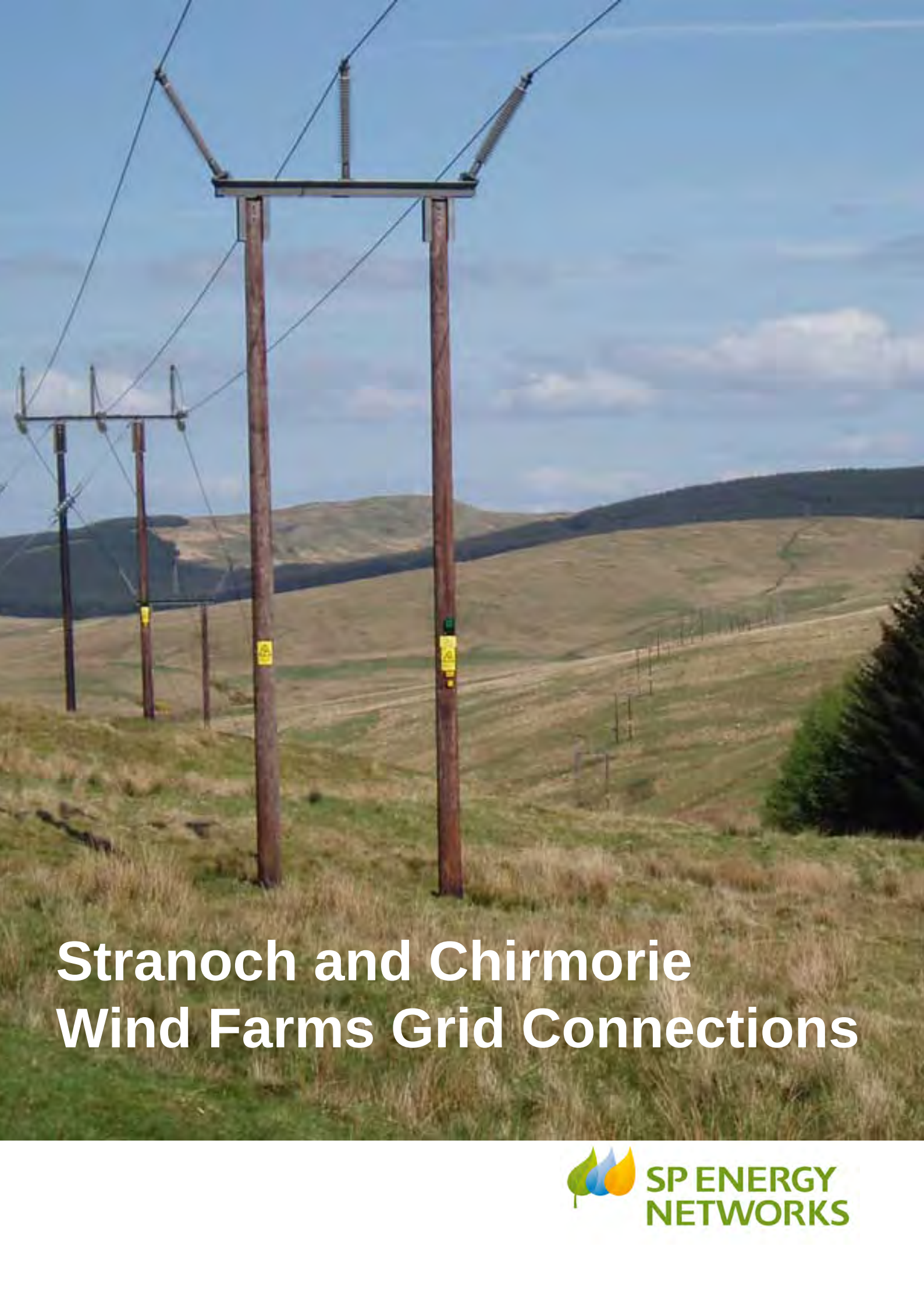


A photograph of a high-voltage electricity pylon in a grassy field. The pylon is made of dark wood and has several insulators and wires attached to it. In the background, there are rolling hills under a blue sky with some clouds. The foreground is covered in tall grass.

# Stranoch and Chirmorie Wind Farms Grid Connections



# Welcome

Welcome to this public exhibition regarding our proposals to construct a new 132 kilovolt (kV) overhead line (OHL) to connect both the consented Stranoch wind farm and the consented Chirmorie wind farm to the electricity network at Mark Hill substation, located approximately 4 km north of the village of Barrhill, in South Ayrshire. The OHL will be supported on single and double ‘trident’ wood poles.

**This exhibition provides information on:**

- The design principles that are used to identify a route for a new overhead line;
- How a Preferred Route has been identified;
- Where the Preferred Route is located; and
- What feedback we would like at this stage.

**Who we are**

SP Energy Networks (SPEN) is part of the Scottish Power group and owns and operates the network of cables, overhead power lines and substations transporting electricity in central and southern Scotland.

**SP Transmission plc (SPT) is a regulated electricity network business owned by SPEN, with the following responsibilities under the Electricity Act 1989:**

- To develop and maintain an efficient, coordinated and economical system of electricity transmission;
- To facilitate competition in the generation and supply of electricity; and
- To offer non-discriminatory terms for connection to the transmission system, both for new generation and for new sources of electricity demand.

Under Section 37 of the Electricity Act 1989, SP Energy Networks is required to seek consent from the Scottish Ministers for the construction of any non-exempted overhead line operating at a voltage greater than 20 kilovolts (kV). Electricity networks like this provide a physical link between electricity generators and electricity users.

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 and want to understand what local people think about our plans.

Please take your time in visiting the exhibition and reading the displays.

If you have any questions, please feel free to ask a member of the design team, who can be identified by their name badges.

**Questions**

As you walk around this exhibition, and examine the display, please consider the following questions:

- Do you have any comments regarding the rationale for the project?
- Do you have any comments regarding the approach to selection of the preferred route?
- Are there any factors, or environmental features, that you consider may have been overlooked during the routing process?
- Do you have any other comments about the preferred route?

# The Need

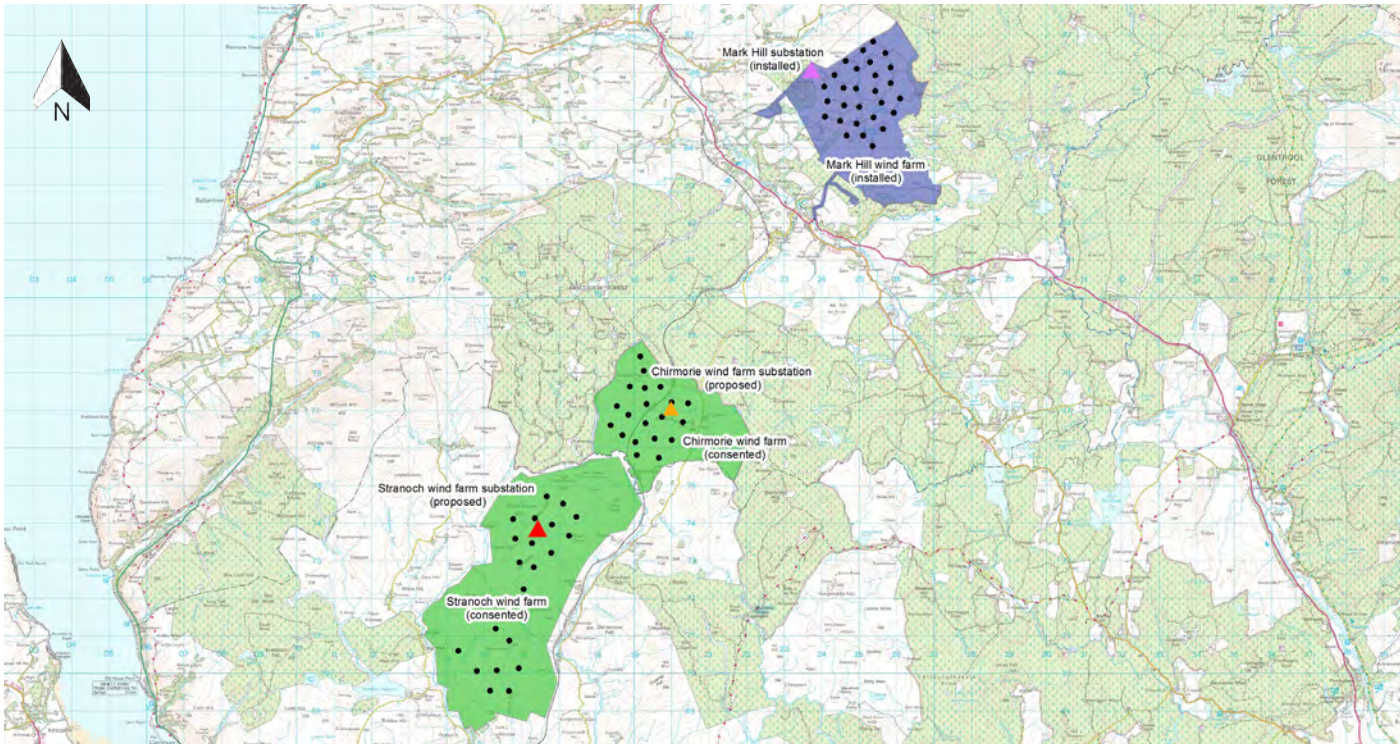
**What’s the Need?**

SP Transmission has received Grid Connection Applications from the developers of both Stranoch wind farm and Chirmorie wind farm. Stranoch wind farm was consented by the Scottish Ministers in July 2016 and Chirmorie wind farm was consented in March 2018.

The proposed grid connections will comprise an overhead line which will run from a substation on the Stranoch wind farm site, via a substation on the Chirmorie wind farm site, to the existing Mark Hill wind farm substation, approximately 4 km north of Barrhill.

The map below shows the location of the consented Stranoch wind farm, the consented Chirmorie wind farm and the existing Mark Hill wind farm. It also shows the location of the proposed Stranoch wind farm substation, the proposed Chirmorie wind farm substation and the existing Mark Hill substation.

The photographs below shows a typical wood pole structure. Wood poles would typically be 15 m in height and would have an average span length of 100 m.



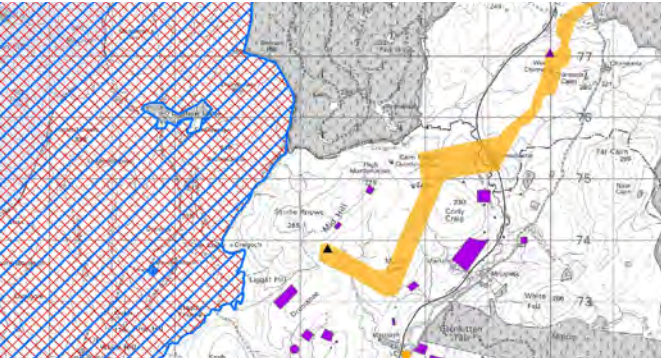


# Routeing Guidance

The Holford Rules are used to guide the routeing process. These rules were first established in 1959 by Sir William Holford and to continue to inform transmission line routeing in the UK

**Rule 1:**  
At the outset, plan the general route so that it avoids altogether, if possible, the major areas of highest amenity value or international and national designation

**Rule 2:**  
Ensure that the route also avoids smaller areas of high amenity value or scientific interest, by deviation; provided that this can be done without using too many angle towers to change direction.



Map of study area showing location of preferred route in relation to larger areas of constraints

**Rule 3:**  
Where possible, choose the most direct line, with no sharp changes of direction

Typical wood pole OHL



**Rule 5:**  
Select open valleys with woods, where the apparent height of the towers will be reduced and the views of the line will be broken by trees



View of existing wood pole overhead line, within valley at Chirmorie, south of Barrhill

**Rule 6:**  
In country which is flat and sparsely planted, keep the higher voltage lines as far as possible independent of smaller lines and other masts so as to avoid a concentration or 'wirescape'



View of existing 275 kV pylon line from A714, west of Barrhill, looking southwards

**Rule 7:**  
Approach urban areas through industrial zones where they exist and, if this is not possible, consider undergrounding any lower voltage lines

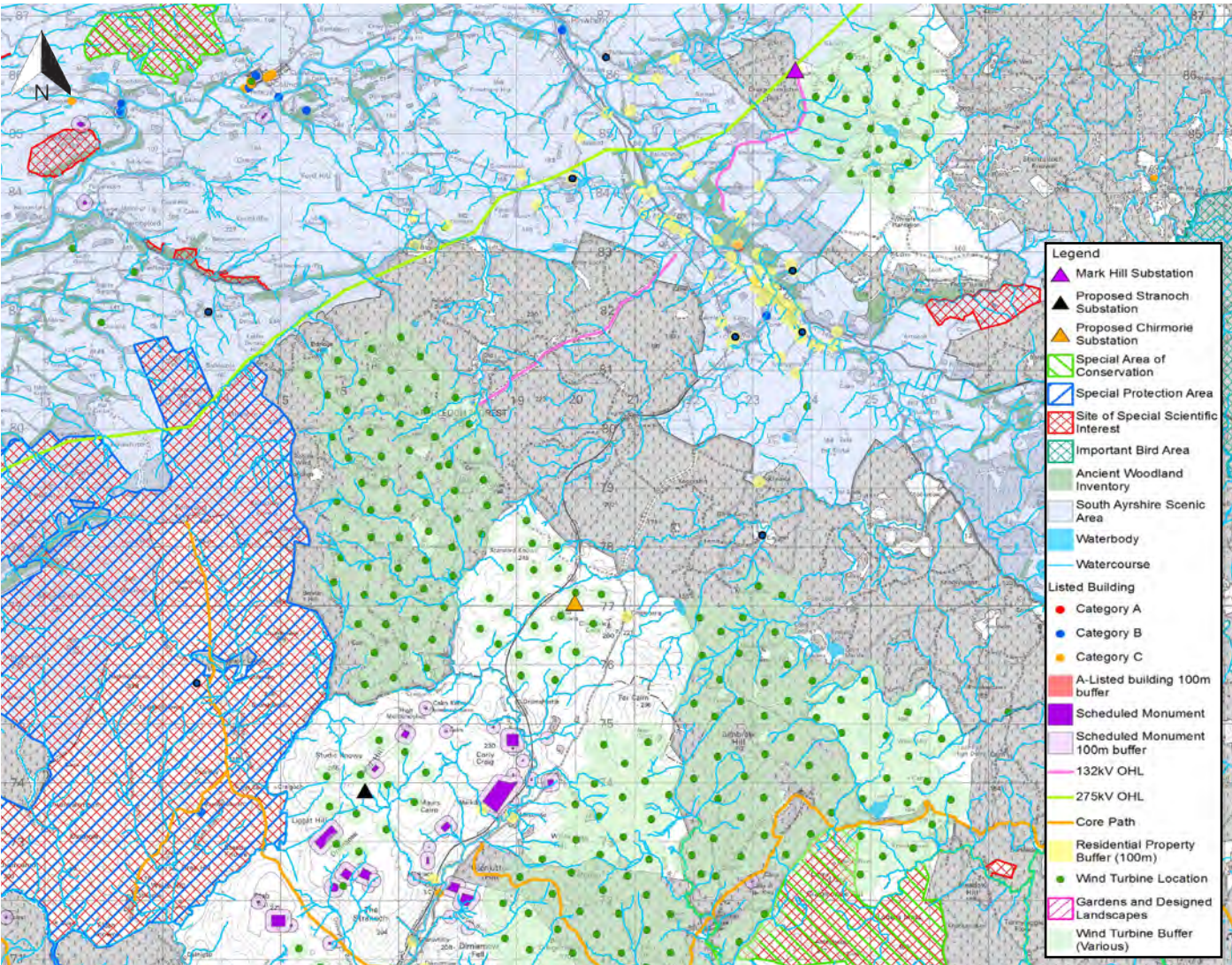
# Technical and Environmental Routeing Considerations

The initial study area was defined as the area between the existing Mark Hill wind farm to the north and the proposed Stranoch substation to the south. In May 2018, the developer of Stranoch wind farm confirmed an alternative location for the Stranoch wind farm substation. This alternative location would reduce the length of the required grid connection to connect to Mark Hill substation. Therefore the study area was reduced in size.

The main environmental and technical constraints in the reduced study area between these two points are:

- various proposed and existing wind farm developments;
- the Glen App and Galloway Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI);
- water bodies, including the Duisk River;
- cultural heritage features, particularly scheduled monuments in the vicinity of The Corly Craig hill;
- Arecleoch Forest commercial plantation forestry area;
- the Kilmarnock railway line; and
- residential dwellings in and around Barrhill.

The map below shows the key environmental and technical constraints as well as the revised location of the Stranoch wind farm substation and the location of the Chirmorie wind farm substation.

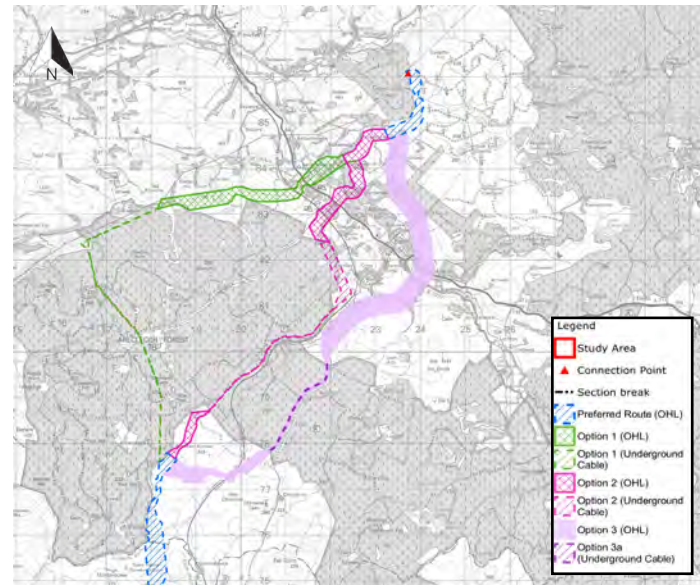




# Route Options and Preferred Route

In 2017, a Preferred Route was identified and public consultation on the location of the Preferred Route was undertaken. Stakeholder feedback was received and further analysis of the 2017 Preferred Route was subsequently undertaken.

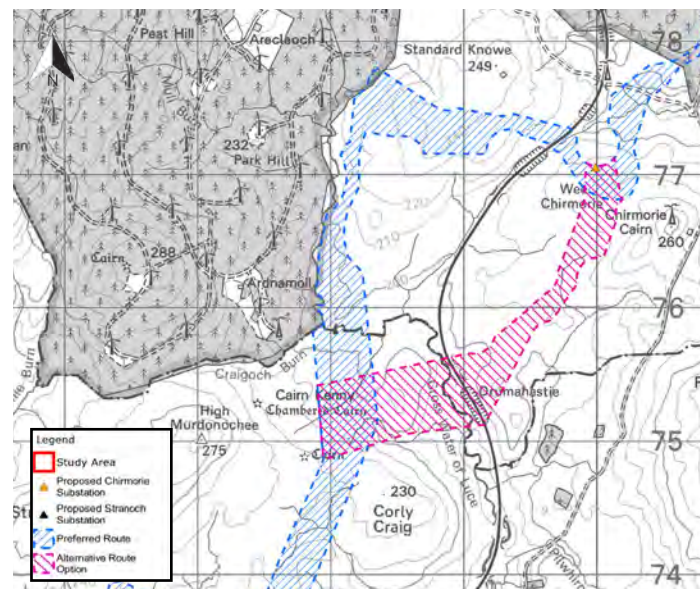
Three alternative route options were identified and compared, as shown on the map to the right



The further analysis identified a new Preferred Route on the following basis:

- The new Preferred Route would have a reduced impact on commercial plantation forestry within Arecleoch Forest;
- The new Preferred Route would lie at a distance from the eastern boundary of the Glen App and Galloway Moors SPA.

A second round of further analysis was undertaken to examine an alternative to the new Preferred Route where it crosses the Chirmorie wind farm site, as shown on the map to the right.

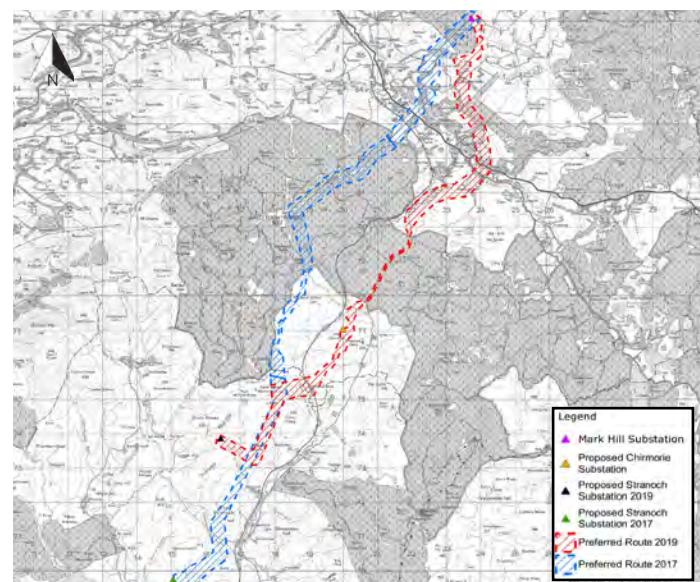


The second round of further analysis identified a Preferred Route on the following basis:

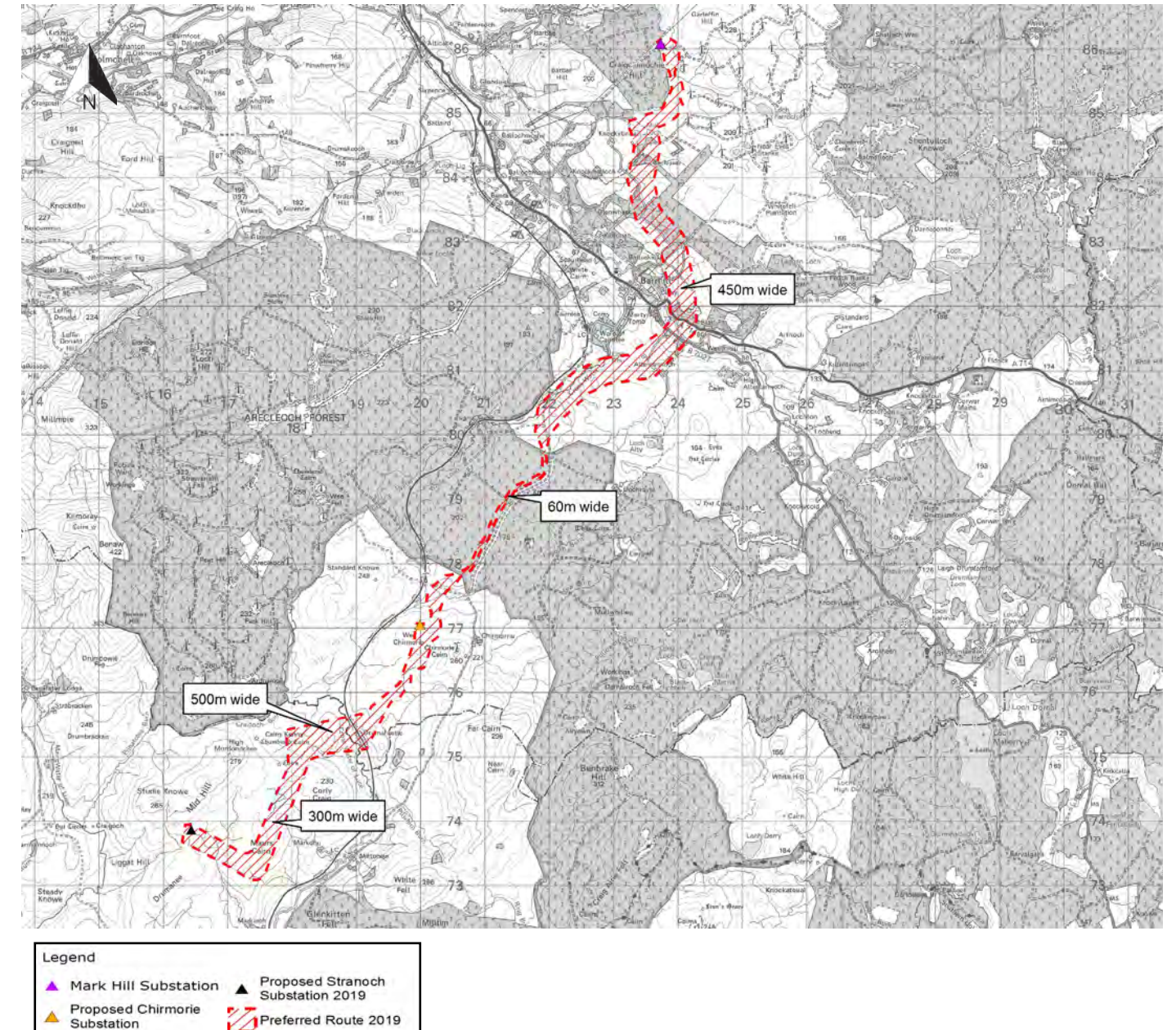
- The Preferred Route represents the shortest distance from the new Stranoch wind farm substation, via the Chirmorie wind farm substation, to the Mark Hill substation.

The map to the right shows the new Preferred Route and compares this with the Preferred Route identified in 2017.

Within the Preferred Route, an alignment for the OHL will be identified. A 60m-wide wayleave corridor around the OHL alignment would be agreed with landowners.



# Preferred Route







# Thank You

Thank you for taking the time to find out about our proposal for the Stranoch and Chirmorie wind farms grid connections OHL. Your comments are valuable to us in the next steps of this project.

We are holding a Consultation Event on **Wednesday 1st May**, from 2pm-6.30pm in Barrhill Memorial Hall, and would invite you to attend the event. You can drop in to receive further information from members of the project team and to discuss the proposals detailed within this booklet.

Please complete the feedback form included at the end of this booklet. You can complete it at the consultation event on Wednesday 1st May, or you can post it back to us to the address provided.

Feedback forms and project information are also available to download from the project website at [www.spenergynetworks.co.uk/pages/community\\_consultation](http://www.spenergynetworks.co.uk/pages/community_consultation)

Information can also be posted out to you by our Community Liaison Manager upon request.

Hard copies of the information leaflet will be available at Suzanne Stores, Barrhill, from Wednesday 1st May 2019.

Please provide comments to us by **28<sup>th</sup> June 2019**.

Stranoch and Chirmorie Wind Farms  
Grid Connections Project



Thank you for taking the time to attend this information event. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Consultation event location:- \_\_\_\_\_ Date:- \_\_\_\_\_

Your contact details - Please use BLOCK CAPITALS to ensure we can contact you about any updates.

Full name

Address

Postcode

Telephone

By providing your contact details, you consent to SP Energy Networks contacting you in relation to the above project. Your details will not be used for any other purpose.

About the event

How did you find out about the event?

Is there anything you think we could do to improve the format of events like this?

About the project

Do you have any comments regarding the rationale for the project?



Do you have any comments regarding the approach to the selection of the preferred route?

Are there any factors or environmental features you consider may have been overlooked or given either insufficient or too much consideration during the routeing process?

Do you have any other comments about the preferred route of the overhead line?

Thank you for taking the time to complete this feedback form. Please hand your completed form in at the event or alternatively by one of the methods below:

**Post:** Colin Wylie, Community Liaison Manager, Ochil House, 10 Technology Avenue,  
Hamilton International Technology Park, Blantyre, G72 0HT

**Email:** [StranochOHLConnection@spenergynetworks.co.uk](mailto:StranochOHLConnection@spenergynetworks.co.uk)

**Closing Date for feedback is:** 28th June 2019

The feedback form all information provided at the event can also be downloaded on the dedicated website:  
[www.spenergynetworks.co.uk/pages/community\\_consultation](http://www.spenergynetworks.co.uk/pages/community_consultation)

Any information given on this comments form may be used and published as part of SP Energy Networks consultation report. By completing this comments form you consent to SP Energy Networks using this information for these purposes. By providing contact details you consent to SP Energy Networks contacting you in relation to this proposal. Your details will not be used for any other purpose. If you wish your comments to remain anonymous, please tick the box at the end of this form. Please note that comments made to SP Energy Networks are not representations to the Scottish Government as consenting authority at this stage. The opportunity for lodging representations will be when the application is formally submitted to the Scottish Government for formal consideration.

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