Lewis Wind Power
Cumhachd Gaoithe

Email to: NTIMailbox@ofgem.gov.uk
FAO: James Norman

31st May 2019

Western Isles Final Needs Case and Delivery Model

Dear James,

Lewis Wind Power Holdings Limited ("LWP") is the owner of Stornoway Wind Farm Limited ("SWFL") who has developed and consented an 180MW wind farm site on the Isle of Lewis; the Stornoway wind farm. Until recently, LWP also owned the 162MW Uisenis wind farm project, also on the Island, and have been has been actively involved in developing wind farm projects on the Western Isles for over 15 years. Given the interdependency of LWP's Stornoway wind farm project and the interconnector, LWP has a significant interest in the development of the case for an appropriately sized interconnector to the electricity transmission system.

LWP is a 50:50 joint venture between EDF Renewables UK and Wood. EDF Renewables owns and operates 34 wind farms across the UK, as well as a battery storage unit. Wood is a global leader in the delivery of project, engineering and technical services to energy and industrial markets and is headquartered in Aberdeen.

The Western Isles is home to some of the best wind resource in the UK, and LWP are keen to harness this resource by using the latest generation wind turbine technology which could see the Stornoway wind farm site achieving load factors close to 50%. Despite the high cost of connecting remote island wind projects to the grid, LWP expect that Stornoway wind farm could be cost competitive with offshore wind in the forthcoming CFD auction assuming an appropriately sized grid connection was to proceed.

The Stornoway wind farm will be an 'anchor' project for the Western Isles link and is expected to create significant local opportunities for employment, direct and indirect benefit, and is likely to stimulate further development of other large scale commercial and potentially community owned renewables energy generation. However, none of this can be realised without a suitably sized and costed connection to the wider transmission network. Based on the information presented in the consultations, LWP consider that there are strong arguments to support the development of a 600MW link to the Western Isles.

There are two key matters that LWP would like Ofgem to consider in addition to our responses to the specific questions raised in the consultation document itself which are provided as an Annex to this letter:

1. Agreement that a short delay to the final needs case decision may be prudent, followed by construction of the link as soon as possible thereafter, and;

2. the case for investment in the 600MW link.

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## 1. The Case for a Delay

The Western Isles cost benefit assessment makes it clear that it is in consumers' interests to invest in a grid link rather than not. However Ofgem has indicated that it is more inclined to support a 450MW cable rather than a 600MW. LWP believe that it's not possible for Ofgem to come to this conclusion now given (i) the uncertainty around the outcome of the CFD auction later this year, (ii) the range of capital cost forecasts for the connection, and (iii) for the arguments set out in more detail in this letter.

LWP strongly believes that Ofgem would be better placed to postpone their final decision on the Needs Case until the autumn, and in the meantime continue to work in an open and transparent way with the Transmission Operator and renewable energy developers in the Western Isles to improve the certainty around the costs of the grid connection for both consumers and grid connection customers. This will allow developers to put the most robust bid possible forward in this year's CFD auction without delaying commencement of the Project Assessment.

## 2. The case for the 600MW connection

LWP, and its shareholders, have consistently argued that the 600MW cable link provides the greatest chance of delivering new renewable generation to the island. As recognised in the consultation, the high use of transmission system costs associated with a smaller 450MW link increase the risk that 'anchor' projects such as Stornoway wind farm are less likely to be able to compete with offshore technologies and potentially be unsuccessful in the forthcoming CfD auction, stifling any further deployment of renewable energy on the island.

The ESO's cost benefit assessment for Western Isles link which is referenced by Ofgem in LWP's opinion overestimates the risks of a larger link because it does not take into account the protection afforded to consumers by generator grid cancellation charges. This potential liability means that developers such as SWFL will be required to pay material cancellation charges to the ESO in the event of a reduction of Transmission Entry Capacity. This ensures that consumers have significant protection against reductions in contracted generation capacities once the commitment to a Western Isles link has been made.

As an example, the 'Steady State' generation scenario assumes that at least one project is not developed after a commitment has been made to a 600MW connection, i.e. total generation is only 222MW. Should an 'anchor' projects such as the Stornoway wind farm not proceed, once there has been commitment to the cable, then a developer could be liable for cancellation costs of tens of millions of pounds[1]. We do not believe that this consumer protection is included in the Ofgem assessment and the amounts are material enough to have an effect on the least worst regrets assessment which determines the optimal cable size; if they are included we believe the outcome would be in favour of a 600MW connection.

We note that the cost benefit assessment assumes a wind load factor of 43% on the Western Isles. Load factor has an impact on the cost benefit assessment. LWPs extensive work with the wind turbine supply chain indicates that higher load factors are likely to be achievable, nearer to 47-48%, due to the development of wind turbine technology. This will shift the results in the cost benefit assessment in such a way as to improve utilisation of a larger link and increase the constraint costs of a smaller link.

[1] These vary depending on timing of cancellation of TEC: as transmission works progress and costs increase so to do developer liabilities.

While we have not been able to model these effects on the cost benefit assessment undertaken, it is clear that they collectively would further mitigate consumer risk of developing a 600MW link.

Should you wish to discuss any of the issues raised in our response or have any queries, please contact me 01313 770114. I confirm that this letter may be published on Ofgem's website.

Yours sincerely,

**William Collins**
**Project Manager of Lewis Wind Power Holdings Ltd & Stornoway Wind Farm Ltd.**

**Annex:**

**A) Questions**

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

Yes. The scale of low carbon generation expected to want to connect in the Western Isles under a range of realistic scenarios will require significant transmission reinforcement to allow it to connect to the UK mainland network and hence enter the UK's energy mix. Not carrying out such reinforcement would unfairly prevent generation customers in the Western Isles from connecting to the UK network.

**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 Western Isles developing to the levels predicted by SHE-T's scenarios.**

We consider that the ranges of generation scenarios proposed by SHE-T are reasonable. While we agree that the development of generation beyond that currently known to be contracted (~380MW) cannot be guaranteed, delivery of the transmission grid link, facilitated by larger anchor wind projects, will enable smaller and community based projects to come forward. The Western Isles has an excellent wind resource and is likely to continue to be an attractive place for wind and other low carbon energy developments. Delivery of a low capacity link would risk constraining this contribution of low carbon energy to the UK supply and would either prevent development of the high generation scenario or trigger a requirement for a second link at a future date. The combined cost of two links would be significantly higher to consumers.

**Question 3: What are your views on SHE-T's approach to optioneering, specifically relating to the routes and link capacities considered, and are there other options that SHE-T could have considered?**

We are disappointed in the narrow financial focus of the CBA. We consider that its aim should be more aligned to protecting consumers against over-investment in stranded assets rather than the optimisation of the consumer cost risk profile. We consider that the CBA should also take into account wider consumer benefits from providing unconstrained network capacity for, and facilitating investment in, low carbon generation, including displacement of fossil fuel-based energy and improved UK security of energy supply.

The options considered by SHE-T provide a reasonable basis to assess the Needs Case. We believe that the 600MW link provides the greatest and most cost-effective chance of delivering new renewable generation from the island. As recognised in the consultation, selection of a less cost-effective 450MW link increases the risk that anchor projects, like ours, are not competitive and do not obtain a contract in the forthcoming CfD auction, failing to trigger construction of the link and thus stifling any island generation development.

**Question 4: What are your views on the CBA put forward by the ESO, particularly in relation to the results it produces?**

We consider that the cost benefit assessment overestimates the risks of a larger link and underestimates the costs of a smaller link. In particular:

1) Cancellation Charges

   Due to the nature of grid cancellation liabilities, developers such as LWP will be required to pay material cancellation charges to the ESO in the event of a reduction of our Transmission Entry Capacity. The ESO's worst regret assessment offsets the construction and operational costs of different sized transmission links against constraint costs relieved under different generation scenarios. It does not take into account the protection consumers are afforded from cancellation charges.

   As an example the 'Steady State' generation scenario assumes that at least one 'anchor' project is not developed, i.e. total generation only 222MW. If this were the case then the developer would have to pay cancellation costs of tens of millions of pounds[1]. We do not believe that this consumer protection is included in the assessment; the amounts are material enough to have an effect on the 'least worst regrets' assessment which determines the optimal link rating.

2) Lower Capex

   Ofgem's initial views on efficient link costs are significantly lower (~40%) than those assumed by SHET/ESO in the costs benefit assessment, and Ofgem's estimated difference between the costs of the 450MW link and the 600MW link is higher than SHET's. While we note that Ofgem have not yet undertaken their detailed cost assessment process (Project Assessment) with SHET, the scale of the difference of view is material enough to have a material effect on the least worst regrets assessment which determines the optimal cable size. Lower overall capex will reduce the impact upon consumers from possible underutilisation of a larger link, which has not been factored into the CBA.

3) Island wind load factors

   We note that the cost benefit assessment assumes a wind load factor of 43% on Western Isles. Load factor has an impact on the cost benefit assessment. Our assessment is that higher load factors are likely to be achievable in the absence of transmission constraints, nearer to 47-48% on the island, due to the development of wind turbine technology. The effect of this will be to increase constraint costs under the small link / high generation scenarios and again will help to mitigate consumer risks from underutilisation of a larger link.

While we have not been able to model these effects on the cost benefit assessment undertaken it is clear that they collectively could reduce consumer risk of developing a 600MW link.

We agree with the ESO's conclusion in the CBA that a final decision should be postponed until there is more certainty in relation to the generation projects which have obtained CfD contracts.

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

Our assessment of the technical design is that it is reasonable at a high level.

The contribution of the costs of the link to ongoing transmissions charges, and Ofgem's view on these costs compared with the Needs Case submission costs, create material uncertainty to our project development. The scale of difference could amount to ~£8/MWh on our bid price in the imminent CfD auction. This is very material in the context of expected clearing prices of the order of £50/MWh.

While we understand that Ofgem will not be proceeding with the Project Assessment to confirm budget until after CfD auction outcome, we urge Ofgem to work with island developers and SHET to help provide as much certainty as possible on costs in the available time before the CfD auction. We believe this is in the interests of consumers because it will ensure that CfD bids reflect use of transmission system costs which are as realistic as possible.

**Question 6: What are your views on the following points:**

- **i. Do you agree with our minded-to position to reject the 600MW link conditional on only the two Lewis Wind Power projects securing CfDs?**
- **ii. What are your views on our analysis of the information, which suggests a 450MW link would represent the best outcome for existing and future consumers if only the two LWP projects secure CfDs?**
- **iii. Do you consider that consumers could be appropriately protected from the costs of funding a potentially significantly oversized link if we were to approve the needs case for a 600MW link? If so, how could this be achieved?**

Addressing the points in turn:

i) We do not agree with the minded-to position to reject the 600 MW link conditional on only the two 'Lewis Wind Power' (Stornoway and Uisenis wind farms) securing CfDs. Based on the analysis carried out by the ESO it seems clear that consumers are appropriately protected from the costs of funding the 600MW cable in the event that the Uisenis and Stornoway wind farms proceed. In addition, there is evidence of significant future demand for generation grid connections on the island; however these projects will only proceed once a commitment has been made to a cable with adequate capacity to be able to connect them.

ii) We do not agree with the analysis of the information, which suggests a 450 MW link would represent the best outcome for existing and future consumers in only one of the two projects Stornoway and Uisenis projects secure CfDs, As noted above we believe that there are good arguments to support the development of a 600MW link should only the two 'anchor' projects secure CfDs. It is also likely that consumers' interest would be appropriately safeguarded for a 600MW link at a lower level of conditionality that that proposed as the construction of the 600MW link will facilitate development of the additional generation which will make efficient

use of the installed link capacity. Assuming that a slight delay to Ofgem's final decision does not jeopardise delivery timescales we strongly believe that a final decision on the link size should be made post CfD auction. This will increase certainty and is therefore likely to be in consumers' interest because it will help CfD bidders to reduce risk contingency in their bid values.

iii) We do consider that consumers could be adequately protected from the costs of funding a potentially oversized link, because:

- The NPV analysis shows a positive result even if the link is not fully utilised;
- the cost difference between a 450 MW and a 600 MW link is small.

It's conceivable that all stakeholders in projects on Western Isles could offer further contributions / securitisation towards the additional costs of a 600MW link relative to a 450MW, but given the current level of uncertainty around the outcome of the CFD auction, we do not believe it is possible, or necessary, for all parties to offer anything firm at this stage; this this is why we believe that Ofgem should take their final decision on the link size after the CfD auction.

**Question 7: Do you agree with our assessment of the Western Isles project against the criteria for competition?**

Yes, the Western Isles project meets the criteria for competition set by Ofgem.

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

Yes. There is too little time to both adopt these innovative delivery models and meet CfD construction deadlines in this case.

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

We agree, based on Ofgem's modelling, that the Competition Proxy Model is likely to lower costs for consumers for the delivery of the transmission link. The absolute numbers will be affected by final decisions on capex and network charging arrangements in addition to final decisions on funding allowances.

**Question 10: What are your views on the way in which we have applied project specific updates to the Competition Proxy Model methodology to account for the specific characteristics of the Western Isles project?**

Adjustments to reflect the likely construction periods appear reasonable.