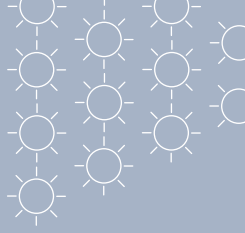




Scottish & Southern
Electricity Networks

TRANSMISSION



Fasnakyle to Bingally 132kV Connection

Route options public consultation

March 2025



[ssen-transmission.co.uk/projects/project-map/
fasnakyle-to-bingally-132kv-connection](https://ssen-transmission.co.uk/projects/project-map/fasnakyle-to-bingally-132kv-connection)

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The consultation event will be taking place on:
Tuesday 25 March – 4pm-7:30pm
 Cannich Hall, Cannich, IV4 7LJ



Powering change together



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

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

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

We all have a part to play

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

We work closely with the National Energy System Operator (NESO) to connect vast renewable energy resources—harnessed by solar, wind, hydro and marine generation—to areas of demand across the country. Scotland is playing a big role in meeting this demand, exporting two thirds of power generated in our network.

But there is more to be done. By 2050, the north of Scotland is predicted to contribute over 50GW of low carbon energy to help deliver net zero. Today, our region has around 9GW of renewable generation connected to the network.

At SSEN Transmission, it is our role to build the energy system of the future.

We are investing over £20 billion into our region’s energy infrastructure this decade, with the potential for this to increase to over £30bn. This investment will deliver a network capable of meeting 20% of the UK’s Clean Power 2030 target and supporting up to 37,000 jobs, 17,500 of which will be here in Scotland.

Who we are

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

What we do

We manage the electricity network across our region which covers a quarter of the UK’s land mass, crossing some of the country’s most challenging terrain. We connect renewable energy sources to our network in the north of Scotland and then transport it to where it needs to be. From underground/subsea cables and overhead lines to electricity substations, our network keeps your lights on all year round.

Working with you

We understand that the work we do can have an impact on communities. So we are committed to minimising our impacts and maximising all the benefits that our developments can bring to your area. We are regularly assessed by global sustainability consultancy AccountAbility for how we engage with communities. That means we provide all the information you need to know about our plans and how they will impact communities like yours. The way we consult is also a two-way street. We want to hear people’s views, concerns, or ideas and harness local knowledge so that our work benefits their communities: today and long into the future. You can share your views with us at: ssen-transmission.co.uk/talk-to-us/contact-us



Scan the QR code with your smartphone to find out more about how these policies have been assessed and determined.

Project 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 an obligation 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, we are required to connect the existing Fasnakyle 275 kilovolts (kV) substation to the proposed Bingally 400kV substation to allow connection onto the wider transmission network. To facilitate this, we are proposing to utilise existing towers and conductors near Fasnakyle substation then continuing via underground cable to the proposed Bingally substation. Reconfiguration of Fasnakyle substation to operate at 132kV is also required and is proposed to be undertaken alongside the construction of the new Bingally substation, so does not form part of this consultation. Under our Network Operator's License, this connection should be efficient, coordinated and economic, whilst having the least possible impact on the environment.

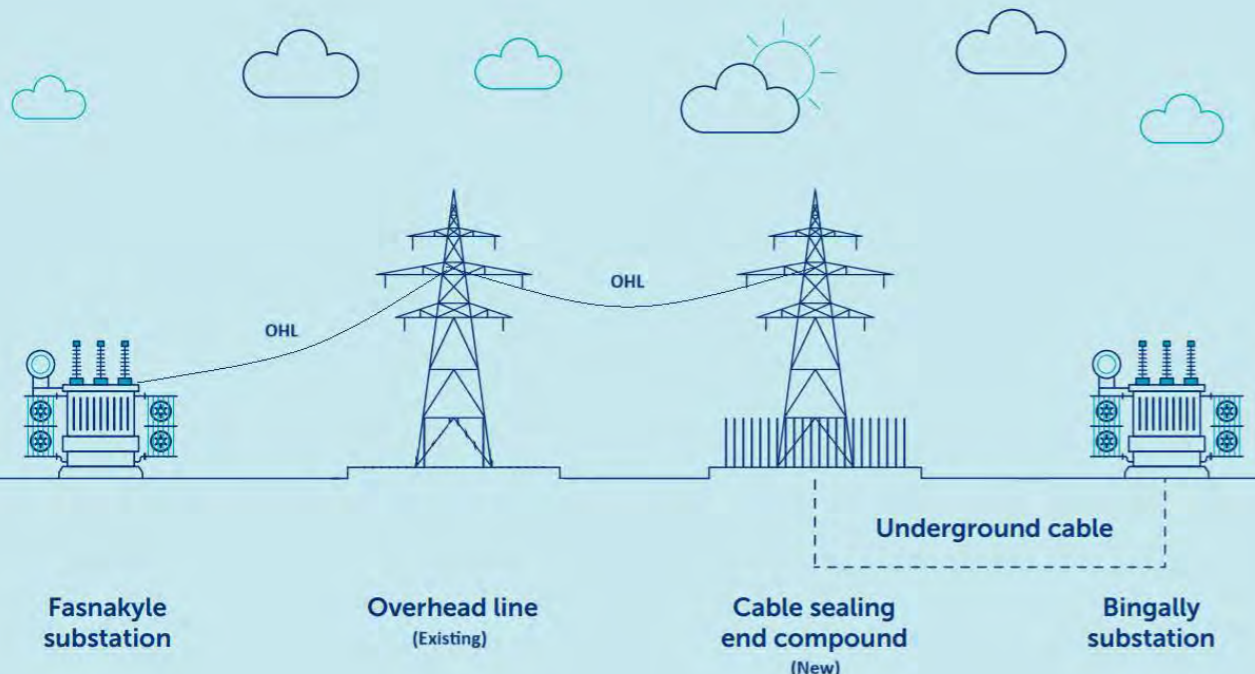
The proposed 132kV connection between the existing Fasnakyle substation and proposed Bingally 400kV substation is up to approximately 10km in length. All routes will require utilisation of the existing overhead line (OHL) crossing the River Glass, located adjacent to the Fasnakyle substation, and will traverse areas of steep slopes to reach Bingally substation.

Some of the routes run in parallel to the existing Beauty – Denny 275/400kV OHL for a significant distance and will also run in close vicinity to the existing access tracks for the Beauty – Denny OHL, with other routes deviating from this existing infrastructure.

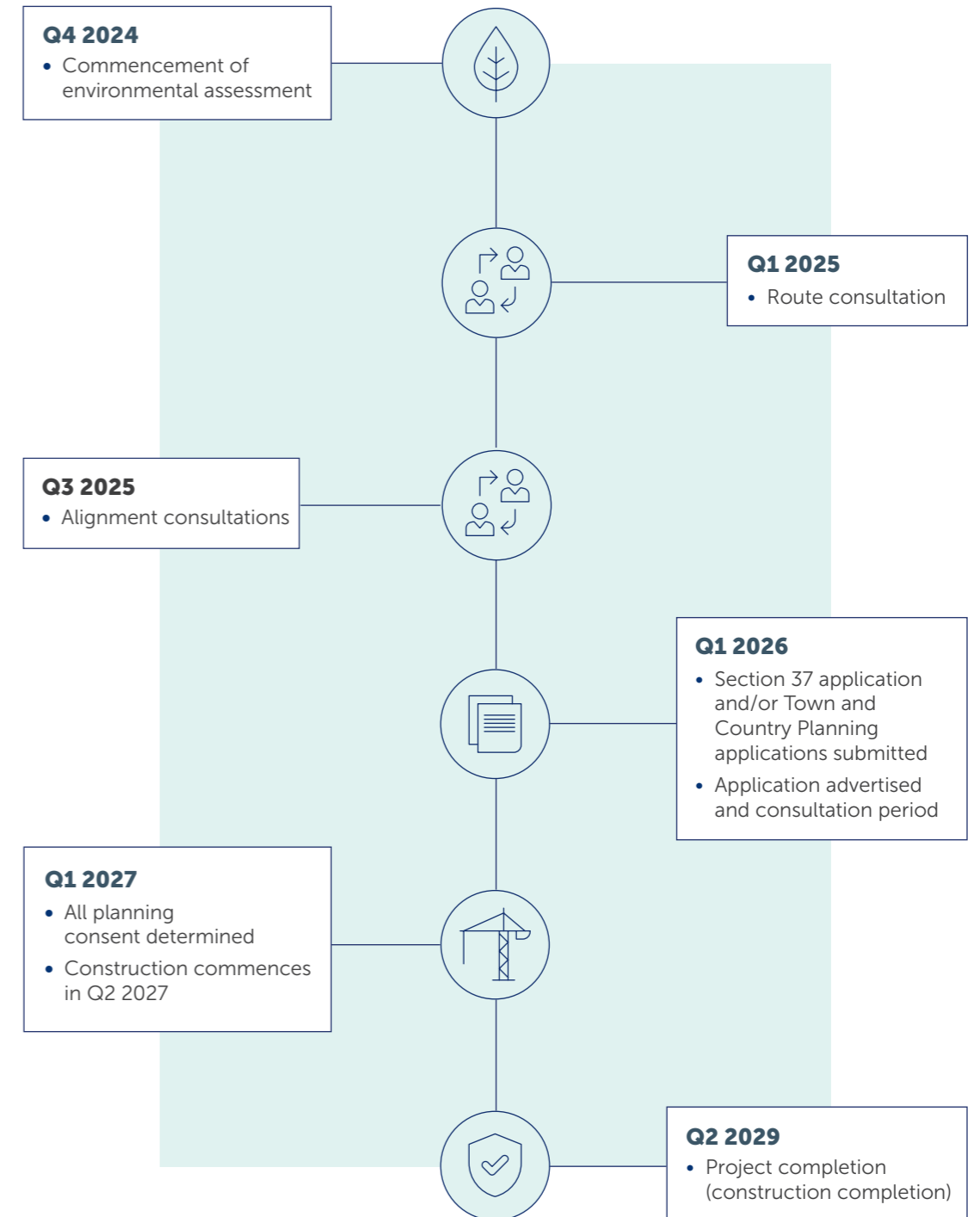
The connection will comprise:

- A 132kV underground cable (UGC) section from the proposed Bingally 400kV substation which will run to the existing 275/400kV OHL towers.
- A transition location, in the form of a cable sealing end compound.
- Utilisation of the existing 275/400kV OHL towers between the cable sealing end compound location and Fasnakyle substation, requiring changes to existing equipment.

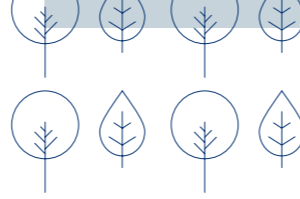
The purpose of this consultation is to provide information relating to the route options proposed for the connection, with the technology choice for each section confirmed.



Project timeline



*Section 37 consent for the OHL is required under the Electricity Act 1989. The application is determined by Scottish Ministers



Our cable routeing and design process

We have developed and implemented formal guidance for the selection of routes and alignments for our new UGC and OHL upgrade.

The main aim of the guidance is to provide a consistent approach to the selection of new OHL and UGC 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 routing process which is to balance technical and cost considerations with environmental considerations, to select a proposed alignment that 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 or UGC projects, the process follows a number of stages, each iterative and increasing in detail and resolution, bringing cost, technical and environmental considerations together in a way that seeks the best balance. This staged process leads to the identification of a proposed OHL or UGC alignment that is capable of being granted consent by either the Scottish Ministers under Section 37 of the Electricity Act 1989 or the Local Planning Authority (in this case The Highland Council) under the Town and Country Planning (Scotland) Act 1997. The key stages are:

Stage 1: Corridor selection

No corridor options were identified due to the limited scale of the project between Fasnakyle substation and the proposed Bingally substation, which limit the alternative corridor options.

Stage 2: Route selection

Route selection seeks to identify route options that avoid where possible physical, environmental, and amenity constraints, is likely to be acceptable to stakeholders, and is economically viable taking into account factors such as altitude, slope, ground conditions and access. A route may be several kilometers in length and typically 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, assessed and consulted on.

We are here



Stage 3: 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. 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 preferred route. It is more likely, however, that variants to sections of an alignment may arise where there are different ways to avoid a constraint.

Meeting our obligations

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

As a natural monopoly, we 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 considerations

Desk-based assessments using available mapping, Geographic Information Systems (GIS) data, and publicly available records have been undertaken to gather initial environmental baseline information.

This is crucial to enable us to understand the key environmental constraints and sensitivities.

Initial work has been carried out which has helped to identify key environmental issues including nature designations, landscape and visual receptors, sensitive habitats, protected ecology and ornithology, forestry, hydrology and recreation.

Following confirmation of a proposed route and alignment for the connection, further detailed studies and assessment work will be undertaken to support the consenting process throughout 2025.

Consenting

The underground cable aspect of the project falls under permitted development rights under the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (GPDO). The GPDO sets out our rights to undertake development without submitting a formal application for Planning Permission. The GPDO grants what is referred to as “Deemed Planning Permission” subject to the provisions and conditions of the Order.

Depending on the confirmation of technology design, the project may require a consent application under Section 37 of the Electricity Act 1989 for the OHL aspect and/or planning consent under the Town and Country Planning (Scotland) Act 1997 for any associated access tracks and cable sealing end compound. The consenting pathway will be confirmed once the design has been progressed. If planning consent is required, the project will be subject to Environmental Impact Assessment (EIA) screening requirements. Depending on the consenting pathway, The Highland Council and/or the Scottish Ministers (through the Energy Consents Unit) will be consulted on whether the development should be classed as an EIA or non-EIA development through the EIA screening process.

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 deemed not an EIA Development, we will provide equivalent environmental information through a voluntary Environmental Appraisal (EA) Report to accompany the consent application. If required, the Fasnakyle to Bingally 132kV Connection will be screened for EIA in Q3 of 2025.

Engineering and economic considerations

The following engineering and economic considerations form a key part of our routeing process:

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

Route options

We have identified four potential route options for the new 132kV connection route, which includes a tie in to the existing OHL adjacent to the existing Fasnakyle substation.

Route options were constrained to the west by Tomich and to the north by Cannich. Routes were considered following the valley north and south and directly up the hill opposite the existing Fasnakyle substation. Options further afield were not considered economically viable due to increased infrastructure requirements with the region to the east posing additional topographical challenges.

Two of the route options fully utilise the existing Beauty to Denny OHL corridor in an attempt to minimise landscape and visual disturbance by consolidating infrastructure

and utilise existing access tracks. Two alternative routes have been proposed further to the west to provide a robust assessment of all potential options.

The route selection process is informed by our guidance for routing which helps us meet our obligations under Schedule 9 of the Electricity Act 1989, and aims to balance environmental, technical, and economic considerations throughout. The route options identified and appraised for this project are described below and shown on the following page.

The routes are wider when running parallel to the existing Beauty – Denny OHL to allow alignments to be produced on either side.

Route 1

Route 1 utilises the existing 400kV OHL across the River Glass, up the hill towards the existing Beauty to Denny tie in location. It then runs parallel to the existing OHL south, then southwest towards the proposed Bingally substation. This route is approximately 6.6km.

Route 2

Route 2 was selected to minimise impact on ancient woodland as much as possible. This route splits off from the existing 400kV OHL after the River Glass, crossing northeast towards Kerrow, then up the hill towards the existing Beauty to Denny OHL. It then runs parallel to the existing OHL southwest, towards the proposed Bingally 400kV substation. This is the longest route at approx. 10.1km.

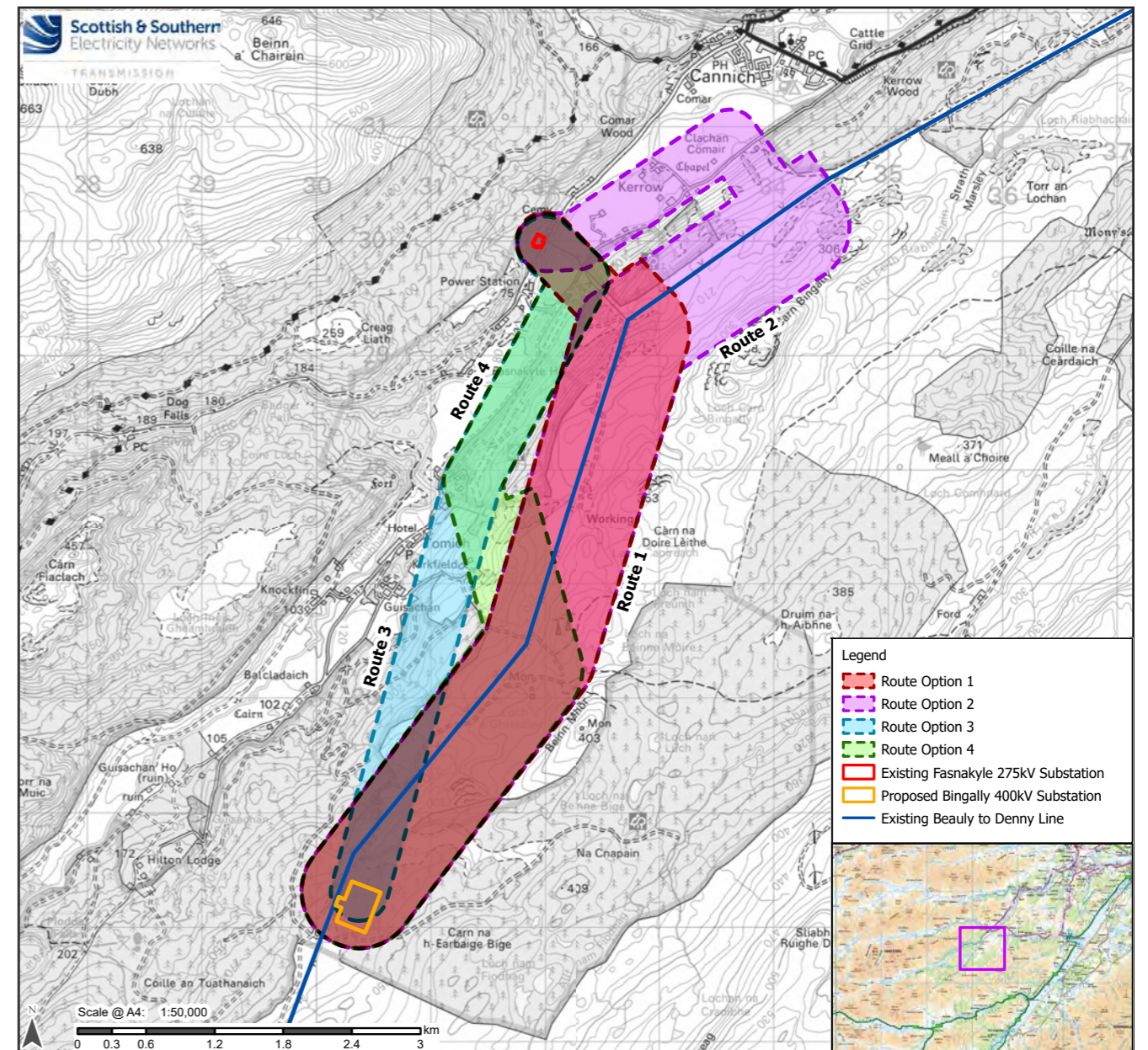
Route 3

Route 3 splits off from the existing 400kV OHL after the River Glass, crossing south-west through commercial forestry. It gradually progresses uphill to connect to the proposed Bingally substation. This route is approximately 6.6km.

Route 4

Route 4 splits off from the existing 400kV OHL after the River Glass, crossing southwest through commercial forestry. It then turns southeast uphill through more open hillside towards the Beauty to Denny OHL before running southwest to the proposed Bingally substation. This route is approximately 6.2km.

Proposed route overview



Routeing stage: RAG (Red, Amber, Green) Rating

We have identified four route options based on initial desk-based review and site visits within the area of search. The table below displays the environmental and engineering appraisal RAG ratings for the route options considered.

L - Low **M** - Medium **H** - High

	Category	Sub-topic	Route options			
			1	2	3	4
Environmental	Natural heritage	Designations	H	H	H	H
		Protected species	M	M	M	M
		Habitats	H	H	H	H
	Cultural heritage	Ornithology	M	M	M	M
		Geology, hydrology, and hydrogeology	M	M	M	M
		Designations	L	L	L	L
	People	Cultural heritage assets	L	L	H	H
		Non-designated assets	M	M	H	M
	Landscape and visual	Proximity to dwellings	H	H	H	H
		Designations	L	L	L	L
	Land use	Landscape character	M	M	M	M
		Visual amenity	M	M	M	M
		Agriculture	L	L	L	L
	Planning	Forestry	M	H	H	H
		Recreation	M	M	M	M
		Policy	M	M	M	M
Engineering	Infrastructure crossings	Proposals	M	M	M	M
		Major crossings	H	H	H	H
	Environmental design	Road crossings (to be assessed)				
		Elevation	H	H	H	H
		Atmospheric pollution	L	M	L	L
		Contaminated land	M	M	M	M
	Ground conditions	Flooding	L	M	L	L
		Terrain	L	L	M	M
	Construction maintenance	Peat	M	L	L	L
		Access	L	L	L	L
		Angle towers (to be assessed)				
	Proximity	Clearance distance (to be assessed)				
		Wind farms	L	L	L	L
		Communication masts	H	M	L	H
		Urban environments	L	L	M	L
		Metallic pipelines	L	L	L	L

Engineering factors

- **Cable bending radii** - The cables have limited bending ability so sharp angles either on the horizontal or vertical axis can cause problems when installing and if the design parameters are exceeded, which is a risk to the integrity of the cable.
- **Thermal properties of soils** - All electricity cables generate heat to some extent. If the soils around the cable do not allow the heat to dissipate then this can impact on the ability to run the cable at its intended capacity.
- **Ground conditions/terrain** - It is typically favoured to put a cable through undisturbed ground as this is usually the best soil conditions with enough soil to bury in. If we encounter shallow rock for example, this requires further work to get the ducts and cables in the ground. Additionally underground cables should avoid gradients where possible as the physical weight of the cable laid upon a gradient can put undue stress on the joints. Where steep gradients cannot be avoided, routing is then influenced by assessing alternatives, considering mitigation measures and then progressing with the most viable route/solution.
- **OHL constraints** - When routing an OHL there are always constraints to be considered, such as flooding areas, difficult topography, peat, existing underground utilities with metalwork, air pollution, radio signals and others, all of which have the potential to impact the construction and need to be accounted for in site and technology choices.
- **Cable sealing end location** - A cable sealing end compound requires a level platform, which is likely to need significant earthworks where the terrain is steep. As with any substantial earthworks, areas of deep peat are best avoided.
- **River Glass crossing** - Due to the width and depth of the River Glass in the immediate vicinity of the Fasnakyle substation, initial assessment indicates that an OHL connection with towers either side is the most viable method to cross. Given there is an existing tower at the connection point into the substation, this tower is planned to be retained for this purpose in all route options.

Environmental factors

- Surrounding nature and landscape designations in close proximity to the route options including the Glen Affric National Nature Reserve, Central Highlands Wild Land Area Strathglass Complex Special Areas of Conservation and Glen Affric to Strathconon Special Protection Area.
- Proximity of the route options to Tomich and surrounding residential properties as well as wider landscape and visual implications.
- There is potential for impact to deep peat, specifically within areas of Class 1 and 2 peatland present within the route options.
- Areas of Ancient Woodland and commercial forestry plantation and are present either within or in close proximity to all route options.
- The habitats along all route options can support protected species such as bats, red squirrel, pine marten and badger. The watercourses and lochs present can provide suitable habitat for otter and water vole. Black grouse are present within the open heathland habitat.
- Proximity of the route options to cultural heritage assets, conservation areas, listed buildings and scheduled monuments.

Construction requirements

The project design requirements are still being considered and the outcome of this will determine the specific construction requirements.

275kV overhead line reconfiguration

There are a number of existing 275kV towers leading up the hill opposite Fasnakyle substation. These towers can be re-used to carry the two 132kV circuits over the River Glass, where a new tower arrangement or cable sealing end compound could be used to transfer to a new 132kV circuit for the remainder of the route to the proposed Bingally substation. A typical operational corridor (clear area) at 275kV of 70 metres, would be required to re-use these towers at 132kV.

Access tracks

Utilisation of any existing access tracks including the existing Beauly to Denny access, or newly proposed tracks associated with the proposed Bingally 400kV substation will be prioritised. Access tracks will be constructed with imported, locally sourced and/or material won on site. Permanent access tracks to underground cable junction boxes and the cable sealing end compound will be required.



Cable sealing end

Construction traffic

Construction traffic will utilise the proposed access track for the proposed Bingally 400kV substation. An outline Construction Traffic Management Plan (CTMP) is currently in development and will be included in the planning application. This will detail expected traffic volumes, cumulative traffic volumes considering the substation works and will be utilised during detailed design to optimise vehicle routes to and from the site.

Underground cable

A 132kV underground cable will run from the cable sealing end compound to the proposed Bingally substation.

Cable Sealing End (CSE) compound

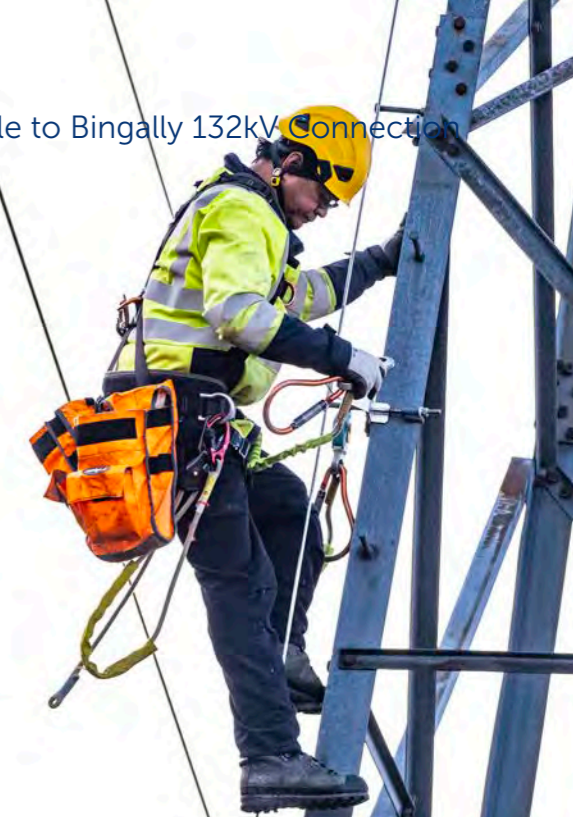
The inclusion of a CSE compound will require permanent road access, suitable for a cable test truck to operate and turn, as well as a Town & Country planning application, to cover each CSE compound proposed. Each CSE compound is likely to be approximately 40m by 50m in size (excluding earthworks), in order to accommodate the plant and testing facilities required for its safe and reliable operation. A CSE compound is a ground-level platform used to transition between an overhead line connection and an underground cable one. It usually contains an overhead line terminal tower, as well as the electrical equipment needed to transfer below ground.



Aerial view of a cable sealing end

Other projects in the local area

As the transmission operator in the north of Scotland, we need to maintain and invest in the high voltage electricity transmission network in our area to provide a safe and reliable electricity supply to our communities. The reconfiguration of Fasnakyle substation to operate at 132kV also forms part of this project.



Bingally substation

As part of the Beauly to Denny upgrade project, the proposed Bingally 400kV substation will involve construction of a new outdoor, 400kV Air Insulated Switchgear (AIS) substation located southeast of Tomich, approximately 6km from the existing Fasnakyle 275kV substation.

ssen-transmission.co.uk/bingally

Tomchrasky wind farm connection

Subject to planning consent, we are required to connect the Tomchrasky wind farm (located approximately 13km southwest of Tomich) to the transmission network. To facilitate this, we are proposing to construct a new single circuit 132kV OHL from the Tomchrasky wind farm 132kV substation to the new proposed Bingally 400kV substation.

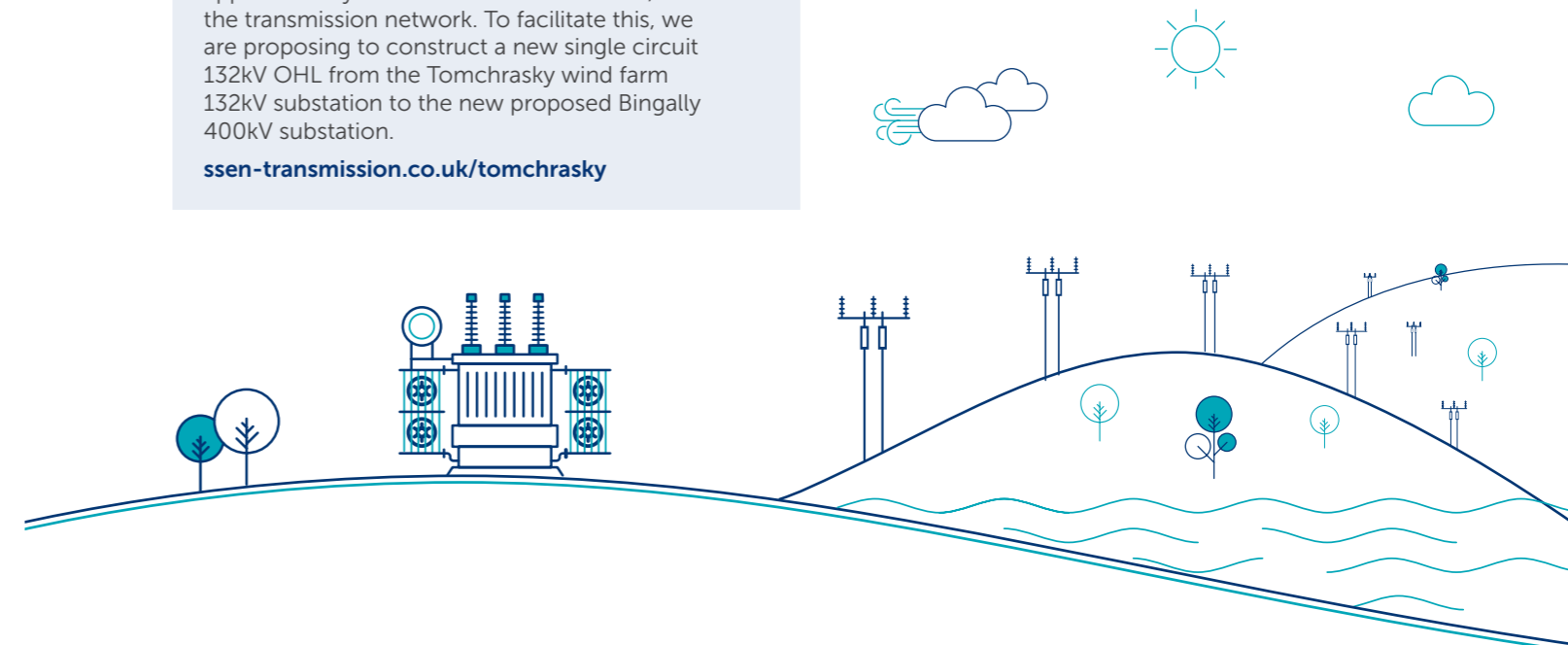
ssen-transmission.co.uk/tomchrasky

Loch Liath wind farm connection

Subject to planning consent, we are required to connect the Loch Liath wind farm (located approximately 13km southwest of Drumadrochit) to the transmission network.

This project is in its infancy and is still within the early development phase and currently does not have its own dedicated webpage. Once we have more information to share the projects webpage will become available on our website:

ssen-transmission.co.uk/projects



Next steps

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

The feedback period

We will accept feedback from now until **6 May 2025**.

How to provide feedback:

- Submit your feedback online by scanning the QR code on this page or via the form on our project webpage: ssen-transmission.co.uk/fasnakyle-bingally
- Email the feedback form to our Community Liaison Manager, or write to us enclosing the feedback form at the back of this booklet.

What we're seeking views on

We are asking for feedback on the areas raised in the feedback form in the following pages, including if there are any factors or environmental considerations you consider important that you don't feel we have addressed, and if you have any comments on the route options.

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. By telling us what you think, you will help shape our proposals.

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

Nicki McLuskey

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

 nicola.mcluskey@sse.com

 +44 (0) 7879 793 652

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/fasnakyle-to-bingally-132kv-connection

You can also follow us on social media:



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

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

Please complete in BLOCK CAPITALS. (Please tick one box per question only)

Q1. Have we adequately explained the need for the connection of the Fasnakyle to Bingally 132kV connection?

Yes No Unsure

Comments:

Q2. Out of the 4 route options presented, do you have a preference? Please provide your reasons for this preference.

Route 1 Route 2 Route 3 Route 4 None

Comments:

Q3. Do you feel enough information has been provided to understand what is being proposed and why?

Yes No Unsure

Comments:

Q4. Are there any additional factors, or environmental features, that you consider important and should be brought to the attention of the project team?

Comments:



Q5. Do you have any particular concerns or queries regarding the proposed connection from the Fasnakyle 275kV substation to the proposed Bingally 400kV substation?

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

Email: nicola.mcluskey@sse.com

Online: ssen-transmission.co.uk/fasnakyle-bingally

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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