Good afternoon

Please find below my response to the consultation on the Shetland transmission project on behalf of my company, Green Holm Ltd.

I would appreciate confirmation of receipt.

I am glad to note that Ofgem "particularly welcomes responses from generators and local stakeholders on Shetland" because Green Holm Ltd falls firmly in this category. My fellow director and I both welcome this chance to respond.

Green Holm Ltd is a small, Shetland-based business consisting of just two shareholders – my spouse and myself – set up solely to make an investment, using our personal savings, in Energy Isles Ltd.

Energy Isles is a consortium of over fifty mainly Shetland-based businesses with a strong desire to ensure that the benefits of Shetland's emerging new renewable energy sector are retained as far as possible within the isles.

The companies in the consortium are from a wide variety of existing sectors, including crofting, farming, fishing, aquaculture, transport, renewables and support services, as well as small-scale, single-focus investors such as Green Holm Ltd.

The vast majority of us are Shetland residents who believe that Shetland must maximise the benefits it derives from renewables for the greater good of the local economy and community.

Energy Isles has now submitted a planning application to Scottish Ministers under Section 36 of the Electricity Act for the erection of a 29-turbine wind farm and associated infrastructure, sited in the north of Yell in Shetland, and with the potential to generate up to 200 MW of clean electricity.

As a result of this, I strongly believe there is need for a more economic and efficient 800/1000 MW interconnector.

A larger link would benefit UK consumers as a whole, as well as bring significant benefit to Shetland's community and economy, and allow Energy Isles the opportunity to generate up to 200 MW of clean electricity.

Therefore, I believe that Ofgem should ask Scottish Hydro Electric Transmission to progress the development of all three options: 600, 800 and 1000MW (Options 2, 3 and 4 in Table 3 from Kergord, Shetland to Caithness), accelerating the delivery dates.

I believe that Ofgem should consider the results of the Government's forthcoming CfD auction, especially the contract for the Viking Energy wind farm, plus any other new information, and make the final needs case decision later in 2019.

I believe that decision should be for a larger 800/1000 MW link.

Please find my reasoning for this in response to your consultation questions below.

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

Shetland absolutely requires a connection to mainland Scotland, and to the wider European networks and electricity markets.

Shetland is the only part of the UK that is not currently connected to the GB Mainland Grid. At present, Shetland's electricity needs are primarily met by a diesel power station in Lerwick (Shetland's capital). This power station is now reaching the end of its operational life.

This means that Shetland's current power generation is carbon heavy, very expensive, and subsidised by the UK consumer. This isn't a good situation for anyone.

Due to the constraints of this islanded grid, existing wind power projects on Isle are being actively curtailed, and further significant development of wind power in Shetland cannot happen until an appropriate means to export is introduced.

Shetland has record-breaking capacity factors of over 50% (see Burradale Wind Farm) and, due to our location, wind farms here tend to generate when other GB windfarms are not generating.

Shetland also has great potential for tidal energy and floating offshore wind.

However, without a connection, none of this can go ahead. And with an inappropriate connection, like the 600 MW link proposed which I believe is too small, this will be hindered.

Question 2: What are your views on the generation scenarios developed by SHE-T? We are particularly interested in view on the likelihood of wind generation on Shetland developing to the levels predicted by SHE-Ts scenarios.

I believe that SHE-Ts scenarios are unrealistically low and do not reflect the reality on the ground in Shetland.

The largest scenario proposed is 742 MW, however I am aware of a total of 810 MW in planned onshore wind alone (and a further 0.5 MW of tidal).

In addition to Viking's potential 457 MW I am aware of 49 MW and 72 MW with planning for Mossy Hill and Beaw Field; 200 MW planning application submitted for Energy Isles in Yell; 10 MW of other projects with planning and 12 MW operating.

Even with a modest annual growth rate of 2.4%, 801 MW in 2025 will reach 1000 MW by 2035. However, renewable energy generation in the UK as a whole has an annual growth rate of 18% which Shetland has so far been excluded from. I suspect Shetland's growth rate will be significantly higher than the national average if given a chance to catch up.

As far as I can see, a 600 MW link would not even meet current demand, let alone likely growth, and is therefore inappropriate.

I am also aware that the Scottish Government is working towards Scotland becoming carbon neutral by 2045. Shetland is uniquely placed to help meet these goals, but will be artificially and unnecessarily restrained by a smaller link when the potential is here for much more.

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

Ofgem have noted that SHE-T "has prioritised the development of its proposed 600MW option and not developed other options to the same extent". I think this is a mistake. There are major benefits to a larger link, such as:

- An 800MW link costs 6% more that 600MW yet delivers 33% more capacity, which is 26% more cost effective than 600MW.
- An 1000MW link costs 12% more that 600MW yet delivers 66% more capacity, which is 48% more cost effective than 600MW.

This increase in cost efficiency and value for money is reflected in lower Transmission Use of System Charges. These lower charges will ensure that generation in Shetland is more competitive and therefore the larger the link, the more likely it is to be filled quickly by economic renewable generation comprising onshore wind, tidal, and/or demonstration floating offshore technologies.

I do not accept that delivering these larger links would take until Q4 2025 as is claimed by SHE-T. I request that Ofgem immediately instructs SHE-T to restart developing the 800 and 1000MW options with the supply chain.

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

The consultation states "the original CBA is clear that... building a link to connect the project to the mainland will be in the interests of consumers". I do not believe that a 600 MW link will be in the best interests of consumers. A 1000 MW link would be 48% more cost effective than a 600 MW link.

With regard to the CBA, the GHD report says: "the larger the capacity of the transmission option, the greater the amount of generation enabled and resulting economic benefits during wind farm construction and operation as well as the establishment of further community funds directly related to the successful operation of renewable projects which directly benefit island residents and communities."

Using GHD figures, the increased benefit to Shetland's economy from fully utilised links for 800MW as £64m and for 1000MW as £133m on top of the benefits of £143m to £257m for the 600MW option.

Shetland therefore has a very significant interest in the decision and stakeholders in Shetland should have a say to ensure the economic potential in Shetland is considered in this decision.

Considering the ESO LWR analysis I note that:

- The highest generation scenario is only 742MW. This is incorrect, as I noted above. Ofgem should instruct the ESO to rerun the LWR with a wider range of scenarios.
- In order to make the 600 MW option more cost effective than the 800 MW option, the ESO has included constraint costs for the wind over an 18 month period. I am not aware of any situation where GB windfarms have been paid for constrained generation whilst waiting their grid connection. Therefore, this is a spurious scenario which should never have been modelled or included in the consultation.
- There is no scenario showing the LWR with 800 MW and 1000 MW options delivered as scheduled but with no wind constraints. This omission should be rectified, and these scenarios provided.
- When the 800MW link is delivered at the same time as the 600MW link, then it is the most cost effective in LWR.
- Ofgem should instruct the ESO to run scenarios with a range of future generation scenarios as per our Q2 response and with 800 MW and 1000 MW options, and without adding in constraint costs for generation before the link is built.

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

The consultation states that Ofgem's cost benchmarking indicates that the capex should be in the range £368m-£395m vs the SHE-T cost of £709m-£797m. The unit cost for 600 MW using Ofgem data is £658k/MW and the unit cost for SHE-T 1000 MW is £797k/MW.

To ensure that Shetland is not disadvantaged against offshore transmission and offshore wind farms competing in the CfD auction, Ofgem should ensure that the link is built cost effectively by either sizing, benchmarking or competition.

Higher capital costs will create higher transmission charges and make Energy Isles a less competitive project, putting its viability and delivery at risk. To minimise this risk, Ofgem should ensure that a larger link is built, ensuring that the final design is the most cost effective.

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?

No, I do not agree. Shetland needs a new transmission link which is appropriately sized, economic and efficient. Ofgem should "send-back" the needs case and insist that SHE-T develop the 800 MW and 1000 MW options so that a decision can be made in Q4 2019 on the most appropriate link size once the CfD results are known and with other information coming forward.

Question 7:

I have no comments to make.

Question 8: Do you agree with our proposal not to competitively tender the Shetland project using the SPV mode or under our CATO framework unless there are significant delays to the delivery timelines?

If this link were put out to competition, the lowest unit cost option and therefore the most cost efficient for future consumers would clearly be the 1000 MW option, given that the unit cost is £797k/MW, far more cost effective than the 600MW option at £1,182/MW.

If SHE-T are to build the link, they should be subject to the same competition drivers, and should develop and build the most cost-effective link for the benefit of GB consumers and Shetland stakeholders alike.

Questions 9 & 10: I have no comments to make.

Thank you for your time.

Kindest regards