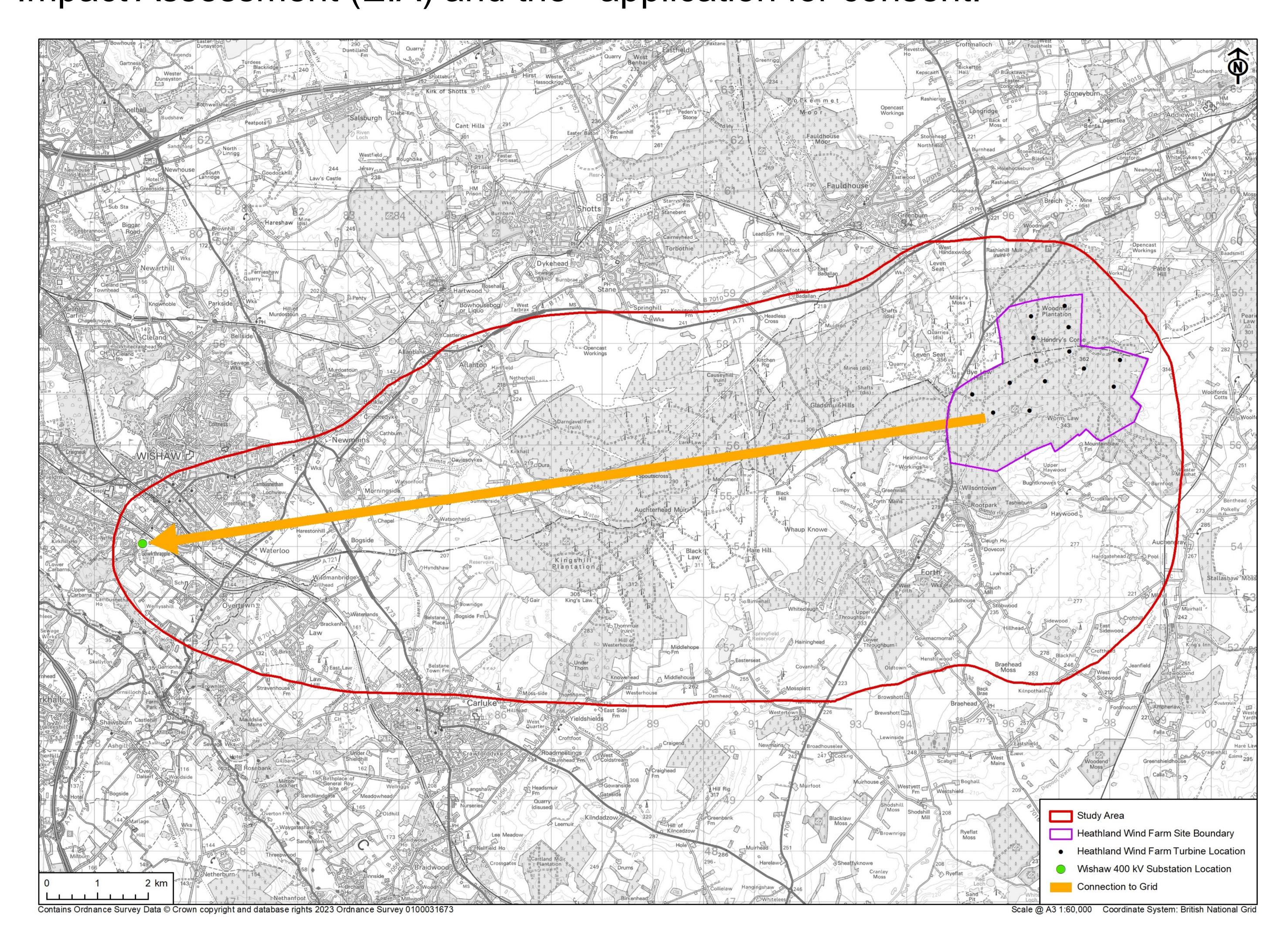
# vereene and htroduction

#### Welcome to our consultation event

We are pleased to welcome you to this consultation event and introduce our proposals to construct a 132 kilovolt (kV) overhead line carried on wood poles from the consented Heathland Wind Farm to Wishaw Substation. The purpose of this event is to provide you with an opportunity to learn about the project, ask questions and provide us with feedback on the preferred route corridor. Following this consultation, the proposed route will be finalised and will be carried forward to subsequent stages including the Environmental Impact Assessment (EIA) and the application for consent.



#### The Proposed Development

We are preparing proposals to construct an overhead line to connect the consented Heathland Wind Farm to the transmission network following a request from the developer of the project to provide a grid connection. The grid connection will comprise a 132 kV overhead line carried on wood poles from the consented Heathland Wind Farm to Wishaw Substation which will provide the connection to the transmission network.

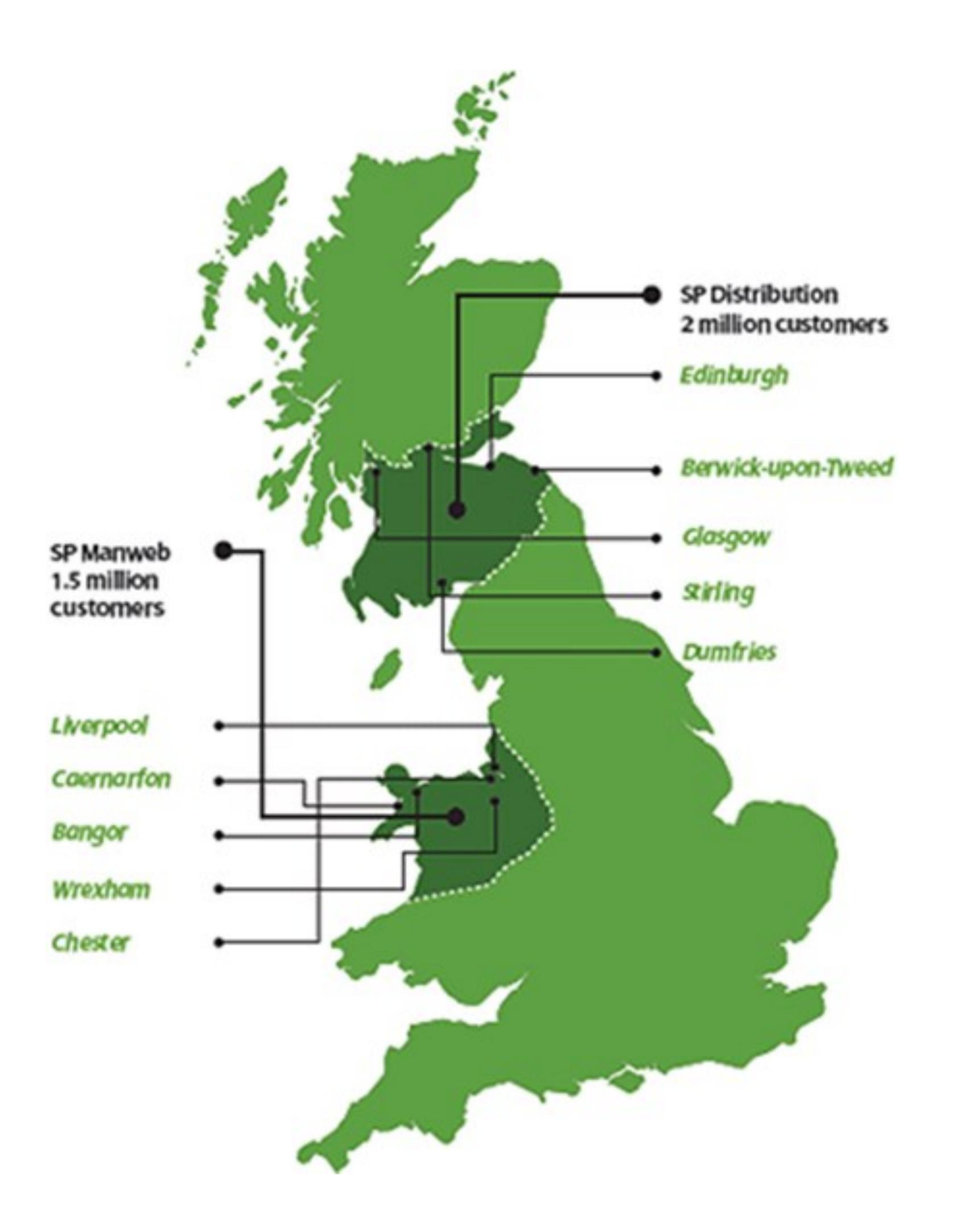


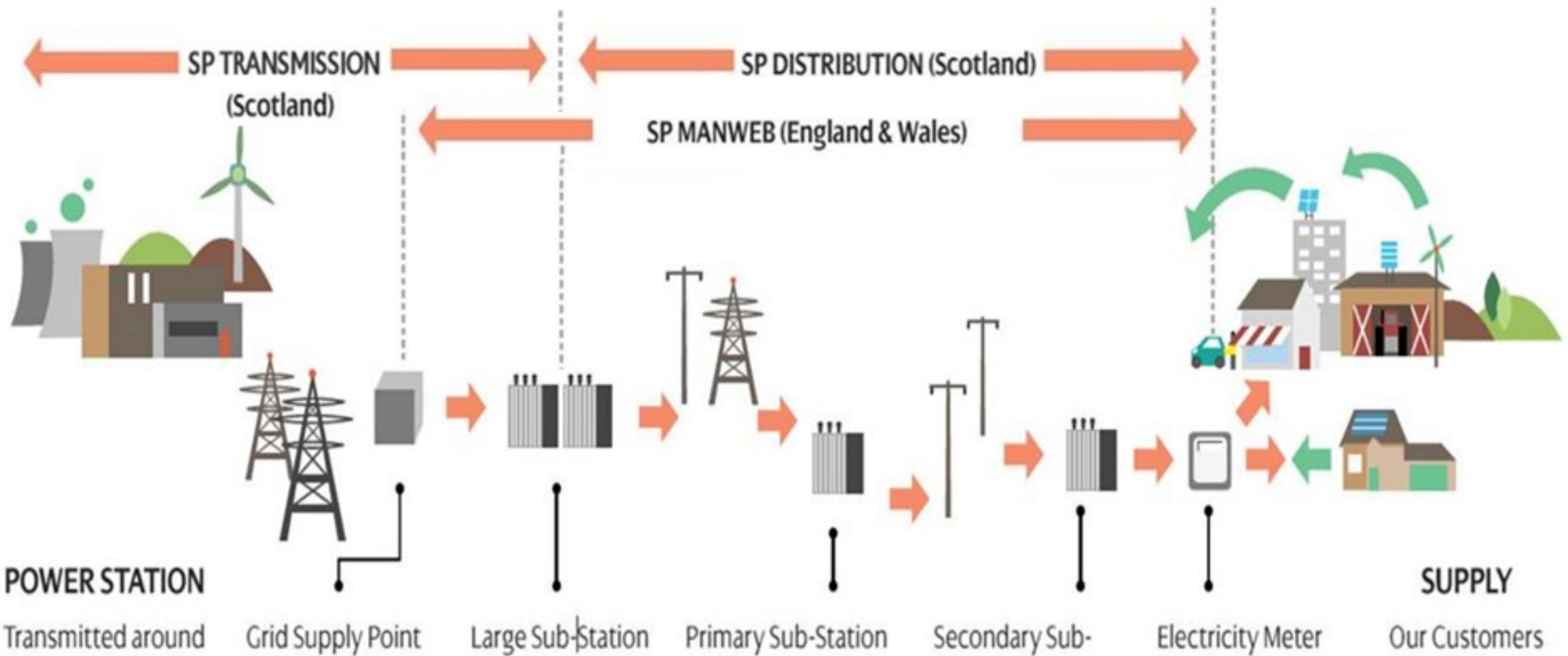
## About SP Energy Networks

SP Energy Networks is part of the Scottish Power group of companies. It owns three regulated electricity network businesses in the UK including SP Transmission (SPT), SP Distribution and SP Manweb.

These businesses are 'asset-owner' companies holding the regulated assets and Electricity Transmission and Distribution licenses of Scottish Power. As part of this, SP Energy Networks operates, maintains, and develops the network of cables, overhead lines and substations which transport electricity to connected homes and businesses in Southern and Central Scotland. Under Section 9 of the Electricity At 1989 SP Energy Networks has a legal

duty to safeguard electricity supplies by keeping its network up to date and to enable new connections for the generation and supply of electricity.





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## About the Project

#### Need for the Project

SP Energy Networks received a request to provide a grid connection for the consented Heathland Wind Farm. The connection is required to allow the consented Heathland Wind Farm to input to the electricity network. To comply with its statutory and license obligations SP Energy Networks must provide the consented Heathland Wind Farm with a connection to the transmission system.

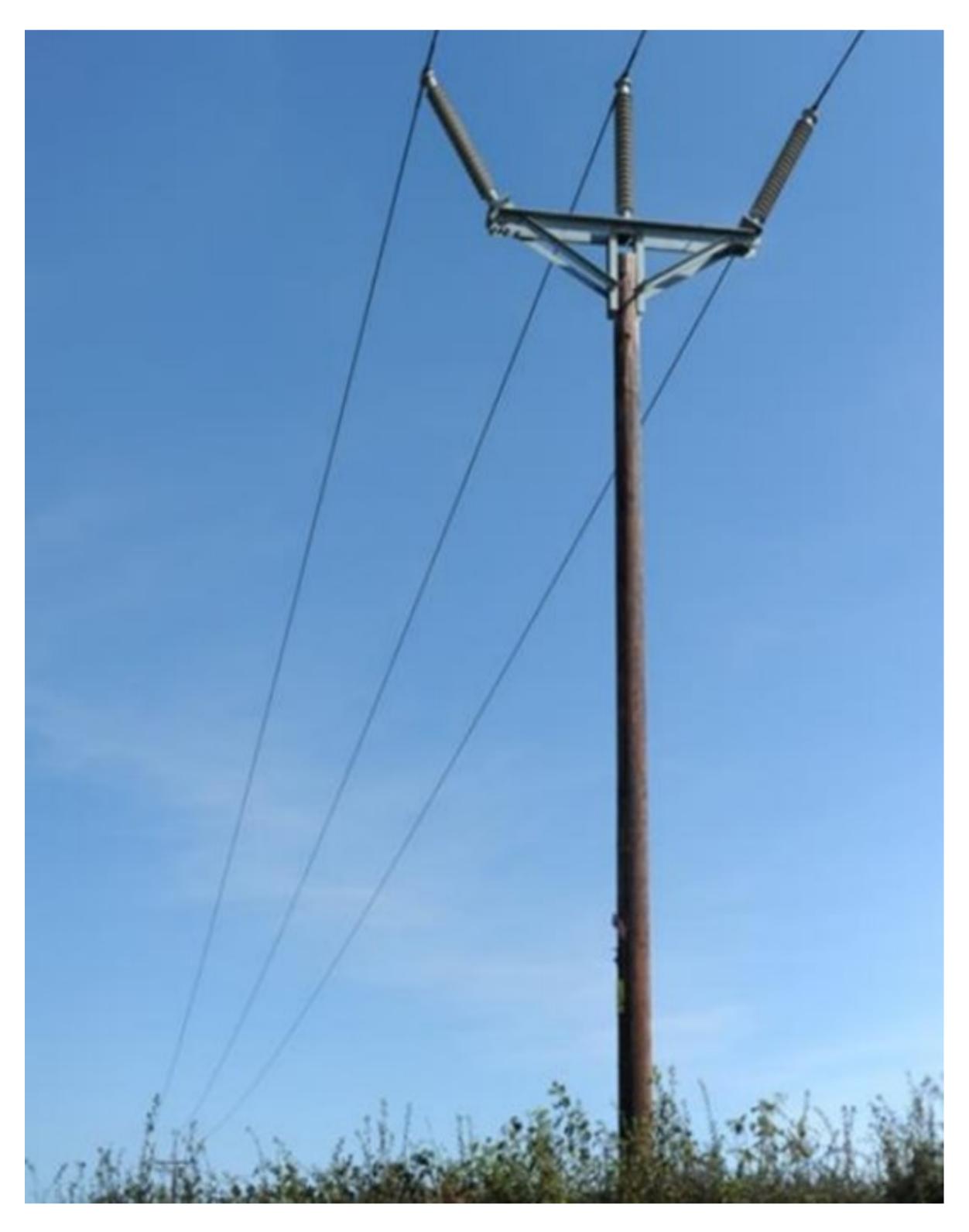
#### Our Proposals

The proposal involves an overhead line supported on wood poles located between the consented Heathland Wind Farm and Wishaw Substation, situated across the unitary authority boundaries of South Lanarkshire, North Lanarkshire, and West Lothian. The grid connection would be approximately 22km in length, subject to final routeing.

#### Wood Pole Structure

The wood poles overhead line is proposed to be supported with galvanised steelwork cross arms supporting aluminium conductors on insulators. These are suitable for supporting single circuit lines operating at 132kV.

Whilst wood poles have a standard height above ground of 15m, these can be extended or reduced in height, as required. Pole heights may require to be increased where circumstances dictate, e.g. over elevated land, structures or features. The distance between wood poles will average between 80m to 120m but can be increased if there is a requirement to span a larger distance due to the presence of a feature in the landscape such as a river or loch. The precise pole configuration, height and span will be determined after a detailed line design. This overhead line design has been determined following a detailed review of the engineering and technical requirements for the connection.



The photographs below show a trident 'H' pole and typical trident wood pole structure.





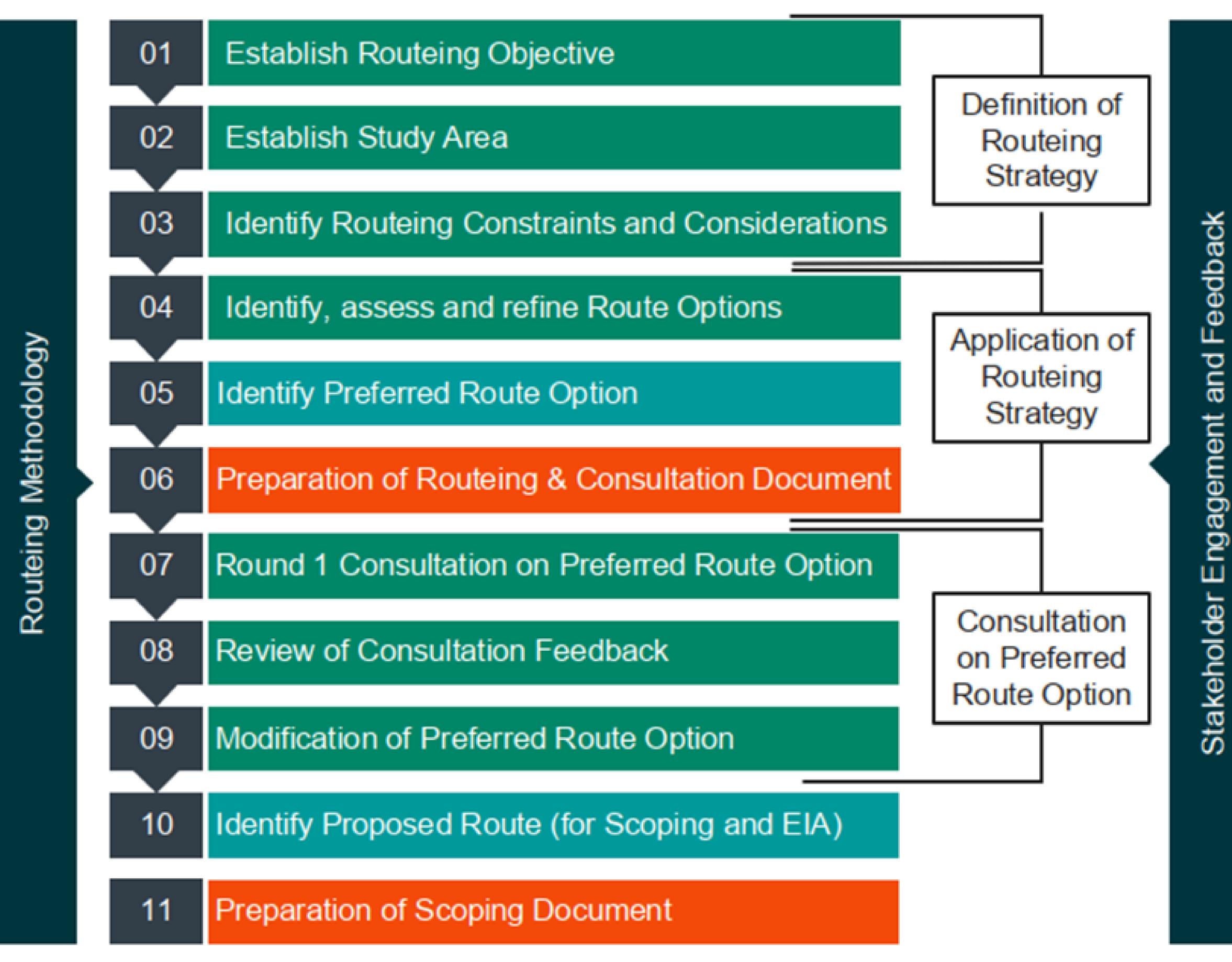
## Routeing Methodology

SP Energy Networks has been working to identify potential route options for the overhead line connection. The project has gone through an iterative routeing process to identify a technically feasible and economically viable 132 kV overhead line grid connection between the consented Heathland Wind Farm and Wishaw Substation which causes, on balance, least disturbance to the environment of the Study Area and the people who live, work and enjoy recreation within it.

The first step is the identification of a Study Area and within this the identification of routeing considerations taking into account areas of the highest or high environmental value or interest, local considerations and likely effects on the environment including visual amenity and landscape character. The information gathered formed a picture of the different constraints and opportunities within the Study Area.

Secondly a routeing strategy was developed to take into account the technical and environmental routeing considerations identified within the Study Area.

This is followed by the identification, assessment and refinement of route options based on routeing considerations, for examples which avoid and/or make best use of routeing constraints and opportunities such as avoiding designated sites or settlements or making use of landform or landscape features to prevent sky lining (i.e. where the overhead line would be seen above the landform). Through this iterative process route options may be refined or rejected with the aim of identifying a preferred route option which best meets the project objective.



SPEN's Approach to Routeing



# Routeing Considerations

To identify and assess the route options SPT's statutory duties under the Electricity Act 1989 require a balance between the following considerations: Environment;

- . Technical;
- and Economic.

#### Landscape and Visual Amenity



SPT is subject to duties under Schedule 9 of the Act: "(a) to have regard to

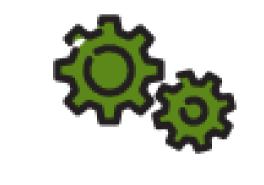
the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and (b) to do what it reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings, or objects."

SP Energy Network's approach considers that an overhead line may have effects on the following:

- Landscape and visual amenity
- Ecology and ornithology and biodiversity;
- . Forestry and woodland;
- Archaeology;
- . Hydrology and water resources;
- . Geology and soil;
- Land use including agriculture;
- and Recreation and tourism.

This approach has ensured that areas of high value amenity have been entirely avoided and routed to ensure that the designations are not significantly affected. Particular regard was taken to the Clyde Valley Woods Special Area of Conservation and the Garrion Gill Site of Special Scientific Interest which are located on the outskirts of Wishaw, adjacent to the A71, and also Braehead Moss SSSI which is located south east of Forth. Four scheduled ancient monuments; Wilsontown Ironworks, Haywood mining town, Tashieburn, and Cleugh House, as well as various settlements within the area were also considered.

#### Technical considerations



Technical considerations are a matter of SP Energy Network's ability to build, operate and maintain an overhead line within the route options identified, for example taking into account existing electricity transmission or distribution infrastructure, topography, side slope gradients, altitude, ground conditions and accessibility.

#### Economic considerations

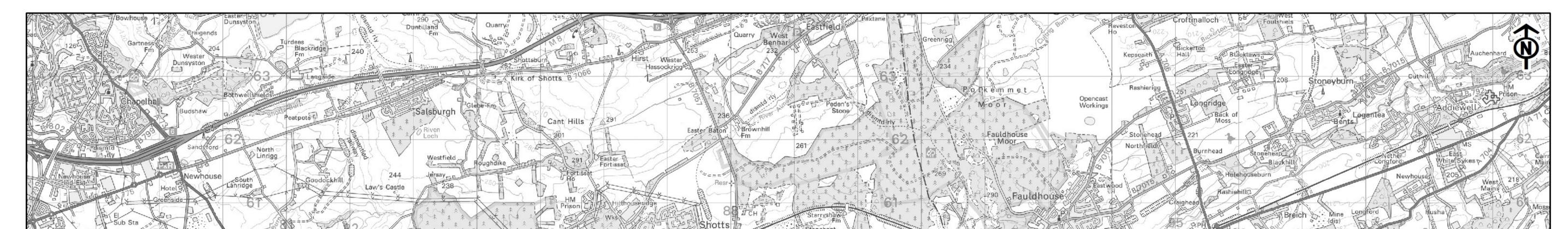


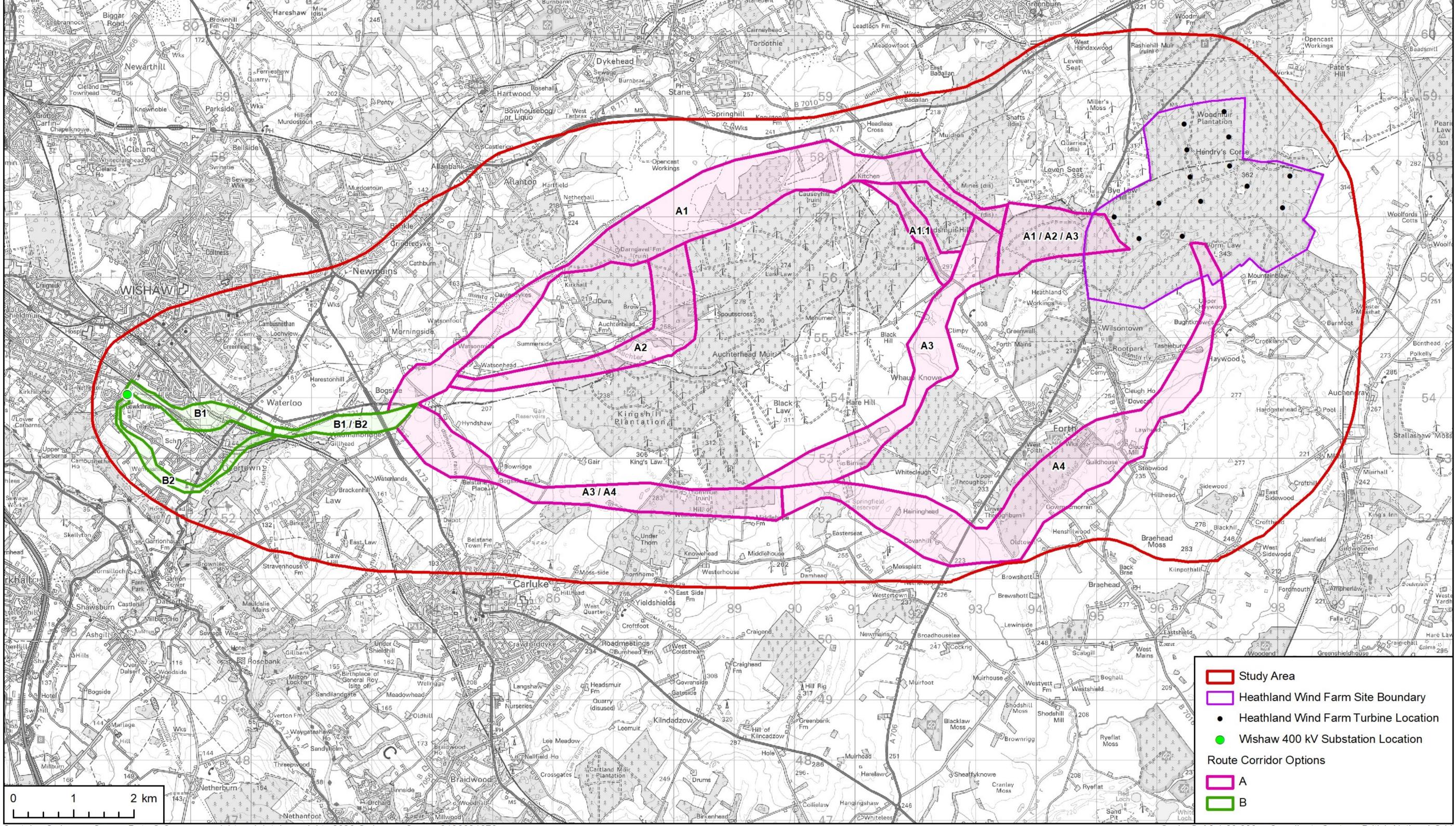
Duties imposed by Schedule 9 of the Electricity Act 1989 requires that the proposed connection is economically viable. SP Energy Network's proven choice for an economic grid connection takes the form of an overhead line, involves ensuring the directness of route options, and avoiding areas where technical difficulty or compensatory schemes which would render the connection uneconomical.



## Routeing Options

The route was divided into sections broadly defined by different constraints in the area which could then be combined to create various route options. Each route option was assessed on its potential to accommodate the overhead line during the route option appraisal.





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Scale @ A3 1:60,000 Coordinate System: British National Grid

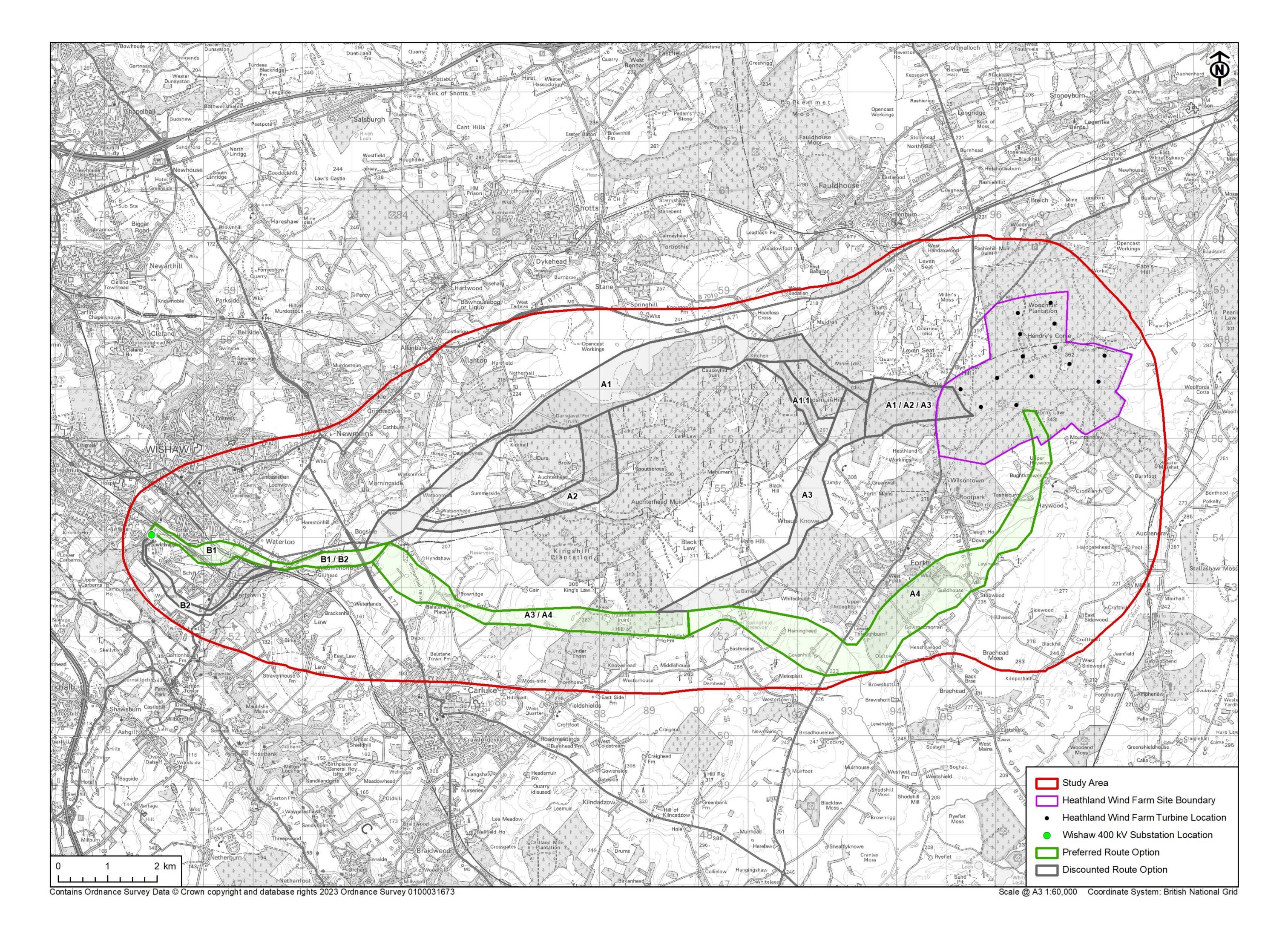


## Preferred Route Option

The preferred route option is identified as the route which is technically feasible and economically viable whilst causing the least disturbance to the environment and to people.

The preferred route starts from Heathland Wind Farm taking a southern alignment past the settlement of Haywood towards Stobwood. The route then passes to the south of Forth before extending west on the margins of forestry which can be utilized as a backdrop to screen the alignment.

The route continues to extend to the west where it passes to the south of Bogside running parallel to the A721 and takes the most direct option to the point of connection at the north side of the Wishaw 400 kV Substation. The preferred route avoids the majority of constraints associated with the wind farm developments in the centre of the Study Area and limits a significant amount of woodland clearance to accommodate the overhead line alignment associated with other route options. The route also allows for a greater standoff distance to national and UK ecological designations at the Clyde Valley Woods, and associated areas of ancient woodland. The total length of the overhead line is approximately 22 km.





# Providing Your Feedback & Next Steps

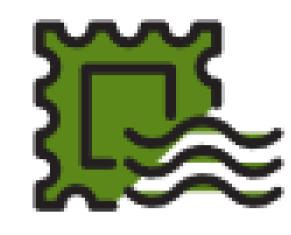
Thank you for taking the time to visit this public exhibition. This consultation event is an opportunity for you to provide feedback which is important to help us finalise the proposed route option which best balances technical, economic and environmental issues.

The final overhead line route will be submitted to Scottish Ministers as part of an application for Section 37 consent under the Electricity Act 1989. You can provide your feedback by the following channels:



Email via heathlandprojectmanag-





Write to the postal address at: Heathland Wind Farm Connection Project, Land and Planning Team, SP Energy Networks, 55 Fullarton Drive, Glasgow, G32 8FA



Telephone 07516 461129



Fill the feedback form on the SPEN web page at **spenergynet-works.co.uk/pages/heathlands\_wind\_farm\_connection** 

This consultation will be live for four weeks between Monday 22nd May and Monday 19th June, however, the information will remain accessible online at the website. Please submit any comments by Monday 19th June. Please note that comments made in response to this consultation are not

representations to the Scottish Government's Energy Consents Unit. When the Section 37 application is submitted there will be an opportunity to make representations to the Scottish Government's Energy Consents Unit as part of the planning process.



We look forward to any comments you may have, and thank you very much for your time, and for attending this event .

