

Eastern HVDC Link

October 2020



Scottish & Southern
Electricity Networks

Who we are

We are Scottish and Southern Electricity Networks, operating under licence as Scottish Hydro Electric Transmission plc (SHE Transmission) for the transmission of electricity in the north of Scotland.

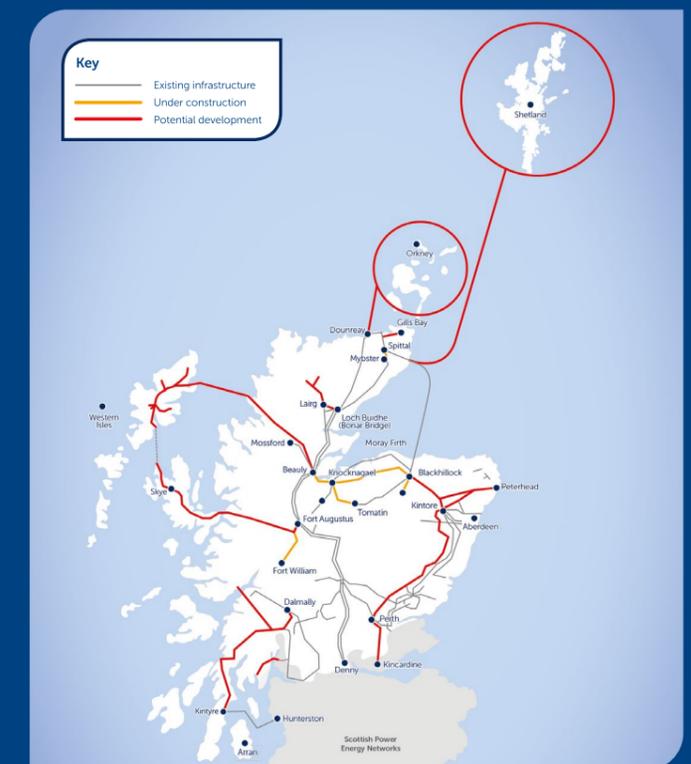


What is the difference between transmission and distribution?

Electricity Transmission is the transportation of electricity from generating plants to where it is required at centres of demand. The Electricity Transmission network, or grid, transports electricity at very high voltages through overhead lines, underground cables and subsea cables. Our transmission network connects large scale generation, primarily renewables, to central and southern Scotland and the rest of Great Britain. It also helps secure supply by providing reliable connection to the wider network of generation plants.

The Electricity Distribution network is connected into the Transmission network but the voltage is lowered by transformers at electricity substations, and the power is then distributed to homes and businesses through overhead lines or underground cables.

Overview of Transmission Projects



In total we maintain about 5,000km of overhead lines and underground cables – easily enough to stretch across the Atlantic from John O’Groats all the way to Boston in the USA.

Our network crosses some of the UK’s most challenging terrain – including circuits that are buried under the seabed, are located over 750m above sea level and up to 250km long.

The landscape and environment that contribute to the challenges we face also give the area a rich resource for renewable energy generation. There is a high demand to connect from new wind, hydro and marine generators which rely on Scottish and Southern Electricity Networks to provide a physical link between the new sources of power and electricity users. Scottish and Southern Electricity Networks is delivering a major programme of investment to ensure that the network is ready to meet the needs of our customers in the future.

Our responsibilities

We have a licence for the transmission of electricity in the north of Scotland and we are closely regulated by the energy regulator Ofgem.

Our licence stipulates that we must develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

Coronavirus: Covid-19 pandemic

As transmission network operator in the north of Scotland, we play a vital role in powering the country, providing a safe and reliable supply of electricity at local, regional and national level, on which the people and organisations whose work is critical to the Coronavirus response depend.

Our employees are working 24/7 to keep the network running, providing an essential service transporting energy to where it is needed. Working in some of the remotest parts of the UK, our employees and supporting contractors need to be able to move around the UK to ensure this work continues.

The Covid-19 outbreak and the necessary social measures introduced by government are unprecedented in recent times and we know that for the customers and the communities we serve, this may lead to concerns about the essential services we all rely on. Since the outbreak we have been collaborating daily with UK and Scottish Governments and local authorities across our network to ensure the continued safe and reliable supply of electricity.

In the absence of specific guidance and with companies understandably expected to use their judgement on what is critical, we are currently deeming critical activity to include work that is essential to the safe and reliable supply of electricity in the medium term, which includes meeting our regulatory obligations until the end of the coming winter.

In conducting this critical work, there will be the need to be active on certain construction sites. We will continue to engage constructively with all relevant authorities, adapting our advice in line with what is clearly an evolving situation.

Whilst we are still present at some sites, all staff that can work remotely are now working from home, actively reducing the number of staff onsite. We are mindful of the current environment and our numbers and activities are much reduced as a consequence of this. For those based at site, increased hygiene and social distancing measures are being adhered to as per Scottish Government guidelines.

In addition to this, we also deem it critical to ensure that we continue to submit planning applications for future developments which are deemed essential to operating the transmission network in a safe and secure manner for the future. It is for this reason that we are continuing with our current timescales regarding the proposed Eastern HVDC Link.

We are committed to continuing quality engagement with all our stakeholders as we all respond to the challenges facing us in the weeks and months ahead. You have our commitment that we will keep you up to date on what this means for our customers, communities and stakeholders.



Project overview

Each year the electricity system operator (National Grid ESO) assesses all proposed networks reinforcements across Great Britain and provides a recommendation on whether these proposals should proceed. This is called the Networks Options Assessment (NOA).

As part of the NOA process, reinforcement proposals have been submitted to National Grid ESO proposing upgrades to the Scottish Hydro Electric Transmission (SHE-Transmission) network on the east coast of Scotland, this is initially through 275kV and 400kV upgrades to the existing onshore overhead line (OHL) network, supplemented by new substations where required.

However, these upgrades are not enough to accommodate all incoming generation currently being forecast.

Therefore, an option for a subsea High Voltage Direct Current (HVDC) link from Peterhead into National Grid's transmission ownership area, allowing the electricity to bypass multiple transmission boundaries and alleviate congestion in the north east, has been proposed in addition to the onshore options.

The Eastern HVDC Link was first conceived in 2011 and at this time an extensive site selection study was undertaken; including consultation with statutory consultees, interested bodies and the public to identify a site for a converter station which is required as part of this overall project.

At this time a preferred site was selected near Boddam, Peterhead however, following preparation of a detailed design and completion of a draft Environmental Assessment to support a planning application, the project was put on hold before a planning application was submitted, due to changes in network capacity requirements.

Following the current forecasted increase in source of renewable generation, the Eastern HVDC Link Project has been subject to "Proceed" signals from the Network Options Assessment in the 2018, 2019 and 2020 reports.



Project drivers

The current 'Proceed' signal in the 2018, 2019 and 2020 NOA Reports is due to a vast increase in connections of renewable sources of energy across the north east and east coast of Scotland; there is now a requirement to upgrade the transmission network to cope with this.

More specifically, the requirement for these projects has been driven by Moray East Offshore Windfarm, Moray West Offshore Windfarm and the North Connect HVDC Interconnector, with the first connection due in 2021.

There is also the need to accommodate an increase in generation capacity at Peterhead Power Station, along with incoming connections from the Caithness - Moray HVDC Link as well as accommodating the current generators already connected to the transmission network. Once completed, these reinforcements will allow for the safe, economic and efficient transfer of power to areas of demand further south, as well as strengthening the local transmission network.

Project partners

This project will be managed by three separate Transmission Operator (TO) across Great Britain. SHE-Transmission as the TO for northern Scotland, Scottish Power Transmission plc (SPT) as the TO for the central belt and south of Scotland, and National Grid Electricity Transmission plc ('National Grid') as the TO for England and Wales, are working together to develop the project.

There are currently proposals for two Eastern HVDC Links, the responsibility of these projects is separated between SHE-Transmission, SPT and National Grid.

The link between Peterhead and Drax will be jointly developed by SHE-Transmission and National Grid and this is the link that we will focus on within this brochure. The second Eastern HVDC Link will run from Torness to Hawthorn Pit and will be jointly developed by SPT and National Grid, should you have any questions regarding this project then please do get in touch and we can put you in contact with the relevant colleague from SPT or National Grid.



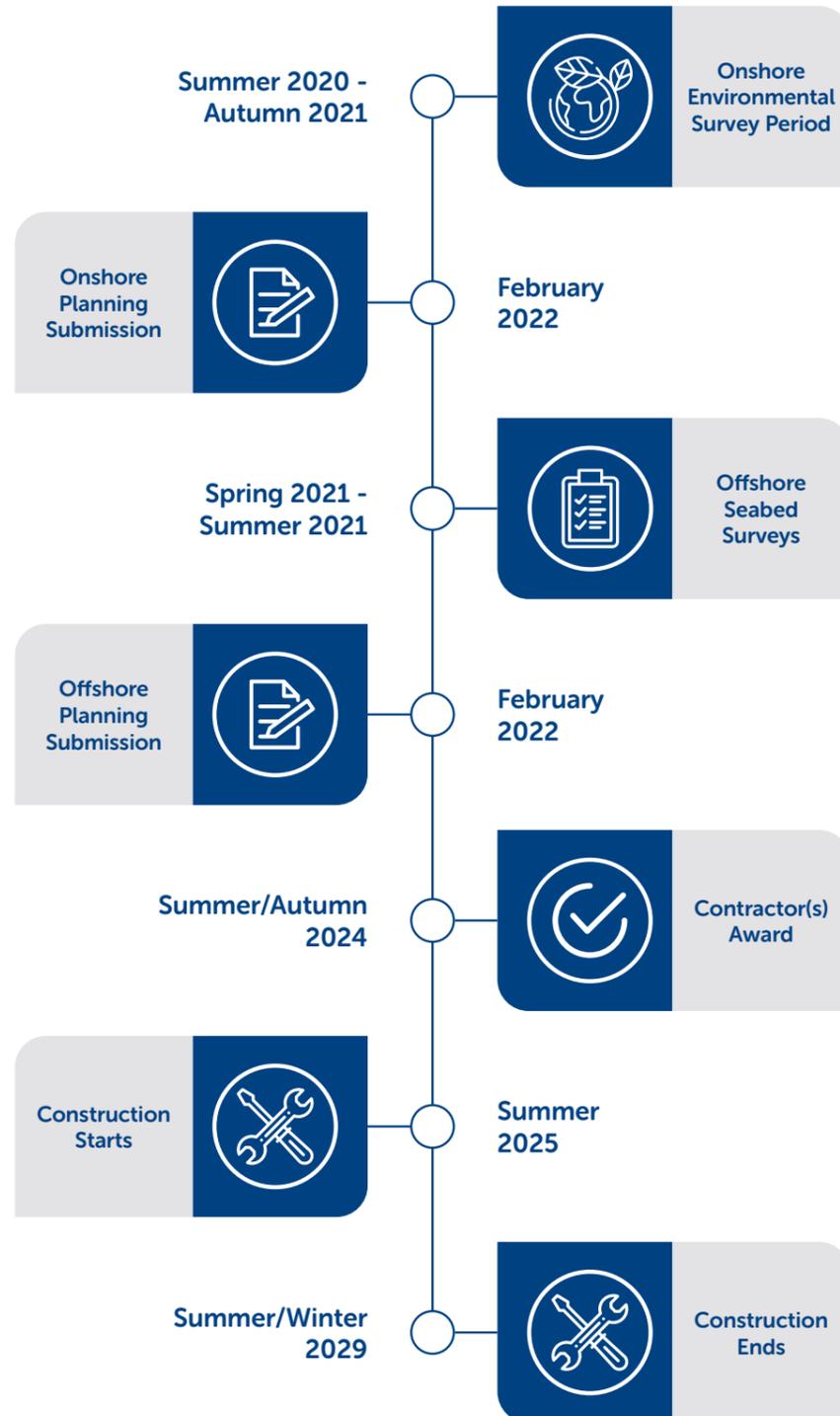
Project details



The link between Peterhead in Aberdeenshire and Drax in North Yorkshire is needed for 2029 and will comprise:

- Approximately 440km of subsea cable between landfall sites in Aberdeenshire and East Riding of Yorkshire.
- Approximately 1km* of onshore underground DC cable from the landfall near Peterhead to a new converter station nearby.
- New converter station in the vicinity of Boddam, Peterhead.
- Approximately 1km of underground AC cables between the new converter station and Peterhead substation.
- Enabling works at the at the new Peterhead substation 400kV substation (construction due to begin Summer 2020).

Project timeline



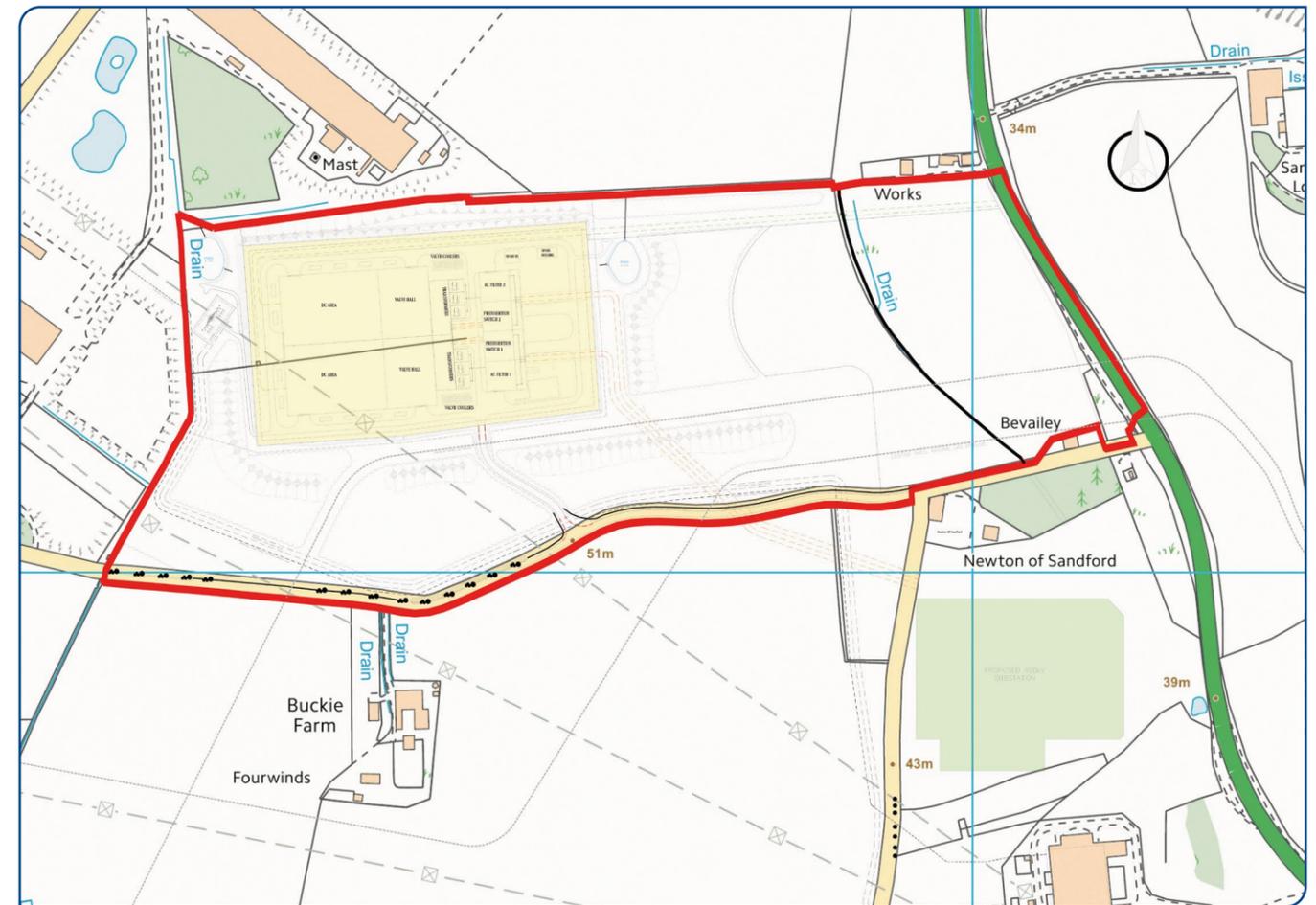
*Distances are approximate and will be refined as the detail of the proposed works is refined

Proposed site

We have undertaken a site selection process which has looked at several potential sites for the proposed new converter station. Our preferred site (as shown below) is in an agricultural field to north west of the consented Peterhead 400 kV substation, we are still considering two layouts within this field.

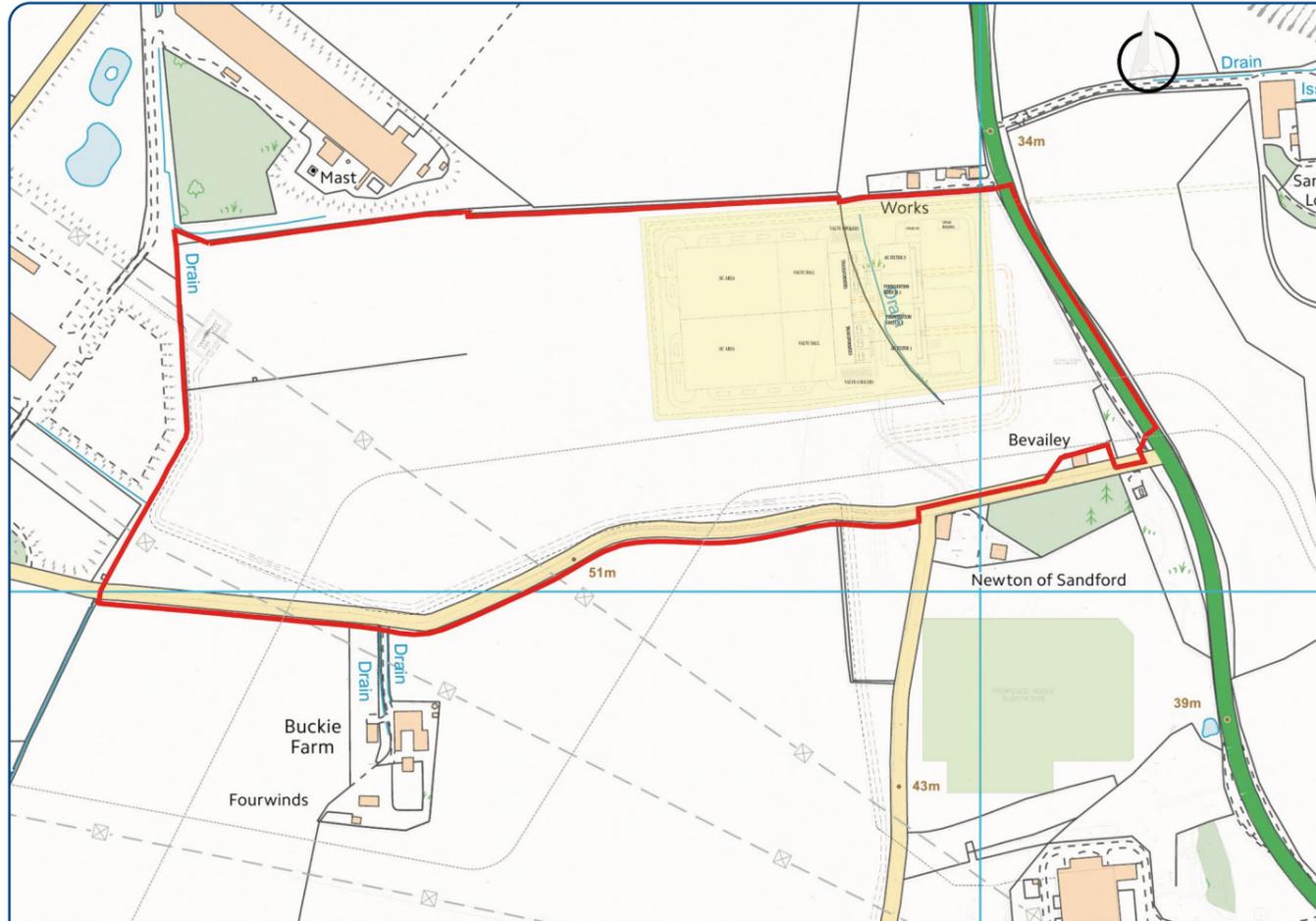
This site was previously selected for development of the converter station when this project looked at in 2011/2012 and following a review of this process and additional site selection surveys, it is still deemed the preferable location.

EHVDC Layout Option 1 - West



Proposed site

EHVDC Layout Option 2 - East



This site has been identified as the preferred option predominantly due to the lower anticipated landscape and visual impacts than the other site options, and its proximity to both the cable landfall point and Peterhead 400 kV substation, resulting in less disturbance associated with the proposed cable routes.

Next Steps

We are currently in the early development stages of the overall project. The Eastern HVDC link is proposed for completion in 2029, with construction beginning in 2025. In the years leading up to this point we will be working with both internal and external stakeholders to ensure that we are considering the views of interested parties and of those whom this project will impact upon.

It is our intention to return to Peterhead in Summer 2021 to provide a further update on our proposed converter station (including more details on exact location and proposed size), results of various surveys that are currently ongoing and more details on the proposed cable route for the subsea HVDC link. However, in the mean time we would welcome all views and opinions from the local community on our proposals.

Notes

What happens now, how do I have my say?

We understand and recognise the value of the feedback provided by members of the public during all engagements and consultations. Without this valuable feedback, the project development team would be unable to progress projects and reach a balanced proposal.

We are keen to receive your views and comments in regards to the following questions:

- How would you rate the overall quality of information presented within the Eastern Link brochure?
- What is your view on our preferred site location for the converter station?
- Do you have any concerns of our preferred site for the converter station?
- How do you feel regarding our proposals to construct a new converter station at Boddam, Peterhead?
- What is your preference for converter station location within the preferred site area? (Layout Option 1 - West or Layout Option 2 - East)
- Has the requirement for the proposal of a new subsea link been Peterhead and Drax adequately explained?
- Do you have any further comments you would like the project team to consider?

Comments

Your views and comments can be provided to the project team by completing a feedback form or by writing to Louise Anderson, Community Liaison Manager.

We will be seeking feedback from the members of the public and Statutory Bodies 6th November 2020

All received feedback will be assessed and the proposed options adapted where necessary.

Feedback can be submitted online via the project website or via the project Community Liaison Manager:

Louise Anderson
Community Liaison Manager

 louise.anderson@sse.com

 T: +44(0)1738 457 495
M: +44(0)7384 454 233

 200 Dunkeld Road, Perth,
PH1 3AQ



Additional Information

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

Project Website:

www.ssen-transmission.co.uk/projects/eastern-hvdc-link

Find us on Facebook:

SSEN Community

Follow us on Twitter:

@asscommunity



Your Comments

Thank you for taking the time to attend this consultation event. 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 How would you rate the overall quality of information presented within the Eastern HVDC Link brochure?

Excellent Good Average Poor

Q2 How do you feel regarding our proposals to construct a new converter station at Boddam, Peterhead?

Support Neither support nor object Object

Q3 What is your preference for converter station location within the preferred site area?

Layout Option 1 - West Layout Option 2 - East Neither

Q4 What is your view on our preferred site location for the converter station?

Q5 Do you have any concerns of our preferred site for the converter station? If yes, what concerns do you have?



Q6 Has the requirement for the proposal of a new subsea link between Peterhead and Drax adequately explained?

Yes

No

Q7 Do you have any further comments you would like the project team to consider?

Full name

Address

Telephone

Email

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

If you would like your comments to remain anonymous 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:**

Email: louise.anderson@sse.com

Online: www.ssen-transmission.co.uk/projects/eastern-hvdc-link

Download: Comment forms and all the information from this consultation booklet will also be available to download from the project website.

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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