Imran Mohammed
Scottish & Southern Electricity Networks
Inveralmond House
200 Dunkeld Rd
Perth
PH1 3AQ

11 October 2017

Dear Imran,

North of Scotland Wind Repowering

Scottish Renewables is the representative body for the renewable energy industry in Scotland with over 270 member organisations across all renewables technologies. The industry is playing a crucial role in the Scottish and UK Government's efforts to tackle climate change and build a thriving industry in Scotland which already supports an estimated 21,000 jobs.

Scottish Renewables welcomes the opportunity to comment on Scottish & Southern Electricity Networks' (SSEN) North of Scotland Wind Repowering consultation and shape SSEN's Future Energy Scenarios. Repowering is essential if Scotland is to maintain and increase its levels of renewable energy and the many benefits the industry brings to Scotland's economy and environment. It is essential a robust process for repowering early sites is established, as this will set a precedent for future developments.

Our detailed responses to consultation questions are set out below.

If you have any questions on the comments set out in this response, please do not hesitate to contact me.

Yours sincerely,

Stephanie Conesa
Policy Manager- Large Scale Renewables
Scottish Renewables

Consultation Questions

Q1. Are our assumptions regarding an asset lifetime range of 20-25 years valid? Should this range be broadened to factor in potential developments in lifetime extensions?

Some of the earliest wind farm developments in the north of Scotland are nearing the end of their 20-25 year lifecycle, making the case for repowering more relevant. Responses from Scottish Renewables members suggest that modern onshore wind turbine lifetimes are usually in excess of 25 years (closer to 27 years) and therefore no significant repowering would take place in the timeframe set out by SSEN. The asset lifetime range should be broadened to reflect technological advancements in lifecycle optimisation.

Q2. If repowering is being considered, what would be the implications for the required levels of Transmission Entry Capacity (TEC)?

The full planning lifecycle should be considered to look at ways in which responsible repowering can take place while streamlining the process. This will allow for a timely and efficient transition between the old and new project, to minimise disruption and ensure the opportunity for reusing any existing infrastructure is maximised.

Member feedback is that developers would seek to increase Transmission Energy Capacity (TEC) where sufficient grid capacity is available. If a significant number of the earliest wind farm developments enter into repowering, this could affect the transmission system. This first set of repowering applications could lead to substantial network reinforcement costs to accommodate possible TEC increases. Discussions with statutory bodies should include opportunities to use existing grid connections and infrastructure where practical, and redesign for greater capacity where required.

Q2A. Is it likely that repowering using larger and/or more efficient turbines could lead to requests for higher levels of TEC?

In heavily constrained areas larger and higher capacity turbines are not likely to be consented. However, if developers are able to secure consent and a grid connection for more powerful turbines they may opt to proceed with this even if there is some lifetime remaining in their existing turbines. Feedback from members with onshore wind projects in the north of Scotland is that in areas of less constraint, larger and more efficient turbines would be deployed, increasing capacity by a factor of between 1.5 and 3.0.

Q2B. Alternatively, would developers adopt an approach of repowering to increase energy yields within the constraints of existing TEC levels?

Developers will seek the most cost effective scenario. In instances of surplus grid availability, developers will seek to maximise the efficiency of its use. Where this is not available, repowering to increase energy yields within the constraints of existing Transmission Energy Capacity levels would constrict development.

Q3. Is the development of energy storage being considered as part of repowering strategies or as standalone projects? We are keen to understand the views of the developer community on the technical and commercial maturity of this concept as its deployment could have a significant impact on transmission power flows. This impact could be positive if the System Operator is able to take advantage of this technology via ancillary services to help manage transmission constraints or provide other services to the system.

Developer feedback suggests that the application of energy storage has not yet reached technical and/ or commercial maturity, however technological advancements are being made and reductions in capital costs and developments in the power markets may make this a more viable option for future repowered developments. Some developers are looking ahead to the possibility of delivering ancillary services from repowered wind/ storage hybrid projects, with potential to include Solar PV technologies.