



Ofgem: Shetland Transmission Project: Consultation on Proposed Final Needs Case and Delivery Model

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General Statement

Shetland Islands Council welcomes the opportunity to respond to Ofgem's consultation on the Shetland transmission project and provide a detailed response to the consultation questions.

Shetland Islands Council supports Ofgem's **Minded To** position on the needs case for a 600MW cable. The economic importance of securing this transmission link between Shetland and the UK national grid is considered to be of great economic importance to Shetland. The preferred option of a 600 MW transmission link is scaled to match the development of 564.8 MW of consented remote island wind. A further 120-200MW of renewable energy is in the planning phase and other smaller projects have been identified with development potential. At present any further development of renewable energy projects is constrained on Shetland, with even small projects unable to get a grid connection. The transmission link also provides key infrastructure for a long-term energy solution to secure Shetland's electricity demand. The proposed Shetland transmission link would allow the UK oil and gas sector to meet electricity demands for the Sullom Voe Oil Terminal and Shetland Gas Plant, and connect a proposed 200MW of demand from offshore installations west of Shetland. This would accelerate the decarbonisation of the UK oil and gas sector through the mid 2020s and move towards the target of net-zero carbon emissions by 2045. The powering of these facilities and the Shetland grid with green electricity would make significant carbon savings and begin Shetland's transition to a green economy, whilst also exporting to the national grid. In the medium to long-term, the transmission link would allow for further innovation that could see existing oil and gas infrastructure and offshore floating wind being utilised to supply the UK with green energy beyond the scale of the proposed transmission link.

Shetland recognises the opportunities that the transmission link would bring, maintaining Shetland's position as a key energy hub for the UK, whilst enabling the transition to a green energy economy. The proposed connection date of Q1 2024 for the 600MW transmission project is critical when considering the scope of projects that are currently working towards this timeline. A new energy solution for Shetland must be in place by 2025 when the Lerwick Power Station has to be replaced.

Consents are in place for 564.8MW of remote island wind, and projects are at the stage of making final investment decisions. The oil and gas sector plan to connect onshore and offshore infrastructure to green onshore electricity of up to 200MW, enabling huge savings on carbon emissions. Beyond these significant projects, the knowledge that the transmission infrastructure will be in place by Q1 2024 will allow medium to long-term green energy development plans to progress, particularly transformational projects such as those proposed under the Shetland Energy Hub Project, driving innovation and delivering carbon savings at a UK level in the Oil and Gas sector.

The prospect of large capital works taking place in Shetland over the next five years will undoubtedly help alleviate some of the economic pressures Shetland is facing due to the current downturn in the oil and gas sector and the added economic issues created by the coronavirus pandemic, from which Shetland's traditional industries, tourism and hospitality sectors have been badly affected.

2. Final Needs Case assessment – Inputs and Assumptions

Question 1: What are your views on the generation scenarios developed and updated by SHE-T? We are particularly interested in views on the likelihood of wind generation on the Shetland Isles developing to the levels predicted by SHE-T's scenarios and any further changes or updates since SHE-T's October 2018 Final Needs Case submission that you think should also be considered.

The generation scenarios produced by SHE-T are accurate and in line with the projects that are currently in development in Shetland. The 600MW transmission scenario provides sufficient export capacity to allow those projects with consent to proceed. The scenarios outlined are well considered in the optimum sizing of the transmission link. The consented generation of 564.8 MW fits the timetable of the current 600MW transmission link. There is scope to connect additional generation that is in the planning process through network management to meet local demand and to take account of the proposed offshore demand from the oil and gas industry.

Question 2: What are your views on the demand sensitivity explored by SHE-T?

The demand scenarios explored by SHE-T would appear accurate, supported by the local demand for Shetland consumers and the replacement of the Lerwick Power Station. The Oil and Gas authority have engaged with the process, corroborating the potential offshore electricity demand of 200MW, plus the demand onshore at the Sullom Voe Oil Terminal and Shetland Gas Plant.

The electricity demands profiled, and with the management of grid connections described by SHE-T's scenario for the 600MW, would seem reasonable in making this the best fit with current consented generation scenarios and addresses the need of these existing projects. This scenario allows scope for connecting additional generation capacity, when on island demand and the potential of powering offshore installations west of Shetland are taken into account, along with network management and storage options.

Question 3: What are your views on the link options considered by SHE-T? We are also interested in views on the options proposed by SHE-T to mitigate against the risks of a second link being needed.

The Council considers the proposed option of a 600MW in Ofgem's **Minded To** position to be the optimum size for meeting the export requirements of those projects already consented whilst still accommodating the prospect of additional generation and demand scenarios.

The smaller 450MW scenario would not provide enough capacity for those consented projects, it would also increase the cost per MW of the link. The 600MW link ties in with the capacity back to Blackhillock. The 800MW link option may not fit this profile and require additional reinforcement. Critically, the 450MW and 800MW options would introduce a delay of almost 2 years to the transmission project to allow for redesign and re-tendering. The knock on effect of this is that consented projects now at the stage of making final Financial Investment Decisions would have to look at retendering and this scenario introduces uncertainty and additional risk into their projects, as well as further costs. If delayed by two years this would impact very seriously on the new energy solution for Shetland, because SHEPD is working to a timeline of Lerwick Power Station being replaced by 2025. This change would potentially require approval of additional investment to maintain the security of supply on Shetland, and lengthen the life of the power station or require consideration of other options for its replacement. The oil and gas sector is also considering investment to replace the power station at Sullom Voe, working to the timeline of the 600MW transmission link, as well as investment in powering offshore installation from renewables. A delay in delivering the transmission link introduces further uncertainty in all these developments and may start to undermine the needs case of a number of major investments. Together these projects strengthen the needs case for the transmission link and provide the best value for GB consumers.

The mitigating measures proposed by SHE-T would appear to make the best use of the 600 MW interconnector and mitigate against the needs of a second interconnector. These appear reasonable and justified arguments for the needs case. The additional demand from offshore of 200MW, the potential for

storage, and on island demand demonstrate that the 600MW link could accommodate additional generation and optimise the use of the interconnector.

Question 4: What are your views on the technical design and costs of the proposed Shetland link? No Comment

3. Final Needs Case assessment – CBA and Methodology

Question 5: What are your views on the CBA put forward by the ESO?

The current 600MW option has been designed and costed. The costs have reduced from previous consultations. A two year delay may see a cost increase and introduce uncertainty to the needs case through the impact on those projects that are at the construction stage and looking for connection agreements. The current design fits with infrastructure on the Caithness to Moray link, and will make best use of those assets already in place. The earlier connection date for the 600MW scenario sees earlier pay back on these assets and is also in line with the 564.8MW of consented projects on Shetland waiting to progress. The proposed option also allows a new energy solution for Shetland to be progressed that provides security of supply for Shetland and meets proposed electricity demand in the oil and gas sector. This will replace electricity generated from fossil fuels on Shetland and in offshore oil and gas installations, making significant reductions in CO2 emissions.

The other scenarios of a 450MW and 800MW cable introduce delay and uncertainty into the process. These scenarios are based on cost estimates that are less well researched in comparison with the 600MW cable option and are therefore of higher financial risk. A fully utilised 600MW cable would provide a lower cost than that of the 450MW. There is a risk that the 800MW is not fully utilised and this scenario also introduces the delay of up to two years that disregards the timelines of consented generation projects that are working on current tenders with a construction start date in 2020. This option also disrupts plans for the Lerwick Power Station replacement and the proposed projects in the oil and gas sector.

Question 6: What are your views on other approaches we have taken to assess the costs and benefits to GB consumers?

As previously considered in previous consultations on the Shetland Transmission Project needs case, an approach where the transmission link also provides key infrastructure for a new energy solution for Shetland greatly improves the cost benefit scenario for GB consumers. The addition of providing a power supply to the oil and gas sector further strengthens the Project's needs case and again improves the costs and benefits scenario for GB consumers. It provides a more joined up approach to energy systems with energy being exported from a wind farm and a transmission link that can meet power demand. The offshore connections would provide a scalability beyond the 600MW interconnector as purely an export cable. Shetland is already a hub for energy in the oil and gas sector so connecting Shetland up to the UK national grid provides a more holistic approach to overall energy production. The project enables security of supply on Shetland at a distribution level, provides transmission of renewable energy to the national grid from the UK's best wind resources, and facilitates the connection of west of Shetland oil and gas installations and onshore infrastructure at Sullom Voe to green energy. Even in the short term the Project will make major carbon savings and will bring huge economic benefit to Shetland and the wider UK supply chain. The medium to long-term prospects include the potential to utilise the existing oil and gas infrastructure on Shetland for the supply of green energy on a nationally significant scale, with future developments in offshore floating wind, blue and green hydrogen production being explored.

4. Our minded-to view on the revised Final Needs Case, including proposed conditions for approval

Question 7: What are your views on our minded-to position to conditionally approve the revised Final Needs Case? Specifically:

- i) **Do you agree with our proposal to approve a 600MW link subject to Ofgem being satisfied, by the end of 2020, that Viking Energy Wind Farm is likely to go ahead?** We agree with Ofgem's proposal to conditionally approve the 600MW link. From what we have been informed, the

Viking Energy Wind Farm would be in a position to go ahead by the end of 2020 and meet Ofgem's conditions. The **Minded To** position meets the Q1 2024 timeframe that consented projects are working to, meet the needs of the Shetland energy solution and also fits with the electricity demand proposed from the oil and gas sector.

- ii) **Do you have any views on the type of evidence we should expect to see that would confirm that Viking Energy Wind Farm is likely to go ahead?** Ofgem's **Minded To** proposal provide the conditions that should enable SSE to confirm that the Viking Energy Project is to go ahead.
- iii) **Do you agree with the factors we have considered to reach our minded-to position?** Yes. The cost benefit analysis suggests that the 600MW cable is the best option. The scenarios, sensitivities and mitigating measures used in the process demonstrate that there is wide scope to optimise the use of the interconnector, and also provide the connections to support projects in the oil and gas sector that will utilise renewable energy.
- iv) **Are there any other factors that you consider we should take into account when assessing this proposal?** If the Project is delayed to reassess for other cable options we feel this introduces uncertainty to many of the key projects that are lined up, as well as risking the potential of increased costs on existing options. Further delay may risk undermining the current position of what is already a strong needs case for Ofgem's **Minded To** position for a 600MW transmission link. The future security of supply of electricity on Shetland, the value of connecting up UK oil and gas assets and potential for CO2 savings would need to be taken into account. Diversifying Shetland's energy sector and the transition to a green economy in the isles will provide a boost to the economy and will help retain and grow the population.

5. Delivery Mode

Question 8: Do you agree with the findings of our analysis? We agree with Ofgem's **Minded To** position to conditionally approve SHE-T's proposed 600MW link.

Question 9: Are there any additional factors that we should consider as part of our analysis and/or decision on whether to apply the CPM for the Shetland transmission project?

In summary Shetland Islands Council is in favour of Ofgem's **Minded To** position on the SHE-T 600MW link for the following reasons:

- Provision of energy security for all of Shetland society
- Provision of green energy to meet growing UK demand
- Transformation of the Oil and Gas sector in and around Shetland to continue to meet UK energy demands while achieving net-zero carbon emissions by 2045
- Increasing economic growth and increasing sustainable employment in the energy sector
- Lifting economic confidence post Covid 19 pandemic