Scottish & Southern Electricity Networks

TRANSMISSION

Powering change together

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

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

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

We all have a part to play

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

We work closely with the National Grid Electricity System Operator 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's 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 smartphone to find out more about how these policies have been assessed and determined.

Who we are

We're responsible for maintaining and investing in the electricity transmission network in the north of Scotland. We're part of SSE plc, one of the world's leading energy companies with a rich heritage in Scotland that dates back more than 80 years. We are also closely regulated by the GB energy regulator Ofgem, who determines how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network.

What we do

We manage the electricity network across our region which covers a quarter of the UK's land mass, crossing some of the country's most challenging terrain.

We connect renewable energy sources to our network in the north of Scotland and then transport it to where it needs to be. From underground subsea cables and overhead lines to electricity substations, our network keeps your lights on all year round.

Working with you

We understand that the work we do can have an impact on communities. So we're 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**

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Project need and overview

As the transmission license holder in the north of Scotland, we have a duty under Section 9 of the Electricity Act 1989 to facilitate competition in the generation and supply of electricity. We have obligations to offer non-discriminatory terms for connection to the transmission system, both new generation and for new sources of electricity demand.

Subject to planning consent, SSEN Transmission are required to connect the proposed Abhainn Dubh Wind Farm to the transmission network. To facilitate this, we are proposing to construct a new single circuit 132kV (6.4km of underground cable and 3km of overhead line) from the connection site to a new double busbar line bay on the Fyrish 132kV busbars. Under Network Operators License, this connection should be efficient, coordinated and economic, whilst having the least possible impact on the environment.

The proposal is a single circuit 132kV trident wood "H" pole arrangement and underground cable supporting the line running over a distance of approximately 9.4km in length between the existing Fyrish Substation and the proposed Abhainn Dubh Wind Farm substation.

The average height of the trident poles is 10 to 18m, with an average span of between 75–100 meters. At times during construction traffic management will be required, consultation will be undertaken on this in due course.

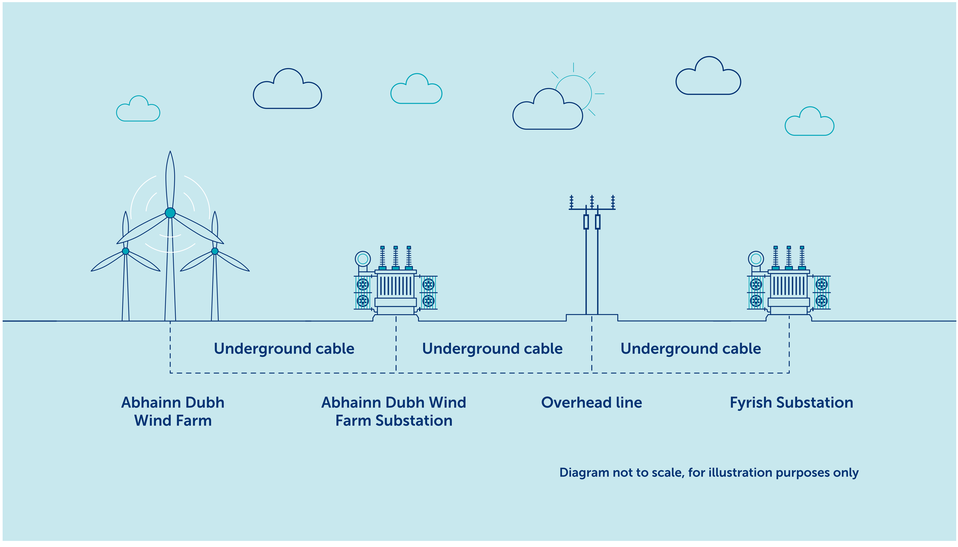

Diagram not to scale, for illustration purposes only

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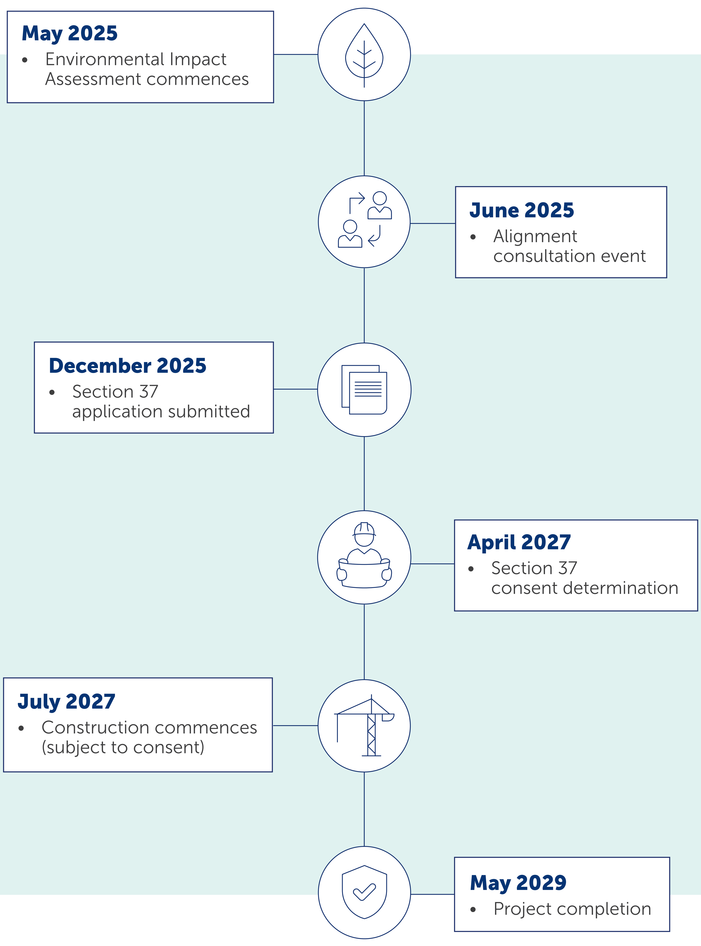
Project timeline



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Meeting our obligations

Our Transmission Operators licence requires us to provide best value for customers and GB consumers.

As a natural monopoly, SSEN Transmission are closely regulated by the GB energy regulator Office of Gas and Electricity Markets (OFGEM), who determine how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network.

These costs are shared between all those using the transmission system, including generation developers and electricity consumers.

We therefore work to strict price controls which means the following environmental, engineering and economic considerations form a key part of our routeing process.

Environmental assessments

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

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

Following confirmation of a preferred alignment, further detailed studies and assessment work are currently being undertaken to support the consenting process in 2025–2027.

Consenting

Before a project progresses to consent application stage (under Section 37 of the Electricity Act 1989), a Screening Opinion is requested from the Scottish Ministers (through the Energy Consents Unit) to clarify whether the project falls within the thresholds of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. If the project meets or exceeds certain criteria, then it is deemed to be an EIA Development and any application for consent must be accompanied by a formal EIA Report. If it is not EIA Development, SSEN Transmission will provide equivalent environmental information through a voluntary Environmental Appraisal (EA) Report.

Permitted development

It is anticipated that the Underground Cable (UGC) will be undertaken using permitted development rights as set out in Class 40 1(a) of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 as amended. As the underground cables are classed as permitted development, a statutory public consultation is not required.

Engineering and economic considerations

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

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

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Help shape our plans

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

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

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

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

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

Who we're consulting with

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

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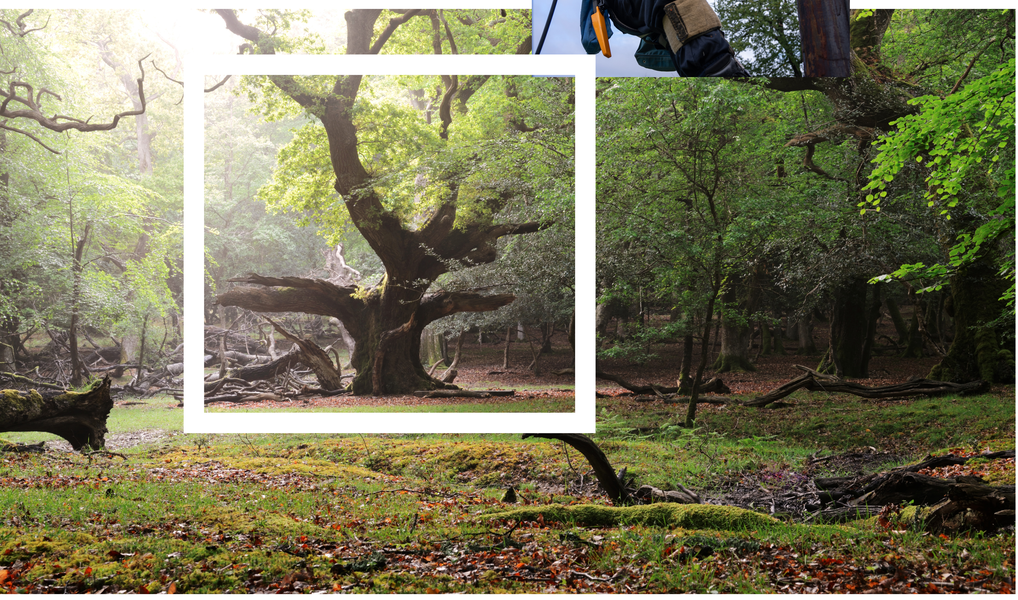
Our alignment selection process

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

The main aim of the Guidance is to provide a consistent approach to the selection of new OHL alignments and is underpinned by our statutory obligations to:

'Develop and maintain an efficient, coordinated and economical electricity transmission system in its licenced area' and in so doing, to 'have regard to the desirability of preserving the natural beauty, of conserving flora, fauna and geological and physiographical features of special interest and protecting sites, buildings and objects of architectural, historic or archaeological interest; and do what we reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites buildings or objects'.

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



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Our alignment selection process

Key stages

For new OHL projects, the process follows four principal stages, each iterative and increasing in detail and resolution, bringing cost, technical and environmental considerations together in a way which seeks the best balance. This staged process leads to the identification of a proposed overhead line alignment which is capable of being granted consent by the Scottish Government under Section 37 of the Electricity Act 1989.

The key stages are:

Stage 1: Strategic options assessment/routeing strategy

The starting point in all projects is to establish the need for the project and to select the preferred strategic option to deliver it. This process will be triggered by the preparation of a number of internal assessments and documents which identify the technology to be used and the point on the existing Transmission network where a connection can be made.

The Routeing Strategy also determines which of the following stages are required.

Stage 2: Corridor selection

Corridor Selection seeks to identify possible corridors which are as short as practicable, which are not constrained by altitude or topography and which would avoid, where possible, any interaction with man-made infrastructure and features of environmental sensitivity.

Corridors may be 1km wide or may extend over many kilometers in width, depending on the scale and length of the project. For this project, and for wind farm connections in general, the Corridor stage is omitted as the location of the wind farm and point of connection on the network naturally define a Corridor of a few kilometers in width. Routeing a new OHL any further afield than this would be too expensive and add unnecessary infrastructure to the landscape.

What happens next?

The current status of the connection is Alignment selection (Stage 4). Following stakeholder engagement with the public, statutory bodies and landowners, this will be finalised for formal environmental assessment and consent application.

Stage 3: Route selection

Route Selection seeks to find a route within the corridor which avoids where possible physical, environmental and amenity constraints, is likely to be acceptable to stakeholders, and is economically viable, taking in to account factors such as altitude, slope, ground conditions and access.

The dimensions of a route will depend on the context provided by the corridor.

A route may be several kilometres in length and may range from 200m to 1km in width, depending on the scale of the project, the nature and extent of constraints and the character of the area in question.

A number of route options are usually identified and assessed, leading to a preferred being selected.

Stage 4: Alignment selection

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

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

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

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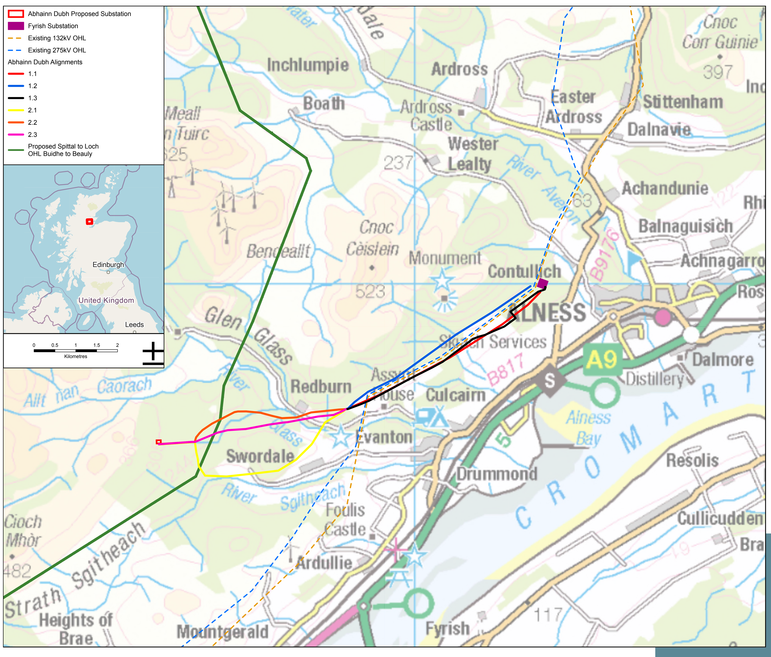
Alignment stage: selection consultation

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

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

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

Figure 1: Proposed alignments



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Alignment stage: selection consultation

Key engineering constraints

The engineering appraisal of the alignments takes into consideration constraints such as road crossings, elevation, terrain, peatland and the requirement for access, amongst others. It follows the same process as the environmental and economic appraisal in order to find the least constrained alignment. It has been determined that the above selection of alignment option of 1.3 and 2.3 are feasible from an engineering perspective.

Key environmental constraints

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

Eastern alignment options (1.1 (OHL), 1.2 (OHL) and 1.3 (UGC))

Ornithology

OHL alignment options 1.1 and 1.2 are associated with high collision and barrier risks to the Novar SPA species, specifically Capercaillie.

Breeding Schedule 1 bird species, such as osprey (qualifying feature of the Cromarty Firth SPA), together with red kite are anticipated to breed within the area and would therefore present additional collision risk.

An additional OHL at a different height from the existing OHL would be expected to increase the collective collision risk to target species accordingly. Potential for cumulative impacts will also be a consideration for the Novar SPA, particularly the potential for cumulative disturbance and displacement from other proposals in the area.

All the above potential risks would be greatly mitigated choosing alignment option 1.3 due to being undergrounded and therefore not increasing the cumulative impact.

Cultural heritage

Both the OHL alignment options 1.1 and 1.2 also pose notable risks to cultural heritage, including impacts on the Novar Garden & Designed Landscape and the Cladh Churadain Scheduled Monument.

In contrast, the UGC alignment option 1.3 presents reduced impacts on cultural heritage designations and assets and has lower impact on landscape and visual amenity due to it being undergrounded.

While all three options in the eastern section involve considerable environmental risks, UGC alignment option 1.3 offers a more balanced approach with fewer severe impacts than the OHL alignment options 1.1 and 1.2.

Western alignment options (2.1 (OHL), 2.2 (OHL) and 2.3 (OHL))

Cultural heritage

All the alignment options are located in close proximity to cultural heritage assets. Alignment option 2.1 is the alignment located the closest to Drumore Scheduled Monument, while all alignment options are located in close proximity to Cladh Schedule Monument.

People

All the alignment options are located in vicinity to a number of properties including along the Glenglass Road, Novar House and Evanton. Alignment option 2.3 is the alignment located further away from the residents. Ancient woodland and veteran trees.

Veteran trees were identified as part of a walkover survey, and mitigation measures will be assessed and implemented as part of the next stage (environmental assessment), where possible.

An Arboricultural Survey will be undertaken as part of the environmental appraisal to determine any further potential impacts.

Overall, alignment option 2.3 offers a more balanced approach with fewer severe impacts, making it the preferred choice in the western section.

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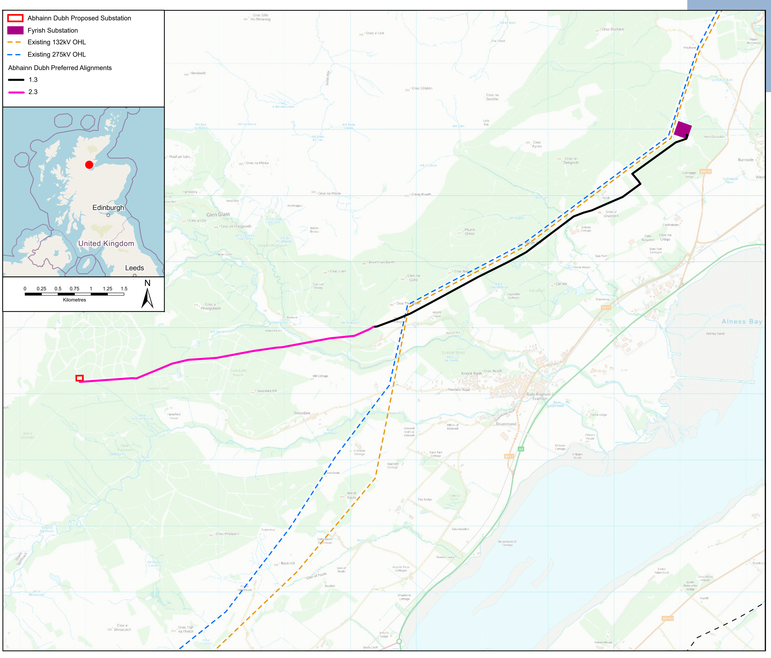
Alignment stage: outcome

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

The alignment assessment concluded that alignment 1.3 and 2.3 as the preferred alignment, which we believe offers the best balance of technical, environmental and cost impact considerations identified through the assessment. The preferred alignment is now subject to consultation with statutory consultees and stakeholders, where local and previously unknown considerations may confirm or alter the initial preference. This will then form the basis to take forward into detailed assessment and consenting.

Figure 2: Proposed alignments



Preferred alignments would require the careful placement of poles and underground cable corridor, particularly in relation to targeting the avoidance of sensitive habitats, such as ancient woodland and priority peatland, where feasible. Environmental assessments would require the application of further mitigation, at both construction and operational stages, to avoid and reduce potential effects on the environmental receptors.

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Construction of an overhead wood pole line

A typical “H” wood pole installation requires foundations of approximately 2.5m by 3m across and to a depth of around 2 metres.

To minimise construction impact and the requirement for access tracks, helicopters are used wherever possible to help deliver the materials to the site.

The picture opposite shows a typical helicopter delivery of the steel work used on the top of a pole and the baulk timbers used in the foundation at the base of each structure. Helicopters are also used to assist with the stringing of the conductors.

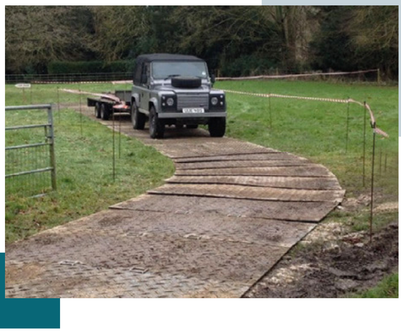
Opposite is a typical example of an angle wood pole which requires additional stays. Note that stays are not usually required on non-angle poles unless ground or weather conditions dictate.

Construction of access tracks

Access tracks will only be constructed where access by all-terrain vehicles or the use of trackway is not feasible.

Access tracks will be constructed with imported and/or locally sourced material.

Access tracks are not usually retained after construction of the overhead line. Permanent access may be required to terminal structures where an OHL meets a cable section.



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Underground cables

- A segment of the alignment, approximately 5.9km at the Fyrish and approximately 0.8km at the proposed Abhainn Dubh wind farm, will be cabled.
- The transition from the cables to the overhead line will be managed through a 5-pole cable-sealing end.
- The short cable at the wind farm keeps the overhead lines away from the turbine's wake area.
- The cable tie-in at the Fyrish substation is designed to reduce congestion and ensure adequate clearance from other circuits terminating at the substation
- Installation of the cables would normally be open cut trenching via excavator.

5-Pole Cable Sealing end

Typical 132kV cable trench arrangement

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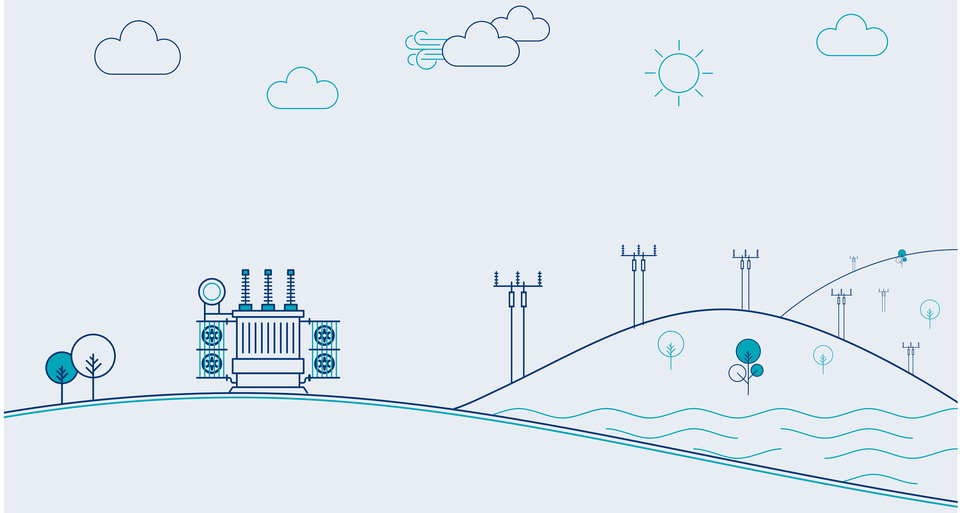
Next steps

All feedback/comments on the alignment selection process are requested by **Friday 25th July 2025**.

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

EIA/EA completion will be followed by the submission of a Section 37 application. However, should further site and desk-based analysis at the EA/EIA and Consenting stage identify a particular constraint, a further review of the proposed alignments may be required.



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