



Scottish & Southern
Electricity Networks

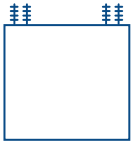
TRANSMISSION

East Coast 400kV Phase 2 Upgrade Reinforcement Projects

December 2022



Glossary



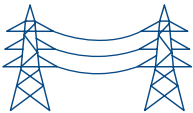
Generators

A project that is creating energy, therefore causing the need for work to be done on the Transmission Network (such as a power station).



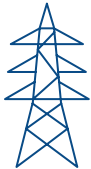
kV

Kilovolts, the volume of electricity being transported.



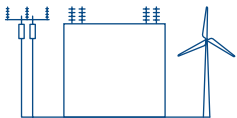
Conductors

The long metal lines that travel from pylon to pylon.



Steel Lattice Towers

Also known as pylons.

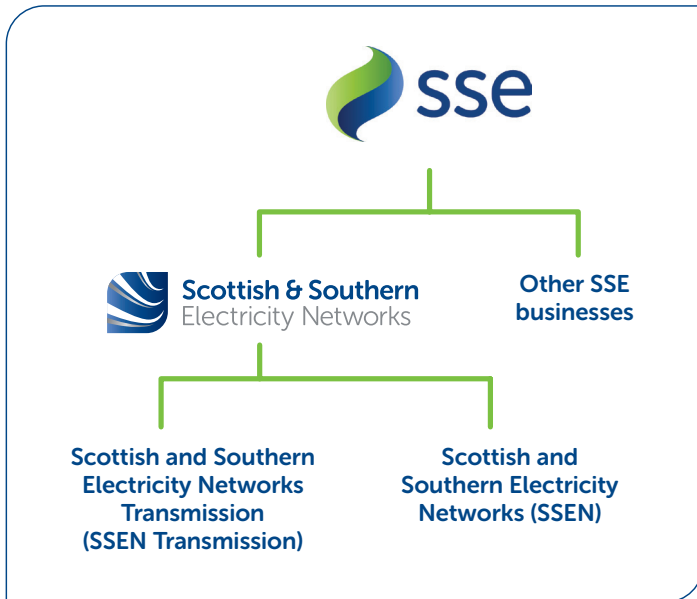


Transmission Network

The infrastructure we own to transport energy across the country.

About us

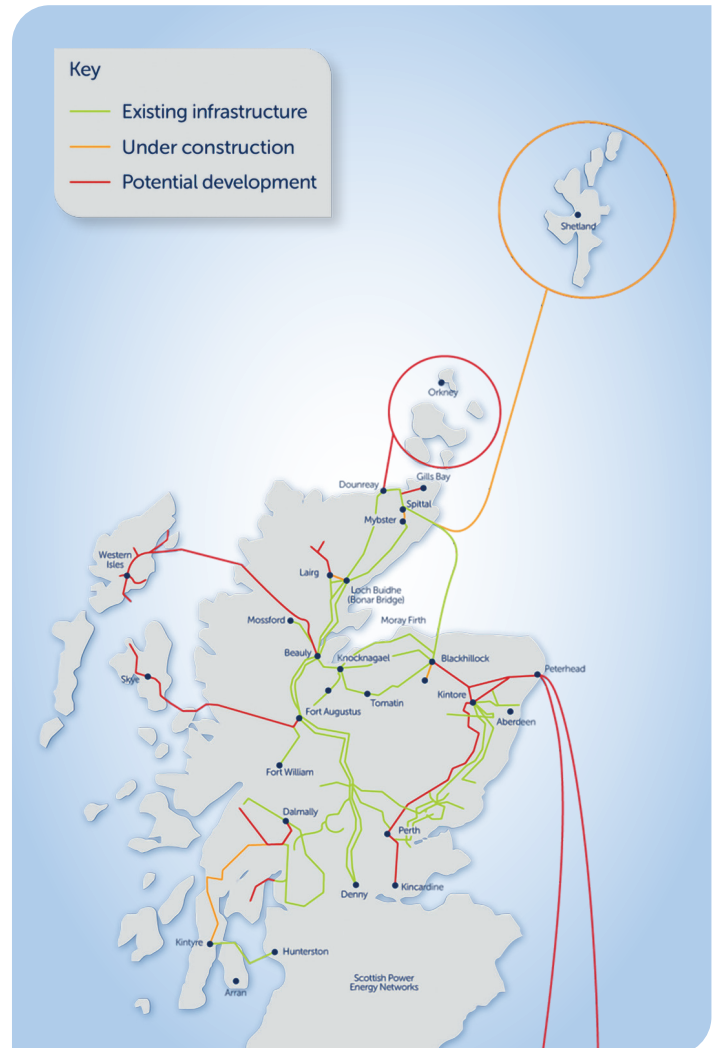
We are Scottish and Southern Electricity Networks Transmission (SSEN Transmission), operating under licence as Scottish Hydro Electric Transmission Plc (SHE Transmission) for the transmission of electricity in the north of Scotland.



As the Transmission Network Owner, we maintain and invest in the high voltage 132kV, 275kV, 400kV electricity transmission network in the North of Scotland.

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

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



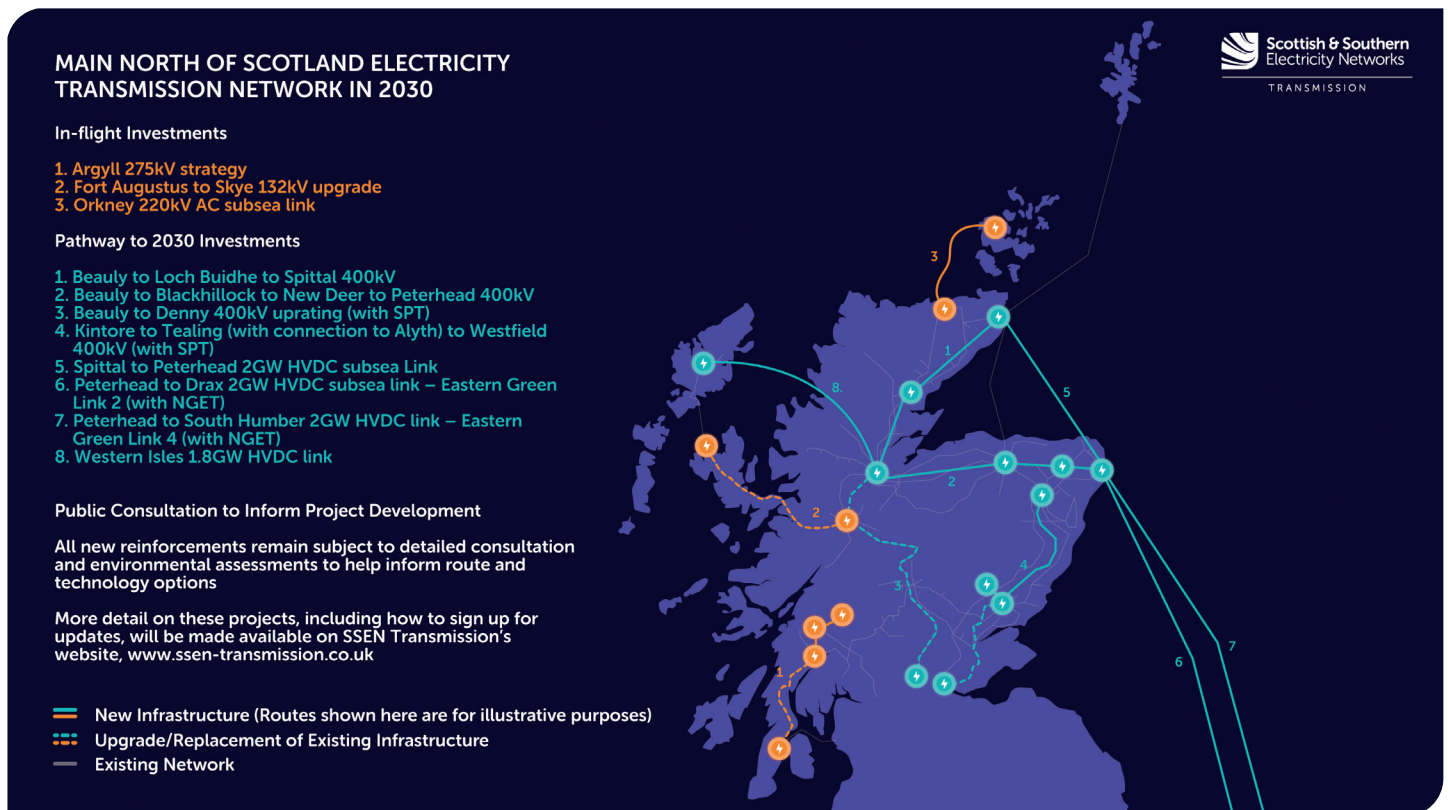
Project need

In July 2022, National Grid, the Electricity System Operator (ESO), published the Pathway to 2030 Holistic Network Design (HND), setting out the blueprint for the onshore and offshore electricity transmission network infrastructure required to enable the forecasted growth in renewable electricity across Great Britain, including the UK and Scottish Governments 2030 offshore wind targets of 50GW and 11GW.

For the north of Scotland, this confirms the need for significant and strategic increase in the capacity of the onshore electricity transmission infrastructure to deliver 2030 targets and a pathway to net zero, several of which will require accelerated development and delivery to meet 2030 connection dates. The need for these reinforcements has been further underlined within the recent British Energy Security Strategy. This sets out the UK Government's plans to accelerate homegrown power for greater energy independence. The strategy aims to reduce the UK's dependence on and price exposure to global gas wholesale markets via the deployment of homegrown low carbon electricity generation supported by robust electricity network infrastructure.

The extensive studies completed to inform the ESO's Pathway to 2030 HND confirmed the requirement to reinforce the onshore corridor from Kintore to Tealing, providing a 400kV connection between these sites enables the significant power transfer capability needed to take power from onshore and large scale offshore renewable generation connecting on the east coast of Scotland before then transporting power to areas of demand. SSEN Transmission is proposing to establish a new 400kV network and reinforce sections of the existing electricity transmission infrastructure across the north-east of Scotland.

The East Coast 400kV Phase 2 upgrade projects have therefore been highlighted as critical to enable the delivery of the UK and Scottish Government's targets, with a requirement for accelerated development and delivery to meet these targets in line with a required in-service date of 2030.



Please note that this booklet only covers Kintore – Tealing.

Project location

The map pictured below indicates the location of the overhead line (OHL) infrastructure on the east coast and locations of the existing substations. The purple and green lines indicate the existing OHLs that are to be upgraded to 400kV as part of Phase 1. The area south of where the blue line ends is where the Transmission network switches from SSEN Transmission (SSENT) to Scottish Power Transmission (SPT) ownership.



Project details

The East Coast 400kV Phase 2 is a scheme consisting of several onshore reinforcement projects on the east coast. These onshore reinforcements comprise of works both developing new infrastructure and upgrading existing infrastructure in the SSENT and SPT area. The majority of the infrastructure projects are within the SSENT area.

The existing steel lattice towers and the overhead lines (OHLs) which they support between Kintore and Tealing are currently operating at 275kV. The projected growth in generation capacity within the SSENT area and offshore, gives rise to increased north to south power transfer requirements and therefore the OHLs are required to transfer more power. An increase in operating voltage to 400kV provides the required increase in power transfer capability. The towers on the existing OHL between Kintore and Tealing are not able to be upgraded to operate at 400kV as was the case in Phase 1. This is due to the size of the towers, the conductors would not be able to achieve safe clearance distances and heights.”



To provide the full 400kV capability that the scheme intends to deliver, there are several projects that contribute to the full scheme, and these include the construction of:

- An extension to the 400kV substation at Kintore which is currently under construction.
- A new 400kV capable substation within the vicinity of the existing Fiddes substation.
- 30-35km of new 400kV OHL between the existing Kintore site to a new 400kV capable substation within the vicinity of the existing Fiddes substation.
- A new proposed 400kV capable substation within the vicinity of the existing Tealing substation.
- 60-70km of new 400kV OHL between the new proposed Fiddes and Tealing substations.
- Upgrade to 400kV capability by reconductoring of the existing Alyth – Tealing 275kV OHL (shown in Brown on Page 5).
- Upgrade to 400kV capability by reconductoring of the existing Tealing – Westfield/Glenrothes 275kV OHL down to the SPT border. SPT will continue the works on their section of OHL within the relevant license area (shown in Blue on Page 5).
- When the Alyth – Tealing and Tealing – Westfield/ Glenrothes lines are upgraded to 400kV they will be connected into the new Tealing 400kV site.

The above projects are in the early stage of development, and we intend on undertaking public consultations on progress to date covering the entire scheme within quarter 2 (Q2) of 2023. Throughout this consultation period we will be asking for feedback from local communities, and all interested parties on the preferred sites for both Tealing and Fiddes, and the preferred OHL corridor routes. Later in 2023 there will be a further public consultation on the preferred alignment including tower locations and substation design.

Over the next 12 months, we will undertake our site selection process to identify suitable locations for the new substations within the vicinity of the existing Tealing and Fiddes substations. Similarly, we will undertake our corridor and routing process for the new build 400kV OHLs between Tealing and Kintore, via the new Fiddes site.

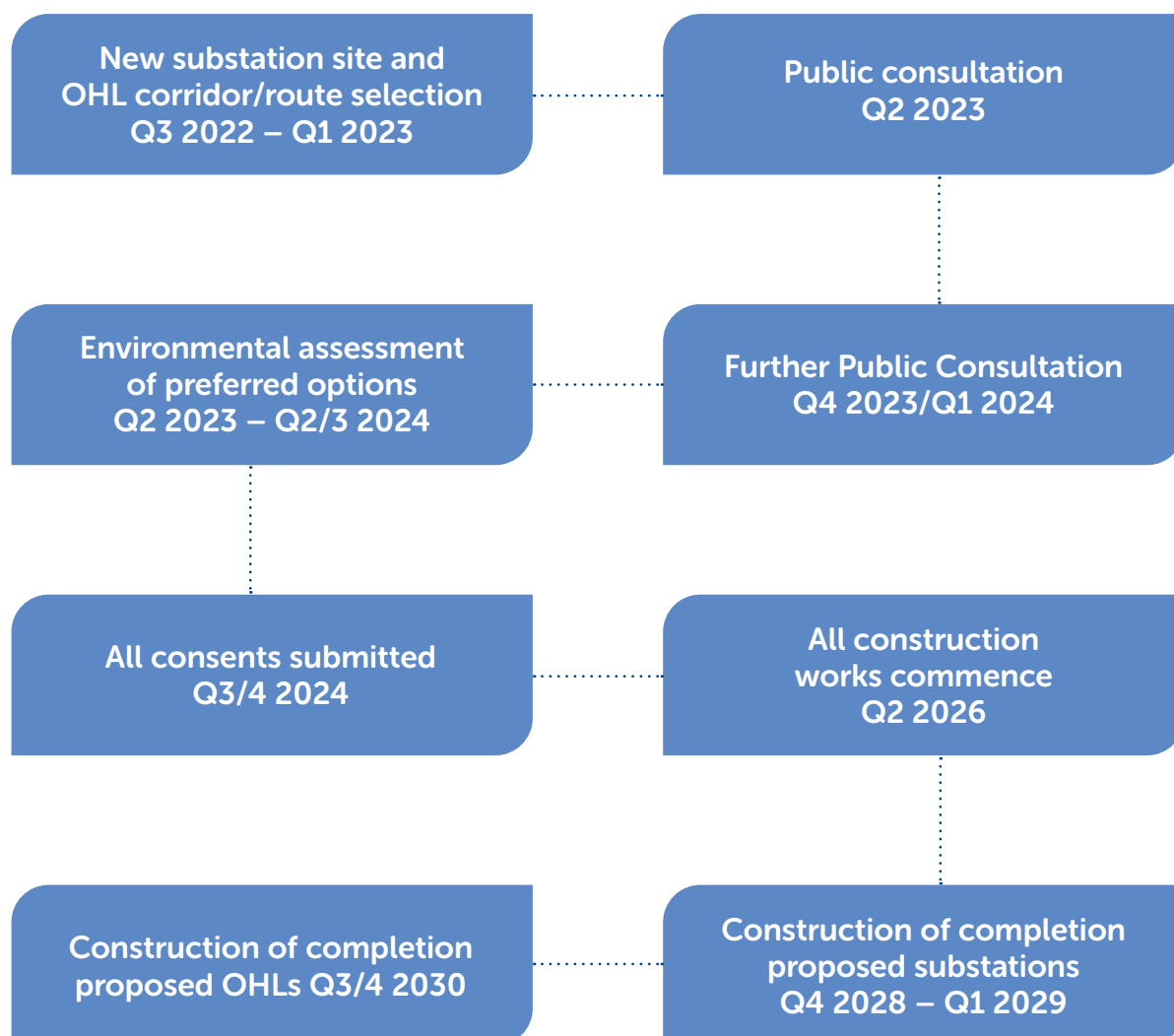
This will identify suitable corridors (c5–20km wide areas) in which we can develop potential routes (c500–1000m wide areas). This will then inform the detailed areas in which we undertake the detailed engineering and environmental assessment of potential tower locations and access tracks.

This process aims to progress towards a preferred site as well as preferred corridor and route in a systematic manner, which is technically feasible, economically viable, and could be anticipated to cause the least disturbance to the environment and to those who live, work, and visit the area.

Programme of works

The main activities and timescales for the East Coast 400kV Phase 2 projects are detailed below.

Please note that dates are subject to change.



Working with the community

Throughout the life of our projects, we aim to work positively with local communities and keep people informed about what we are doing. This is particularly important when we are developing a proposal as we want to understand what local people think about our plans.

When our project progresses into construction, we will continue working closely with the local community to ensure that our work has as little impact on the lives of those living and working in the area and has many long-term positive effects as possible.

During some operations, we will position staff in locations to help with information, provide reasonable instruction and ensure safety of the public.

Each of these projects have their own dedicated project website. This is where you will find regular, more specific updates regarding the latest news and timelines relating to the individual projects works:

**Kintore – Tealing
400kV OHL:**
bit.ly/3Plyknp

**Tealing 400kV
substation:**
bit.ly/3iJZJTR

**Fiddes 400kV
substation:**
bit.ly/3HtILDt

**Alyth – Tealing
OHL Re-conductor:**
bit.ly/3FKGHG5

**Tealing – Glenrothes
OHL Re-conductor:**
bit.ly/3YgSSl9

If you would like further information about the East Coast 400kV Upgrade – Phase 2 projects, please contact our Lead Community Liaison Manager:

Louise Anderson
Lead Community Liaison Manager



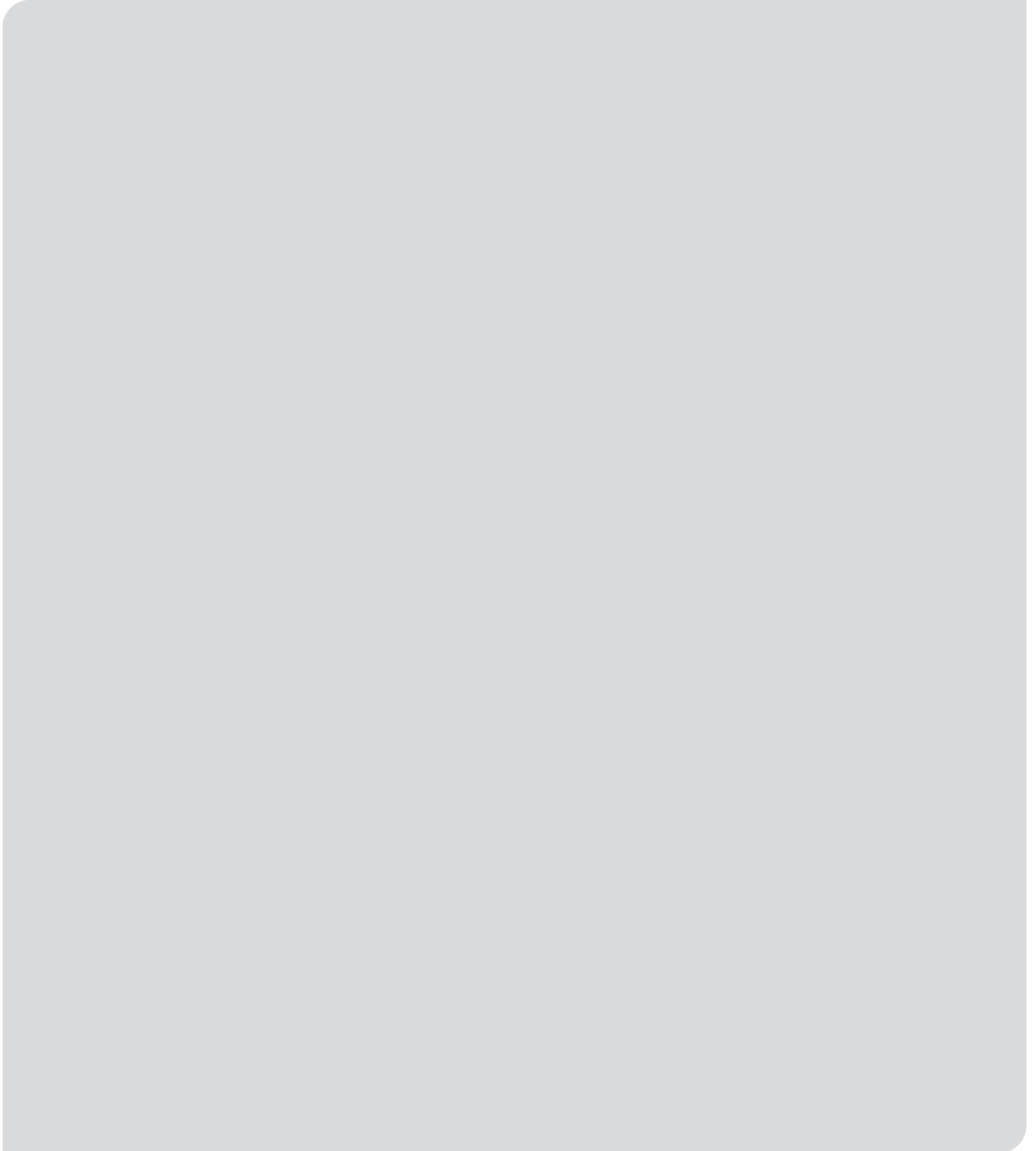
louise.anderson@sse.com



07384 454233



Notes





Scottish & Southern
Electricity Networks

TRANSMISSION



 SSEN Community

 @SSETransmission

 ssentransmission.co.uk

 SSEN Transmission



Scottish and Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460; (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having its Registered Office at Number One Forbury Place, 43 Forbury Road, Reading, Berkshire, RG1 3JH which are members of the SSE Group.