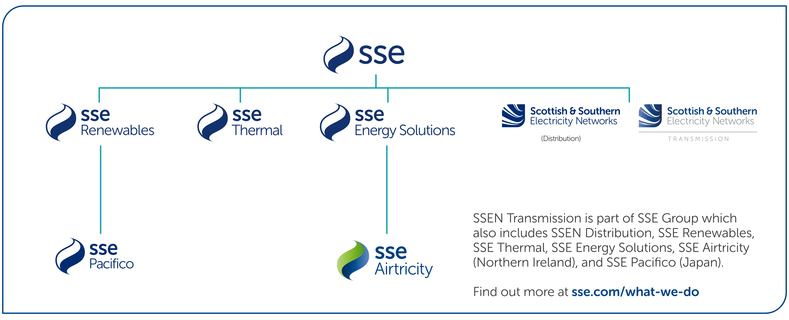
Scottish & Southern Electricity Networks

TRANSMISSION

Who we are

We are SSEN Transmission, the trading name for Scottish Hydro Electric Transmission. We are responsible for the electricity transmission network in the north of Scotland, maintaining and investing in the high voltage 132kV, 220kV, 275kV and 400kV electricity transmission network.



Our network consists of underground and subsea cables, overhead lines on wooden poles or steel towers, and electricity substations. It extends over a quarter of the UK's land mass, crossing some of its most challenging terrain.

Our first priority is to provide a safe and reliable supply of electricity to our communities. We do this by taking the electricity from generators and transporting it at high voltages over long distances through our transmission network for onwards distribution to homes and businesses in villages, towns and cities.

Our operating area is home to vast renewable energy resources and this is being harnessed by wind, hydro and marine generation. Working closely with National Grid, the Great Britain (GB) transmission System Operator, we also enable these electricity generators to connect to the transmission system by providing their connections and allowing the electricity generated by them to be transported to areas of demand across the country.

Scotland's transmission network has a strategic role to play in supporting delivery of the UK and Scotland's Net Zero targets. We're already a mass exporter of renewable energy, with around two thirds of power generated in our network area exported to demand centres further south. By 2050, the north of Scotland is expected to contribute 56GW of low carbon energy to support net zero delivery. For context, we currently have around 8GW of renewable generation connected in the north of Scotland.

As a natural monopoly, we are 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 in the north of Scotland. These costs are shared between all those using the transmission system,including generation developers and electricity consumers. Following a minority stake sale which completed in November 2022, we are now owned 75% by SSE plc and 25% by Ontario Teachers' Pension Plan Board.

As a stakeholder-led business, SSEN Transmission is committed to inclusive stakeholder engagement, and we conduct this at an 'Advanced' level as assessed by AccountAbility, the international consulting and standards firm.

@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

What are the West of Beauly asset replacement projects and why are they needed?

Project need

The proposed West of Beauly Asset Replacement Projects include a total of four substations requiring upgrading at Deanie, Culligran, Aigas and Kilmorack. The need for the projects is being driven by operational requirements and asset condition assessments of the existing substations serving the hydro power stations at each location. The existing substations were built in the 1960s, connecting the hydroelectric generation assets to our transmission network, which are coming to the end of their operational life. The deterioration in condition poses a risk of failure, resulting in the hydro power stations unable to distribute renewable power and risking reliability of electricity supply to customers.

Project overview

The four substations requiring replacement are separate projects, but due to relative geographical relationships and delivery programmes, they were initially progressed collectively through the site selection process. The new substations are required to be located on sites outwith the existing compounds due to modern transformers requiring more space, health and safety standards and the challenge to keep the hydro power stations connected to the network during the project timeline.

The following elements are anticipated requirements for each of the four new substations:

- Design and construction of a new offline substation compound with a single 132/11 kilovolt (kV) transformer, with indicative platform sizes of 60m x 55m (not exceeding 48m x 100m for Aigas).
- A new 132kV circuit breaker and disconnector Control building housing 11kV switchgear as well as communications and protection and control equipment, with a maximum height of 5.2m.
- Landscaping and biodiversity requirements.
- Permanent access to the sites.
- Upgrade of existing/new access tracks and temporary site compounds and construction laydown areas (where required).
- Following the construction of the new substations, existing substation structures and equipment shall be decommissioned and may be removed.

Existing internal transformers needing to be replaced (at Aigas & Kilmorack)

@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

The pre-application consultation process

Engagement to date

In June and then October/November 2022, we consulted with our stakeholders in Cannich Village Hall and Kilmorack Hall, explaining the need and scope for the four new replacement substations and sought feedback on our initial site selection options. We published a Public Event Summary Report on our project webpage, along with other information presented at these events:
www.ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

We then followed up with follow up events in October 2023 which included covering off the first statutory event for Kilmorack and voluntary event for Aigas.

Following the initial consultation events, the project team has sought to ensure that comments or concerns raised have informed, where possible, the replacement substation locations and primary considerations for the designs as they have progressed. This includes substation layout (indoor/outdoor) design, landscaping enhancement and screening opportunities. Outwith the formal consultation periods and events, we have continued to provide a dedicated webpage for the projects and liaise with a wide range of stakeholders to help inform the development and design. For transparency, we are continuing to present these two neighbouring asset replacement projects together to ensure that all local community members remain aware of the local extent of the proposals.

What we are sharing with you today

In October 2023, we submitted a fresh Proposal of Application Notice (PAN) to The Highland Council for Kilmorack replacement substation. As part of this formal process, the Scottish Government advise a minimum of two public events take place for 'major' developments prior to a planning application. submission. The first of these statutory events took place in October 2023. Kilmorack replacement substation is classed as major development and therefore falls under this requirement. This event is the second of the two statutory public consultation events for Kilmorack.

The purpose of this event is for us to share the feedback and comments we have received throughout the pre-application consultation process, together with our responses, and to demonstrate how these have been addressed. We aim to show where comments will be addressed in the planning application, or where they cannot and provide an explanation.

Comments made to SSEN Transmission through the pre-application consultation process do not constitute representation to The Highland Council. When SSEN Transmission submit the planning application there will be an opportunity to make representations on those applications to The Highland Council directly.

Kilmorack

Due to feedback received regarding the initial site selection, the project team pursued an alternative site (see slide 4 for further information) which led to this new PoAN being required.

Aigas

Due to feedback received on the initial site selection, the project team have pursued an alternative site at a brownfield location (see slide 9 for further information) further from the original site selection criteria. As the planning site boundary is now below 2 hectares, this substation will be a local planning application and does not require two statutory public consultation events. This therefore represents a further voluntary event for Aigas.

@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/
west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

A reminder of the Kilmorack proposals

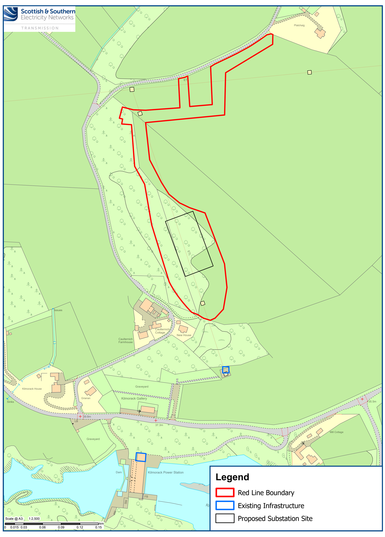
Environmental summary

The revised optimal proposed site has been carefully considered in light of feedback and is forecast to provide alternative environmental opportunities over the previous proposed site, including:

- Improved relationship to neighbouring residential properties for noise management and visual interface.
- Operational impacts of the replacement substation calculated to be very light on neighbouring, local road network.
- Efficient use of land, combining access with existing consented CSE compound to the north.
- Opportunities for field edge planting to improve existing field edges, supplementing existing field trees and improving the overall landscape framework and fit.
- Opportunity to improve planting and enhance biodiversity on the western periphery.
- Careful consideration on the western periphery of the proposed site, including the new CSE which is partly designated as Ancient Woodland Inventory (AWI), in seeking to ensure no adverse impacts or loss of irreplaceable habitats.
- The extended UGC route will provide landscape and visual improvements on the skyline following removal of existing CSE and associated towers.
- Overall, the landscape character, visual amenity and relationship with heritage assets, including listed buildings have been improved as a result of the reconsidered proposed site for Kilmorack.

Kilmorack view from the North

Proposed red line planning boundary



Engineering summary

The proposed site comprises:

- Attenuation ponds to the north and south in order to meet the sustainable drainage system.
- (SuDS) requirements.
- Proposed access track.
- An indoor switchgear building which contains a 30/36 MVA transformer, a separate control building, and an internal road network including car charging points.
- A new 11kV underground cable (UGC) from the power station to the
- proposed site.
- A new 132kV underground cable (UGC) from the proposed site to the new overhead line cable sealing end (CSE) via the existing terminal tower.
- Low voltage (LV) supply for backup power supply.

@ssentransmission

@SSETransmission

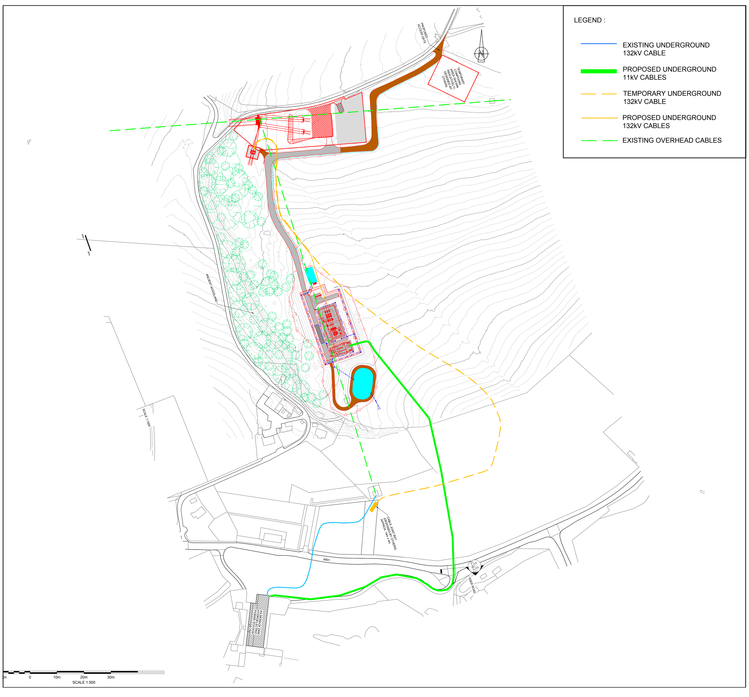
ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

Site layout

Cable route to Kilmorack dam



@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

Finishing materials and colour examples for the substation building

Example of colour for exterior of building as on the GIS building at Tomatin substation

Example of colour for exterior of building as on the GIS building at Wester Balblair substation

Feedback received from the Community suggested that green is the preferred colour for the proposed substation building.

@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

What you told us at the public events in October 2023

Following the submission of the Proposal of Application Notice (PAN) for Kilmorack, the first of two rounds of PAN events were held on Monday 23rd October and Tuesday 24th October at Cannich Hall followed up on Wednesday 25th October at Kilmorack Hall. A total of 59 attendees attended over the 3 days, 16 at Cannich and 43 at Kilmorack.

During the 4-week feedback period which closed on 22 November 2023, 1 piece of feedback was received for Kilmorack proposal via email.

For this second PAN event for the proposed Kilmorack substation, we are now sharing project information, feedback received and our responses following these October events.

Below provides a summary of response received and our feedback to this.

FEEDBACK	RESPONSE
The feedback stated that the new proposed location for the Kilmorack substation was the most suitable site with the equipment located in building was welcomed, stating that their building colour preference is green.	Feedback welcomed and the team will take away the suggestion to finish the buildings in green as part of the planning submission proposals.
It was suggested that the level for the building was dug into the site to reducing importing material and to improve visibility.	We appreciate your suggestion to dig into the site to level it rather than importing material. The proposed design has been produced to minimise cut and fill to level both the platform and the proposed access track. Currently, the design follows the natural gradient of the slope and minimises the impact of a new access track.
Information was requested about route of the underground cable from the current hydro dam to the proposed new substation.	We can confirm that the power line between the hydro dam and the substation will be undergrounded and the proposed route is shown at this consultation event.
Positive feedback was received that the tower next to the cemetery will be removed.	We are pleased that the merits of this element is supported.
Information was requested as to the length of time that the temporary access track will be installed and when it will be removed. Confirmation that both tracks will be stone type ½ materials and not tarred was requested.	The temporary track will be constructed of stone, type 1/2 material. The temporary access track will be in place for approximately 18-24 months during construction. Once construction works are complete it will be removed and re-instated. The permanent track is currently proposed to be asphalt road surface.
The question was asked why the footprint of the existing site is smaller than the proposed site and why such large control buildings.	The larger footprint of the new substation site compared to the existing site at the dam is primarily due to additional equipment to improve protection, security and operability of the network. Including a control building housing switchgear as well as sufficient space to allow for transformer delivery and maintenance activities.

@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

Timeline and next steps

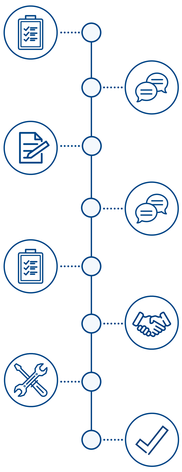
This is the final event for the West of Beauly Asset Replacement projects. Without the valuable feedback gathered during all our engagements, we would be unable to progress these projects with a balanced approach. Feedback gathered during all our engagement has been very useful and has helped inform our proposals and final planning applications. The Kilmorack planning application will be submitted alongside the three other separate planning applications for Deanie, Culligran and Aigas to The Highland Council in Spring 2024. When SSEN Transmission submit the planning application there will be an opportunity to make representations on those applications to The Highland Council directly.

Summer 2023
- Environmental and technical assessments to identify a proposed site and carry out screening and scoping.

Winter 2023/24
- Review of consultation feedback.

Spring 2024
- Submission of planning applications.

Winter 2024/25
- Construction commences.



Autumn/Winter 2023
- Pre-application consultation events.

January 2024
- Final Kilmorack consultation event.

Winter 2024
- Anticipated planning consents.

2028
- Completion of West of Beauly Asset Replacement projects.

If you have any further questions please contact the Community Liaison Manager:

Sally Cooper
Community Liaison Manager

sally.cooper@sse.com

+44 (0) 7918 470281

Sally Cooper
Scottish and Southern Electricity Networks,
10 Henderson Road, Inverness, IV1 1SN

Information will also be made available via the project webpage and social media channels:

Project website:
ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Follow us on Instagram:
@ssentransmission

Follow us on X/Twitter:
@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."

@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

Aigas substation update

As previously mentioned, the site boundary is below 2 hectares, which makes Aigas substation a local planning application and does not technically require any statutory public consultation events. We did however present our optimal site option and design during the October 2023 event.

What you told us in October 2023

Feedback and responses: 2 pieces of feedback, 1 online through the webpage and 1 via email.

FEEDBACK	RESPONSE
We were asked why the footprint of the new site is so large in comparison to the existing site footprint at the dam. Perhaps you can explain as to why this is and why such as large subsiduary building is required.	The larger footprint of the new substation site compared to the existing site at the dam is primarily due to additional equipment to improve protection, security and operability of the network. Including a control building housing switchgear as well as sufficient space to allow for transformer delivery and maintenance activities.
We also note that the equipment is not contained within a building as it is at Kilmorack. Why is this different to Kilmorack?	The decision to enclose the Kilmorack substation equipment within a building and not enclose the Aigas substation equipment was made based on site conditions. The Aigas site is located in a contractors yard and the equipment is unable to be housed due to engineering constraints as the building increases the size of the site.
Concerns were raised regarding noise from the Aigas site. This as you are aware is a rural environment and there are residents nearby some of which lie above the proposed site. Has noise modelling been carried out to see if mitigation is required regarding noise? One of the engineers did mention that sound baffles as per Wester Balblair may be considered. That leads us to believe that you may think that noise may be an issue. After all the existing transformer is contained within the dam.	Baseline noise monitoring has taken place for all four sites. This noise report will include detail on the baseline noise and model construction and operational noise levels to meet planning regulations and standards. Transformers will not be sited indoors though provision is being made for them to be within noise enclosures
There were concerns from residents regarding private water supplies and field drainage with respect to the undergrounding of the lines from the hydro dam site to this new substation site. A thorough survey will need to be undertaken to avoid disruption to these water supplies. Has this been undertaken? Your engineers seemed vague on the sewage provision below the bridge.	The project engineers have identified a route and noted visible surface drainage and water supplies. Engagement with a specialist drilling contractor and Scottish Water has commenced to establish the proposed cable route and existing utilities to be avoided. Once the exact cable route and depth is determined we will continue to engage with Scottish Water and the local community prior to any work taking place.
Disappointment was expressed at the site locations' proximity to the road, stating a preference for the proposed substation to be placed further back and lower down in the quarry to reduce the visual impact.	The site area identified for the project is sitting at the lowest section of the former contractors yard. The site proposals intend to maintain existing tree cover on the slope facing the road. The current site location is considered to be sufficiently set back from the public road, residential properties and provide a robust landscape framework.
Feedback stated limited information was available on the horizontal directional drilling (HDD) element of the connection to the dam and OHL termination tower.	The team are working on the detail of the cable route, including the HDD (horizontal directional drilling) element which we intend to share and communicate at the earliest opportunity, including this event and future CLG meetings.

@ssentransmission

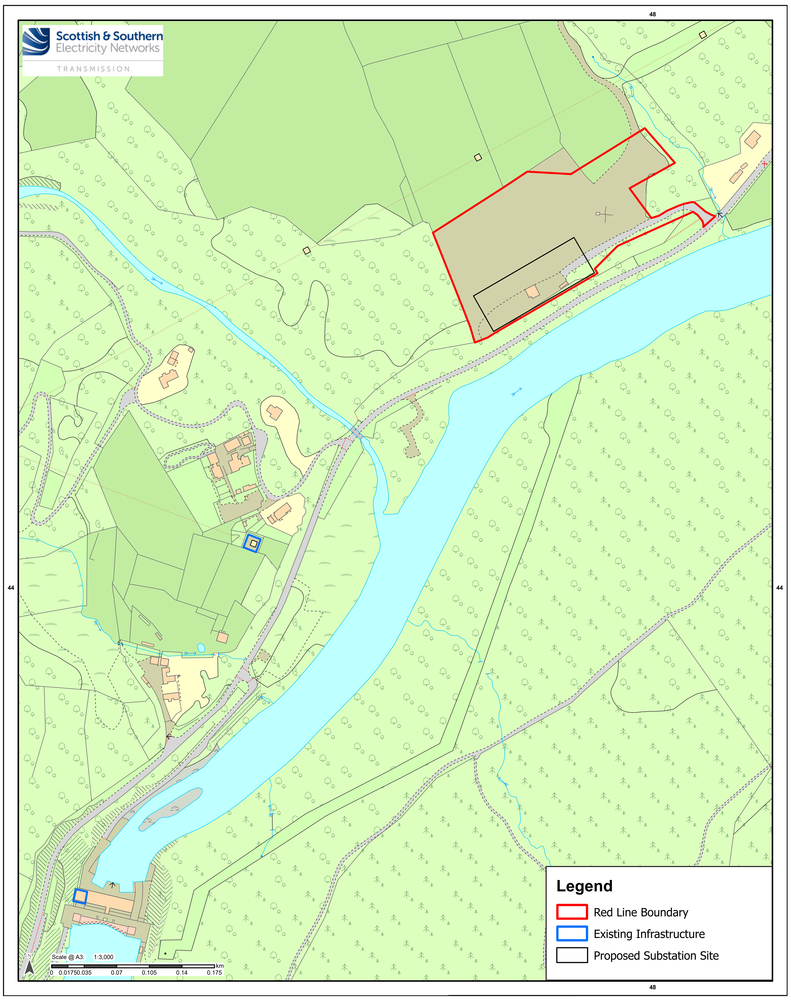
@SSETransmission

ssen-transmission.co.uk/projects/west-of-beauly-asset-replacement-projects

Scottish & Southern Electricity Networks

TRANSMISSION

Aigas red line boundary map



@ssentransmission

@SSETransmission

ssen-transmission.co.uk/projects/
west-of-beauly-asset-replacement-projects