



# Powering Scotland Towards Net Zero

## Kincardine North Substation Project

Scotland is producing more clean, green energy than ever before, and we need to strengthen the transmission network so we can get it to the homes, schools and businesses that need it.

Renewable energy is replacing older fossil-fuelled power stations. At the same time, demand for electricity is growing through increased electrification of heating, industry and transport networks, and electric vehicles are replacing petrol and diesel.

The UK and Scottish Governments are committed to increasing the use of renewable energy and have targets to achieve net-zero greenhouse gas emission by 2045 in Scotland and 2050 in the UK.

This huge change means we need to upgrade Scotland's electricity transmission network, so we can get this increasing amount of energy from where it's produced to where it's needed.

To help make this happen we need to build a new substation just north of Kincardine in Fife – close to where existing overhead lines cross each other – so we can increase the voltage of those lines from 275kV (275,000 volts) to 400kV, to strengthen the electricity transmission network and guarantee secure energy supplies for the future.

This leaflet tells you about our plans, where to find more information, and how you can give us your views.

## Why is this substation needed?

Much of the electricity transmission network in Scotland is between 50 and 100 years old. It has grown and evolved to meet industrial needs and serve the expanding population, but the network in central Scotland will soon be at full capacity – unable to accommodate all the clean, green renewable energy we will all need in future.

We need to increase the voltage of the overhead lines in this area from 275kV to 400kV so we can get more energy from where it's produced to where it's needed.

Connecting the existing overhead lines to a new Kincardine North 400kV substation south-west of Kilbagie (close to where the existing lines cross each other) will allow us to increase their voltage and strengthen the network for the future, with only minimal changes to the lines themselves.

Once operational, this will also allow us to decommission the old Longannet 275kV substation, which is at the end of its operational life and cannot be upgraded.

The proposed new substation at Kincardine North will have a key role in enabling Scotland and the UK to meet Net Zero emissions targets while ensuring that power flows efficiently through the system in central Scotland.

## What does the project involve?

The proposed new Kincardine North substation will have similar equipment to SPEN's Kilmarnock South substation, pictured on the front of this leaflet.

### This will include:

- A new 400kV SF6-free Gas Insulated Switchgear (GIS) substation building, which will house electrical switchgear, plant and ancillary equipment (89m x 33m), and a smaller distribution substation building and back-up generator
- Two 400/275kV transformers, two shunt reactors and two containerised Automatic Voltage Regulators
- SF6-free Gas Insulated Busbar (GIB) routed across the site to connect the switchgear to each circuit.
- A new permanent access route to the substation from Hawkhill Road, a separate access route from the A876 for transformer deliveries, plus internal access roads and parking
- A new 3m high steel palisade fence and internal fencing around the live compound to ensure safety and security.

## Why did you choose this site?

Our preferred site for the proposed new substation is on land about 700 metres north of Hawkhill Farm, just to the south-west of the Kilbagie Crossing (where the existing overhead lines cross each other).

We selected this site because the overhead lines are already there, and it allows us to reconfigure them and uprate the voltage from one location, minimising the need to build new overhead lines.

We worked with environmental consultants to appraise this site against other potential locations for the new substation, considering factors including the landscape, proximity to residents, land use, forestry, biodiversity, peatland, flood risk, archaeology and technical difficulty.

The other locations we assessed were just to the north-east, south-east and south-west of the overhead line crossing; the former Paper Mill site; land west of the A876; the existing Kincardine 275kV substation site; and the Longannet area.

Our preferred site has fewer environmental challenges than some of the other locations, including a lower risk of flooding. Because the existing overhead lines already cross the site, it also requires the least amount of new overhead lines and underground cables to be constructed, providing the lowest cost solution for consumers. It is also possible to access the site from the A876 main road, minimising disturbance to local residents.

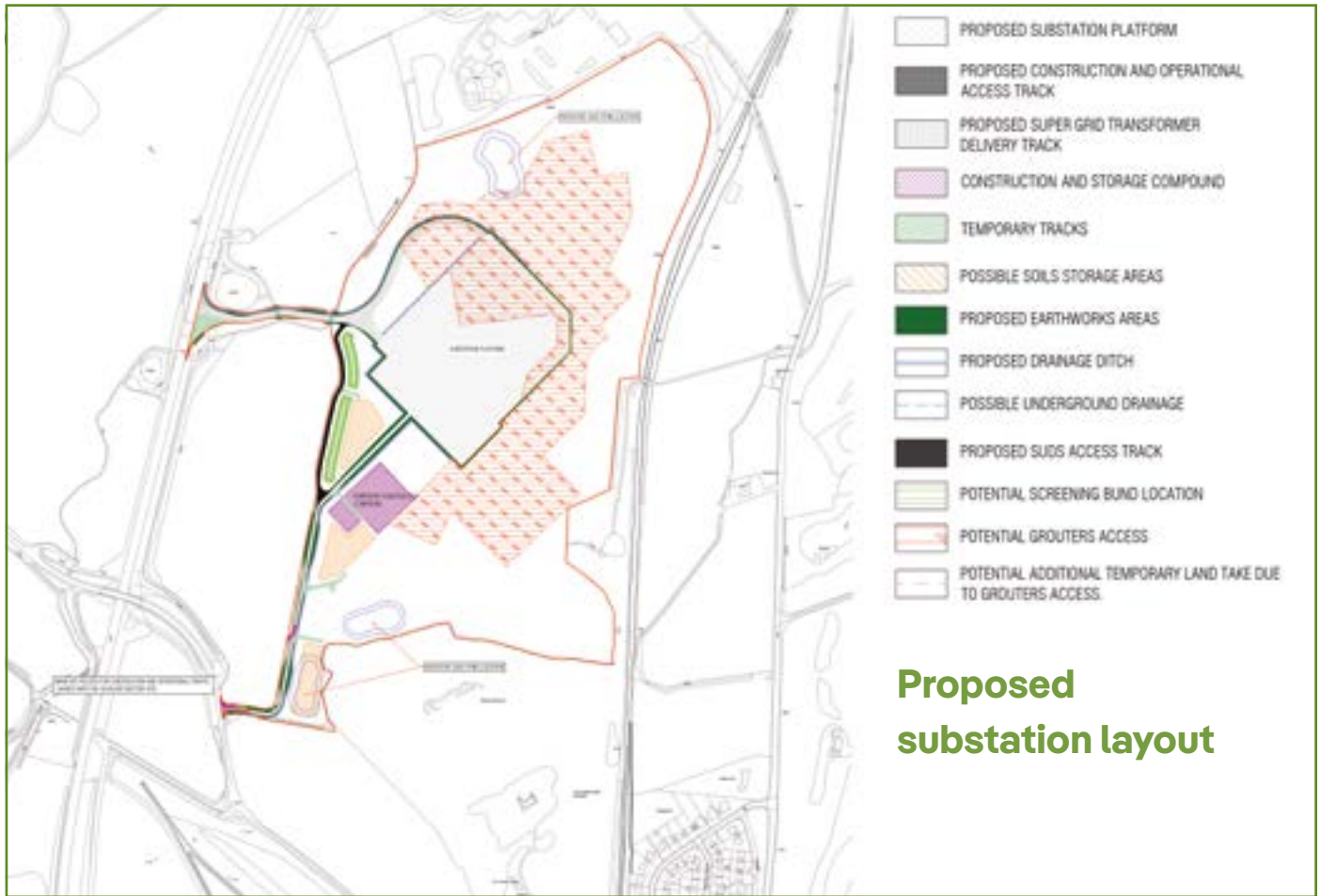
You can find more information about the site selection process in our document Kincardine North 400kV Substation Site Selection, which is available on our project website.

## Overhead line changes

We will need to 'turn in' the existing XL, ZC(N) and ZC(S) overhead lines to the proposed new substation so they can be uprated from 275kV to 400kV. To connect them to the new substation we will need to erect 12 new towers (pylons) and divert the lines in to the site. This will also allow us to remove three existing pylons and some of the overhead wires that currently cross the site.

There will also be a slight reconfiguration of the existing overhead lines at the proposed new substation, joining one side of ZC(S) Route and one side of XL Route to provide a 275kV overhead line between Kincardine 275kV Substation and Easterhouse 275kV Substation.

We will also need to connect the proposed new Kincardine North substation to the existing Kincardine 275kV substation by installing an underground cable between them.



## We want to hear your views

**Our public consultation runs until Friday 18 July 2024.**

SPEN attaches great importance to the effect our work may have on the environment and local communities. We want to hear what local people think about our plans, to help us develop the project in the best way.

**Please come along to our public exhibition** where you can see our plans in more detail and ask questions of the project team:

**Tuesday 18 June, 2pm to 7pm:**  
Kincardine Community Centre, Anderson Lane,  
Kincardine, FK10 4SF.

All project documents are also on our project website, where you can also fill in an online feedback form. If you don't have internet access, you can call our Freephone number to ask any questions you may have, or request a personal call back from a member of the project team. We can also send you a paper feedback form and a Freepost envelope so you can complete it and return it to us free of charge

## What happens next?

Following the first round of consultation we will develop a detailed design for the substation layout, including locations for buildings, access routes and working areas. We will publish a report summarising the feedback received and how this has influenced our proposals.

We will carry out a detailed Environmental Impact Assessment, and hold further consultation, before we finalise our proposals and submit a planning application under the Town and Country Planning (Scotland) Act 1997 (as amended) to both Fife Council and Clackmannanshire Council. This is because the proposed site is within the Fife Council area, while the proposed access route from the A876 is within the Clackmannanshire Council area.

We will also need to submit applications to the Scottish Government Energy Consents Unit, under Section 37 of the Electricity Act 1989, for the proposed changes to the overhead lines and uprating in voltage.



## How to contact us

Email: [kincardine@communityrelations.co.uk](mailto:kincardine@communityrelations.co.uk)

You can call us **free of charge** on: **0800 470 2376**

You can write to us **free of charge** at: **FREEPOST SPEN KINN**

You can find more information about the project on our website:

[www.spenergynetworks.co.uk/pages/kincardine\\_north\\_substation.aspx](http://www.spenergynetworks.co.uk/pages/kincardine_north_substation.aspx)