

About SP Energy Networks



We all expect electricity to be available at the flick of a switch, 24 hours a day.

In southern and central Scotland the job of making sure that happens belongs to SP Energy Networks (SPEN). In fact we have a statutory duty to do it.

SPEN operates, maintains and develops the network of cables, overhead lines and substations which transport electricity to homes and businesses in southern and central Scotland, and onwards to where it's needed further afield.

The high-voltage electricity transmission network, which operates at up to 400,000 volts, is managed by SP Transmission plc, a wholly-owned subsidiary of SPEN.

We take electricity generated from wind farms, power stations and imports, and transport it through our transmission network – over 3700 km of overhead lines, over 600 km of underground cables and more than 150 substations – to local distribution networks, where the voltage is reduced for use in homes and businesses.

Electricity in our changing world



Scotland is a world leader in the fight against climate change.

Our country has a target of Net Zero greenhouse gas emissions by 2045 – meaning that Scotland’s contribution to climate change will end, definitively, in one generation.

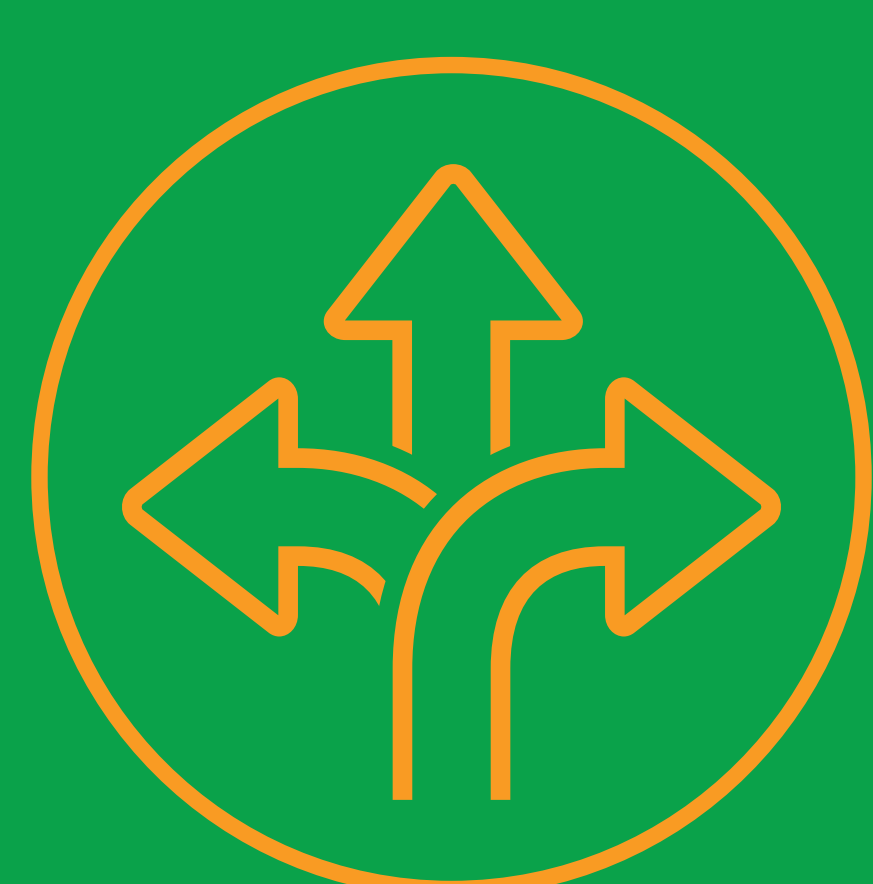
We are in the middle of a transformation, with the energy we use increasingly coming from cleaner, greener sources, as many new renewable generators replace fossil-fuelled power stations.

At the same time, demand for electricity will grow rapidly over the next few years, with electric vehicles replacing petrol and diesel, and increased electrification of heating, industry and transport networks.

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 – often in different locations from before – to the homes, businesses, hospitals and public services that need it.

Our network is also crucial to the delivery of wider renewable energy objectives, due to its position in an area of outstanding renewable resource and our geographical location. We have a unique role in connecting renewable energy and transferring it from Scotland into England and Wales, benefiting stakeholders, society and the fight against climate change.

Why do we need a new transmission line from Glenmuckloch to Redshaw?



SP Energy Networks (SPEN) is responsible for the transmission and distribution of electricity in central and southern Scotland. We have an obligation to maintain, operate and invest in our network to secure a safe, reliable, and economic service for current and future customers.

The existing electricity transmission network in the south of Scotland will soon be at full capacity, unable to accommodate all the clean, green renewable energy we will all need in future.

Around 2GW (gigawatts) of new renewable energy is expected to connect to the transmission network in the area around Glenmuckloch and Glenglass in the future.

The Glenmuckloch to Redshaw Reinforcement Project involves construction of a new double-circuit 400kV overhead line supported on steel transmission towers (pylons), running north-east for around 23km from the proposed Glenmuckloch substation to the proposed new Redshaw substation at Red Moss, close to the M74 motorway, where it will connect to the existing high-voltage transmission network.

We will also need to create temporary accesses to tower construction areas, and construction compounds to store materials. There are well-established procedures in place for creating and then decommissioning these, to minimise impact on the environment and local communities.

What will the new overhead line look like?



The new overhead line will be carried on steel lattice towers (pylons).

The towers will have three arms on each side, and each arm will carry a set of conductors (wires). This is because there will be a circuit on each side of the towers, and each circuit has three sets of wires. The towers are made of galvanised steel. They are grey in colour and become duller in appearance after about 18 months.

The towers (L12 design) have a standard height of 46 metres and are placed approximately 300 metres apart. The exact height and distance between them will vary depending on the landscape and any obstacles the lines need to cross, such as roads, rivers and railway lines, to ensure electrical safety clearance to the ground. Lower-height towers can also be used in some situations.

How did you select a route for the overhead line?



The routing of overhead lines is a complex process, requiring a balance to be struck between statutory obligations, engineering requirements, economic viability, the environment, and people who live, work, enjoy recreation and pass through it.

We are following established guidelines for routing transmission overhead lines, which combine in-depth environmental studies with technical and economic factors. A key part of this is consultation with landowners, stakeholders and the public to inform the development of the project.

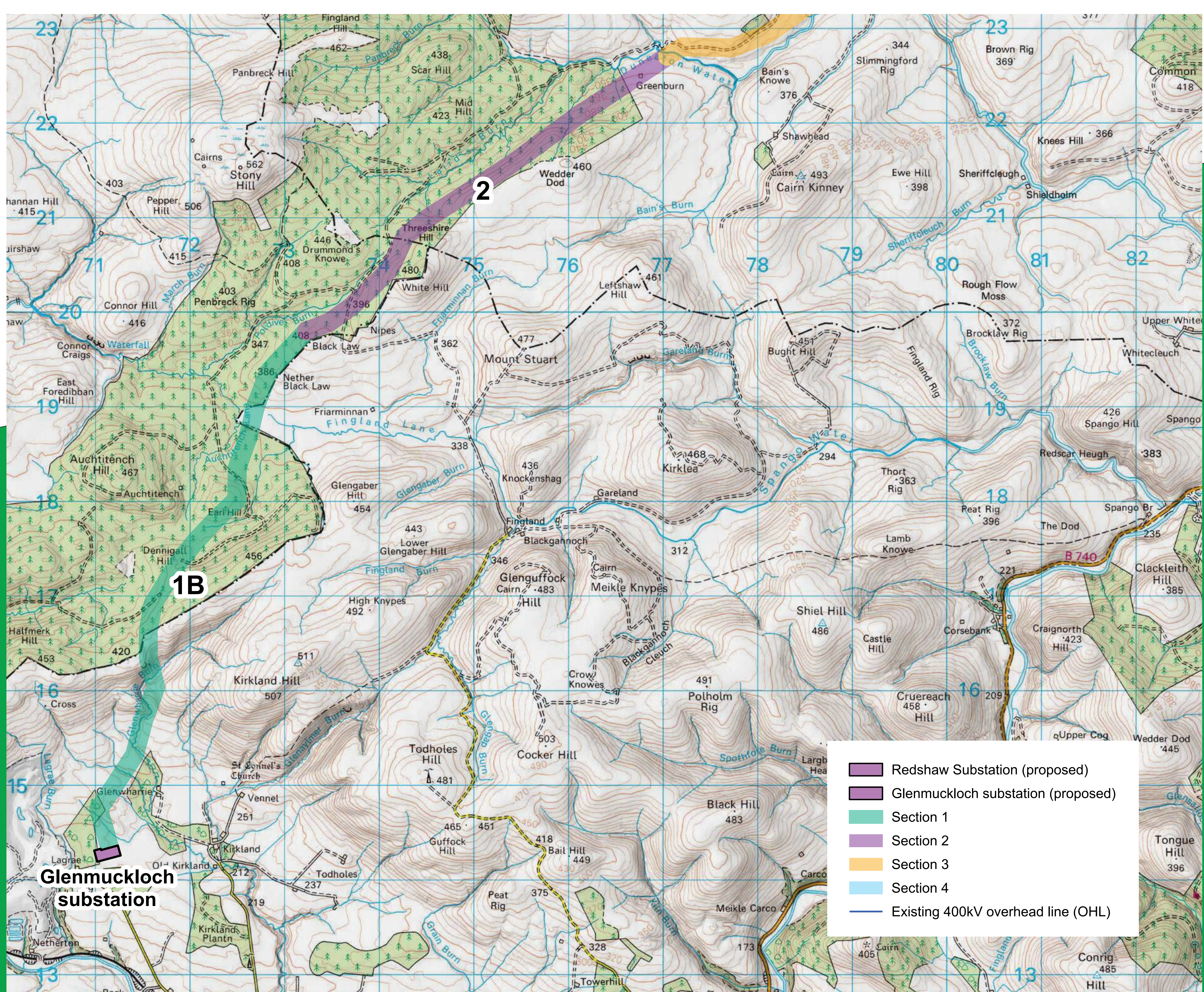
SPEN has been working with environmental consultants to identify potential routes for the new overhead line between the proposed Glenmuckloch and Redshaw substations.

We appraised each option for its impact on a range of criteria including local views, the character of the landscape, biodiversity, forestry, cultural heritage, flood risk, geology, and other land uses.

Our preferred route (a swathe of land within which an overhead line could be installed), is the one that we believe achieves the best balance between our technical requirements and minimising the impact on the environment and the people, who live, work and enjoy spending their time in the area.

You can find detailed information in our Routing and Consultation Report, which is available to view [here](#) and on our website.

Our preferred route – sections 1 and 2



Section 1/Route Option 1B:

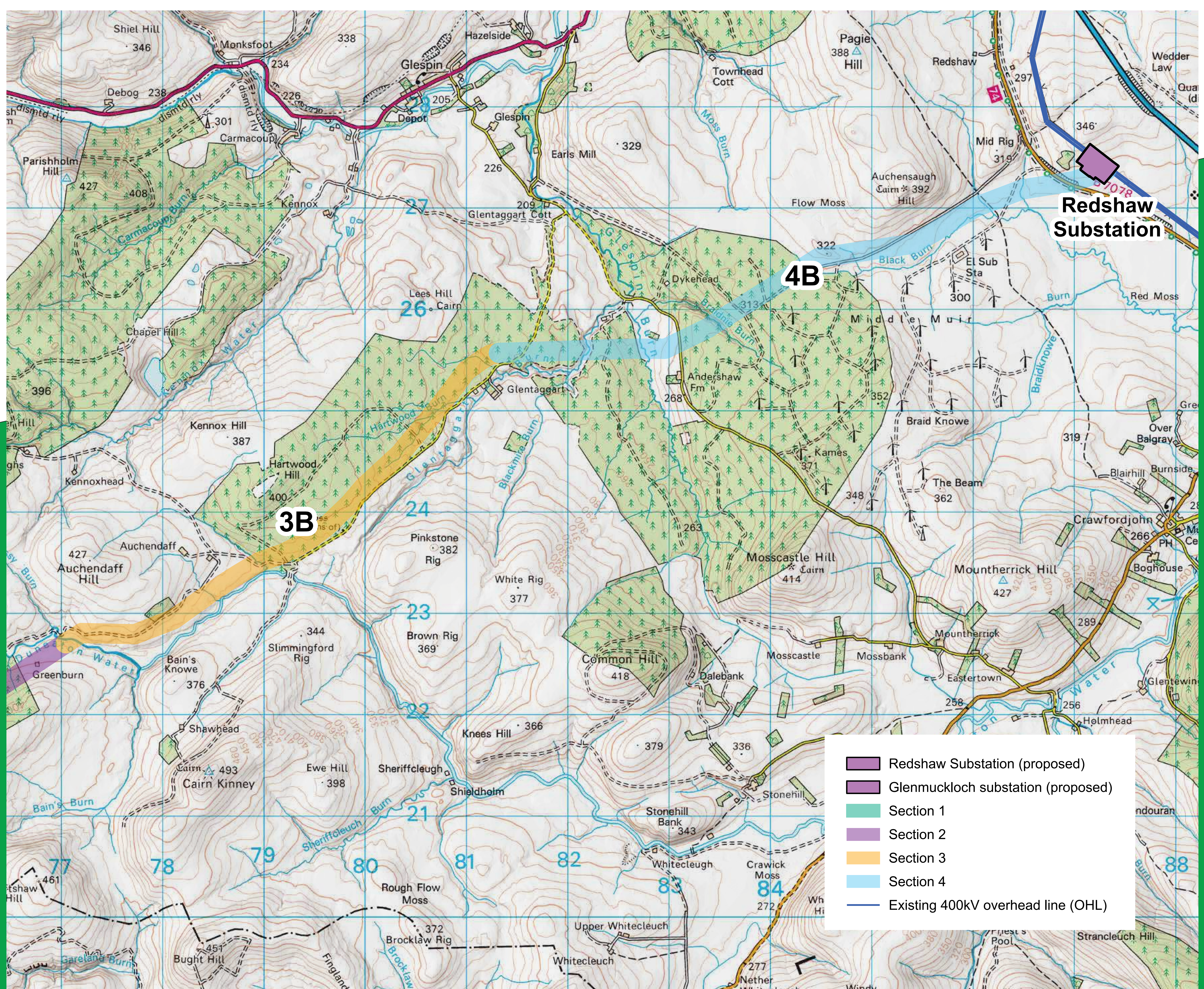
The route runs north-east from the proposed Glenmuckloch PSH substation for approximately 1km, then up the southern slopes of White Naze, across Glenwharrie Burn and up the steep slopes of Glenwharrie Craig north-westwards before entering coniferous woodland.

The route passes between the proposed Glenmuckloch Wind Farm to the west and the proposed Lethans Wind Farm Extension to the east. It then heads north-east for approximately 1km towards Dennigall Hill before turning north-west and then north to pass between the proposed turbines of Lethans Wind farm Extension east of Auchtitench Hill. It then continues within coniferous woodland and follows Poldive Burn north-east towards the western flanks of Black Law.

Section 2/Route Option 2:

This section of the route runs parallel to the operational Kennoxhead Wind Farm and consented Kennoxhead Wind Farm 2 and Kennoxhead Extension Wind Farms. From Black Law, the route runs along and within the southern edge of commercial woodland for approximately 4.8km. It continues through forestry along the north facing slopes of White Hill and Wedder Dod. The route emerges from forestry into open moorland, before continuing approximately 600m north-east towards Duneaton Water.

Our preferred route – sections 3 and 4



Section 3/Route Option 3B:

From Duneaton Water the route heads north-west across open moorland, passing approximately 400m to the south-east of Auchendaff Hill and the turbines of the operational Kennoxhead Wind Farm and consented Kennoxhead Wind Farm Extension. The route then passes between Kennox Hill and Hartwood Hill, running parallel to the northern edge of the forestry, for approximately 2.6km to Lees Hill, and then east towards Glentaggart.

Section 4/Route Option 4B:

The route runs east through forestry for approximately 800m before crossing Glentaggart Burn and Andershaw Road, and then turns slightly north-east through woodland and crosses Braidnie Burn. It passes north of Andershaw Wind Farm and south of the proposed Bodinglee Wind Farm. Emerging from the forestry near Braid Knowe the route then passes to the south of Auchensaugh Hill and follows the existing wind farm access track for 2.1km before crossing the B7078 and terminating at the proposed Redshaw Substation.

Redshaw overhead line diversion



We will also need to divert a short section of the existing 400kV overhead line (the one that runs parallel to the M74) at Redshaw, to connect into the proposed new Redshaw substation.

To do this, we will need to build a short new stretch of overhead line, including three new towers and replacing two existing towers with angle towers (ZV108 and ZV111), to 'bypass' the section that currently crosses the proposed new substation site (see Figure 1).

We will then remove that section and build the substation. Once the substation is built, we will connect it to two of the new towers (see Figure 2).

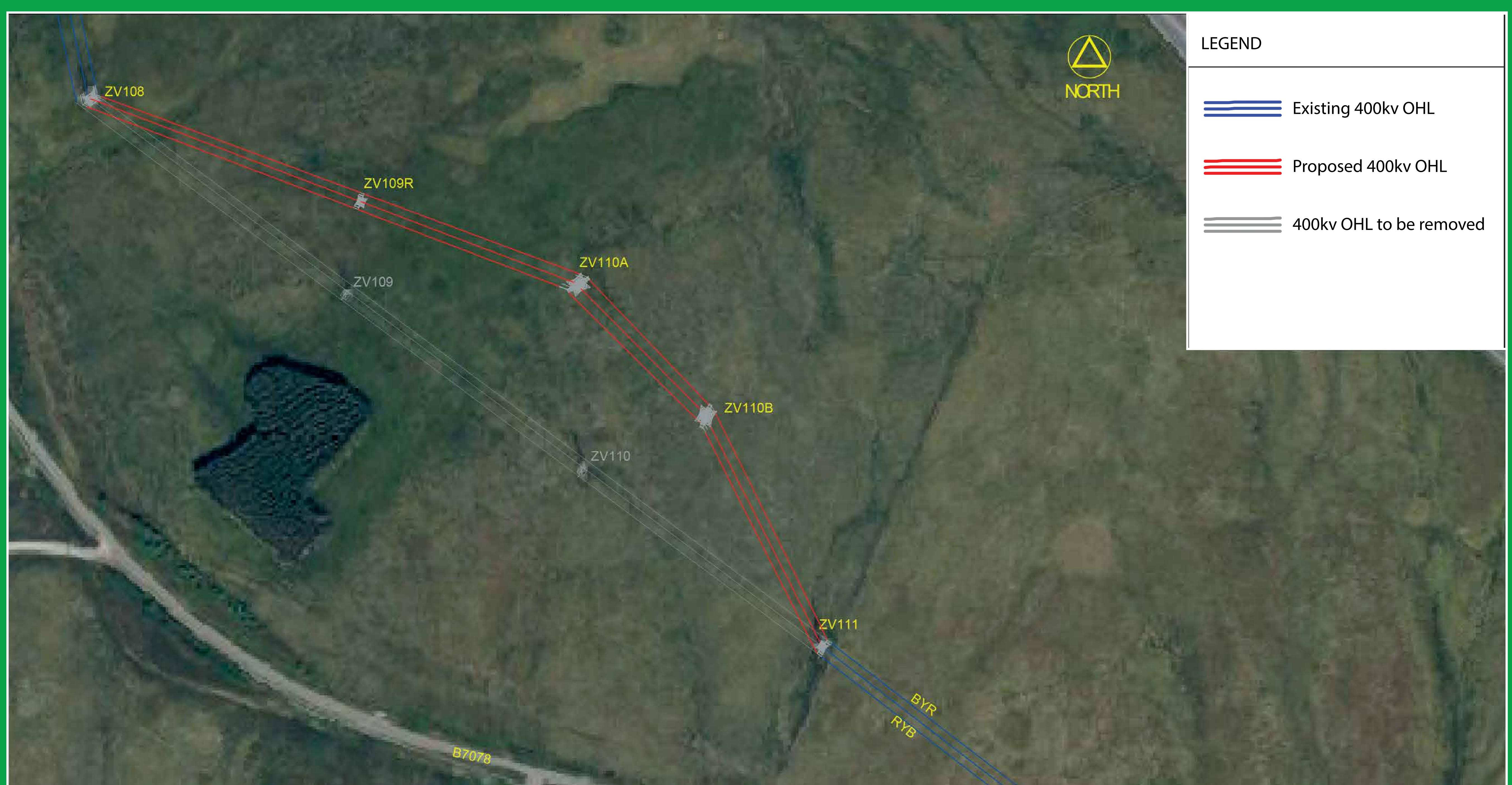
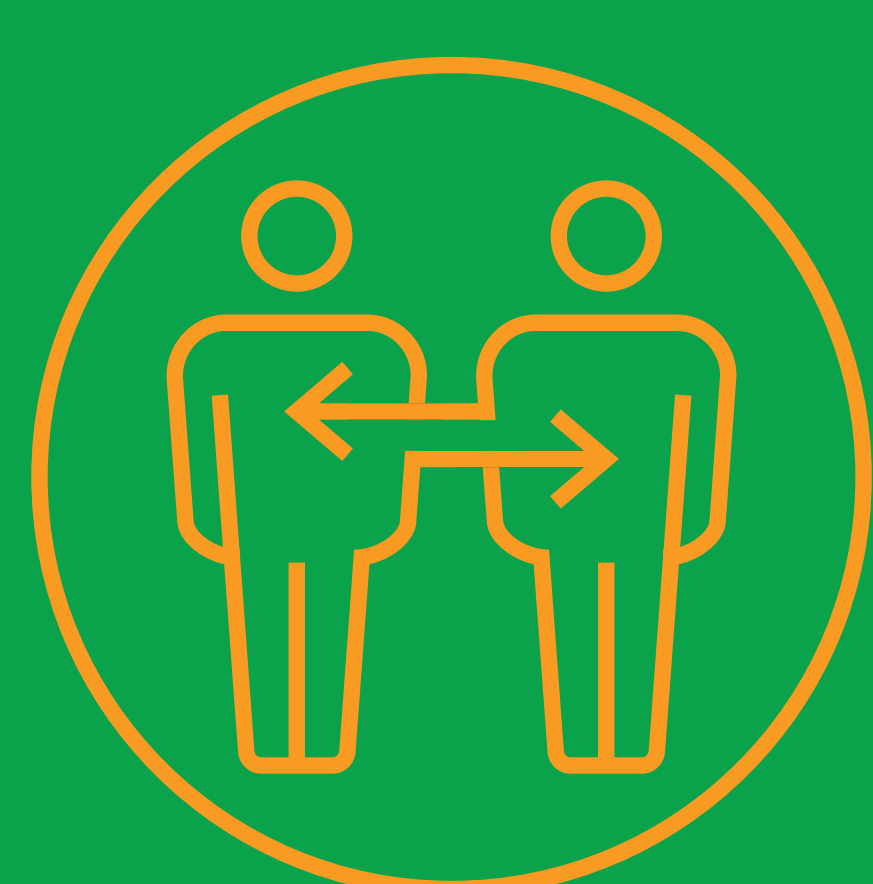


Figure 1



Figure 2

We want to hear your views!



Our public consultation runs from Monday 26 February 2024 to Thursday 28 March 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 Glenmuckloch to Redshaw Reinforcement Project in the best way.

Please give us your views on our preferred route, and where the new overhead line might go within that route; the other options we considered; and anything you would like us to take into account – such as site access – to help us develop our plans.

Please also give us any comments you may have on the proposed diversion to the existing overhead line at Redshaw, which will be subject to a separate consent application in due course.



You can find more information, project documents and an online feedback form at our project website: www.spenergynetworks.co.uk/pages/grrp.aspx

You can also contact us to ask any questions or give us your comments:

Email: grrp@communityrelations.co.uk

Freephone: 0800 021 7890

Freepost: FREEPOST SPEN GRRP

What happens next?



Following this first round of consultation we will develop a detailed design and alignment for the Glenmuckloch to Redshaw Reinforcement Project, including locations for towers, access routes and working areas. We will publish a report summarising the feedback received in this first round of consultation and how this has influenced our proposals.

We will then carry out a detailed Environmental Impact Assessment and hold a second round of public consultation, so that people can give us their views on the detailed route alignment.

After considering feedback received in the second round of consultation, we will finalise our proposals and submit consent applications to the Scottish Government's Energy Consents Unit, for consideration by the Scottish Ministers.

The Scottish Ministers will then undertake a final round of statutory consultation before making any decision on our applications.

We will make a separate consent application for the proposed Redshaw overhead line diversion, as this is for an alteration to an existing overhead line separate from the new one.