Scottish & Southern Electricity Networks

TRANSMISSION

Connagill Cluster Wind Farm Connections

Strathy South, Strathy Wood, Armadale, Melvich, Kirkton and Switching Station

May 2024

Contents

The consultation event will be taking place on:

20 May 2024 - Strathy Village Hall Strathy, KW14 7RZ - 3pm – 7pm

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 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 £20 billion into our region's energy infrastructure this decade, powering more than ten million UK homes and 20,000 jobs, 9,000 of which will be here in Scotland.

Find out more

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 transmission 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 (OHL) to electricity substations, our network keeps your lights on all year round.

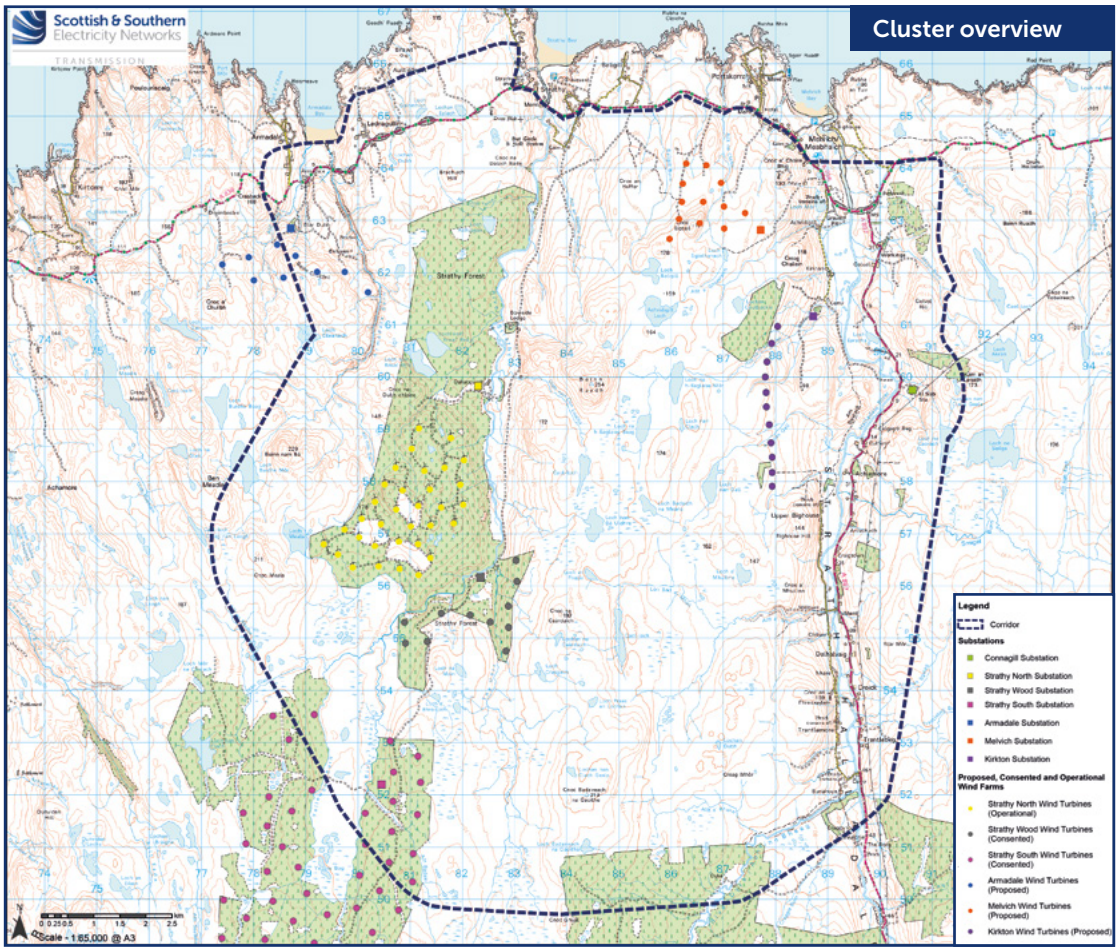
Working with you

We understand that the work we do can have an impact on our host communities. So we're committed to minimising our impacts and maximising all the benefits that our local 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. 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

Cluster overview

SSEN Transmission are required to provide connections for five proposed wind farms in the Strathy area and together these projects are known as The Connagill Cluster.



SSEN Transmission is required to construct new transmission infrastructure for five consented and/or proposed wind farms to the existing transmission network at Connagill 275/132kV substation.

The five connections under consideration are the consented Strathy South and Strathy Wood wind farms and the proposed Armadale, Melvich and Kirkton wind farms. Together the projects are known as the 'Connagill Cluster Grid Connections' and are recognised as National Development under National Planning Framework 4.

Under our Network Operators Licence we are required to deliver these connections in a technically efficient, coordinated and economic manner, whilst having the least practicable impact on people and the environment.

All connections are to be provided at 132 Kilovolts (kV) (132,000 volts) and are proposed to be accommodated on both wood pole and steel lattice overhead lines (OHL).

The average height of the wood poles is between 13 and 16 metres (m), up to 18m, with an average span of between 70 and 100m. The average height of the 132kV lattice towers is between 27 and 33m, up to 40m and with an average span of 250m. The average height of the 275kV lattice towers is between 44 and 50m, up to 60m and with an average span of 300m.

To facilitate the five grid connections, a new switching station, known as Strathy Switching Station, would also be required to collect all incoming circuits onto a double busbar before taking these through a 132kV OHL supported by a steel structure to Connagill 275/132kV substation.

Overview of the projects

Construction of the existing trident wood pole which connects Strathy North wind farm to Connagill substation was completed in 2015.

Optioneering studies have been ongoing since 2021 to connect the consented Strathy South, Strathy Wood and proposed Armadale wind farms to the transmission network.

The initial optimal technology solution for each connection was via overhead line (OHL) supported by 'trident H' wood pole and this was presented to Statutory Consultees in 2022 during an informal project update. Since then, two further connections have since been agreed for the proposed Melvich and Kirkton wind farms and it is no longer the optimal solution from a technical, operational or environmental perspective to have numerous separate wood pole OHL's running in parallel for long distances for each connection.

Extensive further review has, therefore, been carried out to identify a rationalised approach to facilitate all of the connections. This rationalised approach is outlined in the table below. Also included is the need for the switching station.

All connections are shown on the large printed banners displayed in the public exhibition.

Project	Technology Solution	Description
Strathy South and Strathy Wood	132kV underground cable connection	From Strathy South wind farm substation to a point in the vicinity of Strathy Wood wind farm substation.
	132kV OHL supported by steel structure	From Strathy Wood substation, a new double circuit 132kV OHL supported by steel structures would be constructed to provide shared infrastructure to transport electricity generated by both Strathy Wood and Strathy South wind farms.
	275kV OHL supported by steel structure	To allow for future proofing, a new 275kV OHL supported by steel structures would continue the connection (from the switching station) to Connagill 275/132kV substation. While the OHL will be operated at 132kV it will be built to a 275kV specification to provide an element of futureproofing.
Armadale Wind Farm	132kV trident wood pole OHL	The works would include a single circuit 132kV trident wood pole OHL between Armadale wind farm substation to a 'T-in" connection onto the proposed double circuit 275kV OHL. The proposed 275kV (but operated at 132kV) OHL supported by steel structures would complete the connection into Connagill 275/132kV substation.
Kirkton and Melvich Wind Farms	132kV trident wood pole OHL	These works would include a short span of single circuit 132kV trident wood pole OHL (<500 m) between each wind farm substation and a 'T-in' connection onto the existing Strathy North to Connagill trident H-wood pole OHL.
Switching Station	A node on the network to allow safe control of the electricity network. This could include convergence of multiple circuits, transformation of voltage or other functions to maintain and operate the electricity network.	To facilitate the five grid connections, a new switching station, known as Strathy Switching Station, would also be required to collect all incoming circuits onto a double busbar before taking these through a 275kV OHL (operated at 132kV) supported by a steel structure to Connagill 275/132kV substation.

Project timelines

Current forecasted programme subject to change

Strathy South to Strathy North

September 2021
Commencement of Environmental Surveys

February 2022
Previous Public Consultation for Individual Connections

Spring 2023
Decision to Change to Coordinated Solution and Commencement of Additional Environmental Surveys

November 2023
First Consultation of Coordinated Solution

May 2024
Second Consultation of Coordinated Solution and Commencement of Environmental Impact Assessment

Summer 2024
Submission of Section 37 Application

Summer 2025
Section 37 Consent Determination and Construction Commences

Spring/Summer 2026
Overhead Line Project Completion

Spring/Summer 2027
Underground Cable Project Completion

Strathy North to Connagill

September 2021
Commencement of Environmental Surveys

February 2022
Previous Public Consultation for Individual Connections

Spring 2023
Decision to Change to Coordinated Solution and Commencement of Additional Environmental Surveys

November 2023
First Consultation of Coordinated Solution

May 2024
Second Consultation of Coordinated Solution and Commencement of Environmental Impact Assessment

Summer 2024
Submission of Section 37 Application

Late 2025
Section 37 Consent Determination and Construction Commences

Spring/Summer 2027
Project Completion

Armadale

September 2021
Commencement of Environmental Surveys

February 2022
Previous Public Consultation for Individual Connections

Spring 2023
Decision to Change to Coordinated Solution and Commencement of Additional Environmental Surveys

November 2023
First Consultation of Coordinated Solution

May 2024
Second Consultation of Coordinated Solution and Commencement of Environmental Impact Assessment

Late 2024
Submission of Section 37 Application

Early 2026
Section 37 Consent Determination and Construction Commences

Late 2028
Project Completion

Melvich and Kirkton

March 2023
Commencement of Environmental Surveys

November 2023
First Consultation

May 2024
Second Consultation of Coordinated Solution

Autumn 2024
Commencement of Environmental Impact Assessment

Summer 2025
Submission of Section 37 Application

Late 2026
Section 37 Consent Determination and Construction Commences

Late 2028
Project Completion

Project timelines

Current forecasted programme subject to change

Switching Station

March 2023
Commencement of Environmental Surveys

November 2023
First Consultation

May 2024
Second Consultation of Coordinated Solution

Late 2024
Commencement of Environmental Impact Assessment

Summer 2025
Submission of Section 37 and Town and Country Application

Late 2026
Consent Determination

Spring 2027
Construction Commences

Summer 2029
Project Completion

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 during 2020-21 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 an optimal route and alignment for both connections, further detailed studies and assessment work is being undertaken to support the consenting process in 2023 and 2024.

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.

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.
- Route length.

A summary of key environmental and engineering considerations for each alignment option is presented on the following pages.

Our overhead line routeing and design process

SSEN Transmission has 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.

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 OHL projects is to establish the need for the project and to select the optimal 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.

In the case of Strathy South, Strathy Wood and Armadale this point is at Connagill substation utilising both "Trident" wood pole and steel lattice OHL technology. The general strategy is to minimise the amount of new OHL within the Caithness & Sutherland Peatlands protected area. 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 kilometres in width, depending on the scale and length of the project. For the projects included in this consultation, and for wind farms 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 kilometres in width. Routing a new OHL any further afield than this would be too expensive and add unnecessary infrastructure to the landscape.

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 optimal route being selected.

Stage 4: Alignment selection

Alignment Selection seeks to identify an alignment within the optimal 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.

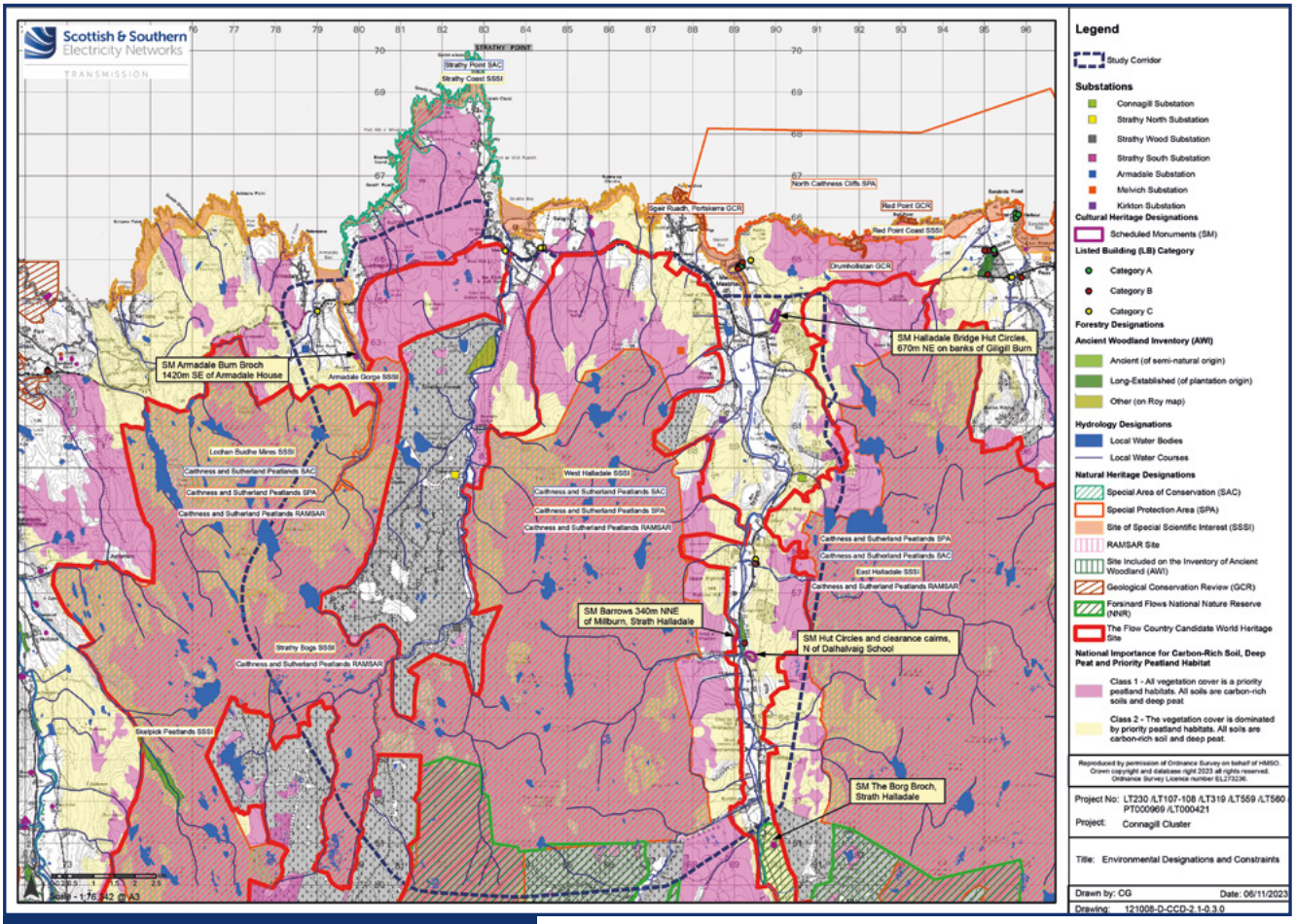
There may be more than one distinct alignment option through the optimal route. It is more likely however that variants to sections of an alignment may arise where there are different ways to avoid a constraint.

What happens next

The current status of all the connections is Alignment selection (Stage 4). Following stakeholder engagement with the public, statutory bodies and landowners, this will be finalised as a Proposed Alignment (or a Proposed Development in the case of the switching station) to be taken forward for formal environmental assessment and consent application.

Alignment stage key environmental constraints

This figure shows some of the key environmental constraints within the Connagill Cluster which have been considered when assessing potential OHL routes and alignments and also the switching station location.



Environmental Designations and Constraints

The proposed Flow Country World Heritage Site straddles Caithness and Sutherland and elements of the Connagill Cluster are located within the proposed heritage site.

When assessing potential overhead line (OHL) alignment, consideration has been given to minimising potential impacts on all of the habitats which make up the Flow Country World Heritage Site including peatland vegetation, bog pools and bird and insect species.

Alignment stage

Strathy South to Strathy North (Southern Section)

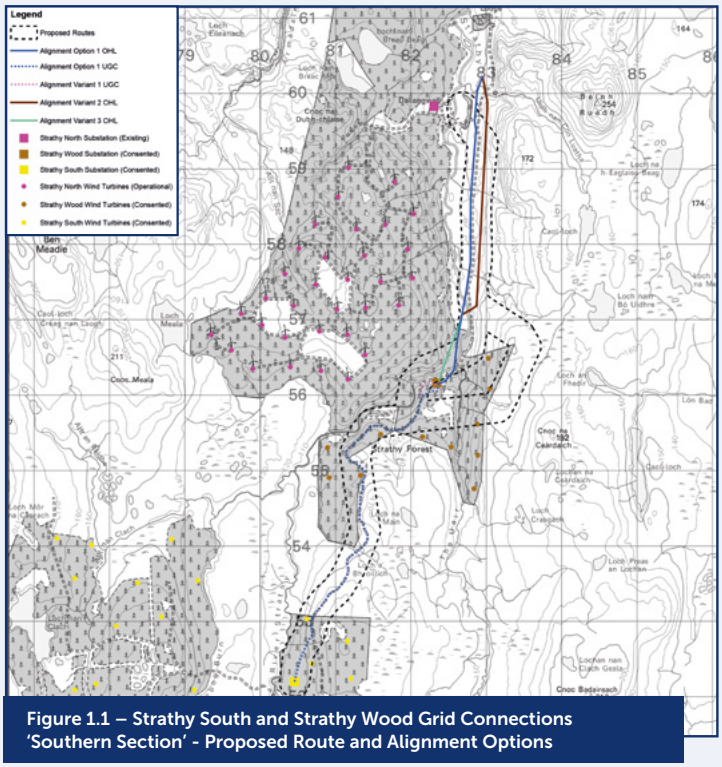


Figure 1.1 – Strathy South and Strathy Wood Grid Connections 'Southern Section' - Proposed Route and Alignment Options

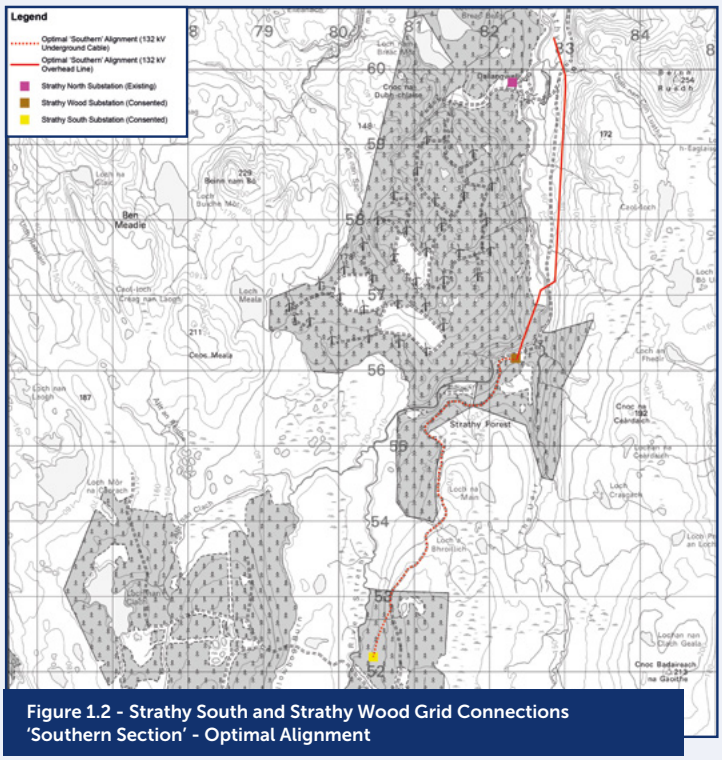


Figure 1.2 - Strathy South and Strathy Wood Grid Connections 'Southern Section' - Optimal Alignment

Potential impacts on the Caithness and Sutherland Peatlands Special Protection Area (SPA), Special Area of Conversation (SAC), Ramsar, and associated Site of Special Scientific Interest (SSSI) designations by all route options.

Alignment Option 1 (UGC) will be used up to the area of Strathy Wood Substation.

Alignment Variants 2 and 3 are considered optimal from both an environmental and engineering perspective over the comparable sections of Alignment Option 1 (OHL).

The area east of the existing track, through which Alignment Variant 2 (OHL) would traverse, is considered dominated by poorer quality habitats of the Caithness and Sutherland Peatlands SAC and consists of shallower peat. Being further from the River Strathy means that both alignment variants would cross less of the mapped floodplain.

While Alignment Variant 3 (OHL) may bring development closer to regionally significant heritage assets, through careful placement of towers and application of measures during construction, this is not considered a constraint to development.

The overall Optimal 'Southern' Alignment is, therefore, Alignment Option 1 (UGC), Alignment Variant 1 (UGC), Alignment Variant 3 (OHL) and Alignment Variant 2 (OHL), as shown on **Figure 1.2**.

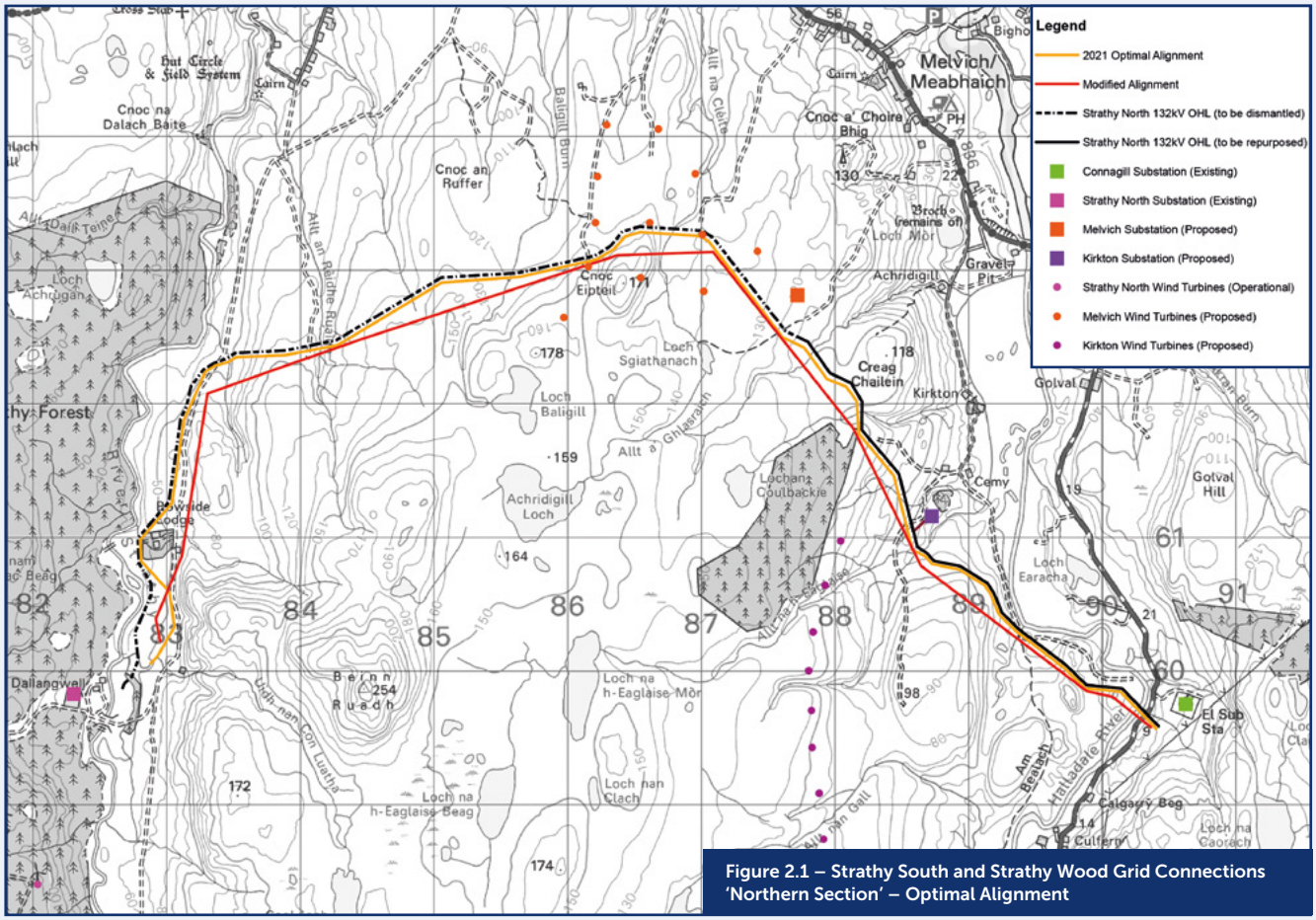
Alignment stage

Strathy North to Connagill - Optimal alignment

A review of the 2014 consented Strathy South Wind Farm overhead line (OHL) concluded that the route remains the optimal route, however, as part of the assessment to rationalise the cluster, SSEN Transmission carried out a further engineering review to consider an OHL supported by steel lattice tower which resulted in some minor modifications to the 2021 Optimal Alignment to ensure sufficient clearance from the existing Strathy North 132kV OHL by the larger tower structure. This is referred to as the 'Modified Alignment'.

It was considered that the increased height of the steel lattice tower of the Modified Alignment could appear more intrusive both to sensitive bird species and to the open character of the landscape and visual receptors, compared to what was considered for the 2021 Optimal Alignment (wood pole).

The Modified Alignment would require the careful placement of towers, particularly in relation to targeting the avoidance of sensitive qualifying habitats of the Caithness and Sutherland Peatlands SAC, Ramsar and West Halladale SSSI, and regionally significant heritage assets, but would also require the application of further mitigation, at both construction and operational stages, to avoid and reduce potential effects on the qualifying interests of the designated sites.



Strathy North to Connagill - Alternative alignment

Whilst the Modified Alignment is SSEN Transmission's preference, there has been a requirement to consider an alternative connection due to the Modified Alignment passing through the proposed Melvich wind farm. Some of the key constraints being considered are:

Alignment Variant 1 was considered optimal for both environmental and engineering as it would slightly reduce the prominence of an OHL from the A836 and settlement of Melvich to the north.

While engineering preferred Alignment Variant 2 as it would cross less Class 1 priority peatland and be closer to existing access, from an environmental perspective this option was considered the least optimal as it would bring development close to properties within Strath Halladale and would appear imposing in views and have a more notable effect on amenity.

Overall, it was considered not appropriate to progress this option. Instead, Alignment Variant 5 would allow development to be further from the strath and follow the existing OHL.

Another advantage of Alignment Variant 5 is that although it would require a section of the existing Strathy North 132kV OHL to be undergrounded, this would be at a point where the existing OHL would already be undergrounded to accommodate the separately proposed Melvich Grid Connection, thereby reducing construction challenges.

In the eastern extent, the optimal environmental option was Alignment Variant 4 due to the favourable crossing of Strath Halladale and A897.

Being further south and away from the open valley, and its use of the local landform to appear less prominent from the strath and sensitive nearby properties, make it favourable compared to all other crossings considered. Alignment Variant 4 would be situated further from the Halladale River and outwith the mapped floodplain for a longer stretch, making it preferable from a construction and maintenance perspective. The overall Optimal 'Alternative' Alignment is, therefore, Baseline Alternative Alignment, Alignment Variant 1, Alignment Variant 5 and Alignment Variant 4.

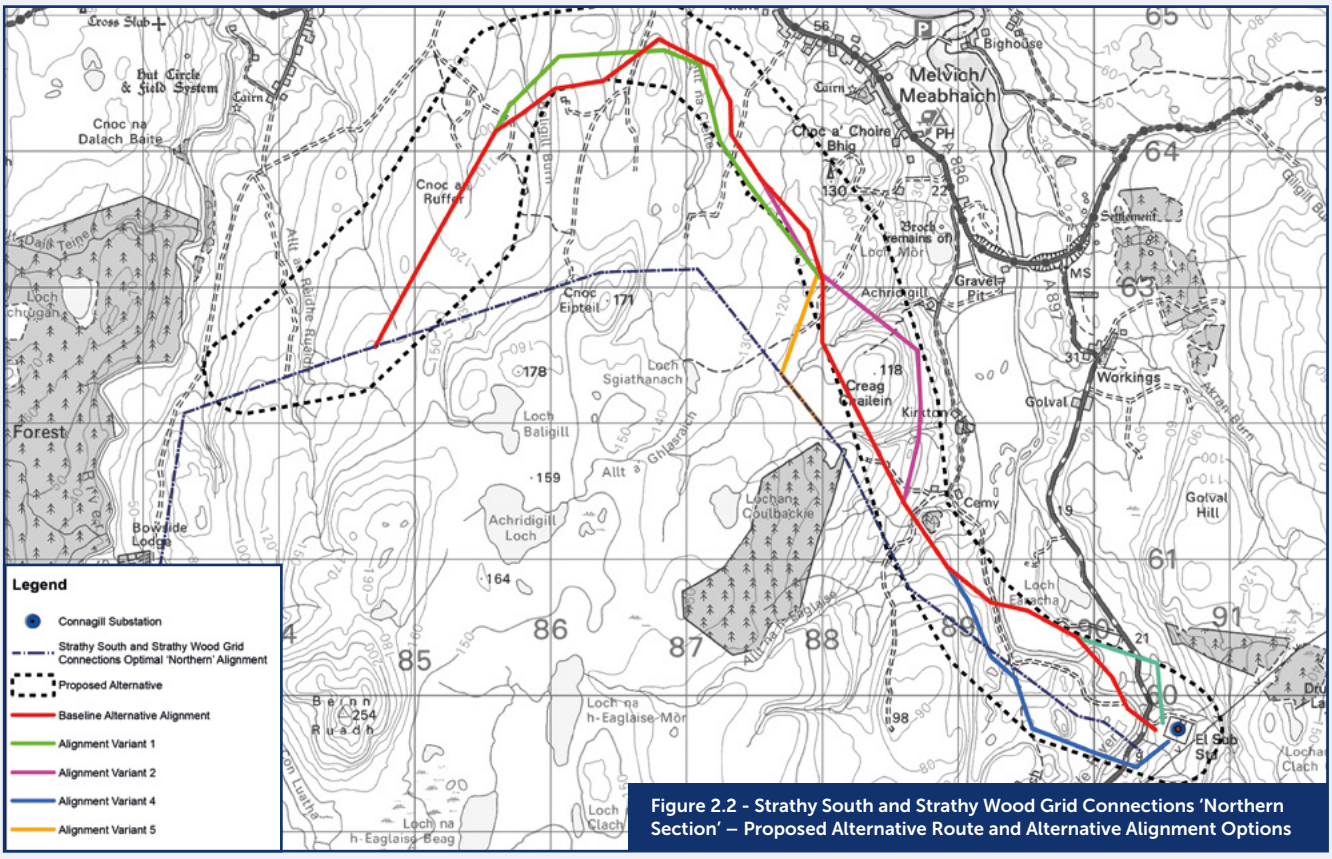


Figure 2.2 - Strathy South and Strathy Wood Grid Connections 'Northern Section' – Proposed Alternative Route and Alternative Alignment Options

Alignment stage

Armadale Wind Farm

In the western extent, both environmental and engineering consider exiting the substation to the south would be optimal, thereafter joining Alignment Variant 6.

This would slightly reduce the prominence of an OHL from the A836 and settlement to the north, with the forest plantation at Armadale substation offering an element of screening. This alignment variant would also cross shallower peat depths.

In the central section, Alignment Variant 2 was considered optimal for both environmental and engineering as the crossing point of the Armadale gorge. Once across the gorge, Alignment Variant 2 would keep development outwith the designated areas of the Caithness and Sutherland Peatlands SAC, SPA and Ramsar site, and the underlying Lochan Buidhe SSSI.

Thereafter, the Baseline Alignment would continue the connection along the edge of Strathy Forest to the River Strathy crossing.

Alignment Variant 4 would be located at a lower elevation of the Strathy valley, thereby appearing less noticeable in views from settlement and recreational routes to the north and would be less challenging to construct. Alignment Variant 4 would be set further from the River.

The overall Optimal Alignment, is therefore, Baseline Alignment, Alignment Variant 6, Alignment Variant 2, Baseline Alignment, Alignment Variant 4, as shown on **Figure 3.2**.

It should be noted that the site identified as the optimal location for the proposed Strathy Switching Station will influence the final section of alignment to its connection point on the proposed Strathy North to Connagill double circuit 132kV OHL.

Should any major environmental or engineering constraints be identified that cannot be overcome through micrositing, further appraisal will be undertaken.

Figure 3.1 – Armadale Grid Connection - Proposed Route Alignment Options

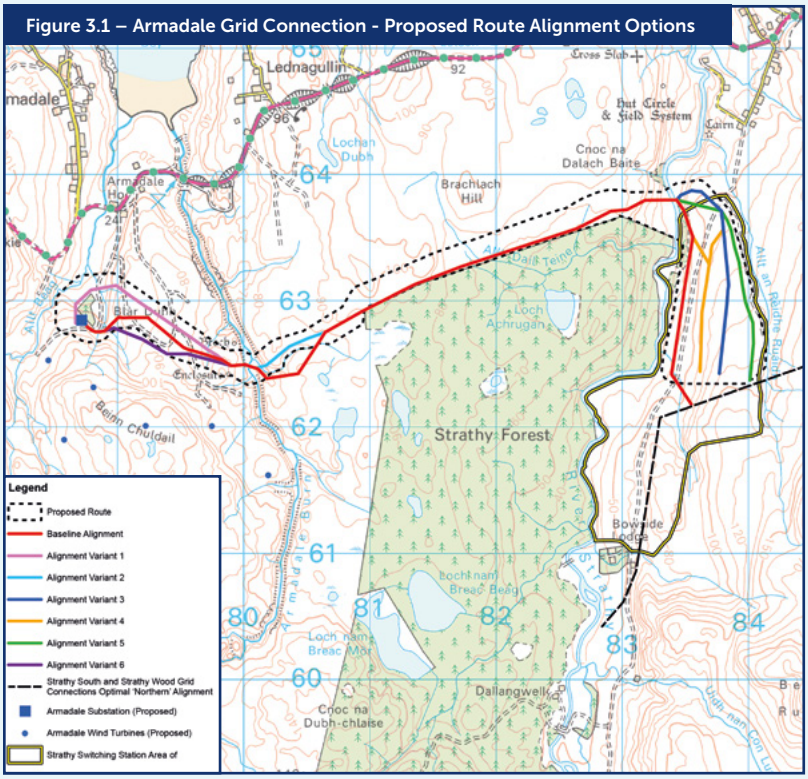
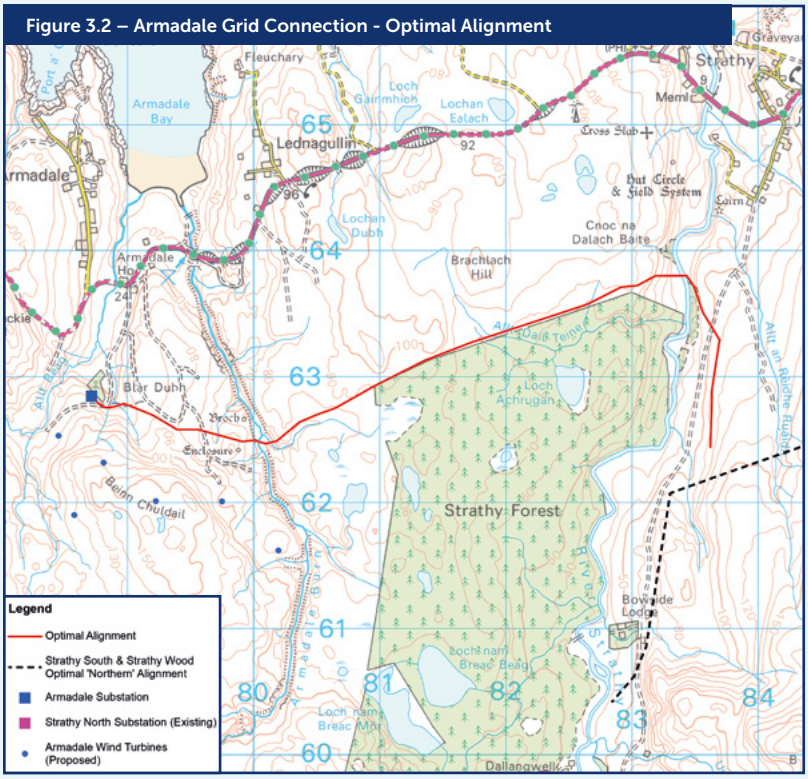


Figure 3.2 – Armadale Grid Connection - Optimal Alignment



Alignment stage

Kirkton Wind Farm

Given the similarities between the alignment options, many of the engineering constraints are comparable.

For the engineering topic areas of existing infrastructure, elevation, atmospheric pollution, contaminated land, terrain, access, angle structures, clearance distance, wind farms, communication masts and metallic pipes there is no preference between Alignment Option 1 or Alignment Option 2 Both the environmental and engineering appraisal found the alignment options were largely comparable, with the key differentiating constraints for both appraisals centred on flooding and peat.

The environmental appraisal noted a marginal preference for Alignment Option 1 as it would cross habitats of lower ecological value and a shorter extent of Class 1 priority peatland. However, the habitat across both alignment options were noted to be typical of the wider landscape and with careful placement of poles could look to avoid the most sensitive habitats. The engineering appraisal noted a preference for Alignment Option 2 as it would avoid a watercourse crossing and would traverse a shorter extent of mapped flood plain.

The overall Optimal Alignment is considered to be Alignment Option 2. Site specific peat probing will be carried out to assess existing peat deposits and used to inform the final wood pole locations.

Figure 4.1 – Kirkton Grid Connection - Alignment Options

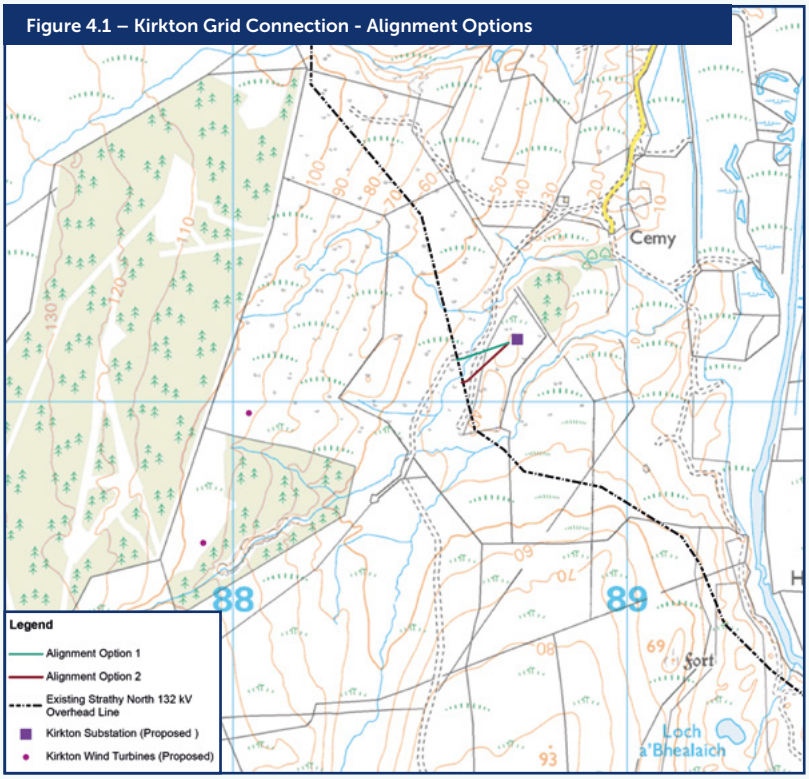
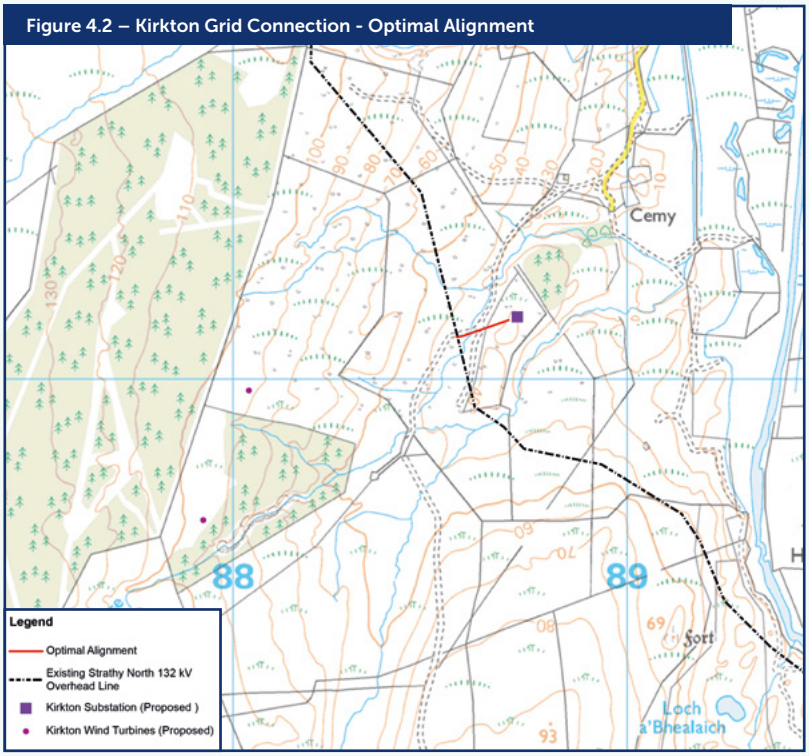


Figure 4.2 – Kirkton Grid Connection - Optimal Alignment



Melvich Wind Farm

The Melvich connection may be delivered via UGC or woodpole OHL or a combination of both and is still under engineering and environmental review.

This will be confirmed during a final round of consultation.

Switching station site selection

SSEN Transmission identified seven site options based on initial desk-based review and site visits within the Area of Search. Two site options (Site Options B and G) were discounted from further appraisal at an early stage on engineering grounds.

Table 1 displays the environmental and engineering appraisal RAG ratings for the site options considered. Taking the various constraints and site preferences into account, while Site Option D was the environmental preference due to its contained position limiting views from receptors to the north, from an engineering perspective this was a less preferred option.

The irregular shape and location of this option would lead to constraint in technology type, and it's contained position could lead to future expansion and connection restrictions.

In addition, it has a greater potential for flood risk due the proximity of a nearby watercourse.

The optimal engineering option was Site Option A due to its flat topography, minimal earthwork requirement and being located on the optimal side of the proposed Strathy North to Connagill 132kV OHL for ease of connection.

While environmental constraints were noted with Site Option A, in comparison to other site options, the environmental constraints were considered to comparable and not significant.

On balance it is therefore considered that Site Option A is the optimal site for Strathy Switching Station.

Figure 5.1 – Strathy Switching Station – Site Options

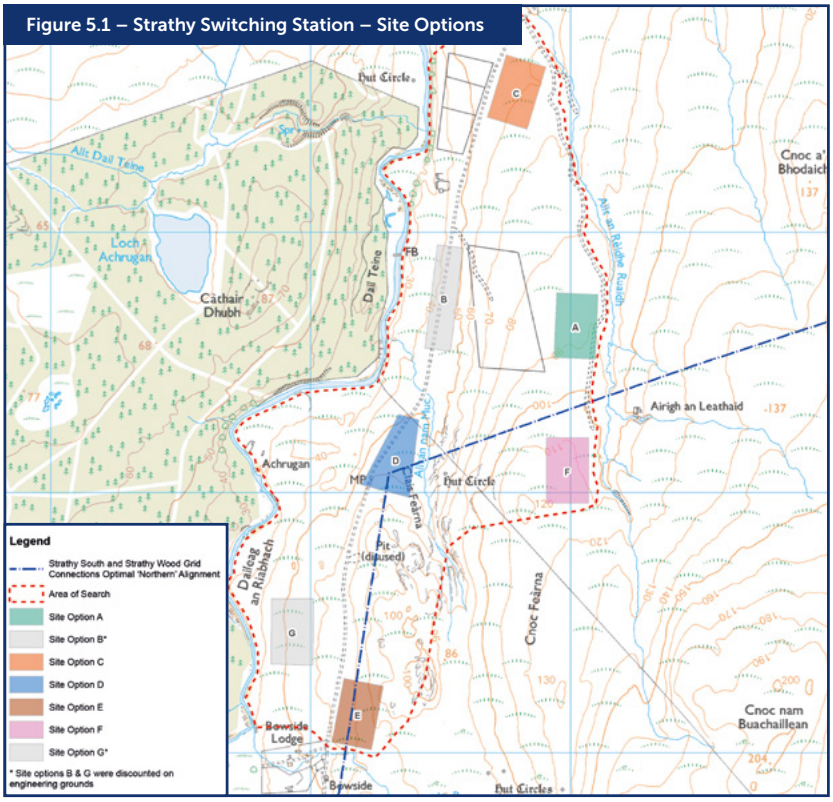
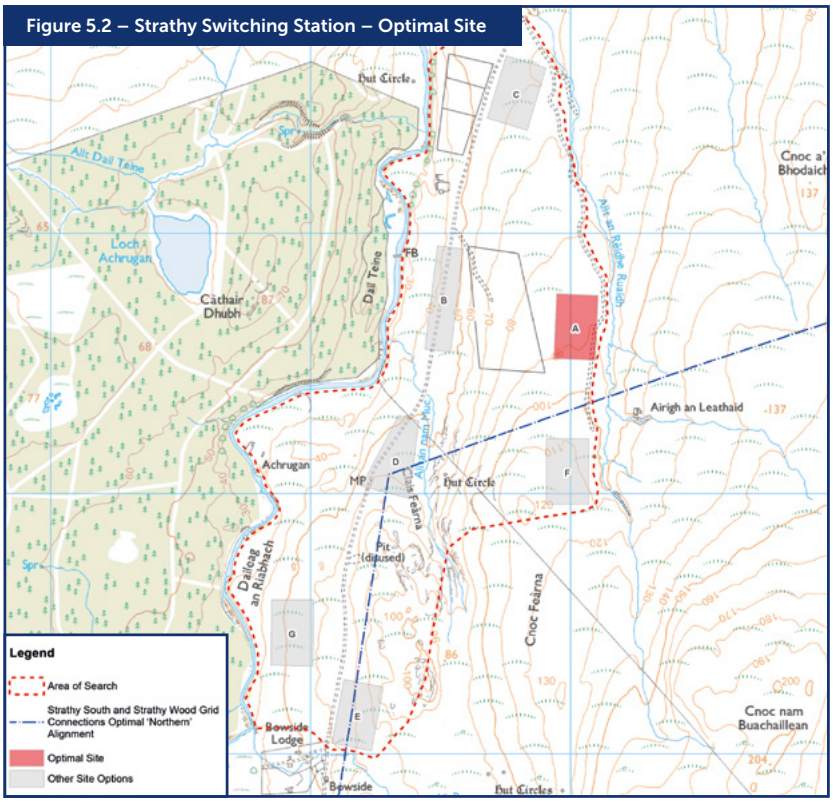


Figure 5.2 – Strathy Switching Station – Optimal Site



SSEN Transmission identified seven site options based on initial desk-based review and site visits within the Area of Search, as illustrated on **Figure 5.1**. However, two site options (Site Options B and G) were discounted from further appraisal at an early stage on engineering grounds. Table 1 displays the environmental and engineering appraisal RAG ratings for the site options considered.

Table 1: Strathy Switching Station – RAG Ratings

	Category	Sub-topic	A	C	D	E	F
Environmental	Natural Heritage	Designations					
		Protected Species					
		Habitats					
		Ornithology					
		Geology, Hydrology and Hydrogeology					
	Cultural Heritage	Designations					
		Cultural Heritage Assets					
	Landscape and Visual	Designations					
		Character					
		Visual					
	Land Use	Agriculture					
		Forestry					
		Recreation					
	Planning	Policy					
		Proposals					
Engineering	Connectivity	Existing circuits/networks					
		Future Development Possibilities					
		Interface with SSE Distribution and Generation					
		DNO Connection					
	Footprint requirements	Technology					
		Adjacent Land Use					
		Space Availability					
	Hazards	Existing Utilities					
	Ground Conditions	Topography					
		Geology					
	Environmental Conditions	Elevation					
		Salt Pollution					
		Flooding					
		Carbon Footprint					
		SF_6					
		Contaminated Land					
		Noise (proximity to dwellings/residential properties)					
	Construction Access	Substation Access Road (from public road)					
	Operation and Maintenance	Access					

Next steps

All comments on the alignment selection process are requested by 21 June 2024.

Following consultation events and a review of consultation responses, a Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses to inform the selection of a proposed alignment for each section of the cluster.

Following the identification and confirmation of a proposed alignment, these will be taken forward into Stage 4: EA/EIA and Consenting, with the approach to consenting for each connection summarised in Table 3.1.

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.

Further consultation

As designs progress for Kirkton, Melvich and the switching station we will undertake further consultation and public exhibition in 2024 and we are currently targeting a third event in Autumn.

This will also provide an opportunity for us to present the results of any feedback from this event that we have been able to accommodate into our designs.

Alignments for Melvich and Kirkton wind farm connections will also be presented at the next event with an opportunity to provide feedback on these proposals.

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

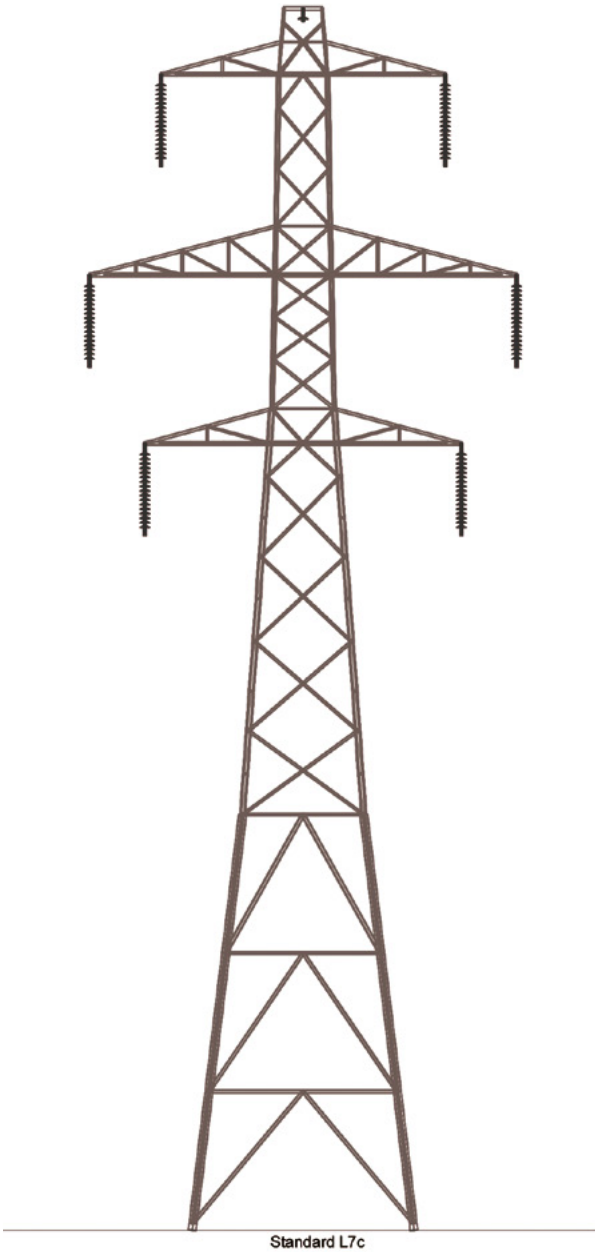
Access tracks will only be constructed where access by all-terrain vehicles or the use of trackway is not feasible.

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.

Construction of a steel lattice tower

A steel lattice tower will have larger foundation requirements per structure (approximately 5x5m for 132kV, 7.5x7.5m for 275kV) than wood poles, however, they have a much longer span length between towers which provides opportunities to micro-site towers away from areas of sensitivity. Permanent access is typically required to facilitate safe operational and maintenance activities, particularly in more remote areas.



Standard L7c
Suspension Tower

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 are 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) and Scottish Forestry (SF).

Have your say

We value community and stakeholder feedback. Without this, we would be unable to progress projects and reach a balanced proposal.

The feedback period

Previous consultation highlighted the need for an extended feedback period. In response to this, we will extend our usual 28 days feedback period.

We will accept feedback from now until 21 June 2024.

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/projects/project-map/connagill-cluster/

Email the feedback form to the Community Liaison Manager. Or write to us enclosing the feedback form at the back of this booklet.

What we're seeking views on

During our last public consultation event in November 2023, we wanted to know your thoughts on the routes under consideration and if you agreed with those we'd identified to take forward.

Now we want you to share your thoughts and opinions on our alignment plans and switching station location, 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.

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

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

Our Community Liaison Team

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

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

Community Liaison Manager

Lisa Marchi-Grey
Community Liaison Manager

SSEN Transmission
10 Henderson Road,
Inverness, IV1 1SN

E: lisa.marchi@sse.com
T: +44 (0) 7825 015 507

Additional information

The best way to keep up to date is to sign up to project updates via the project webpage: ssen-transmission.co.uk/projects/project-map/connagill-cluster/

You can also follow us on social media

SSEN-Transmission

SSETransmission

Recite me

To support everyone online, we provide accessibility and language options on our website through 'Recite Me'. The accessibility and language support options provided by 'Recite Me' include text-to-speech functionality, fully customisable styling features, reading aids, and a translation tool with over 100 languages, including 35 text-to-speech.

Please select "Accessibility" on our website to try out our inclusive toolbar.

Your feedback

Strathy South to Strathy North

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in BLOCK CAPITALS.

Q1. **Have we adequately explained the need for the Strathy South to Strathy North section of the cluster?**

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

Q4. **Do you have any other comments about the preferred alignment?**

☐ Yes ☐ No ☐ Unsure

Comments:

Q5. Following a review of the provided information, how would you describe your understanding of the Connagill Cluster Project?

Comments:

Q6. Are there any factors, or environmental features, that you consider may have been overlooked during the optimal route selection processes?

Comments:

Q7. Do you have any particular concerns or queries on the proposed connection from Strathy South to Strathy North?

☐ Yes ☐ No ☐ Unsure

Comments:

Full name

Address

Telephone

Email

If you would like your comments to remain anonymous please tick this box. ☐

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.

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If you would like to be kept informed of progress on the project please tick this box. ☐

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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**

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Your feedback

Strathy North to Connagill substation (including southern section and the northern section with the alternative route)

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in BLOCK CAPITALS.

Q1. **Have we adequately explained the need for the Strathy North to Connagill substation (including southern section and the northern section with the alternative route).**

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

Q4. **Do you have any other comments about the preferred alignment?**

☐ Yes ☐ No ☐ Unsure

Comments:

Q5. **Following a review of the provided information, how would you describe your understanding of the Connagill Cluster Project?**

Comments:

Q6. **Are there any factors, or environmental features, that you consider may have been overlooked during the optimal route selection processes?**

Comments:

Q7. **Do you have any particular concerns or queries on the proposed connection from Strathy North to Connagill Substation?**

☐ Yes ☐ No ☐ Unsure

Comments:

Full name

Address

Telephone

Email

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Your feedback

Armadale Wind Farm Connection

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in BLOCK CAPITALS.

Q1. **Have we adequately explained the need for the Armadale Wind Farm connection project?**

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

Q4. **Do you have any other comments about the preferred alignment?**

☐ Yes ☐ No ☐ Unsure

Comments:

Q5. Following a review of the provided information, how would you describe your understanding of the Connagill Cluster Project?

Comments:

Q6. Are there any factors, or environmental features, that you consider may have been overlooked during the optimal route selection processes?

Comments:

Q7. Do you have any particular concerns or queries on the proposed connection for Armadale Wind Farm?

☐ Yes ☐ No ☐ Unsure

Comments:

Full name

Address

Telephone

Email

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Your feedback

Melvich and Kirkton Wind Farms

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in BLOCK CAPITALS.

Q1. **Have we adequately explained the need for the Melvich and Kirkton Wind Farms connection project?**

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

Q4. **Do you have any other comments about the preferred alignment?**

☐ Yes ☐ No ☐ Unsure

Comments:

Q5. **Following a review of the provided information, how would you describe your understanding of the Connagill Cluster Project?**

Comments:

Q6. **Are there any factors, or environmental features, that you consider may have been overlooked during the optimal route selection processes?**

Comments:

Q7. **Do you have any particular concerns or queries on the proposed connection for the Melvich and Kirkton Wind Farms?**

☐ Yes ☐ No ☐ Unsure

Comments:

Full name

Address

Telephone

Email

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Your feedback

Switching Station

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in BLOCK CAPITALS.

Q1. **Have we adequately explained the need for the Switching Station as part of the connection project?**

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

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

☐ Yes ☐ No ☐ Unsure

Comments:

Q4. **Do you have any other comments about the preferred station location?**

☐ Yes ☐ No ☐ Unsure

Comments:

Q5. **Following a review of the provided information, how would you describe your understanding of the Connagill Cluster Project?**

Comments:

Q6. **Are there any factors, or environmental features, that you consider may have been overlooked during the site selection processes?**

Comments:

Q7. **Do you have any particular concerns or queries on the proposed location for the Switching Station?**

☐ Yes ☐ No ☐ Unsure

Comments:

Full name

Address

Telephone

Email

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