

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'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.

£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.



More information about the policies and documents driving the need for the energy system for the future can be found here:

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 and 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



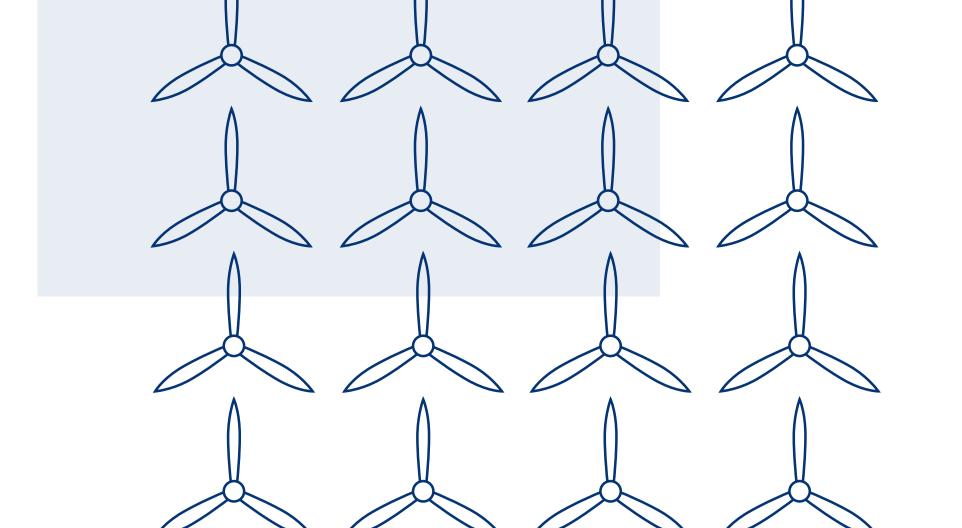
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Project overview

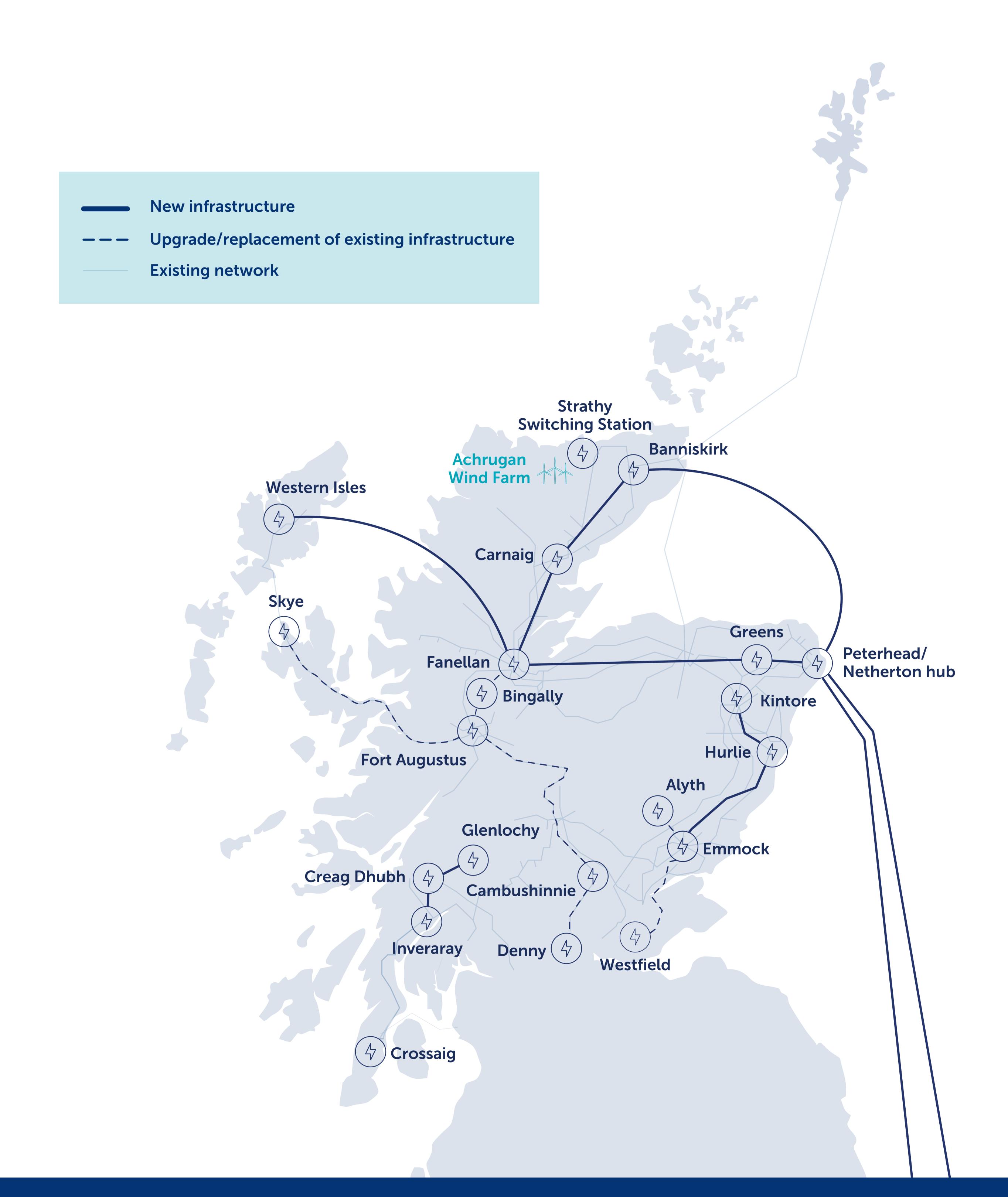
New Strathy 132kV Switching Station

As Transmission Operator for the north of Scotland, we enable electricity generators to connect to the transmission system by providing their connections which allow the electricity generated to be transported to areas of demand.

As such, we are required to provide a connection for Achrugan Wind Farm and overhead line tie-ins will be required to connect the new switching station to the Strathy South – Connagill overhead line.

To facilitate the new grid connections, Strathy Switching Station would be required to collect all incoming circuits onto a double busbar before being re-routed through the steel structure 132kV OHL to Connagill 275/132kV substation.

These works will form part of 'The Connagill Cluster'.





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What we are consulting on

At SSEN Transmission, we are committed to delivering a robust and transparent consultation process underpinned by inclusion and accessibility. As a stakeholder led business, we understand the importance of involving communities and key stakeholders throughout each stage of our development process to deliver better outcomes for projects.

We are keen to hear your feedback regarding our site selection process and if there are further considerations you believe need to be considered during the next stage of the development process.

Strathy 132kV Switching Station potential site

During this consultation, we are presenting our approach to developing the new 132kV substation required near Strathy in the Highlands of Scotland for several consented and proposed Wind Farm connections to the transmission network.

Our consultation includes information regarding our site selection process and the potential site options being considered, the planning process, environmental and engineering considerations and maps which aim to give stakeholders and community members a better visual representation of the work on the project to date. Stakeholder engagement in the development phase is vital in shaping our proposals. To do this effectively we need to capture consultation feedback and harness local knowledge to identify challenges and explore opportunities.

We're therefore requesting views regarding the site selection process, and any thoughts regarding the potential sites for the new Strathy Switching Station presented.

Who we're consulting with

We are keen to hear feedback from a broad range of stakeholders including but not limited to local residents, landowners, businesses, non-statutory consultees and statutory consultees such as local authorities, NatureScot, SEPA, Historic Environment Scotland.

If you require additional support to submit your views, please contact our Community Liaison Manager who will happily assist you.







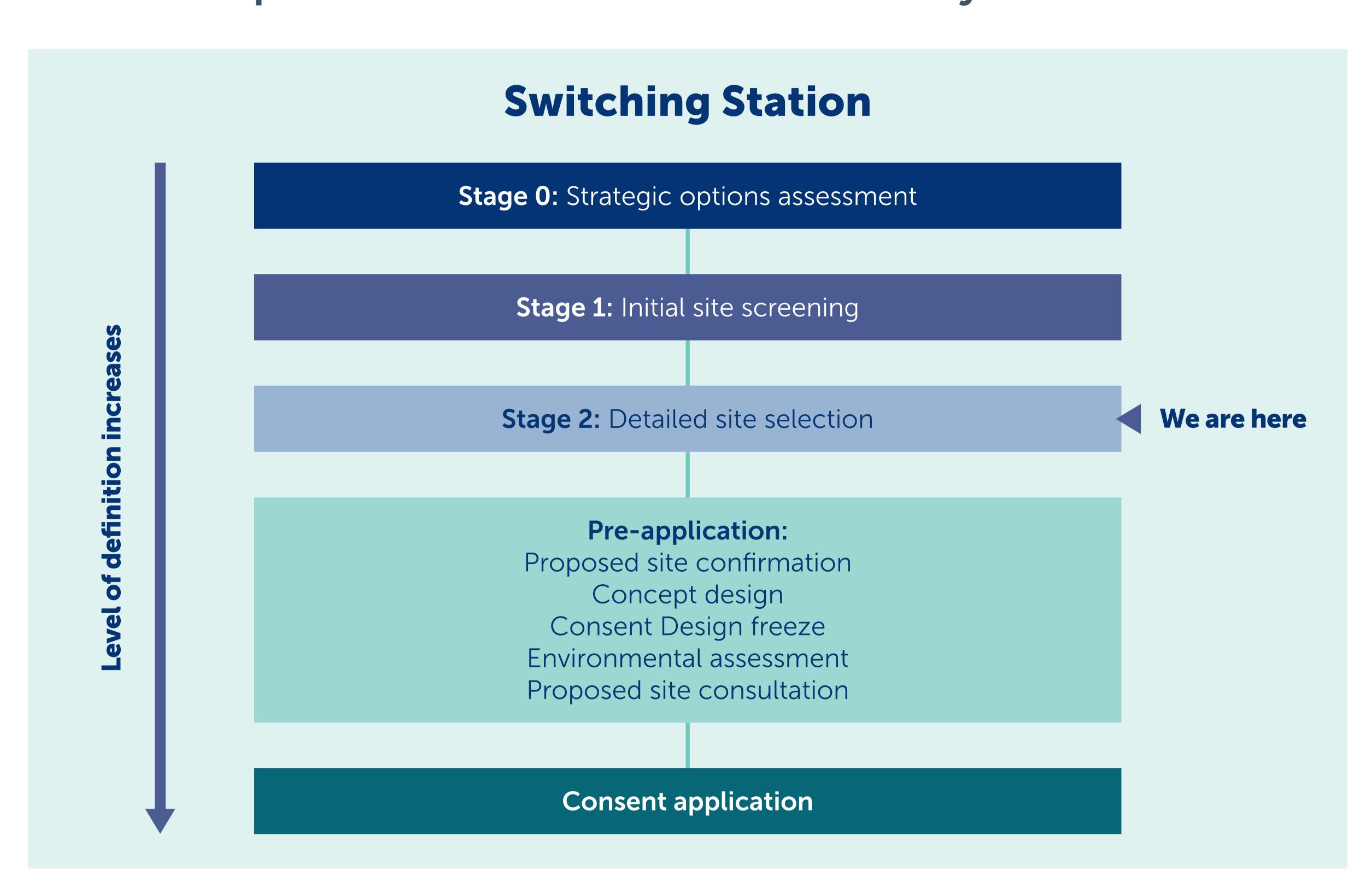






Our site selection process

We follow formal internal guidance to enable us to consistently and rigorously select sites for new substation/ switching stations. Each process has a number of key stages, each increasing in detail and definition and bringing technical, environmental and cost considerations together in a way which seeks the best balance in accordance with our Transmission Network Operator's License and the Electricity Act 1989.



Stage 2: Detailed site selection - current project stage

This stage seeks to identify a potential site from shortlisted options, that minimise (where practicable) physical, environmental and amenity constraints, are likely to be acceptable to stakeholders and are viable (taking into account engineering and environmental requirements).

The connections into new and existing assets forms a crucial part of this assessment to reduce the need for additional new infrastructure.

Both the process and our potential options are then presented to the public and statutory stakeholders for consultation.

Comments on our process are critical in ensuring the potential options are the best to be taken forward to planning. Comments are taken on board and modifications may be made to ensure comments have been accommodated where practicable. These will be presented during further pre-application consultation events to the public and statutory stakeholders.











The planning process

The outcome of the optioneering processes will be developments for which consents under the respective planning regime will be sought.

Switching stations

These require an application for planning permission to be submitted to the relevant Local Planning Authority (The Highland Council) under the Town and Country Planning (Scotland) Act 1997.

The switching station application will identify the proposed development, including:

- Site boundary clearly shown in red (the Red Line Boundary) including any permanent and temporary access routes and junctions onto public highways.
- The proposed development in relation to the site boundary with dimensions of all permanent and temporary works including structures, buildings, perimeter fencing, drainage features, key electrical equipment, construction compounds and laydown areas.

Overhead line tie-ins

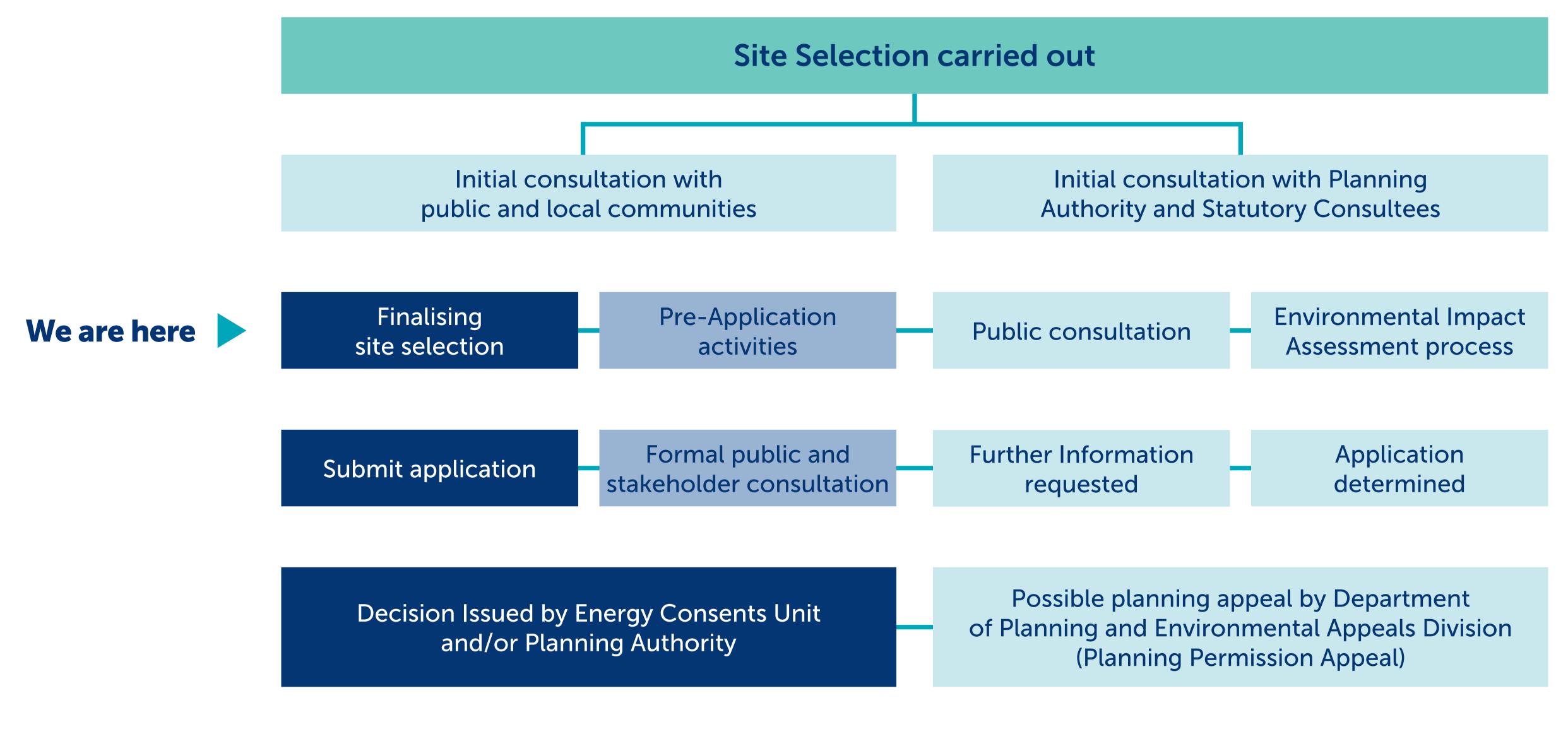
These require an application for consent under section 37 of the Electricity Act 1989 to be submitted to the Scottish Ministers via the Energy Consents Unit (ECU).

Overhead line tie-ins Consenting Strategy

The Transmission projects will be subject to environmental impact assessments required under the relevant consenting regimes.

Should the proposed development be deemed non-EIA (due to its scale or potential environmental impacts), a voluntary Environmental Appraisal will be produced by SSEN Transmission to support the application.

Planning application for switching stations and Section 37 application for OHL tie-ins





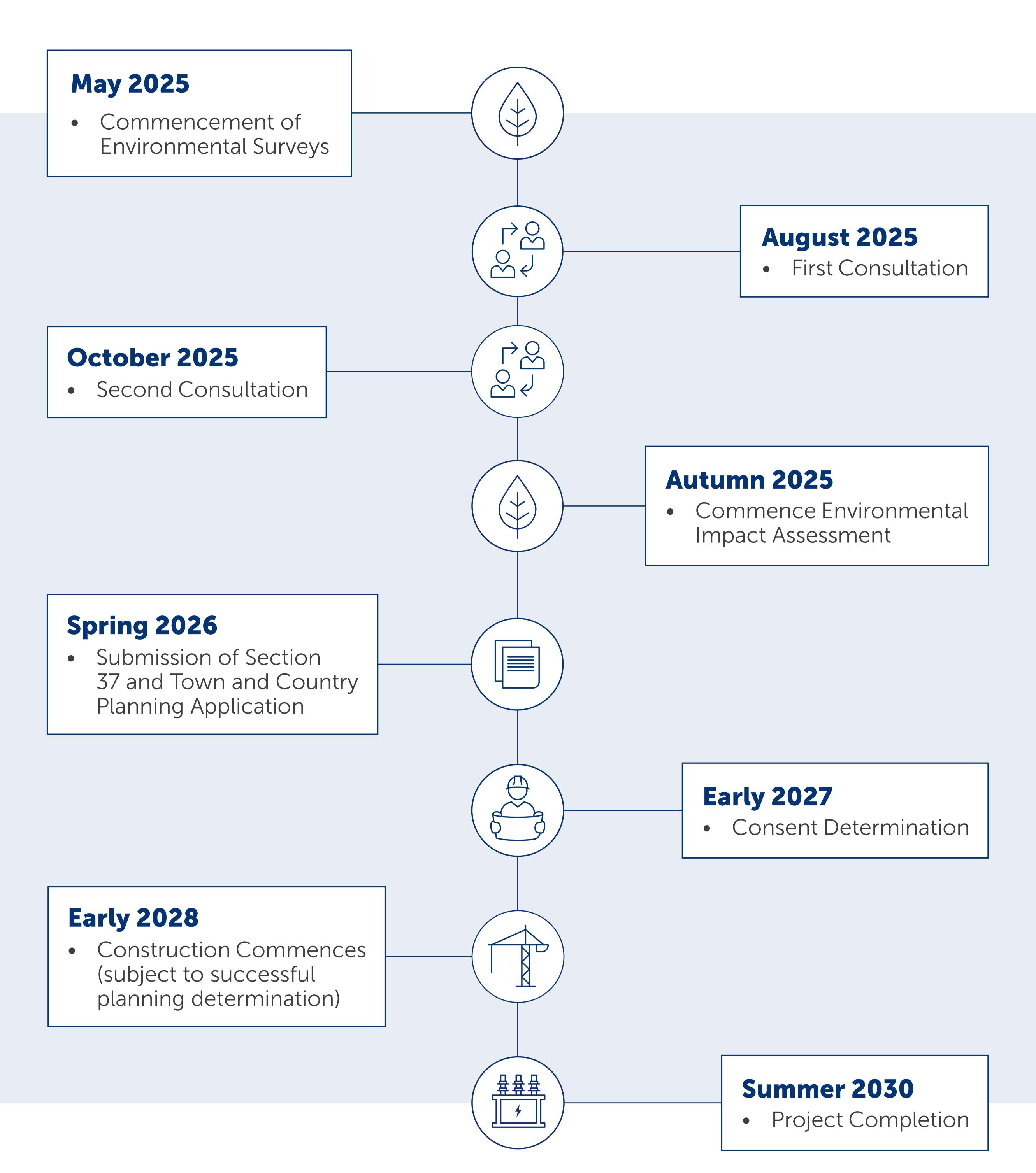








Project timeline



*Please note that the timeline is indicative and subject to change.





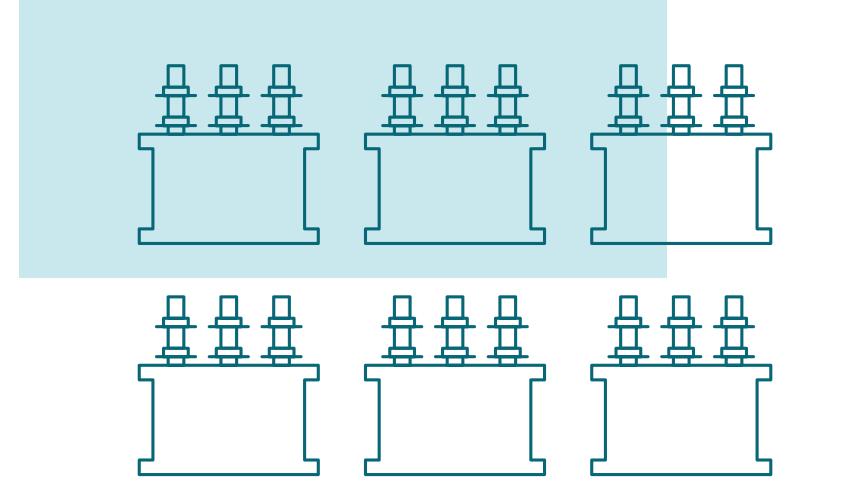
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Switching stations

The Strathy 132kV Switching Station will house all the required Gas Insulated Switchgear (GIS) to accommodate the connection of the Achrugan Wind Farm and realign the overhead line to tie in from Strathy South to Strathy North and from Strathy North to Connagill.

A switching station is a node on the electricity network to allow it to be operated safely. Unlike a substation, it doesn't change the voltage of the electricity, instead, it converges multiple circuits and can turn them on or off to direct electricity where it is needed. This allows operators to isolate any problems, maintain the network and operate it safely.

To reduce the size of the footprint required, Gas Insulated Switchgear (GIS) has been utilised which provides a footprint of around 5.5 hectares - approximately 2/3 smaller than that of traditional Air Insulated Switchgear (AIS).

The Strathy 132kV switching station will be primarily housed indoors, this is due to the corrosive and extreme environment that the equipment will face in this location. By constructing indoors, we extend the service life of our equipment, as well as improving reliability. This will result in less intervention through the lifetime of the site. Indoors the Switching Station will also include ancillary equipment on the ground floor including control and protection panels, communication equipment, low-voltage switchgear, batteries, and welfare facilities. Externally to the main building, there will be several pieces of ancillary equipment including, a gantry for one overhead line entry point and its associated high voltage switchgear, a diesel generator to provide emergency back -up power, car parking (including EV chargers) and Low voltage regulation equipment.



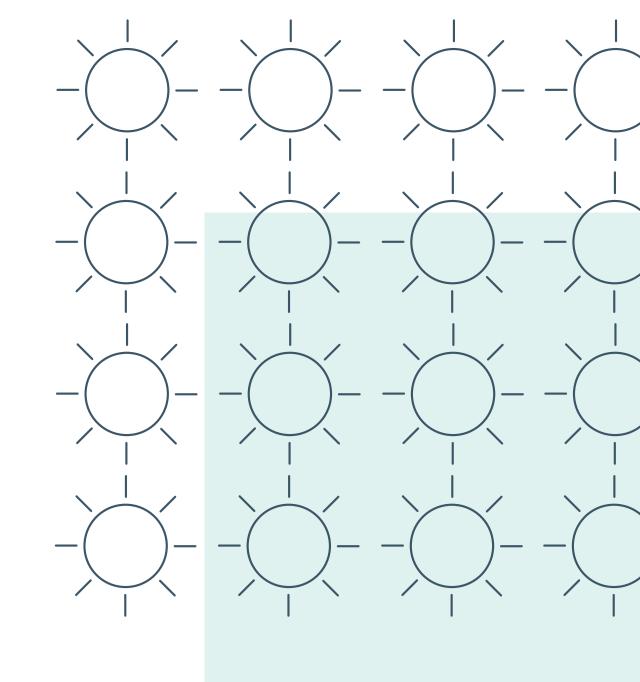








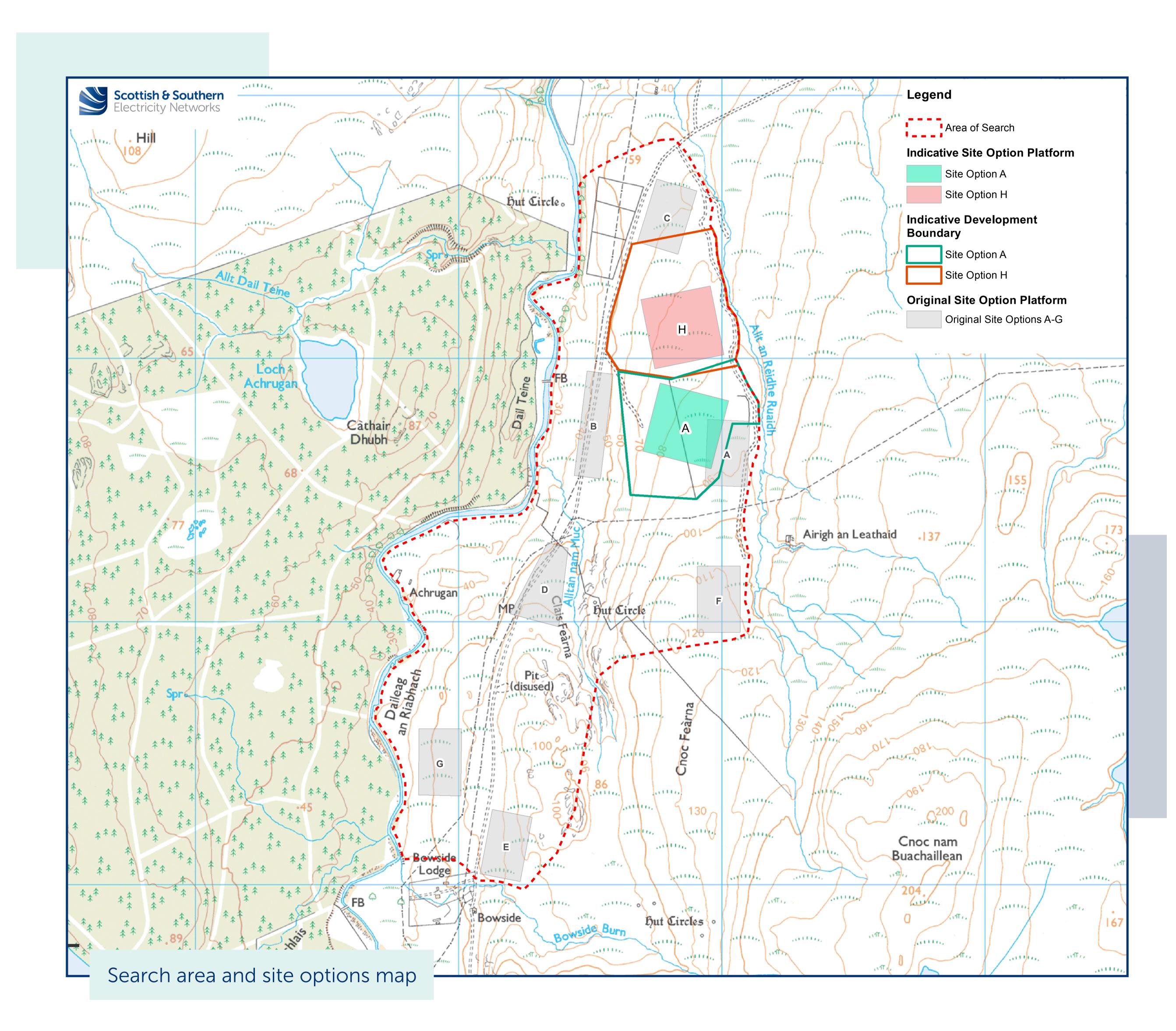




Site selection options considered

After consultation on Site Options A to G, and in discussion with the engineering teams on feasibility, some changes were made;

- Site Option A was moved west away from the deepest pocket of peat, and partially straddling the apportionment of land to the west. This site option is hereafter referred to as Optimised Site Option A.
- During the 2024 optioneering, the location of the proposed Armadale Wind Farm Grid Connection restricted consideration of an option between Site Option A and Site Option C. However, as the Armadale Wind Farm Grid Connection is no longer required, during the April 2025 workshop, it was suggested that a new site option be considered to the north of Optimised Site Option A, hereafter referred to as Site Option H.











Overview of the Strathy Switching Station - Site selection process

Stage 0: Strategic options assessment

We follow formal internal guidance to enable us to consistently and rigorously select sites for new substations, switching stations and converter stations. Each process has several key stages, each increasing in details and definition and bringing technical, environmental and cost considerations together in a way which seeks the best balance in accordance with our Transmission Network Operator's Licence and the Electricity Act 1989.

The following requirements were identified as essential for the new site:

- Proximity to the proposed double circuit 132kV overhead line to minimise the amount of new infrastructure required to connect to the network.
- Large enough to accommodate the required switching station footprint together with associated landscaping, contractor compounds, access and new connection routes.
- Additional space for future proofing if required.
- In areas which do not contain environmental designations and minimise impacts on local environmental receptors.

Stage 1: Initial site screening

- Five site options were identified between the River Strathy and the Allt an Reidhe Ruaidh burn, south of the village of Strathy. This identification was performed using publicly available data and multi criteria analysis (MCA) to provide high level constraints information.
- Assessment of the five options were undertaken against the key requirements and using the Red, Amber, Green (RAG) matrix from our Site Selection Guidance. This resulted in three of the five options being discounted from further assessment based on environmental and technical considerations. However, all Site Options were taken forward to Stage 2, due to the numerous environmental and engineering constraints.

Stage 2: Detailed site selection

Further appraisal and comparison of the shortlisted options have been undertaken based on the RAG matrix criteria within our Site Selection Guidance. Further details of the stage 2 process can be found on the following pages.

RAG Assessment Criteria

Stages 1 and 2 of the site selection process apply a Red Amber Green (RAG) risk assessment scoring for technical, environmental and economical aspects.

The criteria is shown in the opposite diagram.

Performance

Most preferred

Least preferred

Comparative appraisal

Low potential for the development to be constrained

Intermediate potential for the development to be constrained.

High potential for the development to be constrained.



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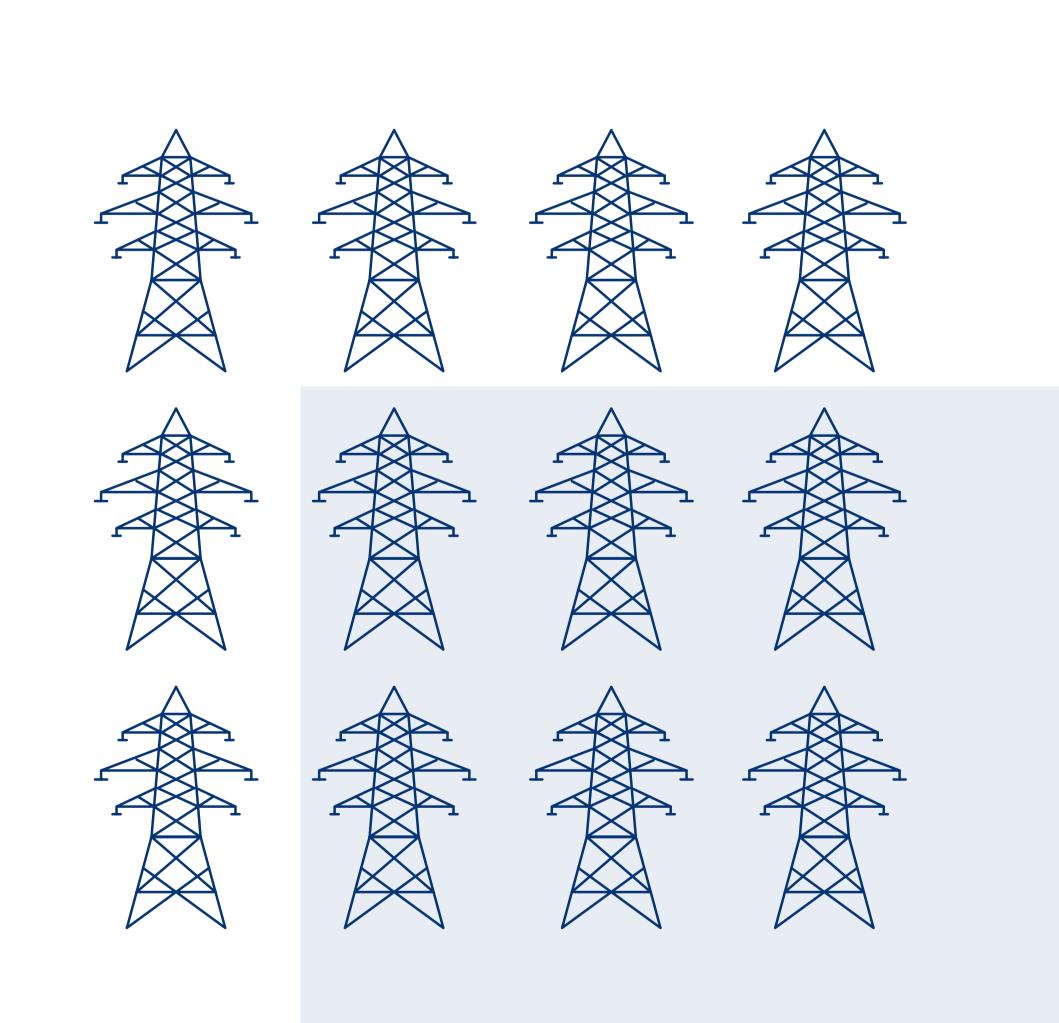
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Red, Amber, Green (RAG) Assessment - Engineering (Stage 2)

Category	Sub-topic	Optimised Option A	New Option H
Connectivity	Existing Circuits/Networks	A	R
	Future Development Possibilities	A	A
	Interface with SSEN Distribution and Generation	G	G
	DNO Connection	G	G
Footprint Requirements	Technology	G	G
	Adjacent Land Use	G	G
	Space Availability	G	G
Hazards	Existing Hazards	G	G
Ground Conditions	Topography	G	A
	Geology	A	A
Environmental Conditions	Elevation	G	G
	Salt Pollution	R	R
	Flooding	G	G
	Carbon Footprint	R	R
	SF6	G	G
	Contaminated Land	G	G
	Noise	G	G
Construction	Substation Access Road (from public road)	A	A
Access	Transformer Delivery Route	R	R
Operation and Maintenance	Access	A	A





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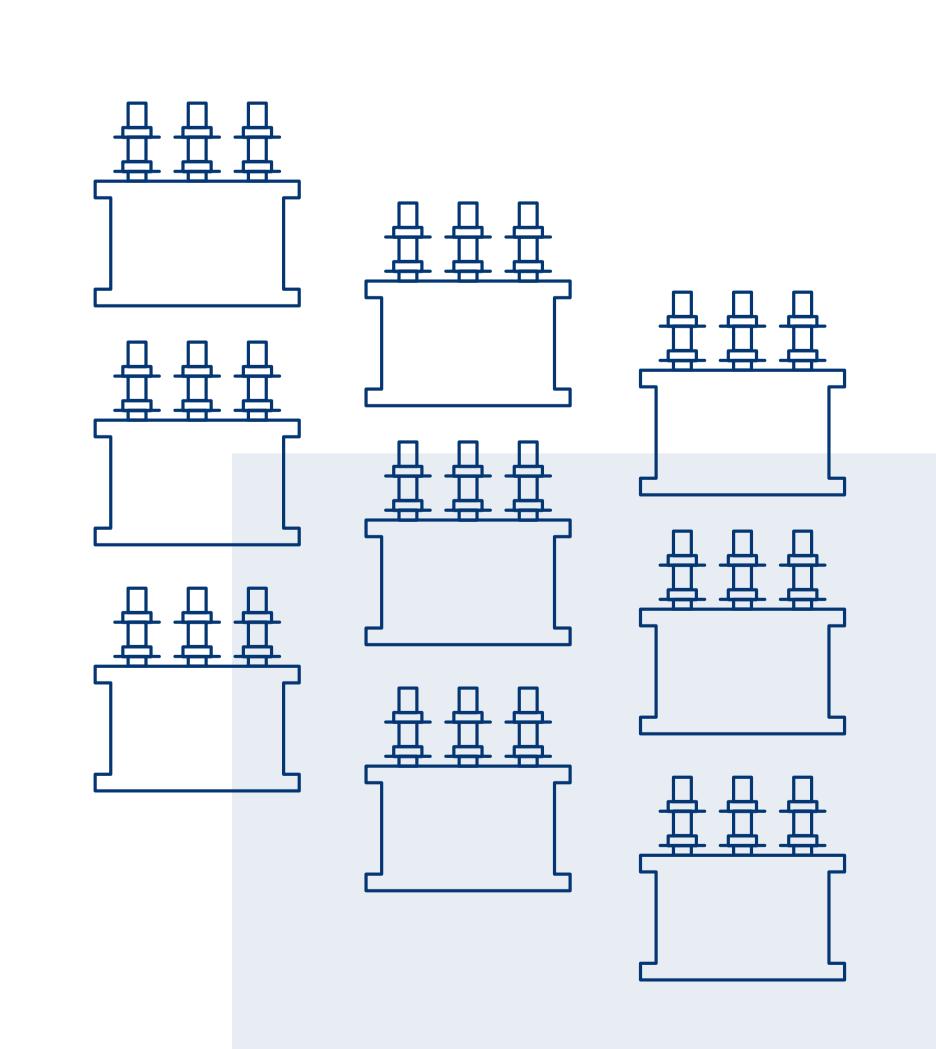




Red, Amber, Green (RAG) Assessment - Environmental (Stage 2)

Category	Sub-topic	Optimised Option A	New Option H
Natural Heritage	Designation	A	A
	Protected Species	A	A
	Habitats	A	A
	Ornithology	A	R
	Hydrology/Geology	A	R
Cultural Heritage	Designation	G	G
	Cultural Heritage Assets	G	G
Landscape and Visual	Designation	A	A
	Landscape Character	R	R
	Visual	A	A
Land Use	Agriculture	G	G
	Woodland/Forestry	G	G
	Recreation	G	G
Planning	Policy	A	A
	Proposals	G	G

In determining the preferred site option on environmental and engineering grounds, consideration has been given to the particular constraints and RAG ratings identified for each of the environmental and engineering topics considered in this appraisal.





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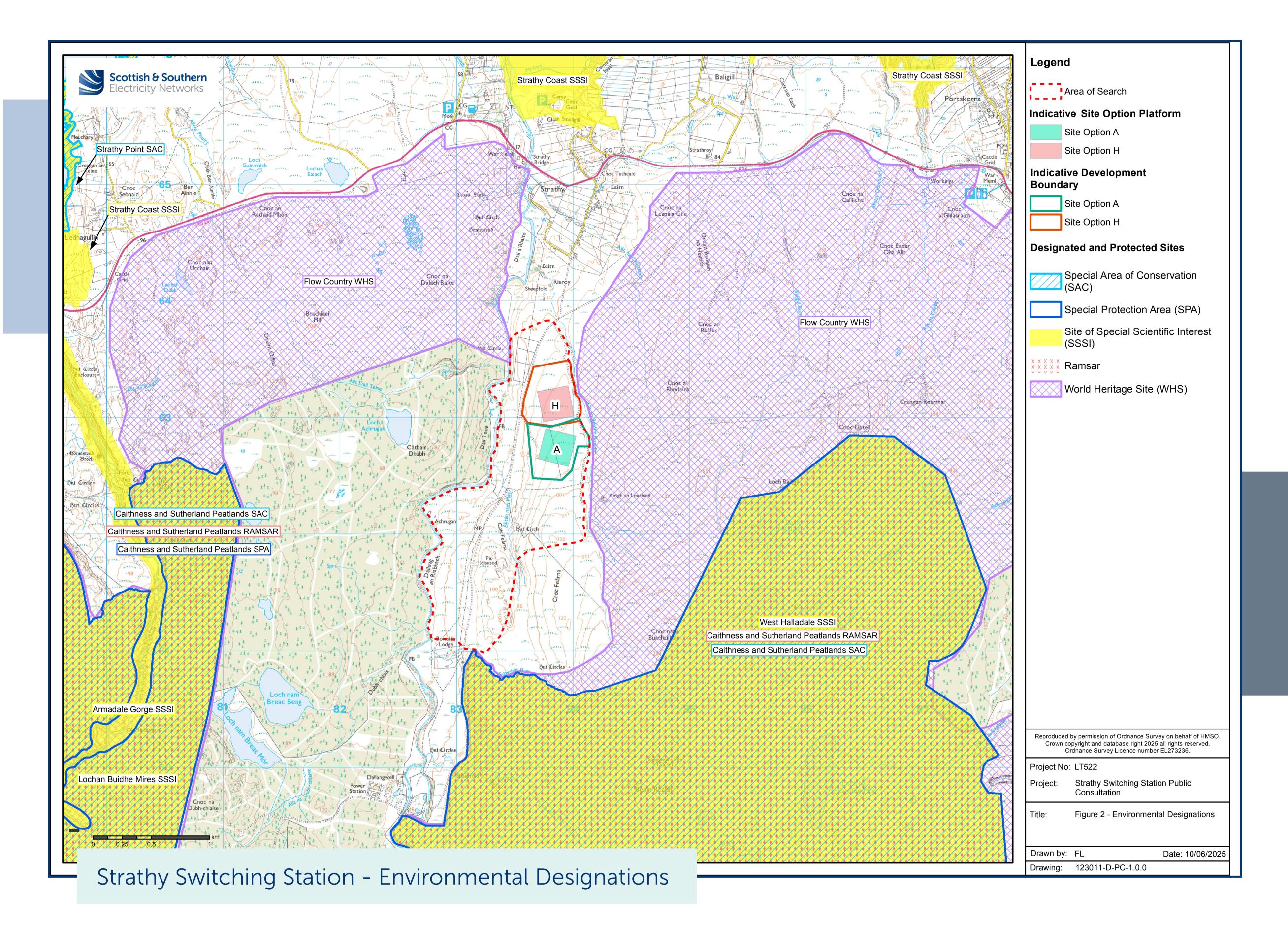


Environmental considerations

Constraints in the vicinity of the Site Options include the village of Strathy approximately 2km north of the proposed switching station.:

In addition, there are several environmentally designated sites to be considered, including The Caithness and Sutherland Peatlands Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site, along with the West Halladale Site of Special Scientific Interest (SSSI) and the Strathy Coast SSSI. Strathy Point SAC, Strathy Coast SSSI and North Caithness Cliffs SPA also lie to the north the Site Options.

The area is adjacent to the Flow Country World Heritage Site (WHS), designated for the quality and extent of its blanket bog habitat.



This figure shows some of the key environmental constraints which have been considered when assessing the Site Options. Consideration has been given to minimising potential impacts on all of the habitats, including ancient woodland and peatland.











Site Selection - Environmental

Local environmental and social aspects are a key consideration in selecting the optimal site for the project. As part of site selection, environmental assessments and surveys have been undertaken to help inform the process.

This will continue as we move from site selection to the consenting process to support a planning application. The assessments will cover landscape and visual amenity, ecology/habitats, ornithology, geology/hydrogeology, hydrology, and cultural heritage. Key environmental considerations are shown on the plan on page 15.

Natural Heritage

The project has assessed and will continue to assess the risk to species and habitats in the area and in consultation with the key stakeholders will give full consideration to any risks highlighted.

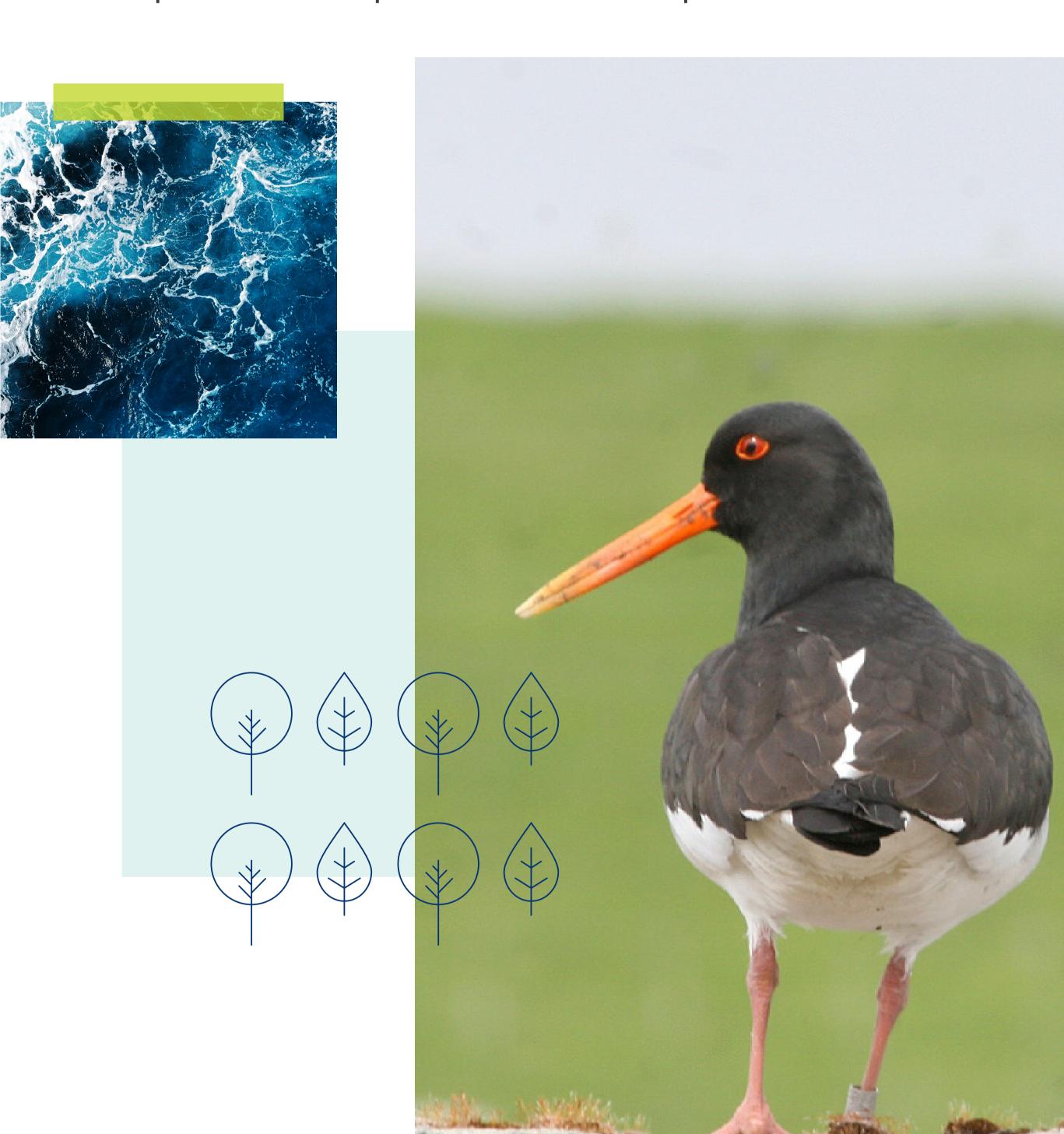
Site selection findings include:

- Neither site option overlaps any natural heritage designated site.
- To the south and west of both site options are the Caithness and Sutherland Peatlands SAC, Special Protection Area (SPA) and Ramsar, as well as the West Halladale Site of Special Scientific Interest (SSSI) (which is part of the SAC and SPA). Optimised Site Option A is located slightly closer to these designated sites at approximately 1.5 km to the east (compared to 1.6 km for Site Option H).
- To the north of both site options are the Strathy Point SAC, which is designated for its vegetated sea cliffs; Strathy Coast SSSI, which overlaps with the SAC but covers a longer stretch of coast, and the North Caithness Cliffs SPA. Site Option H is located slightly closer to these northern designated sites at approximately 3.5 km south of the SAC, 2.8 km south of the SSSI and 4.9 km south-west of the SPA.
- Both site options are located adjacent to the Flow Country WHS, separated by the Allt an Reidhe Ruaidh and existing access track, thereby limiting hydrological connectivity.
- The extent of bog habitat within the footprint of Optimised Site Option A is 3.00 ha, compared to almost the entire footprint of Site Option H, at 7.01 ha coverage.

Tourism and Recreation

The primary concern for tourism and recreation is the visual impact on popular tourist facilities.

- Both site options are located on slightly elevated ground and would be seen briefly in inland views from the A836 public road, which forms part of the North Coast 500 tourist route and National Cycle Route 1. However, neither of the site options would interrupt views towards the coast, which are likely to be the key vistas for tourists.
- The River Strathy is located to the west of both site options and is popular with anglers due to the presence of salmon.
- The main access track which passes to the west forms part of Scottish Hill Track 344: Strath Halladale, which travels between Trantlebeg and Strathy. There may be some impact on the recreational amenity of users of this route as both site options would be situated on higher ground, with Site Option H being located in slightly closer proximity compared to Optimised Site Option A.





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Site Selection - Environmental

Forestry

Neither Site Option would interact with or impact commercial forestry.

Landscape and Visual

- Neither of the site options would be located within any designated landscapes, with the nearest designation being Farr Bay, Strathy Area (SLA), located to the north.
- Both site options would be located within LCT 134: Sweeping Moorland and Flows.
- Both site options would be located in a slightly elevated part of the landscape and would likely form a noticeable new feature within this LCT, being visible also from some properties, outdoor areas and roads in and around Strathy.
- and Portskerra Special Landscape

Hydrology and Geology

- Both site options lie entirely within the River Strathy surface water catchment with the Allt an Reidhe Rudidh, a tributary of the River Strathy, located approximately 15 m and 75 m west of Optimised Site Option A and Site Option H respectively.
- Neither site option is considered to be at flood risk. Small, isolated areas of surface water flood risk are noted across both site options, however these areas are shown to be shallow.
- Review of the Carbon and Peatland 2016 mapping highlights that the entirety of Site Option H and the majority of Optimised Site Option A are underlain by Class 1 priority peatland (with the remaining area of Optimised Site Option A underlain by Class 2 priority peatland).





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Site Selection - Engineering Background

Engineering site selection involves determining the optimal design and location based on a number of technical factors, examples of which can be seen below. How the selected options compare in these categories is shown on the next page.

The local environmental and social aspects also play a part in the engineering selection process and the assessments and surveys undertaken are supplemented by additional technical ones, such as a Ground Investigation.

Work on refining the design will continue alongside the environmental assessments as we move from site selection to the consenting process to support a planning application and a Section 37 application.

Connectivity

Simply put, how easily the new site will be able to connect into the wider SSEN Transmission network.

This has a few key factors:

- Ease of connection; how much additional work will be required to connect, e.g. additional circuits, compounds.
- Outage mitigation; how long the local transmission network will need to be out of service.

Ground conditions

• Interfacing; how easy it is for other connections (i.e. generation, distribution) to be routed to this site.

The type of terrain the site is to be built upon.

Key factors:

- Topography; how sloped or undulating the site is, the flatter the better.
- Geology (peat); peat is good for biodiversity and bad for electricity so is avoided where possible.
- Geology; any other geological factors apart from peat.

Environmental conditions

How these conditions will impact the function and lifespan of the electrical equipment on-site.

Key considerations:

- Elevation; informs expected wind speeds, likelihood of snow.
- Salt/corrosion; salt build-up can cause equipment to fail early.
- Flood risk; must be mitigated to ensure equipment is not submerged.
- Noise; how much the electrical equipment will be heard by nearby properties

Access

How easy the site is to access, both during construction and for ongoing operations and maintenance.

Key considerations:

- Route; how far from a main road, how steep or narrow, how tight the corners are.
- Transformer delivery; these are very large and heavy so need special consideration.



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Site Selection - Engineering

Optimised Site Option A and new Site Option H have varied Engineering constraints.

Optimised Site Option A received the overall best rating with respect to considered Engineering criteria, although Site Option H received similar ratings and could also be considered.

Connectivity

- Optimised Site Option A would be closer to the proposed double circuit 132 kV overhead line, requiring fewer spans of towers to connect into the overhead line than Site Option H.
- Both Site Options would be similarly constrained by environmental factors should future expansion be required.

Ground Conditions

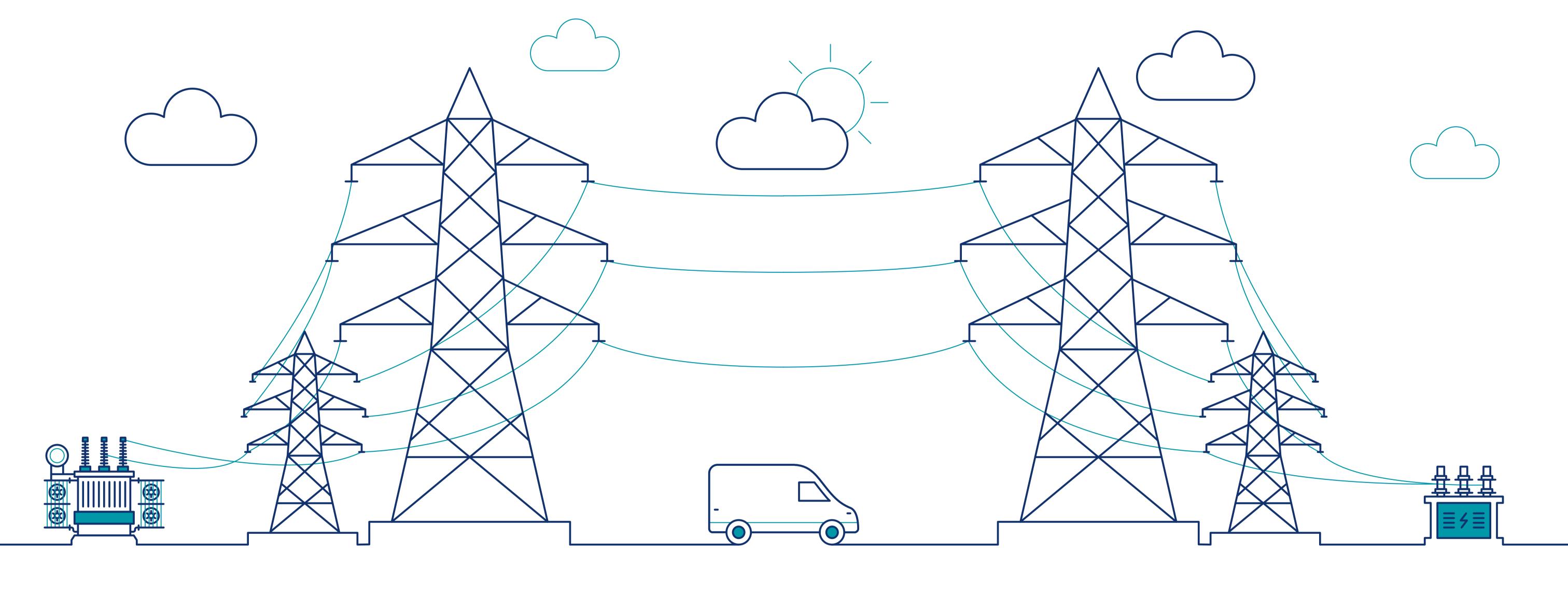
- Optimised Site Option A is located on flatter terrain, requiring lesser earthworks, than Site Option H, which starts sloping more severely in the westerly part of the option.
- Both Site Options fall predominantly within areas of Class 1 priority peatland, however observations on site note large-scale human impacts of the peat such as through cutting and/or drainage.

Environmental conditions

- Both Site Options are at a similar elevation.
- Site Option H is located closer to the ocean, thereby increasing the possibility of salt build-up and corrosion than Optimised Site Option A.
- Both Site Options are considered low-risk for flooding, however there is an area of flooding to the south of Optimised Site Option A.
- There are no dwellings within a reasonable distance of either Site Option so noise is not anticipated to be a concern.

Access

- Both Site Options are located within 1 km of an existing wind farm access track, proposed to be upgraded as part of the proposed double circuit 132 kV overhead line, which would be used for access for construction and maintenance.
- Both Site Options would require minor public road improvement works, such as road widening, in order to facilitate any future transformer delivery.





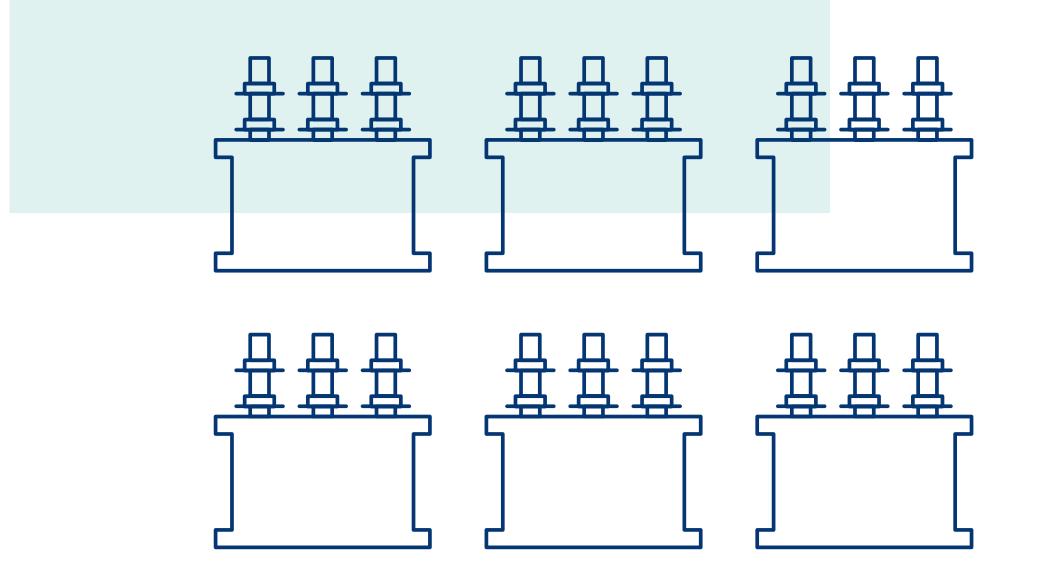
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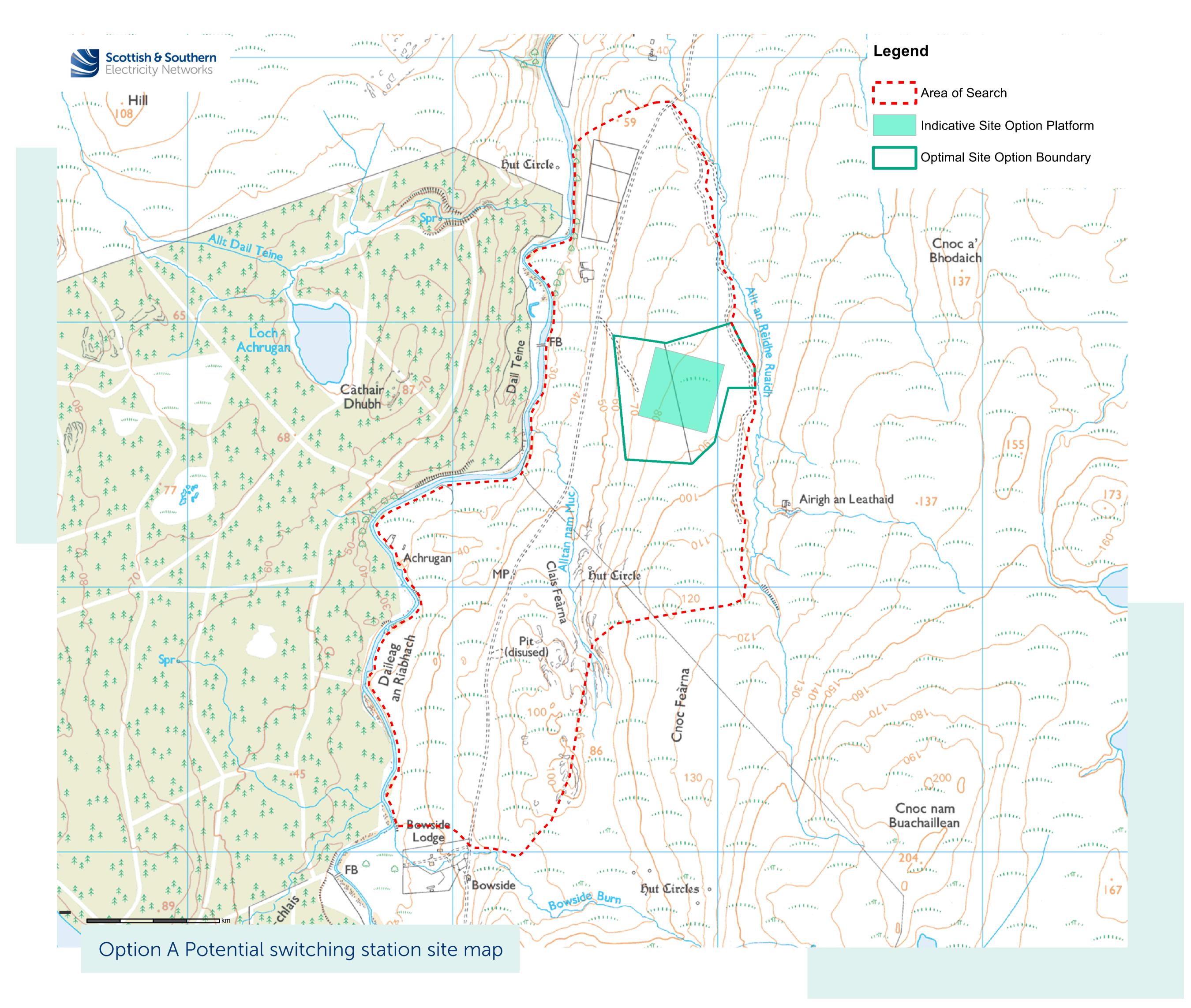




Optimised Site Option A Potential switching station site

Taking the various constraints and site preferences into account, it was unanimously agreed that while both options considered were largely comparable, on balance Optimised Site Option A is the optimal site.

The key environment and engineering reasons for this are set out below.









Optimised Site Option A Potential switching station site

Environment

Both site options were largely comparable, with the key differentiating constraints being centred on habitat/biodiversity and visual constraints.

The footprint of Optimised Site Option A would be on a lesser amount of blanket bog than Site Option H, a habitat with high sensitivity to disruption due to its hydrological nature.

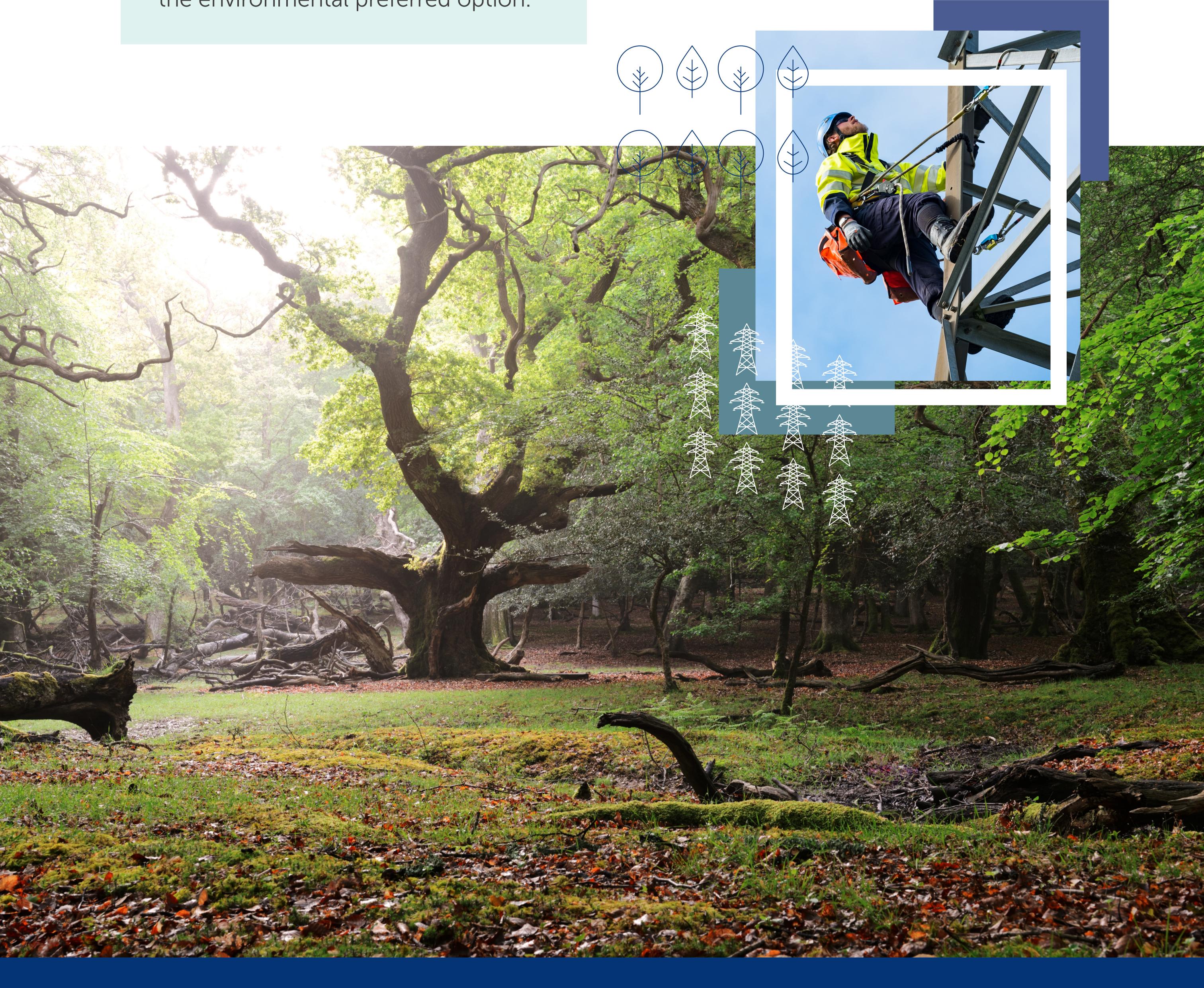
While either option would be a new feature in the landscape, Optimised Site Option A would be located slightly further from the village of Strathy and the A836 to the north, thereby having a slightly lesser visual impact.

Overall, Optimised Site
Option A was considered to
be slightly less environmentally
constrained, and was considered
the environmental preferred option.

Engineering

While both options would have sufficient space to accommodate the size of the proposed switching station and ancillary infrastructure, and have sufficient access for both construction and maintenance activities, the comparative appraisal concluded that Optimised Site Option A was considered slightly preferred due it being located in closer proximity to the proposed double circuit 132 kV overhead line, thereby requiring a shorter span off additional towers to connect the proposed overhead line to this site option.

Optimised Site Option A would also be located on flatter terrain with lesser slopes requiring minimal earthworks compared to Site Option H, which traverses a steeper gradient.





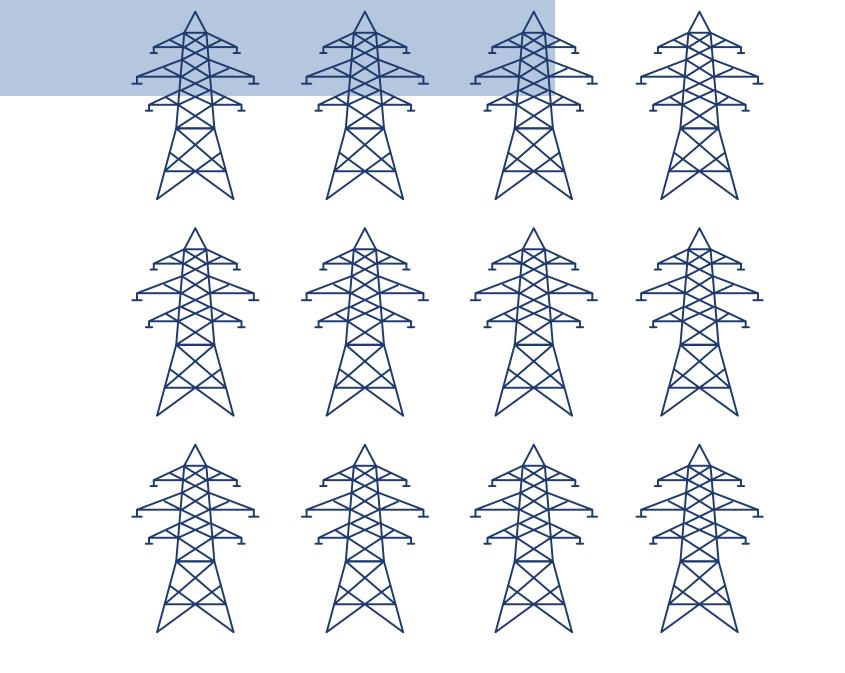
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Frequently Asked Questions (FAQs)

Will there be any noise impacts from the switching station?

A detailed noise assessment will be completed and included in an Environmental Impact Assessment (EIA).

This will consider noise impacts from the substation, cumulative noise impacts as well as consideration of any mitigation required.

Will there be any impacts to the local environment and wildlife?

SSEN Transmission have undertaken a number of environmental surveys to ensure that the proposed works will have as little impact upon the local environment as possible. The project team will consult with the appropriate regulatory bodies and are committed to ensuring that works adhere to applicable UK and Scottish regulations, as well as industry best practice.

Will access on the public road be maintained?

There is potential for travel disruption during construction, when we take delivery of key plant items or because of increased volumes of traffic on the local road network.

Disruption will be minimised and typically controlled through an agreed Traffic Management Plan with The Highland Council as part of any consent conditions.

SSEN Transmission aims to ensure that construction traffic uses the roads safely and that any inconvenience to the public is kept to a minimum whilst maintaining a safe environment for the workforce and other.















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

We will accept feedback from now until 19 September 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 at: ssen-transmission. co.uk/strathy-switching-station

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

We want you to share your thoughts and opinions on our plans, where you think we can make improvements and concerns about the impact of our work.

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.

Recle

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."

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



SSEN Transmission, 10 Henderson Road, Inverness, IV1 1SN



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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/ strathy-switching-station

You can also follow us on social media:



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