

James Norman,
Head of New Transmission Investment,
Ofgem,
Glasgow.

31 May 2019

Dear Mr Norman,

Shetland Transmission Link Consultation

As members of the public and residents in Shetland we are pleased to submit our response to your consultation on a possible HVDC link to Shetland.

We note that Ofgem's minded to position is to approve the proposed link with the following condition:

'For Ofgem to approve the final needs case for the proposed 600MW Shetland transmission connection, SHE-T must demonstrate, by the end of 2019, that Viking Energy Wind Farm has been awarded a Contract for Difference in the 2019 CfD Auction.'

Background

We would like to emphasize that the Viking Energy Wind Farm, upon which the Shetland transmission link is dependent, is highly controversial and is opposed by significant proportion of the Shetland community. Evidence of this can easily be obtained by researching the history of the project.

Like many others we have serious concerns relating to the scale of Viking Energy within the small limited landmass of mainland Shetland. The following summary is provided to put this into context:

Viking Energy Wind Farm's scale in relation to 'Mainland' Shetland's landmass

- Viking Energy total capacity = 457MW
- Viking Energy total site area (Section 36 Consent) = 10,424ha
- Density = 10,424ha / 457MW = 22.81ha per MW
- Mainland Shetland total land mass = 90,000ha
- Section 36 Consent site area as a percentage of Mainland Shetland total land mass = 10,424ha / 90,000ha (x 100) = 11.6%

Equivalent On-shore Wind Proportions Applied to Mainland Scotland

- Mainland Scotland total land mass = 7,319,300ha
- Equivalent on-shore wind farm site area applied to mainland Scotland = $7,319,300\text{ha} \times 11.6\% = 847,738\text{ha}$.
- Equivalent on-shore wind farm capacity applied to Mainland Scotland = $847,738\text{ha} / 22.81\text{ha/MW} = \mathbf{37,165\text{MW}}$

The total installed on-shore wind capacity in Scotland as of Oct 2017, according to Scottish Renewables, is 6,556MW. Therefore, for Mainland Scotland to host an equivalent proportion of onshore wind energy to that associated with Viking Energy alone on 'Mainland' Shetland, would require the current total installed capacity in Scotland to be increased by a further 5½ times! Based on this comparison it is clear that the levels of wind generation predicted by SHE-T within the needs case for the Shetland transmission link represents significant overdevelopment.

The numerous health, environmental and economic issues associated with Viking Energy that have been raised by concerned objectors throughout the Section 36 application process, have not been dealt with properly. Overseeing and administering compliance with Scottish Government Policy is all that politicians and official's duties have amounted to during the consent process. The level of scrutiny applied to Viking Energy has been extended no further. Independent critical thinking in relation to the important issues associated with the project, has not featured.

Take the subject of carbon storage in peat for example. If addressing climate change is our priority then how can it be acceptable to build wind farms on peat, on one of the most important ecosystems on Earth accounting for only 3% of the worlds land surface but storing at least one third of the worlds organic soil carbon and at least twice as much carbon as all of Earth's standing forests. Viking Energy Windfarm and the other potential wind farms referred to in the Needs Case, are to be located primarily on deep peatland with significant excavation and unquantified secondary drainage and drying-out effects giving huge potential for carbon, which has been stored within the peat for thousands of years, to be released as CO2 into the atmosphere due to loss of water and oxidation.

The issue of Viking Energy's current financial viability is also unchallenged. The CFD allocation round 3 budget as everyone knows is very limited (£65M), and it seems in order to win a contract Viking Energy will need to bid with a similar strike price to that of offshore wind (<£56/MWh), yet Viking Energy was sold to the Shetland Community with the promise of huge revenue profits for the Charitable Trust based on 'Island Strike Price' predictions from several years ago. Unsurprisingly the profitability aspect of the project in terms of the community's Charitable Trust stake, finally came to a head on 30th May 2019 when it was announced that Shetland Charitable Trust will invest no more money into the project and that the £10M development costs invested by them so far will make up the full extent of their share, which probably equates to no more than 2%. SSE will now be responsible for taking it forward, however the likelihood of achieving a sufficient strike price via. CFD3 to justify the level of investment required to develop and operate a large

on-shore wind farm in Shetland, remains very uncertain. In order to maintain some public support, the developer has recently shifted attention away from revenue and profit and instead now promotes potential construction jobs and community fund payments. These are of course costs to the business and of no help when it comes to attracting project finance.

Viking Energy has been sold to the community primarily as a great economic opportunity due to the high load factors associated with Shetland's wind. A degree of support, albeit reluctantly in many cases, was gained with this argument. However, the recent S36 variation application for larger turbines and Shetland Charitable Trust's withdrawal of any further investment confirms that in reality the project is high risk and that the load factors and wind resource in Shetland is not good enough to justify the high level of investment associated with the remote wind farm location. The issue of large-scale wind developments on Shetland not being able to capture the high load factors currently measured on the islands due to their large arrays, adds further uncertainty and risk. We note that the original Needs Case Cost Benefit Analysis (October 2018) used a load factor of 53% and that at lower load factor of 41% has since been used in the updated Cost Benefit Analysis (April 2019). Discussions and/or examination of the effects of this on the viability of Viking Energy during all the economic impact studies done for S36 applications etc. is again not clear.

Responses to Consultation Questions 1 to 6 **(Section 2 - Final Needs Case Assessment)**

- *Question 1: Do you agree that the current network on the Shetland Isles needs reinforcing in order to connect additional generation?*

A network comprising a new Shetland Power Station, with steady, reliable base load power and reduced emissions and with some increased capacity for a mix of renewable generation (possibly including some additional wind power on a scale that is suitable for Shetland), would be a good solution for Shetland. Locating the new power station close to Lerwick would also avoid major re-working of the existing transmission network within the islands.

- *Question 2: What are your views on the generation scenarios developed by SHE-T? We are particularly interested in views on the likelihood of wind generation on Shetland developing to the levels predicted by SHE-T's scenarios.*

The generation scenarios developed by SHE-T depends wholly on Remote Island Wind projects in Shetland being profitable with low strike prices similar to those awarded to off-shore wind. In our opinion there is a great deal of uncertainty surrounding this and therefore the generation scenarios seem very optimistic. Other aspects that are dealt with through the planning process relating to the damaging effects on nature & conservation, carbon release from drained peat, energy security and cost to the consumer etc. should of course also impact on the likelihood of proposed projects that do not yet have S36 consent, proceeding. However, as mentioned above we do not feel that proper critical assessment on a project specific basis is undertaken within the consent process, therefore under

current Scottish Government Policy, planning obstacles are less likely to be an issue no matter how inappropriate the proposed wind farm development is.

- *Question 3: What are your views on SHE-T's approach to optioneering, are there other options that SHE-T should have considered?*

Considerable time and expense have been committed to developing Viking Energy Windfarm over the last 10 years including significant political lobbying to ensure among other things Remote Island Wind classification for CFD eligibility. It does appear with this in mind that any optioneering associated with Shetland's future electricity network has been too heavily influenced by this single project and that only when all possible variations of ways to make it feasible are exhausted, will other options will be properly considered.

- *Question 4: What are your views on the CBA put forward by the ESO?*

The range of capabilities assessed (450MW to 1000MW) is of course dependant on large scale wind generation. As noted above there is significant uncertainty associated with this in relation to economic feasibility and likely low CFD strike prices required to win a contract.

The requirement for a cable in order to avoid constraint payments is of course not an issue as large-scale wind generation will not be built if there is no link to the mainland.

The preferred option cost of £709M is considerable and we are not clear what level of confidence there is with this figure and what fluctuation this could be subjected to in terms of external factors such as variations in material costs, permanent back-up requirements, Brexit etc. What we do know is that subsidies given to the generators e.g. Viking Energy will be funded by the consumer, therefore it is essential that CFD drives down costs and creates a really competitive bid environment to protect consumer welfare. With this in mind we do not see how remote island wind generation requiring 260km subsea cabling to transmit power all the way to mainland GB consumers can be feasible or provide value for money for the consumer.

- *Question 5: What are your views on the technical design and costs of the proposed Shetland link?*

As stated above the preferred option cost of £709M is considerable. We suspect that this is a preliminary estimate which is not based on detailed design information and therefore subject to potential significant variations. Referring to Ofgem's minded to position, it seems committing to this huge investment will be determined solely on Viking Energy's CFD result i.e. the 600MW link will be built with only 450MW confirmed generation capacity and assuming 41% load factor as per the updated CBA, the average generation committed to will therefore be 185MW. In our opinion the cost is disproportionately high for this amount unreliable variable generation.

- *Question 6: What are your views on our minded-to position to conditionally approve the Needs Case? Specifically do you agree with our proposal to approve a 600MW link if Viking Energy Wind Farm secures a CfD in 2019?*

Ofgem's minded-to position to approve the 600MW link based on the condition that Viking Energy Wind Farm secures a CFD in 2019, is still in our opinion not good value for money. The cost of the link is disproportionately high for the amount unreliable variable generation committed to by this minded-to position. Also, approval of the link based only on the CFD outcome, seems premature bearing in mind that Viking Energy will be bidding with a low strike price, which may secure a CFD in 2019, but may not guarantee that the project will actually go ahead. A low winning strike price may create further obstacles relating to profitability and funding.

We trust the above information is sufficient to allow our submission to be included in the consultation process and we shall look forward to receiving confirmation of this in due course.

Yours faithfully,