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

Dear Mr Norman,

Shetland Transmission Link Consultation.

On behalf of Sustainable Shetland I wish to respond to your consultation on a possible HDVC link to Shetland.

Sustainable Shetland was formed in March 2008 in response to plans by Viking Energy to build one of Europe's largest wind farms on Shetland. On 4th April 2012 Scottish Energy Minister Fergus Ewing granted consent under section 36 of the Electricity Act 1989 for a 103 turbine windfarm in the heart of Shetland. This was in spite of objections from 2772 individuals and a number of organisations including the RSPB, the John Muir Trust and their own agency and statutory consultee Scottish Natural Heritage. Eventually, after sustained legal challenges to the decision by our organisation, consent was finally approved for the project in 2015. A further application for a variation to the size of the turbines already consented has just been approved by Scottish Ministers (24/05/19) in spite of strong opposition from locals. Sustainable Shetland continues to oppose this development because we believe a windfarm of this scale is wrong for Shetland.

Sustainable Shetland is not, however, a totally anti-windfarm or anti-renewables group.

We support renewables that are fit for scale and purpose, for example we did not oppose the recently constructed Garth windfarm on the island of Yell which had community support and also support renewable projects on the smaller remote islands in Shetland where they benefit the communities.

We also support the small scale tidal energy project which operates in Shetland.

We would also support wave power if it could prove to be viable but fear that conditions here can be too extreme for it to be successful.

Our concerns about the proposed HDVC link are centred on:

The damage the project will lead to for the environment and landscape.

The negative human impact the project will have on the wellbeing of the Shetland people who live in or near the site of the proposed windfarms and necessary infrastructure.

The motives behind the possible construction of this windfarm are essentially financial as the local Council, Shetland Charitable Trust, SSE and some local entrepreneurs seek to cash in on the subsidy bandwagon that is associated with renewable energy developments. This has been encouraged by the classification of Remote Island Wind and allowing RIW projects to apply for CfD support. However, Shetland Charitable Trust which part owns Viking Energy may well decide to discontinue their involvement due to the financial risks associated with the huge investment that would be required. The likely outcome could be that partners SSE would buy out the SCT share and any community control would be lost.

The purpose of the cable is to connect, as yet, mostly unbuilt generation capacity. This new generation capacity, c. £800m, if built, is based on a revenue model of getting Ofgem to allow a super-premium electricity price (ie. current scheme called Contract for Difference) in order to make it viable. This super-premium CfD price is also borne by electricity consumers.

Environmentally, the generation of electricity from wind in Shetland is claimed to be around 50%, compared to a UK average of about 39%. However the build costs of a wind farm in Shetland is estimated to be much higher than the cost of a comparable UK on-shore site. Part of this cost would be due to the expense of dealing with all the conditions which have been attached to the windfarm consents here. Thus the higher projected income from windfarms in Shetland may not compensate for the additional costs of building there. It is important to note that higher wind efficiency does not necessarily imply higher reliability and security of supply. Also, there will be power loss arising from long transmission links and several converter stations. There is also the further complication of an untried switching station in Caithness to enable power from Shetland to be then transmitted via the inter-connector across the Moray Firth, one of the options being considered. There is no guarantee that power from Shetland will be utilised as the mainland grid infrastructure struggles to cope with power from existing windfarms during spells of windy weather. Constraint payments add further to consumer costs.

Viking Energy has been prone to making exaggerated claims about the prospects for wind energy on these islands. Wind on Shetland is of course just as unreliable as most other onshore sites although overall load factors may be little higher. Even during the winter, when demand for power is high, there are likely to be prolonged spells of weather with little wind. The need for a back up power source will always be a necessity where wind power is a major component of the power supply. This leads to more expense for consumers and is not always factored into calculations used to justify wind power.

Windfarms on Shetland will mostly have to be built on peatland, the environmental benefits of construction on peatland is very doubtful. In the limited area available for windfarms on Shetland proximity to homes is a serious issue for the people affected.

We wish to state our objection to Ofgem granting permission for electricity companies to charge customers extra to pay for the specific transmission infrastructure required for Shetland, which is proposed in order to facilitate new generation capacity which electricity customers also have to pay extra for. Our response is handicapped by the Needs Case not being made public and the belatedly released cost benefit analysis documents have been heavily redacted.

We are concerned that Initial Needs Case Assessment was not made. It was stated to be omitted because of the developed nature of the scheme. This needs to be clarified.

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

Some changes to accommodate renewables at a local level would be desirable. The main problem with renewables is the erratic nature of power generated by this means. However, the current network operates in a satisfactory manner. Supposed problems with the network are the result of a desire to connect more renewables. There are limitations on the amounts of variable intermittent generators that can be accommodated and this has led to calls for an inter-connector to export surplus power if and when weather conditions are favourable.

Constructing a new local power station for local needs powered, for example, by gas from the gas fields near Shetland would remove the need for an inter-connector and the need for back up.

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 the Shetland developing to the levels predicted by SHE-T's scenarios.

Nearly all of the planned wind farm developments on Shetland are proposed for areas of deep peat and this is always likely to be opposed by environmental groups including us. Two of the projects proposed for Shetland are proposed for the island of Yell, one (Beaw Field) already has planning permission. It is noted that, so far, Beaw Field has not applied for the increased height turbines that Viking Energy considers to be essential to be competitive in the CfD auction. Given the logistical problems of transporting giant turbines to Yell and the need for yet another sub sea cable from Yell to the Shetland mainland it is questionable if windfarms on Yell can ever be an economic proposition.

For the Viking windfarm itself not all the planning consents are yet in place. Currently an application for an alteration to the road network has just been lodged with the SIC Planning Department. More road alterations are likely to be required to accommodate the very large windfarm traffic. Pre-application notifications have been lodged prior to planning applications for three works compounds and these are likely to meet with opposition. One of these compounds appears to be accessed from the A971 road which the SIC roads department have already stated to be unsuitable for windfarm construction traffic. It has been a matter of some concern to us that, while the application for the windfarm has been approved, these add-ons continue to be made. We feel that a single application for the whole works would have been more appropriate.

Mossy Hill windfarm near Lerwick has, somewhat controversially, recently been granted planning permission by Shetland Islands Council. However permission is subject to a long list of conditions, some of which will incur great expense to satisfy. Financial viability is not guaranteed and certainly not without a winning bid in an upcoming CfD auction.

A further constraint on further windfarms here is the need to also use capacity on the Moray Firth inter-connector unless a direct but much more expensive link to Rothienorman is constructed. As more and more windfarms are consented in the far north of mainland Scotland and offshore there will be increased demand for space on any inter-connectors. If a 600 MW inter-connector is consented from Shetland to Caithness then space for 600 MW would need to be available on the Moray Firth inter-connector.

Here is a Quote from 4C Offshore (11/01/2019) regarding the Caithness-Moray link:

"The link has already enabled turbines from Beatrice offshore windfarm (588 MW on completion) and Dorenell onshore wind farm (177MW on completion) to connect to the national grid with a further 100 MW of onshore generation in Caithness and Ross-shire due to connect in the coming months."

That comes to a total of 865 MW of generation capacity already using the link which has 1.2GW capacity. That leaves 335 MW of capacity available for Shetland generation and others. Up to 600 MW from Shetland would greatly exceed capacity available. When high winds occur in the North of Scotland and there is insufficient capacity then there would inevitably be additional expense for consumers through constraint payments.

Regarding further possibilities for windfarms on Shetland we note the inclusion in GHD's report (which is for SHE-Transmission) of the SIC's map of potential, in principle, areas where large windfarms could be located. This map is misleading. It should be looked at in conjunction with the following:

"Developers of very large, large and medium scale proposals will be required to show that their proposal conforms to the guidance provided in the Landscape Sensitivity and Capacity Study for Wind Farm Development on The Shetland Islands (Land Use Consultants for SIC, 2009) for each affected visual compartment."

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

SHE-T is of course a subsidiary company of SSE. SSE is one of the partners in the Viking Energy Windfarm project. Naturally the option that SHE-T is pushing for is the one that facilitates VEWf.

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

We note that the Steady State Scenario has not been fully considered. In other words it is considered that an inter-connector is essential for Shetland. This is not the case. The CBA should have included an assessment of the need for a Shetland inter-connector from the point of view of consumers nationwide. By far the most likely cheapest option for energy consumers nationwide is a self contained energy grid for Shetland as at present but with a replacement suitable power station with continued input from local renewables. It is ludicrous to export surplus power from Shetland many hundreds of miles to mainland UK on the occasions when weather is favourable for wind turbines. This may not correspond to times when there is demand.

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

From a simple economics point of view, £710m would build a lot of generation capacity elsewhere in the UK, at a lower cost to consumers and without the need for such a long and expensive cable infrastructure. From a consumer point of view, why should consumers pay for a more expensive option when a cheaper one is available? Environmentally, why settle for 600mw renewable transmission when, for example, a far higher renewable generation capacity could be achieved for the same cost elsewhere? Consumers underwriting a £1.5bn build cost in order to pay extra for the electricity generated in Shetland does not represent value for money to anyone. On a simple cost per MW generated, more could be achieved for less by building generation capacity which doesn't need an inter-connector.

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?

As a government agency charged with protecting consumer interests Ofgem must look very carefully at the economics of constructing windfarms in very remote locations. The consultation documents fail to justify that an inter-connector to Shetland is necessary. An inter-connector to Shetland is really only necessary so that developers can profit from Remote Island Wind subsidies if projects are successful in the CfD auction. This would come at a high cost to consumers who at end of the will pay the transmission costs. Is it really fair that consumers nationwide should finance profiteers in Shetland?

We believe that this transmission project represents very poor value for money for UK electricity consumers, and an inefficient means of reducing greenhouse gas emissions.

The cost of the inter-connector cable currently estimated at £710m will ultimately be paid by UK electricity consumers.

Question 9: Do you agree that the Competition Proxy Model would deliver a favourable outcome for consumers relative to the status quo RIIO SWW delivery arrangements?

From 3.29 of the consultation doc: *"We recognise that there is a possibility that GB consumers may pay more – on average around £2.2m on an annual basis during the 25-year operational period of the CPM relative to the 45-year RIIO counterfactual. However, we consider that consumers will benefit overall by paying significantly less (on average c.£4.4m) annually beyond the 25-year operational period of CPM. We do not accept that the limited impact on intergenerational equity transfer that the CPM may have is sufficiently material to justify not pursuing the overall level of savings available."*

The time spans are very long considering the projected lifespan of wind turbines, likely to be even more limited in sites where extreme weather conditions are more prevalent. Consumers benefiting and paying less beyond 25 years shows great optimism about the durability of wind turbines.

We feel that we are not qualified to make comments on Questions 7, 8 and 10.

Conclusion.

We are aware that there has been political pressure for an inter-connector to Shetland and are concerned that a **full** cost benefit analysis of such a project from the consumers' point of view does not appear to have been done.

This is confirmed in the conclusion to the ESO report.

"It is important to note that this report does not assess whether a connection to the islands is in the economic interest of the GB consumer and only compares the economic benefit of each connection option relative to each other."

Ofgem may not be aware of the degree of controversy surrounding windfarm proposals for Shetland as politicians here often chose to turn a blind eye to the concerns of local residents. Viking Energy has often been promoted as a "community project" but in reality it is opposed by a large proportion of the community.

We have to take issue with this paragraph from the GHD report:

"Whilst local multipliers and leakage rates will differ by region (meaning the ratio between capital investment and resulting economic benefit may be higher in many regions), there are also other factors that could result in lower economic benefits or a lack of "need" for investment in the first place. SHE Transmission are required to connect customers where they want to be connected and the generation scenarios developed in our CBA are a reasonable reflection of the known (not speculative) demand and appetite for building wind generation on the islands if a link were available. This demand/appetite is driven by the high capacity factors not available elsewhere on the mainland, a lack of opposition from residents and local councils from building onshore wind farms and the Council and community's desire to tap into the economic benefit the investment would bring."

"lack of opposition from residents" certainly does not apply here. There has been more than 10 years of strife locally caused by Viking Energy and other large windfarm plans. Whilst opposition has gradually become more muted over time opponents are still strong in their opposition. Taking the decision making process for the Viking Energy windfarm all the way to the Supreme Court at huge expense is not indicative of a lack of opposition. Hundreds of locals contributed in many different ways towards the costs. Just last year there was a further court action as local crofters tried to thwart the plans for their common grazings land in the Scottish Land Court.

Evidence of continued opposition continues to appear in the local press and in social media. There are two active Facebook groups, "Stop Viking Energy Windfarm" and "Sustainable Shetland"

There is also concern locally that an energy solution for Shetland is going to rely on an inter-connector cable with some form of unspecified back-up. Failures of inter-connector links are well documented and depending on the location of the failure may take a considerable time to rectify. Having a robust back up system must add significantly to costs. Building a proper power station with no need for an inter-connector would be far more desirable for local residents and less expensive for energy consumers nationwide.

Having looked at the additional documents belatedly made available on 17th May, we note that the CBA reports were commissioned by SHE Transmission, a subsidiary of SSE. All the options which were fully analysed involved some form of inter-connection. Another subsidiary company of SSE has a half share in the Viking windfarm so there must be a suspicion about the CBA coming out in favour of an option that makes Viking windfarm more likely to happen. An independent CBA of all the options would seem to be a fairer option for consumers.

Not once in either of the CBAs is any concern about the impact on local residents of having to live near to the proposed windfarm mentioned. This is in keeping with the Shetland Islands Council's attitude towards the people most affected by the plans and also the attitudes of local politicians who are also blinded by profit motives. There is also no mention of the inevitable negative environmental impacts which would be caused by the construction of large windfarms on peatland and the possible economic effects on the local tourist industry. Accolades like those recently given by *Lonely Planet* that Shetland is one of the top ten places in Europe to visit will disappear if large scale windfarms dominate the landscape.

Essentially the CBAs present a very one sided view favouring large scale wind developments on these islands. It is very surprising and worrying to us that an increase in size for the converter station to 800MW has even been considered.

The driving force behind proposed windfarms on Shetland is economic rather than any genuine desire to produce green energy. Windfarms are seen as another prospective source of income for the Shetland Islands Council and other investors as the oil and gas industry here downsizes. Ironically it is money from oil and gas industries that has enabled the Shetland Charitable Trust to invest heavily in Viking Energy, which they part own.

Unfortunately, we feel very strongly that the negative impacts of constructing large wind farms close to populated areas has not been given due consideration by the promoters of the wind industry here. Ofgem must realise that there is considerable concern amongst the local population about allowing an inter-connector to the islands and the likely resultant plethora of windfarm applications, some of which are already in the pipeline in anticipation of the link being approved.

Chairman,
Sustainable Shetland.