower arrangement will be used to allow the existing overhead line to pass underneath the proposed overhead line. For both types of crossing, the existing overhead line would be split into two single circuits, which would pass separately under the new overhead line using a flat formation (horizontal) tower.

For TKUP specifically, there is one 132kV transmission overhead line crossing, south of Echt. The proposed crossing follows the recommendations in the Pathway to 2030 FAQ's - Tower Crossings which provides an indicative visualisation of this arrangement.

Works will also be required to some existing distribution network infrastructure (voltages of 66kV and below) to facilitate safe working and operating conditions for the new overhead line. These works are likely to include short sections of undergrounding in the vicinity of the new overhead line, and will be undertaken by Scottish Hydro Electric Power Distribution (SHEPD).

### Limits of deviation

The Limits of Deviation (LoD) comprise an area which defines the practical limits within which micro-siting of the overhead line infrastructure and access tracks can be sited and construction can be undertaken within the terms of the Section 37 consent.

The location of the proposed tower positions, access tracks and associated temporary and permanent infrastructure (as illustrated on the maps provided) has been determined on the basis of environmental and technical considerations, including engineering analysis of ground conditions and suitability based on desk studies and site walkover surveys. Investigation of sub-surface and geotechnical conditions at the proposed tower locations has not yet been completed. It is therefore possible that individual tower locations, working areas and access tracks may be subject to minor changes in position post determination of the S37 application and completion of geotechnical investigations (referred to as micro-siting). To strike a balance between providing

certainty of the location of the proposed development and any environmental impacts, and the need for some flexibility over individual tower locations, the horizontal and vertical LoD need to be defined within which the proposed development will be constructed. No towers or working areas would be located outside the proposed LoD. As we develop our Environmental Impact Assessment (EIA) and undertake more detailed design work, we are working to identify the exact LoD required for the project, based on site-specific environmental constraints and engineering considerations. At this time, we have allowed for a horizontal LoD of up to 100m either side of the alignment centreline, extending to 200m around angle tower positions, where larger temporary working areas will be required. A vertical LoD of  $\pm 9m$  is likely to be sought for the proposed tower heights, to ensure that minimum statutory ground clearances can be maintained once further engineering design work has been completed.

### Operational corridor

The development of the Proposed Alignment has sought to avoid and minimise impacts on woodlands and forestry where possible, however due to the project area being heavily forested, impacts on forestry are unavoidable. Where the proposed overhead line alignment passes through areas of woodland and commercial forestry, an Operational Corridor is identified to ensure the safe operation of the overhead line. Trees are removed within the Operational Corridor to facilitate construction and ensure continued safe operation of the overhead line. The operational corridor width will typically be 45m either side of the overhead line centreline, but this may vary depending on the type of woodland/ forestry and local topography. This may be reduced where the OHL passes through broadleaved woodland subject to site specific checks. The required Operational Corridor through each area of woodland will be confirmed within our Section 37 consent application, following completion of ongoing woodland assessments. The construction of the project will result in a loss of woodland area. In accordance with the Scottish Government's Control of Woodland Removal Policy, we are committed to providing appropriate compensatory planting for any net loss of woodland. The extent, location and composition of compensatory planting will be agreed with Scottish Forestry.

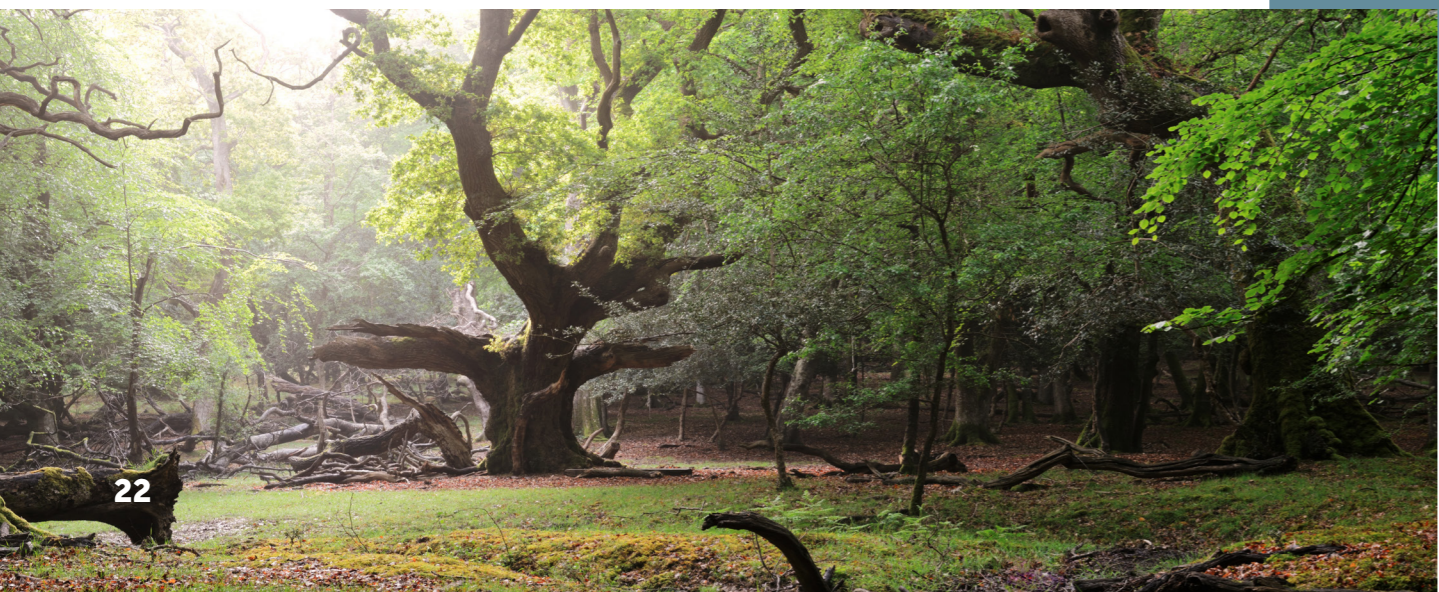
# Our access strategy

## Constructing and maintaining our overhead line

We are currently developing our access strategy, which considers access requirements for construction and maintenance of the overhead line. Access requirements have also informed the Proposed Alignment selection process, as a key engineering consideration. We are now determining the proposed access routes for each tower location to establish which existing access tracks can be used and which existing access tracks need to be upgraded alongside locations for the installation of new temporary or permanent access tracks. Maps showing our current plans for access are available and further information on our access strategy will be provided

in the EIA as part of the application for Section 37 consent. A detailed traffic and transport assessment will also form part of the EIA, which assesses potential impacts of construction traffic and the capacity of local roads to accommodate this traffic. A Construction Traffic Management Plan (CTMP) will be agreed with the local authorities prior to works commencing.

We have commissioned an experienced OHL contractor, enabling construction access considerations to be at the forefront of this stage in the design process.



The table below explains the different types of tracks that are typically considered and what they are required for.

| Type of access                 | What does it mean?  |
|--------------------------------|---|
| Existing tracks and bellmouths | In general, proposed construction site access would be taken via the existing public road network and would make use of existing forest and estate or farm tracks as far as practicable, upgraded as required. Existing bellmouths would be utilised where possible, subject to improvements. New bellmouths will be constructed, where required, to ensure safe entry and exit from an access track and the public road.   |
| Stone tracks                   | Typically, new temporary stone tracks are likely to be required to access each tower location. Stone tracks are designed for the heavy plant loads required for construction works for towers, and to suit the varied ground conditions along the route. On completion of construction, unless required for operational access, the stone tracks would be removed and the original material reinstated. Where access to tower positions is difficult due to steep terrain, or the presence of peat, alternative methods would be proposed such as floating access tracks, using smaller items of plant, specialist tracked plant, and in some cases using helicopters for moving materials.   |
| Helicopters                    | The use of helicopters for construction of steel lattice towers is feasible, however, the operational restrictions (e.g. weather, proximity to public roads and environmental factors), and the significant cost implications, for a project of this scale are key considerations. The use of helicopters is likely to be required in more remote sections of the project, and where particular environmental or geographical constraints necessitate their use. Where helicopters are used, construction plant would still require access to each tower location to facilitate construction and erection of towers.  |
| Public road improvements       | Public road improvements (PRI) will be required in some locations to facilitate construction traffic travelling along existing public roads. These works could include upgrades such as road widening, installation of temporary or permanent passing places, new or upgraded road junctions, and upgrades to or replacement of existing bridges. Further information on PRI works will be provided in the EIA as part of the application for Section 37 consent.   |
| Access tracks                  | Where operational access is required, this would likely range from All Terrain Vehicle (ATV) routes with no formal track, to stone road suitable for 4x4 and wagon access. The selection of the type of track required (whether it be temporary or permanent, existing upgraded tracks or new tracks) will consider the proximity to a public road, environmental impacts, structure type, required vehicle use, and potential maintenance activities, including vehicles required in future to a given location (taking health and safety requirements into account). General access track details will be included in the Environmental Impact Assessment (EIA) stage of the project and presented to illustrate where each access type will be deployed, and the rationale for that selection.         |
| Temporary trackways            | Temporary trackways are an alternative method of providing access, dependent on ground conditions. Although there may be localised areas where trackways may be suitable, it is not considered an appropriate solution for the construction of steel lattice towers on this project in its entirety, due to the length of time they are required to be in place and the weight and size of construction plant that would be required to track over them. Stone tracks generally afford greater reliability and stability compared to trackway solutions. Similarly, the extensive use of wide tracked excavators and other plant without prior ground preparation are unlikely to be a viable solution for this project in its entirety, although they may be used for certain tasks during construction. |

# Addressing feedback

## Consulting on the alignment

In September 2024, we launched our Alignment Consultation, seeking comment on the Potential Alignment and Alternative Alignment options identified for the new proposed Kintore to Tealing 400kV overhead line.

We sought comments from statutory authorities, key stakeholders, elected representatives, the public and landowners on the alignment selection process undertaken and the Potential Alignment and alternative alignments.

Comments received then informed further consideration of the Potential Alignment with a view to confirming a **Proposed Alignment** to be taken forward to consent application.

## Feedback

When we consulted in September 2024, we held events in **12 locations** along the length of the alignment between 23 September and 10 October. A total of **1,444** attendees were recorded.

During the 10 week feedback period, which closed on 21 November 2024, **872** written responses were received. This feedback was then analysed and reviewed by the project team to determine where changes could be considered.

Overall, feedback indicated support for the Government's Net Zero policy and energy security aims. In addition, respondents generally noted and understood the rationale behind our Pathway to 2030 programme as a way to help deliver on the Government's targets and aims. However, based on those that responded, feedback from the community was generally not supportive of the approach to delivering the Pathway to 2030 programme, or of the required 400kV OHL connection between Kintore and Tealing across the Potential Alignment in each of the Sections A – F and/or the eight Alternative Alignments. The feedback, on balance, did not significantly indicate that the alternative alignments presented were more favourable to the Potential Alignment (however, as indicated above, there was little support for the project to be taken forward as an OHL in general).

Following our consideration of the consultation feedback, further survey and review of our appraisals, no changes were made to the Potential Alignment, with the exception of Location 7 Schoolhill. At this location we have changed the Potential Alignment and will now take forward Alternative Alignment 7c.

As well as the change at Location 7, minor amendments to tower positions were implemented to the Potential Alignment based on consultation feedback. These changes are reflected in the Proposed Alignment and explained in the Alignment Selection Report on Consultation.

The Proposed Alignment to take forward to our Section 37 consent application can be viewed on page 16 and is available online [here](#).

We have included a summary of key feedback about our alignment received from communities, landowners and statutory stakeholders, alongside our response to this feedback in the following table.

## Our Report on Consultation (ROC)

A detailed appraisal of feedback received in response to our alignment as presented during the September–October 2024 consultation can be accessed via our Alignment Selection Report on Consultation, published January 2025. Scan the QR code to access our Report on Consultation.



Scan the QR code to access our Report on Consultation (ROC)

| Feedback   | Response  |
|--|---|
| <p><b>Section A</b></p> <p>There were various responses from stakeholders including landowners, members of the community and consultees. We have considered the feedback provided on the alternative alignments and reviewed the findings of the environmental, technical and cost appraisals which were presented in the Consultation Document. We have also taken into account relevant feedback from statutory consultees on the constraints for each alternative alignment including those relating to areas of population, archaeological resources, landscape character and natural heritage.</p> <p>For further detail please see the Report on Consultation.</p> | <p>Having reviewed consultation feedback for Location 1, we will take forward the Potential Alignment 1a identified in the Consultation Document as part of the Proposed Alignment in Section A.</p> <p>The design of the Potential Alignment near Upper Hayston has been adjusted to screen a proposed tower with existing trees, minimising its visibility from residential properties at Jericho. The proximity to properties for the alternatives has been reviewed, and the findings from the Consultation Document remain applicable.</p>   |
| <p><b>Section B</b></p> <p>Feedback on alternative alignments has been considered, and the findings from the environmental, technical, and cost appraisals in the Consultation Document have been reviewed. The proximity to properties for the alternatives has also been assessed, and the appraisal findings remain applicable.</p> <p>We have also taken into account relevant feedback from statutory consultees on the constraints for each alternative alignment including those relating to areas of population, cultural heritage designations, landscape character, visual amenity and natural heritage.</p>   | <p>After reviewing consultation feedback, including statutory consultee views, Potential Alignment 2a will be adopted for Section B. This alignment is preferred due to its potential to minimise tree loss in the Woodside LNCS woodland. It is considered slightly less constrained in terms of environmental and technical criteria and is the slightly lower cost option</p> <p>Having reviewing consultation feedback, Potential Alignment 3a will be adopted for Section B. This alignment is preferred due to its potential to minimise tree loss in the sensitive river crossing area (a designated SAC) and its fewer environmental and technical constraints.</p> <p>After reviewing consultation feedback, Potential Alignment 4a will be adopted for Section B. This alignment is preferred due to its ability to mitigate constraints related to LEPO woodland and avoid ecologically important wetland habitats. Despite having slightly higher environmental constraints than Alternative Alignment 4d, Alignment 4a is the least constrained overall, shortest in length, and lowest in cost.</p> |
| <p><b>Section C</b></p> <p>Feedback on the alignment location raised concerns regarding impacts on residential areas, Ancient Woodland, protected species, cultural heritage sites, high quality agricultural land, local infrastructure and flooding risks. suggestions included moving the overhead line away from communities and adding cycle paths and tree planting to reduce visual impact.</p>   | <p>Having reviewed consultation feedback for this alignment section we have made adjustments to the alignment. These have been shown in the ROC as deviations, we have also had micro-siting carried out to address the key issues of concern from feedback. In addition to this the proposed alignment was relocated up to 300m west to provide greater separation from area providing important habitat for protected species.</p>  |

| Feedback  | Response   |
|---|--|
| <p><b>Section D</b></p> <p>We have considered the feedback provided on the alternative alignments and reviewed the findings of the environmental, technical and cost appraisals which were presented in the Consultation Document. We have also taken into account relevant feedback from statutory consultees on the constraints for each alternative alignment including those relating to areas of population, archaeological resources, landscape character and natural heritage.</p>   | <p>Having reviewed consultation feedback for this alignment section we have adjusted the alignment. These have been shown in the ROC as deviations as well as micro-siting carried out. The proposed alignment was relocated up to 80m west for a distance of 3240m near Monboddoo and to provide greater separation from a major gas pipeline. We also moved the alignment 160m east of the Potential Alignment for a distance of 1130m near Elf Hill.</p>  |
| <p><b>Section E</b></p> <p>Residents in Drumoak and Durriss raised concerns about the overhead line's impact on communities, landscape, and proximity to schools, suggesting alternative routes to minimise these effects. Ecological issues included potential impacts on breeding raptors, protected sites like Fowlsheugh SPA, and migratory fish near the River Dee. Cultural heritage concerns were noted by HES and ACAS, highlighting potential impacts on features such as the Nether Auquhollie Standing Stone and Cairn-Mon-Earn cairn.</p>   | <p>Having reviewed consultation feedback for this alignment location, we will take forward the Potential Alignment 5a identified in the Consultation Document, as part of the Proposed Alignment in Sections E and F.</p> <p>The existing Kintore to Fetteresso OHL is to be relocated up to 190m west of its current alignment near Wester Durriss to provide space for the proposed alignment of the Kintore to Tealing OHL between the existing line and properties to the east. The proposed alignment has also been moved 110m to the west at a different part of the alignment.</p>  |
| <p><b>Section F</b></p> <p>Respondents expressed concerns about the overhead line's proximity to communities like Echt, Dunecht, and Drumoak, particularly near schools and woodland areas. They felt the 170m buffer was not being maintained, raising visual impact issues on Aberdeenshire countryside and wildlife. Cultural heritage concerns included potential impacts on sites like King's Well and Barmekin of Echt hillfort. Flooding risks were noted, with tree felling and construction potentially worsening the situation. Ecological impacts on local ecosystems, such as peat bogs and ancient woodlands, were highlighted, with specific sites like Loch of Skene SPA and Old Wood of Drum SSSI mentioned. Technical concerns involved the security of the overhead line near existing gas pipelines. Community benefits included suggestions for improving outdoor learning areas at Drumoak school and nursery.</p> | <p>After reviewing consultation feedback and recent design developments, Alternative Alignment 7c will be adopted for Section F. This decision is based on the determination that Potential Alignment 7a is not less constrained than 7c. Alternative Alignment 7c has fewer technical constraints, particularly regarding flood risk and interaction with a high-pressure gas pipeline. It also offers greater separation from residential properties near Quiddies Mill and Milton of Cullerlie, with similar environmental and cost constraints.</p> <p>After reviewing consultation feedback, Potential Alignment 8a will be adopted for Section F. This alignment is considered the least constrained OHL option overall and provides greater separation of the OHL from a larger number and density of residential properties, particularly at Echt, including a school.</p> |

# FAQs

Since we first consulted on the project in May 2023, the most common questions received have been regarding project need and technology choices. To fully address these questions and more, our Frequently Asked Questions webpage: [ssen-transmission.co.uk/2030faqs](https://ssen-transmission.co.uk/2030faqs). This provides further explanation and additional documents addressing these questions. We also address common themes and FAQs in the Report on Consultation published in January. We've also included some information addressing the chosen technology in our 'About the Kintore-Tealing 400kV projects' section of this booklet and information regarding the project requirement in the 'Pathway to 2030' pages.

In October, we hosted a webinar to outline the differences behind technology options regarding our Pathway to 2030 projects, titled '**Overground, underground, or subsea - how decisions are made on where electricity transmission lines go**'. The recording of the webinar can be accessed via the project webpage.

More recently, we've received some project specific questions in particular relating to the following topics:

| Question                      | Response   |
|-------------------------------|--|
| <b>Electromagnetic Fields</b> | <p>We develop, build, and operate our infrastructure to meet all health and safety legislation and guidance set by relevant bodies including the UK Government, Scottish Government, the Health and Safety Executive (HSE) and our regulator, Ofgem, including those associated with electric and magnetic fields (EMF). In respect of EMFs, we strictly follow the guidance as set by the UK Government, which in turn is informed by international guidance.</p> <p>As well as setting exposure limits that protect against known established effects of EMF, the UK Government's guidance also includes precautionary measures to protect against possible effects below the exposure limits that have not been established by science. In addition to this, the UK Health Security Agency and Department of Health have a remit to review new research in this area and ensure that current guidelines and policies are reflective of that research.</p> <p>The UK Government has a process in place to ensure that any emerging research is considered and that Government policies continue to be appropriate. The UK Government's latest policy on EMF is set out in National Policy Statement for Electricity Networks Infrastructure EN-5 (NPS EN-5) which was reissued in November 2023 by the Department for Energy Security and Net Zero, and which came into force on 17 January 2024.</p> <p>This latest policy is reflective of that review process. The current UK Government guidance, informed by relevant international guidance, is therefore still considered appropriate by the UK Government and their public health experts. We will comply with all EMF guidance as set out in the NPS EN-5.</p> <p>There have been over four decades of research looking into whether EMF can cause health effects and there are no established effects below the exposure limits. When we design our OHL, substations, and cables, we do so to ensure they will not exceed those exposure limits, even when operating at 100% capacity. We also ensure that precautionary measures are applied to the design where required. We will provide information on compliance as part of the consenting process, which will be publicly available.</p> |



**For more information on FAQs, please visit the project website here.**

| Question                                  | Response   |
|---|--|
|   | <p>The guidance we follow, which remains subject to ongoing review as required, ensures that safety measures will be applied to our 400 kV OHL infrastructure, protecting us all against EMF exposure and keeping our network safe for the public.</p> <p>A link is provided below to a leaflet prepared by SSEN Transmission to explain EMF and the separation distances we apply, along with a paper by the Energy Networks Association:</p> <ul style="list-style-type: none"> <li>• <b>EMF Leaflet</b></li> <li>• <b>Electric and Magnetic Fields – The facts</b></li> </ul>   |
| <b>Alternatives and Technology Choice</b> | <p>Many respondents to our consultation questioned the OHL technology choice, particularly why the infrastructure cannot all be installed subsea or underground, instead of OHL and steel lattice towers.</p> <p>Our approach to determining how the transmission network is developed is underpinned by our statutory obligations, as set out in the Electricity Act 1989. This requires us to balance technical, cost and environmental considerations and to select a proposed option 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. The option must also be capable of being granted consent by The Scottish Government's Energy Consents Unit (ECU).</p> <p>In its assessment of what is required to meet 2030 targets, NESO concluded there is a need for both onshore and offshore solutions. NESO's and Ofgem's independent assessment of need for the Pathway to 2030 programme was based on the technology choice of an OHL for the Kintore to Tealing connection.</p> <p><b>Upgrading Existing Overhead Line</b></p> <p>Where possible, SSEN Transmission's preference is to upgrade the existing network to meet current and future energy demands. This is evidenced by the current East Coast 400kV Upgrade project, and the work proposed to the existing Alyth to Tealing and Tealing to Westfield OHL to upgrade these from 275kV to operate at 400kV projects.</p> <p>However, upgrading from 275 kV to 400 kV requires higher statutory clearances to ensure safe operation of the OHL, and typically, larger conductors are required to transfer higher amounts of power. Upgrades to existing OHLs are not always possible if we cannot achieve those statutory clearances, or if larger conductors result in loads exceeding that of the existing tower structure's capabilities. Where a transmission line already exists, it does not necessarily mean that it would be appropriate to build a new one next to it, as there are many considerations as to why this may not be possible. Sometimes, there is no space for new infrastructure due to existing constraints, including proximity to homes. However, in some areas, it is possible to place new OHL near the existing ones. These aspects are considered in the design development phases of our projects.</p> <p><b>Subsea Cables</b></p> <p>OHLs can carry roughly three times more power than subsea cables, making them more efficient and cost effective for energy bill payers. Technical challenges and constraints limit the use of subsea cables as a single solution. Moreover, onshore reinforcements help support local electricity needs and improve the network's reliability across northern Scotland.</p> |

| Question | Response  |
|----------|---|
|          | <p><b>Underground Cabling</b></p> <p>Underground cabling is highly sensitive to ground conditions and terrain. There can be significant and lasting environmental impacts and future land use constraints associated with underground cabling; together with the technical challenges of operating, maintaining and in the event of a fault, restoring power.</p> <p>The environmental, technical, and operational constraints associated with underground cabling at 400 kV make this option extremely challenging to deliver in many areas of Scotland. Some of the challenges that contribute to this position include:</p> <ul style="list-style-type: none"> <li>• <b>Technical Limitations:</b> Underground cables need specific ground conditions and present challenges for maintenance and power restoration, especially if faults occur.</li> <li>• <b>Environmental Impact:</b> Underground cabling can have lasting environmental effects, such as impacts on habitats and hydrology, and the area required for laying cables needs to be kept clear from significant construction or vegetation for easy access during construction and repairs.</li> <li>• <b>Terrain Concerns:</b> The region’s terrain often has slopes and finding a suitable route for underground cables without challenges is extremely difficult.</li> <li>• <b>Infrastructure Needs:</b> For underground cables longer than 1-2 km, additional substation infrastructure would be needed, enlarging the project’s footprint.</li> <li>• <b>Operational Needs:</b> Restoring power in the event of a cable fault can take significantly longer than for an OHL. Faults on OHL can typically take a few hours to a few days to repair and are generally easy to locate. Underground cable faults often require extensive works, specialist resources, tools and equipment to locate the fault, followed by significant civil engineering works to expose the damage and replace the damaged section, after which it can take up to a month to carry out the repairs. This presents significant risks to security of supply and network reliability. It also impacts our ability to meet our licence obligations of maintaining an efficient transmission network.</li> <li>• <b>Cost:</b> Underground cables at 400 kV are estimated to be between 5 and 10 times more expensive than OHLs, and since these costs are reflected in consumer bills, it is a factor that needs to be considered.</li> </ul> <p>Even if technically feasible, underground cables over a significant length, or the entirety, of a project would be unreasonable as it would be contrary to our licence obligations to be economical and efficient in respect of additional costs to the end consumer, while presenting an additional risk to the electricity transmission network in the event of cable failure and consequent outages.</p> <p>Given these constraints and our responsibility for an economical and efficient transmission network, OHLs are our main choice for the Kintore to Tealing connection. Where there is a clear evidence base to justify underground cables, this will be carefully considered.</p> <p>In October 2024, we hosted a webinar entitled ‘Underground, overground or subsea? How decisions are made on where electricity lines go’. This webinar provided detailed information regarding the decision making process for technology choices, a recording of this webinar is available via this link: <a href="#">Overground, underground, or subsea - how decisions are made on where electricity transmission lines go</a></p> |

| Question                     | Response  |
|------------------------------|---|
|                              | <p>Links are provided below to papers which have been prepared to explain why we need both onshore and offshore solutions and the difficulties with developing underground 400kV transmission:</p> <ul style="list-style-type: none"> <li>• <b>Why the Pathway to 2030 projects require both onshore and offshore solutions</b></li> <li>• <b>The challenges with undergrounding at 400kV</b></li> </ul> <p>UK Government’s policy and clear presumption for OHL was reaffirmed as part of the UK Government’s Clean Power 2030 Action Plan published in December 2024.</p>   |
| <b>Cumulative Impact</b>     | <p>The Environmental Impact Assessment will consider the cumulative impacts of the Proposed Development along with the proposed Hurlie and Emmock substations and the OHL upgrades and Emmock tie-ins and will also consider the potential for cumulative impacts arising in combination with other planned electricity transmission connections, and other planned developments where impacts are predicted. The findings of the cumulative assessment will be set out in the Environmental Impact Assessment Report.</p>  |
| <b>Property Impacts</b>      | <p>SSEN Transmission will seek to mitigate impacts on land and properties as far as possible and these impacts will be assessed as part of the EIAR that will accompany our Section 37 application. Extensive surveys will be carried out at identified receptors, including selected residential properties, so that we are able to model potential impacts on the wider area.</p> <p>If mitigation is not possible, assessment of compensation for the impacts on property will be managed through the applicable legal frameworks.</p> <p>Concerns in relation to impacts on property are being noted by our team however, as a regulated business, SSEN Transmission is obliged to follow a statutory legal framework under the Electricity Act 1989 and Land Compensation Act 1963. If you are entitled to compensation we will assess any claim on a case-by-case basis under the direction of this legal framework.</p> <p>If you are entitled to compensation, we will recommend that you engage a professional adviser and SSEN Transmission will generally meet reasonably incurred professional fees in these circumstances. However, for the avoidance of doubt, we should advise that SSEN Transmission will not meet fees incurred in objecting to our proposed developments.</p>   |
| <b>Environmental Impacts</b> | <p>As one of the greatest risks to our natural environment and biodiversity is climate change, the Proposed Development is part of the solution to tackle the climate emergency and deliver net zero emissions in Scotland and across the United Kingdom.</p> <p>However, we do recognise that in delivering the Proposed Development there will be unavoidable impacts, and we would like to reassure stakeholders that we take our environmental responsibilities extremely seriously.</p> <p>To deliver our projects in the most sensitive way possible we ensure environmental factors are considered at every stage in the development of each project, along with technical requirements and economic considerations. We follow the mitigation hierarchy by firstly seeking to avoid sensitive areas wherever possible and secondly, where impacts are likely to occur, we seek to minimise these, provide mitigation and identify opportunities to restore.</p> <p>Our environmental teams are embedded in the project development process to consider and consult upon the most suitable OHL route from the very start, using well established data sets and additional detailed survey work. To aid our selection process we have developed an iterative constraints analysis and mapping programme to consider all known environmental constraints and derive routeing and alignment options with the least practicable environmental impact.</p> |



## Question

## Response

We undertake large-scale environmental survey work each year. Working in close collaboration with statutory and non-statutory environmental consultees, we aim to work in partnership to find acceptable OHL routes and alignments. We work towards mitigation outcomes which deliver positive environmental solutions, targeting delivery of a net gain in biodiversity in the longer term on all new sites.

In addition, all of our consent applications will be accompanied by detailed environmental assessments which are prepared by external specialists. These assessments will consider impacts on a wide range of environmental topics and identify measures that may be required to mitigate any impacts. Potential impacts during construction and operation will be assessed in detail as part of an Environmental Impact Assessment (EIA), the results of which will be set out in an Environmental Impact Assessment Report (EIAR).

The legislation governing the consenting of OHL projects in Scotland is the Electricity Act 1989. Applications for consent to construct and operate new OHLs are made under Section 37 of this Act and are submitted to The Scottish Government ECU for determination by Scottish Ministers. An EIA is required to be undertaken for the Proposed Development under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and an EIAR will accompany the Section 37 application.

Construction impacts on the environment will be managed through the application of a Construction Environmental Management Plan (CEMP), which will be prepared and implemented by the Principal Contractor once consent has been granted for the Proposed Development. The CEMP will detail how the Principal Contractor will manage construction in accordance with commitments and mitigation detailed in the EIAR, statutory consents and authorisations, and industry best practice and guidance. Implementation of the CEMP will be managed on-site by a suitably qualified and experienced Environmental Clerk of Works (EnvCoW), with support from other environmental professionals as required.

We also acknowledge that minimising impacts is not enough on its own, and we have therefore committed to delivering Biodiversity Net Gain (BNG) on all our projects; as well as compensatory planting for any trees felled during the construction phase, where possible with native species. Where our projects are unable to completely avoid irreplaceable habitats (for example peatland or ancient woodland), we have also introduced a commitment to restore more habitat than we affect. Our developments also aim to actively enable opportunities to significantly enhance existing ecosystems at our sites, leaving a positive and lasting legacy throughout the lifetime of our operational assets for the benefit of our environment and our host communities.

You can find out more about how we are delivering a positive environmental legacy within the documents linked below:

- [Sustainability Strategy – Pathway to 2030](#)
- [Delivering a Positive Environmental Legacy Booklet](#)
- [Biodiversity Net Gain](#)

## Notes

# 3D visualisations

We understand that stakeholders need to be able to visualise what the development may look like in their local area. We have commissioned 3D visualisations which model the proposed overhead line into the local landscape to help understand the proposals in terms of the visual impact, distance, and height.

The following are some images taken from the 3D model created for the Kintore to Tealing 400kV OHL project from a range of different vantage points.

To get a better sense of the proposals in full, a visualisation portal including a flythrough video is also available to view from the project webpage and our consultants, 3D Webtech, will be assisting us at our events with copies of the model that attendees can interact with during the events.



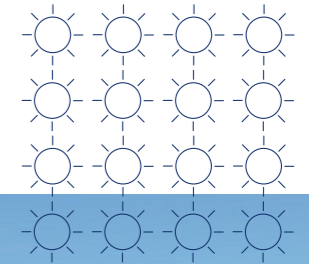
To find the 3D flythrough video, scan the QR code or visit the following URL: [ssen-transmission.co.uk/TKUP](https://ssen-transmission.co.uk/TKUP)



West of Drumoak

# Photomontages

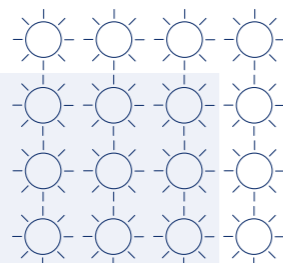
Photomontage visualisations will also be produced as part of the Environmental Impact Assessment (EIA). Once the EIA is completed and submitted as part of our Section 37 planning application, we will ensure these photomontages are available to view.



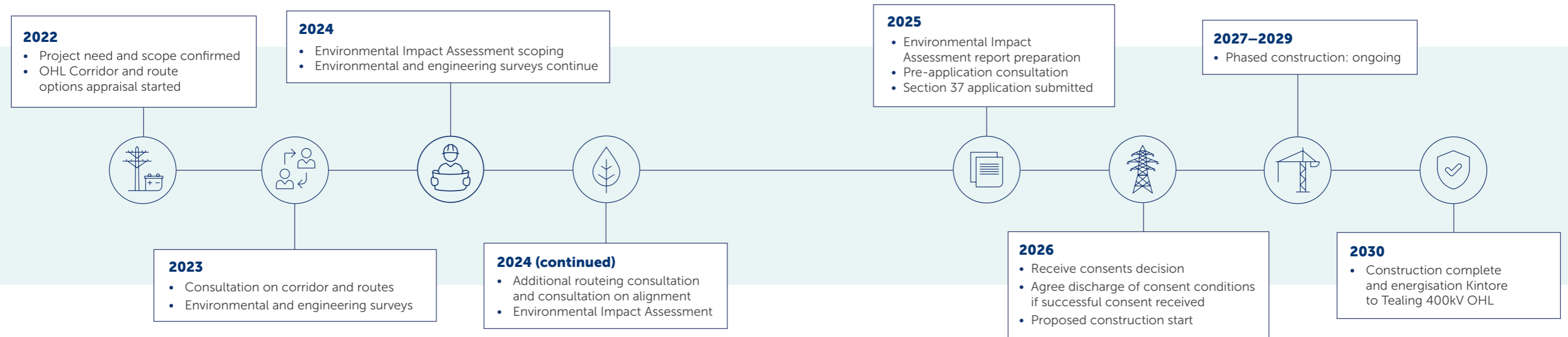
Knowehead near Tannadice



Careston



# Project timeline



# Next steps

**We value community and stakeholder feedback. Our final alignment proposals are the result of extensive engagement with a wide range of different stakeholders and we believe the Proposed Alignment strikes a balance between the various different considerations that we must take into account.**

As part of the Section 37 application process, we are expected to hold at least two pre-application consultation events prior to submitting the application. This is the second and final event providing the opportunity for members of the public to respond to the Proposed Alignment and consider our responses to the feedback we have received from our previous consultation events.

Earlier additional public consultation was also undertaken at the corridor, route and route refinement stages.

## Submitting your final comments to us:

We intend to submit our application for consent in Spring 2025. Prior to this, you can submit your final formal comments to us before our feedback period closes on **Friday 28 March**. We welcome final comments from members of the public, statutory consultees and other key stakeholders regarding our proposals until such time as we submit our consent application.

Once an application for consent has been submitted, there will be an opportunity for the public to make formal representations directly to the Scottish Government's Energy Consents Unit before it takes a decision.

## What we are seeking views on

During our last public consultation event in September/October 2024, we wanted to know your thoughts on our potential and alternative alignments.

Now that we have selected our Proposed Alignment, we are asking for any final comments or feedback ahead of submitting our Section 37 consent application for the Kintore to Tealing 400kV OHL project. It would be helpful to share any opportunities to deliver a local community benefit or biodiversity projects you would like us to consider.

## 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/TKUP](https://ssen-transmission.co.uk/TKUP)

## How to provide feedback

Submit your feedback online by scanning the QR code on this page or via the form on our project webpage at: [ssen-transmission.co.uk/TKUP](https://ssen-transmission.co.uk/TKUP)

Email the feedback form to the Community Liaison Manager, or write to us enclosing the feedback format the back of this booklet.

## 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.

## Community Liaison Manager

The best way to contact us regarding this project is through our Community Liaison Team.

### Rob Whytock

 SSEN Transmission,  
200 Dunkeld Road, Perth, PH1 3GH

 [TKUP@sse.com](mailto:TKUP@sse.com)



You can also follow us on social media:

 @assentransmission

 @SSETransmission

# Your feedback

Thank you for taking the time to read this 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. Which event did you attend? (Select all that apply)

- |                                  |  |                                  |                                 |                                     |
|----------------------------------|--|----------------------------------|---------------------------------|-------------------------------------|
| <input type="checkbox"/> Kintore | <input type="checkbox"/> Echt                        | <input type="checkbox"/> Drumoak | <input type="checkbox"/> Durris | <input type="checkbox"/> Drumlithie |
| <input type="checkbox"/> Edzell  | <input type="checkbox"/> Laurencekirk                | <input type="checkbox"/> Menmuir | <input type="checkbox"/> Memus  | <input type="checkbox"/> Forfar     |
| <input type="checkbox"/> Tealing | <input type="checkbox"/> Accessed information online | <input type="checkbox"/> None    |                                 |                                     |

## Q2. Is there a specific section of the overhead line alignment that you are interested in? (Please detail name of section(s) or closest settlement)

- |                                    |                                    |   |                                    |
|------------------------------------|------------------------------------|---|------------------------------------|
| <input type="checkbox"/> Section A | <input type="checkbox"/> Section B | <input type="checkbox"/> Section C                            | <input type="checkbox"/> Section D |
| <input type="checkbox"/> Section E | <input type="checkbox"/> Section F | <input type="checkbox"/> Emmock to Tealing Section 37 Tie-ins |                                    |

Closest settlement:

## Q3. Do you have any final comments regarding the alignment being proposed or concerns relating to the construction phase of the project?

Comments:

## Q4. If consent is granted, we will continue to provide updates as the project develops and at key milestones. We continuously seek to identify the best methods of communication based on community needs. Please tell us how you would prefer to receive project updates so that we can consider this for future improvements (Select all that apply).

- |  |  |   |                                 |
|--|--|---|---------------------------------|
| <input type="checkbox"/> Newsletter      | <input type="checkbox"/> Email to a mailing list | <input type="checkbox"/> Text message         | <input type="checkbox"/> Letter |
| <input type="checkbox"/> Public meetings | <input type="checkbox"/> Website updates         | <input type="checkbox"/> Other (please state) |                                 |



**Q5. Our Community Benefit Fund will provide an opportunity for local groups and organisations to apply for community funding. Do you have any suggestions for local community benefits or local initiatives, such as volunteering, that we could support to leave a positive legacy in your area?**

Comments:

**Q6. We are committed to achieving biodiversity net gain as part of our proposals. Do you have any suggestions for nature projects that we could consider to leave a positive nature legacy in your area?**

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:** FAO Rob Whytock -SSEN Transmission, 200 Dunkeld Road, Perth, PH1 3GH

**Email:** TKUP@sse.com **Online:** ssen-transmission.co.uk/TKUP

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.

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