

WESTERN ISLES TRANSMISSION PROJECT

FINAL NEEDS CASE CONSULTATION BY OFGEM

A Consultation Response from Comhairle nan Eilean Siar

BACKGROUND

- 1.1 OFGEM has issued a 'minded to' position in respect of the Western Isles Transmission Link. That 'minded to' position rejects SHE-T's Final Needs Case for a 600MW link, indicates approval of a resubmitted proposal for a 450MW link if no material changes to previously reviewed information comes forward and leaves open the case for a 600MW link if consumers are more appropriately protected from the additional costs of funding a potentially oversized link.
- 1.2 Comhairle nan Eilean Siar strongly disagrees with OFGEM's decision to reject the case for a 600MW link for the following reasons:

CONTRACTED AND PIPELINE GENERATION

- 2.1 418.0MW is already contracted and shovel ready in the Western Isles (LWP Stornoway 180MW; LWP Uisenis 189MW; and, FORSA Druim Leathann 49MW).
- 2.2 88.0MW of 'Community Wind' and 'Community Pumped Storage' generation is already in the Planning system, aiming to be contracted to Grid from August 2019 onwards.
- 2.3 34.3MW of generation is already connected to the Western Isles Distribution network, much of it on non-firm connection. This 30 year old AC link, rated at 22MW in its subsea section, was built to supply Distribution electricity to the Western Isles and was never designed to accommodate exported generation. SHE-T Network Planners confirmed to the Comhairle on 2 May 2019 that HVDC and AC flows will not run together in the same network. Once the new HVDC link is in place and operating, an 'Open Point' will be installed in the existing AC link at landfall in Harris, Western Isles. This will keep the AC link 'live' but carrying no traffic. Electricity supply for the islands will come through the new HVDC link and, should that link fail, the AC Open Point in Harris will be closed, activating the AC link as a temporary back up. All of the 34.3MW of heavily constrained generation currently connected to the AC link will be transferred to the new Transmission Link, adding to the required capacity from the outset. This view is confirmed in the SHE-T / GHG CBA at page 18, *"A key assumption when developing the Future Energy Scenarios is that all Renewable generation will ultimately export to the SHE-T Transmission System, even if physically connected at a lower voltage (11kV or 33kV)".*
- 2.4 Taken together, this contracted, in Planning and displaced from Distribution generation represents a total of 540.3MW which will be seeking connection to the proposed Transmission Link between 2025 and 2030. This takes no account of a further 64MW of community projects currently in scoping and Floating Offshore Wind which is poised to deploy West of Lewis from 2026 onwards.

FLOATING OFFSHORE WIND

- 3.1 Marine Scotland's Sectoral Plan for Offshore Wind, due to be published in late 2019, identifies two large 'Areas of Search' off the West Coast of Lewis and deployments in that area will have to connect to onshore infrastructure on Lewis.
- 3.2 Crown Estate Scotland has confirmed that it will offer seabed leases for Offshore Wind within any 'Area of Search' identified in the Sectoral Plan for Offshore Wind.
- 3.3 Equinor (formerly Statoil), which already operates a 30MW Floating Offshore Pilot Park in the North Sea, has confirmed a strong interest in these relatively unconstrained, high resource 'Areas of Search' west of Lewis and has specifically called on OFGEM to

approve the Needs Case for a 600MW Transmission Link to Lewis to enable early deployment (see question 2 below).

PROTECTION OF FUTURE CONSUMERS

- 4.1 OFGEM's stated Principal Strategic Objective is to protect the interests of existing and future energy consumers. The Cost Benefit Analysis produced by the ESO reinforces this point – *"the objectives of this CBA are to ... present evidence on expected long term value for money for consumers"*. In its CBA, the ESO repeatedly calls for reconsideration of the 450MW option once the CfD Auction provides further clarity on the future of Western Isles generation (page 22) because success at Auction for the anchor schemes renders the Steady State scenario irrelevant and makes a 600MW link the Least Worst Regret for future consumers. OFGEM seem to have ignored the advice of the ESO in this regard in recommending a 450MW link. In opting for a 450MW cable, OFGEM may be protecting the interests of existing consumers but it is leaving future consumers open to considerable cost as constraint costs accelerate rapidly with an undersized cable.
- 4.2 If OFGEM approves a 450MW Transmission Link, which will have a 45 year lifespan, and existing contracted generation (418.0MW) connects, that leaves just 32.0MW for community and commercial developers to connect to until the year 2069. Having being made aware of the volume of pipeline generation coming forward in the Western Isles, to limit future connections in this way is totally irresponsible and will saddle future consumers with considerable constraint costs which could easily be avoided through approval of a 600MW cable.
- 4.3 To increase cable capacity from 450MW to 600MW under the current contract will cost an additional £27m (SHE-T figure) or £45m (OFGEM median figure). This represents a cost uplift of just 4.5% (SHE-T) to 7.5% (OFGEM) to secure 33% of additional generation for the future. Over cable lifetime, this capex uplift represents an increase of just 2.5p to 4.0p per annum on the average household electricity bill.
- 4.4 Having built an undersized, 450MW, Transmission Link, SHE-T will have to return in a few years time to build a second, 150MW, cable and conservative estimates for this project are £270m or 45% of current project cost and 25.0p on annual bills.

INSUFFICIENTLY ROBUST CBA METHODOLOGY

- 5.1 OFGEM's CBA analysis is based on a fragile model which only provides the answer OFGEM want when a specific set of scenarios are entered. The lowest of these scenarios is 'Steady State' (222MW connected) and the highest is 'S4' (638MW by 2032).
- 5.2 The Comhairle agrees with SHE-T's contention that 'Steady State' should be removed or should be rated at 0MW (as it is in Shetland) because, due to SHE-T conditionality, 'Steady State' will never occur. If SHE-T conditionality (369.0MW through CfD Auction) is not achieved, the entire Transmission Link project fails and SHE-T will go back to the drawing board for a period of five years to develop a bespoke, AC solution for a lower volume of connected generation. It is disingenuous of OFGEM to say, in defence of 'Steady State', that conditionality can be achieved but schemes never built – OFGEM's own processes preclude construction of schemes as conditionality due to the circularity of the Transmission Link argument (approval of the link is required before early 2020 to enable SHE-T to build a link which will connect developers within the time limited Delivery Windows they have won at CfD Auction). Indeed, in its analysis of the Orkney Needs Case, OFGEM say, *"A CfD would represent a clear indication that the generation project would progress and would act as a strong financial incentive on that generation project to progress to full operation"*.

- 5.3 Removal of 'Steady State' swings OFGEM's analysis towards 600MW. We are concerned that, in quoting extensively from the ESO's CBA, the following section is not quoted by OFGEM: *"SHE-T are submitting a Needs Case to OFGEM based on the 600MW HVDC cable (Option 2), on the conditional aspect that CfD's are awarded to some of the major projects on the island. The SO would agree with this approach as the awarding of these CfD's would eliminate 'Steady State' as a viable future on the Western Isles and change the Least Worst Regret to Option 2"* (Source, ESO). OFGEM's selective use of CBA findings is, we feel, open to challenge.
- 5.4 For Shetland, OFGEM state, *"The 'Steady State' scenario (0MW) has been excluded from the analysis by the ESO, as it is not deemed appropriate for this regret analysis since it is a scenario that would result in no connection to the Shetland isles"*. We wonder what is different in the Western Isles? For Shetland, OFGEM are, however, happy to include 'Steady State' because, *"The inclusion of SS in the regret table does not change the result"*. This arbitrary use of scenarios by OFGEM represents, in our view, gaming to achieve particular results and is not acceptable.
- 5.5 While noting this argument, OFGEM argue for the removal of 'S4', as well as 'Steady State' in order to swing its fragile model back to 450MW. Our contention is that 'S4' (638MW by 2032) should not be removed as it is an eminently plausible outcome. We have demonstrated that 540.3MW is already contracted, Distribution displaced or solidly in the pipeline with a further 64MW in scoping by the community and considerable volumes of Floating Offshore Wind following that, all by 2030. Beyond 2030, Wave Energy Scotland will have arrived at a converged technology for extraction of energy from waves and West of Lewis will be the UK's go-to site for pre-commercial development of Wave Energy devices in the first half of the 2030's.
- 5.6 The continued use of the 'low green ambition' Steady State scenario in these analyses is now questionable given the call to action recently issued by the UK Climate Change Committee – net zero GHG emissions in Scotland by 2045, a quadrupling of Renewable Energy deployment and Grid expansion, future proofed to 2050. The UK is no longer a 'low green ambition' country so continued use of the Steady State scenario is not appropriate.

IMPACT OF UNDERSIZED CABLE ON DEVELOPER COMPETITIVENESS

- 6.1 For years, SHE-T assured developers that a 600MW Transmission Link would be provided – this only flipped to 450MW over the past few weeks with OFGEM's intervention. Given the cost reflective nature of the proposed link, 'Remote Island Wind' is only viable where developers are paying pro rata Transmission Charges on a larger (600MW) cable. If cable capacity drops to 450MW, this adds 26% to the Transmission Charges faced by developers and renders them uncompetitive at CfD Auction. This, in itself, could kill the Western Isles Transmission Link Project.

INCONSISTENT TREATMENT: ORKNEY AND WESTERN ISLES

- 7.1 OFGEM's treatment of the Western Isles Needs Case differs materially from its treatment of the Orkney Needs Case and leaves the entire OFGEM process open to challenge. In Orkney, OFGEM require 135MW with CfD or with Planning Consent and Project Finance to trigger a 220MW link (a 61.4% level of commitment with CfD not mandatory). In the Western Isles, OFGEM require 369MW with CfD to trigger an undersized 450MW cable (an 82.0% level of commitment with CfD mandatory). For a 600MW link to the Western Isles, OFGEM's required 'Tipping Point' of 530MW is 88.3% of cable capacity.
- 7.2 For Orkney, the 'Tipping Point' for a 220MW cable has been identified as 135MW – the 'Mid Point' between SHE-T's 'Break Even Point' (70MW) and the ESO's 'Optimum Point' – the point at which the link is most efficient for GB consumers (199MW). This mid

placed 'Tipping Point' represents 61.4% of cable capacity and can be achieved with CfD, Planning Consent or the nebulous requirement 'Project Finance'.

- 7.3 For the Western Isles, the 'Tipping Point' for a 600MW cable is 530MW – the ESO's 'Optimum Point' (88.3% of cable capacity). No regard is given to SHE-T's 'Break Even Point' of 369MW, no 'Mid Point' between 'Break Even Point' and 'Optimum Point' has been employed as it was in Orkney and the Western Isles requirement for CfD only is much more demanding. This approach represents discrimination between island groups and, again, leaves OFGEM open to challenge.
- 7.4 During their visit to the Western Isles in April 2019, OFGEM representatives repeatedly cited their approach to pipeline generation conditionalities in Orkney and suggested that this approach could be adopted in the Western Isles. Unfortunately, it can not because of the circularity of the Transmission Link argument (approval of the link is required before early 2020 to enable SHE-T to build a link which will connect developers within the time limited Delivery Windows [2023/24 and 2024/25] which they have won at 2019 CfD Auction).
- 7.5 In the Western Isles, SHE-T must begin awarding contracts during the first half of 2020 in order to meet its cable energisation deadline of October 2023. Energisation will be followed by six months commissioning and connections should be possible within the two Delivery Years for the 2019 CfD Auction – 2023/24 and 2024/25.
- 7.6 Requiring pipeline generation in the Western Isles to secure Planning Consent and / or Project Financing (impossible without Planning Consent) before the Needs Case can be approved and SHE-T can be authorised to build the link is clearly nonsensical given that SHE-T must commence the awarding of contracts during the first half of 2020. There are no such time pressures placed on Orkney generators.

IMPOSITION OF CONDITIONALITY ON PIPELINE IMPRACTICAL

- 8.1 The Comhairle therefore contends that the imposition of conditionality on commercial generation is reasonable but it would be entirely inappropriate to impose similar conditionality on pipeline community generators who already face an array of daunting challenges. OFGEM should be clear that, to impose this conditionality, could effectively kill off the entire Western Isles Transmission Link project and the responsibility for that would lie solely with OFGEM.
- 8.2 The Comhairle fully supports the emerging solution proposed by SHE-T to OFGEM where the TO re-purposes unused capex allowances within the North of Scotland Generation area of the business to underwrite the difference between a 450MW and 600MW cable. The Comhairle urges OFGEM to issue the necessary Licence derogations to make this possible as this arrangement will truly ensure that *"consumers are more appropriately protected from the additional costs of funding a [600MW] link"*. Our understanding is that the return of these unused allowances to OFGEM is voluntary and, indeed, there is no mechanism currently in place for any such return. Far better to utilise these unused allowances to future proof the North of Scotland network in line with the UK's new Climate Change ambitions while protecting the consumer.

ALIGNMENT WITH CLIMATE CHANGE POLICY

- 9.1 In May 2019, the UK Committee on Climate Change published its far reaching report, 'Net Zero – the UK's Contribution to Stopping Global Warming'. OFGEM's presumption against anticipatory investment seems to be at odds with the urgent call to action presented by this report. The report confirms that the UK can achieve net zero Greenhouse Gas emissions by 2050 using existing technology, delivered through 1% to 2% of GDP per annum but only when a range of measures are deployed. One of these measures is to "quadruple the supply of low carbon energy by 2050". The report regrets that, *"current policy is insufficient for even the existing [carbon reduction] targets"*.

- 9.2 The Climate Change Committee asks the question, *“How can the UK reach net zero Greenhouse Gas emissions by 2050?”* and proposes that this will be achieved by, *“extensive electrification, particularly of transport and heating, supported by a major expansion of renewable and other low carbon power generation Reaching net zero emissions will require development or enhancement of shared infrastructure such as electricity networks. Government should give urgent consideration to how infrastructure might best be identified, financed and delivered. The supply of low carbon power must continue to expand rapidly, and increasingly, from around 2030. Policy and regulatory frameworks should also encourage flexibility, eg. Interconnection The net zero challenge must be embedded and integrated across all Departments, at all levels of Government and in all major decisions that impact on emissions. Since many of the solutions cut across systems, fully intergrated policy, regulatory design and implementation is crucial”*.
- 9.3 The Climate Change Committee is clear in its call for rapid, and increasing, expansion of low carbon generation: *“More rapid electrification must be accompanied with greater build rates of low carbon generation capacity, accompanied by measures to enhance the flexibility of the electricity system to accommodate high proportions of inflexible generation like wind. The Energy White Paper, planned for 2019, should aim to support a quadrupling of low carbon generation by 2050”*.
- 9.4 The Committee is clear that significant expansion of, and anticipatory investment in, transmission networks is required to deliver this additional low carbon generation. *“A relatively large expansion in [network] capacity is likely to have low regrets, ‘future proofing’ the network to enable greater electrification if necessary and for enabling demand to respond more readily to variations in low carbon electricity supply. Transmission network capacity will need to keep pace with developments of generation and interconnection. **It is essential that, when Grid capacity is increased, this is to a sufficient level to avoid having to upgrade the capacity again prior to 2050”***.
- 9.5 This influential report, commissioned by the UK Government and the Devolved Administrations, is now set to underpin Government policy from now to 2050. In light of its sometimes chilling contents, the Comhairle wonders how OFGEM can sustain its position of no anticipatory investment in electricity networks when the ample low carbon resource around the Outer Hebrides can contribute significantly to meeting the coming explosion in demand for low carbon electricity to fuel the national electrification of heat and transport. When a National Climate Emergency has been declared by the UK Government and a new policy trajectory, focused on a significant expansion of low carbon generation and enduring to 2050, is imminent, it would be highly irresponsible of the Energy Regulator to disallow investment in the connection of considerable volumes of low carbon energy in order to protect today’s electricity consumer from a few pence on energy bills.

NO SUPPORT FOR 450MW CABLE

- 10.1 To be clear, the Comhairle, Highlands & Islands Enterprise, the local Community Planning Partnership, commercial developers, community developers, Community Energy Scotland, the landowner, Local Energy Scotland, Scottish Ministers, UK Government Ministers, Scottish Renewables, the Western Isles MP, the Western Isles MSP, Highlands & Islands List MSP’s and all the main political parties insist on a 600MW Transmission Link for the Western Isles. OFGEM stands alone in supporting a 450MW link.
- 10.2 It is concerning that the UK Energy Regulator stands in defiance of Government policy, the industry and the community in seeking to impose an undersized cable on the Western Isles.

RESPONSE TO CONSULTATION QUESTIONS

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

Yes. The Western Isles are home to the best Renewable Energy resource in Europe (Wind and Wave) and the idiosyncracies of the UK's outdated electricity network mean that this area of best clean energy resource is supplied with electricity from Fossil Fuel stations around the main cities and has to pay handsomely for the privilege through Transmission Charges which penalise remote areas. The fragile Distribution network which serves the Western Isles has been closed to new connections since 2016 and the 30 year old AC link is overheating and in urgent need of replacement. Despite these structural challenges, the Local Authority and its partners have worked closely with developers for 20 years now to bring forward 418MW of shovel ready, Grid contracted Renewable Energy generation now awaiting connection. This effort has already cost one generator circa £20 million.

In addition to this, SHE-T Network Planners have confirmed to the Comhairle that the 34.3MW of Distribution connected generation currently connected to the AC link will be transferred to the new HVDC link because there are problems with running AC and HVDC together on the same network. The two links, old AC and new HVDC, will be mutually exclusive in network terms with island electricity supply being imported through the new HVDC and the AC link being kept on live standby. The AC link will only carry traffic if the supply component of the HVDC link fails and this will be a temporary arrangement to ensure network resilience for island consumers. In addition to this 34.3MW of displaced Distribution connections, 88MW of Community Wind and Community Pumped Hydro is in Planning with a further 64MW of pipeline Community Wind in scoping. From 2026, Floating Offshore Wind will begin deploying West of Lewis where Marine Scotland have identified 'Areas of Search' in their Sectoral Plan for Offshore Wind, due to be published in late 2019, and Crown Estate Scotland have confirmed that seabed leases will be offered in any 'Area of Search' identified by Marine Scotland. Equinor, formerly Statoil, are extremely interested in this high resource / low constraint area West of Lewis and have specifically called for a 600MW Transmission Link to be authorised without delay.

All this is against the backdrop of a Local Authority which has never refused Planning Consent for an Onshore Wind Farm and has identified 1GW of constraint-free Onshore Wind resource throughout the Western Isles in Statutory Planning Guidance.

We are now at the final fence in a race to provide Transmission connection to the Western Isles. This struggle has lasted for 20 years and has overcome some major obstacles, not least a change in UK Government policy to allow 'Remote Island Wind' to enter the CfD Auction regime. Connection of the Western Isles, with all its benefits to the GB consumer, stands at the cusp of delivery and, if the entire project falls at this last fence because of OFGEM instructing an undersized cable or imposing implausible conditionality on a larger cable, the fault will lie with OFGEM alone.

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.

SHE-T have been working with the local developer community (commercial and community) for 20 years now and, despite their foibles, they know the Western Isles electricity landscape better than any other agency. The CBA generation scenarios 'Steady State' (222MW) and S1 (338MW) can quickly be dismissed because, in view of the conditionality SHE-T has attached to their Needs Case (minimum generation of 396MW), these scenarios can never occur. Scenario S2 (422MW) can be achieved in 2019, subject to developer success at CfD Auction. Scenario S3 (511MW) can be achieved by 2021 through community owned schemes already in Planning and transfer of existing Distribution connected generation. The highest, S4, scenario (638MW) will be easily achievable by 2030 as Floating Offshore Wind and then Wave

Energy comes on stream West of Lewis. We have every confidence in SHE-T's generation scenarios, up to and including S4, but OFGEM must create the conditions for delivery of these scenarios by authorising an appropriately scaled link.

The following volumes of generation are already contracted in the Western Isles:

Lewis Wind Power Stornoway Wind Farm	180MW
Lewis Wind Power Uisenis Wind Farm	189MW
FORSA Druim Leathann Wind Farm	49MW
TOTAL	418MW

The following community led schemes are currently in Planning and aiming to secure Grid contracts from August 2019 onwards:

Arnish Moor Consortium	35MW
Beinn Thulabhaigh Wind Farm	5MW
Tol Mor (Barvas) Wind Farm	24MW
Pairc Trust HydroElectric Pumped Storage	24MW
TOTAL	88MW

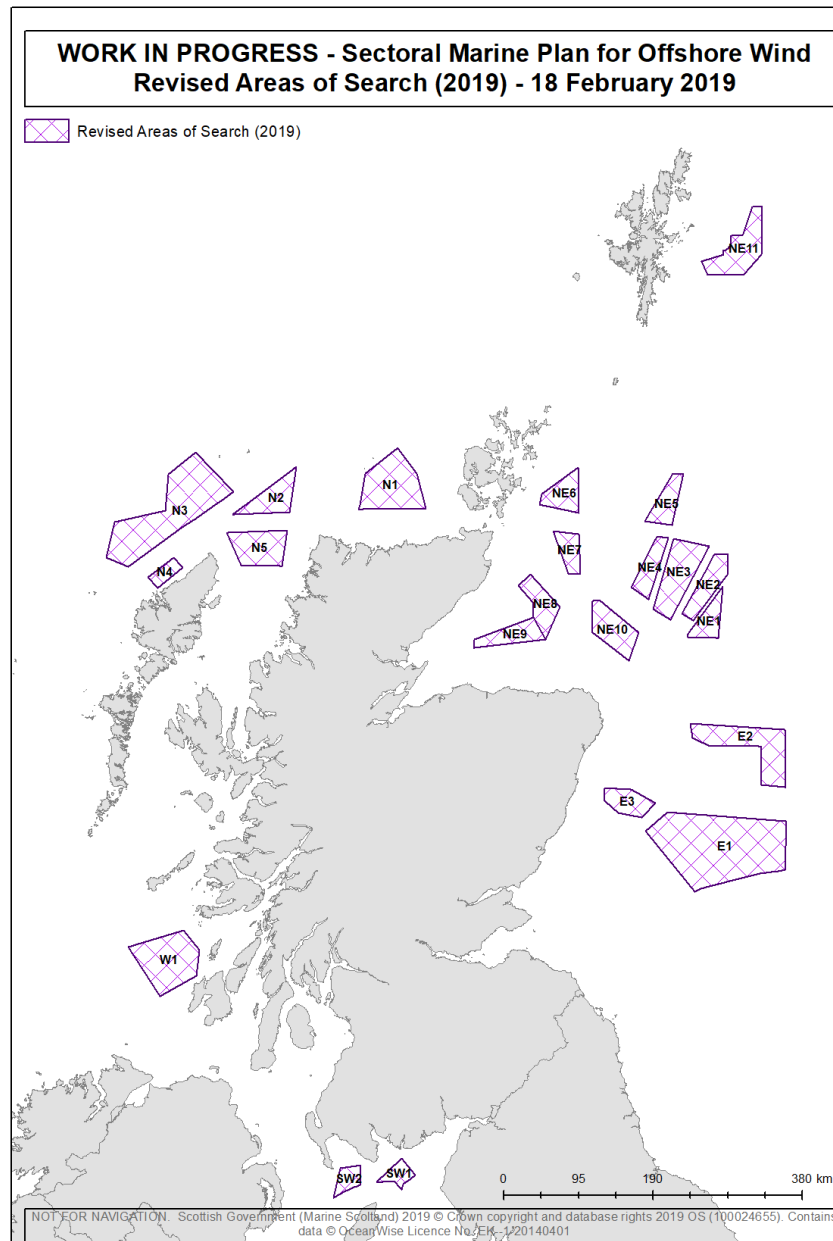
The following community led schemes are in pipeline (early development):

Community Wind, Rural Lewis (Scoping Complete)	35MW
Community Wind Rural Lewis (Scoping Commissioned)	16MW
Community Wind Rural Lewis (Early Exploration)	13MW
TOTAL	64MW

With Grid in place, Floating Offshore Wind will begin to move into deep waters West of Lewis from 2026. The Comhairle has been deeply engaged with Equinor (formerly Statoil) since 2010 and the Equinor Hywind team have visited Lewis on several occasions to scope the Supply Chain and Grid with a view to deployment in water depths exceeding 120m West of Lewis. The Hywind Floating Offshore Wind Turbine has proved itself through the Hywind Demo Turbine (2.3MW), installed off Karmøy, Norway in 2009 and capable of withstanding wave heights of 20m. More recently, Equinor have developed the Buchan Deep Floating Offshore Wind Pilot Park off Peterhead, North East Scotland. This is a five turbine array with an installed capacity of 30MW and, since being commissioned in 2017, the Pilot Park has performed above expectation. Equinor / Hywind are now keen to move to the next stage in a more aggressive, and productive, marine environment and are extremely interested in the high resource / low constraint area West of Lewis.

For Floating Offshore Wind to locate West of Lewis, Marine Scotland must first identify an 'Area of Search' where deployment can safely take place with minimal impacts on the marine environment and other sea users. Crown Estate Scotland will then automatically grant seabed leases as requested within these 'Areas of Search' and development can proceed, subject only to the availability of Grid.

The 'Areas of Search' identified by Marine Scotland in their Sectoral Plan for Offshore Wind, due to be published in late 2019, are shown in the following map. Areas N3 and N4 are to the West of Lewis and developers in these areas will have to connect to onshore infrastructure on Lewis to achieve a route to market. The quotes below from senior figures in Marine Scotland, Crown Estate Scotland and Equinor / Hywind demonstrate that the area West of Lewis will be open for business from 2020 and that, if OFGEM authorise sufficient Grid capacity now, industry will come and locate in that area from 2026 onwards (allowing for consenting and project financing).



“You will note the location of N3 and N4. It would be reasonable to assume that any potential developer for these areas would have an interest in the ability to connect ashore on west Lewis and seek to link in with any upgraded infrastructure coming in from east Lewis”.

David Pratt, Head of Planning & Strategy, Marine Scotland

“We intend to invite applications for any and all areas of seabed included in Marine Scotland’s Sectoral Plan for Offshore Wind. Access to suitable Grid capacity is, of course, a fundamental factor”.

Simon Hodge, Chief Executive, Crown Estate Scotland

“Equinor very positively supports the development of a 600MW HVDC Radial Connector from Beaully to Stornoway. Hebrides is an attractive region for Offshore Wind development. It has a relatively high level of unconstrained acreage for possible development. This is very positive for a developer like Equinor who is looking for long term potential and larger acreage that can take multiple developments in the future”.

Elisabeth Stenersen, Project Manager Hywind UK, Equinor

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?

SHE-T's optioneering has been thorough and details have been shared with us over many years now. From a local knowledge perspective, the selected option (Beaully to Arnish HVDC) is the most sensible option. There are no other options that SHE-T should have considered.

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

The ESO CBA lacks robustness and OFGEM seems to be picking and choosing scenarios in order to receive the desired output. 'Steady State' is not a plausible scenario in the Western Isles and must be removed from the analysis as it can never occur. In its Cost Benefit Analysis, the ESO makes repeated calls for reconsideration of the 450MW option once the CfD Auction provides further clarity on the future of Western Isles generation (page 22) because success at Auction for the anchor schemes renders the Steady State scenario irrelevant and makes a 600MW link the Least Worst Regret for future consumers. OFGEM seem to have ignored the advice of the ESO in this regard in recommending a 450MW link. By the same measure, we would resist any attempt by OFGEM to remove 'S4' as that scenario is eminently achievable (see question 2 above). Gaming with scenarios to arrive at a preferred output is no way to plan the UK's future electricity network.

We are puzzled as to why OFGEM so readily accept a 'Steady State' of 0MW in Orkney and Shetland when the only credible 'Steady State' in the Western Isles is exactly the same.

We are also puzzled by OFGEM's inconsistent application of the 'Tipping Point' between Orkney and the Western Isles. In Orkney, SHE-T's initial conditionality for a 220MW cable – 70MW contracted – is taken as the 'Break Even Point' while the ESO proposes 199MW as the 'Optimum Point' (the point judged to be most efficient for GB consumers). OFGEM then arbitrarily propose a 'Mid Point' of 135MW as the 'Tipping Point' for Orkney (61.4% of cable capacity) and comment, "Our view is that a 135MW figure [on a 220MW cable] balances the need to enable renewables and low carbon generation while protecting GB consumers from unnecessary costs". Where is this balance in the Western Isles assessment? OFGEM then use the SHE-T CBA, dismissed in the Western Isles, to 'sense check' this 135MW figure and conclude, "SHE-T's CBA indicates that, with 135MW of wind generation connected to a 220MW link, there is a reasonable case that the link will represent value for money for the GB consumer". Again, where is this reasonableness in the Western Isles assessment.

In the Western Isles, SHE-T's 'Break Even Point' is presented as 369MW although the true break even point where the NPV of constraint costs crosses the NPV of the link's capex actually lies in the range 122MW to 156MW. Use of the higher 369MW figure as 'Break Even Point' means OFGEM is going beyond its duty to protect the consumer and is seeking to optimise things for the consumer. For the Western Isles, the ESO's 'Optimum Point' is 530MW and it is this 'Optimum Point' that OFGEM use as the 'Tipping Point' (530MW or 88.3% of cable capacity). Had OFGEM applied the same methodology as in the Orkney case, a 'Mid Point' of 449.5MW (74.9% of cable capacity) would become the 'Tipping Point' – 326MW to 343MW if true break even is used. Again, these inconsistencies which effectively discriminate between island groups leave OFGEM open to challenge.

Considering the scenarios assessed under the CBA, it is very clear to the Comhairle and its partners that a 450MW cable will be significantly undersized, burdening future consumers with considerable constraint costs, while a 600MW cable will soon be filled and represents the optimum solution for future consumers. We believe we have demonstrated that the S4 scenario, 638MW, will be easily achieved by 2030 on account of new community generation, existing generation displaced from Distribution and Floating Offshore Wind. As shown in OFGEM's own data set (table below), a 638MW scenario on a 450MW cable has a regret of £90m while an unrealistically low base case of 422MW on a 600MW cable has half that regret (£44m). The key point from OFGEM's own dataset is that a 638MW scenario (eminently achievable) on a 600MW cable has a regret of £0m.

CBA Run	Option	Description	TD (£m)	SP (£m)	SS (£m)	CP (£m)	S1 (£m)	S2 (£m)	S3 (£m)	S4 (£m)	Worst Regret (£m)	LWR
Standard	1	450MW HVDC	£43	£39	£179	£4	£47	£0	£6	£90	£179	Yes
	2	600MW HVDC	£84	£80	£215	£44	£87	£44	£0	£0	£215	No
	3	237MW HVAC	£0	£0	£0	£0	£0	£120	£303	£510	£510	No
No SS	1	450MW HVDC	£43	£39		£4	£47	£0	£6	£90	£90	No
	2	600MW HVDC	£84	£80		£44	£87	£44	£0	£0	£87	Yes
	3	237MW HVAC	£0	£0		£0	£0	£120	£303	£510	£510	No
No SS or S4	1	450MW HVDC	£43	£39		£4	£47	£0	£6		£47	Yes
	2	600MW HVDC	£84	£80		£44	£87	£44	£0		£87	No
	3	237MW HVAC	£0	£0		£0	£0	£120	£303		£303	No

Table 4: Least Worst Regrets (LWR) Summary – showing best performing CBA options

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

SHE-T's project has gone through a number of real world tendering exercises and we are sufficiently convinced that the costs proposed reflect current market conditions and supply chain readiness. OFGEM's benchmarking, by contrast, seems to consist of a desktop exercise looking at projects that bear little resemblance to the Western Isles Transmission Link. OFGEM should be aware that the land section of the Western Isles link has been extremely difficult to engineer given the transition from high quality, stable arable land in the Black Isle to deep, mobile, acidic peat towards the West Coast. Similarly, seabed conditions in the Minch are extremely hostile and will require a level of engineering far in excess of what is required in the more benign environments being considered by OFGEM.

Whatever happens with CPM, we must not get to a point where SHE-T has to retender for a different specification of cable as that will add 12 to 15 months to the delivery timeline, knocking developers out of the 2023/24 and 2024/25 delivery windows linked to the 2019 CfD Auction.

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?

Absolutely not. Only a 600MW link will provide capacity for generation already in the pipeline, allow connection for Floating Offshore Wind and enable the development of pre-commercial Wave Energy technology. Also, the economics of the Western Isles anchor projects (LWP and FORSA) are based on a pro rata share of a 600MW cable, as promised by SHE-T for five years now. Reduction to 450MW erodes the competitiveness of these projects at CfD Auction, adding 26% to lifetime Transmission Charges, and threatens to kill off the entire Western Isles Transmission Link project after 20 years of work by Government, industry and the community to deliver it.

The view of Government, developers and the local community is that provision of a 450MW cable would be shortsighted and detrimental to the energy vision of the UK, most recently articulated through the Committee on Climate Change's influential 'Net Zero' report. The case has been made that the ESO's highest, S4 scenario (638MW by 2030) will be easily achievable through new community Onshore Wind, new community Pumped Hydro and Floating Offshore Wind. It would be irresponsible of OFGEM to prejudice this future generation at a time when the UK Government has declared a National Climate Emergency. In the words of the Committee on Climate Change, "It is essential that, when Grid capacity is

increased, this is to a sufficient level to avoid having to upgrade the capacity again prior to 2050” (see section 9 above for more detail on the local implications of the CCC’s work).

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?

A 450MW link is extremely shortsighted and does not protect future consumers, indeed, it stores up considerable additional cost for future consumers which could be easily avoided. Additional expenditure of 4.5% to 7.5% of project cost now will secure an additional 33% of capacity for the future, contributing to GB Security of Supply and reducing constraint costs for future consumers. Compare this to the TO having to return in a few years to build an additional cable at 45% of current project costs. It is incomprehensible to us that OFGEM should specify a cable capacity which allows just 32MW of yet-to-be-contracted generation to connect over the 45 years lifetime of the cable. We cannot understand why OFGEM is restricting the potential of a cable which is to be in place in Europe’s area of best Renewable Energy resource until 2069 to generation contracted in the calendar year 2019. We expect both LWP schemes and the FORSA scheme to secure CfD’s this year and, in OFGEM’s own words, “this will represent a clear indication that [418MW of] generation [will] progress and [will] act as a strong financial incentive on that generation to progress to full operation”. This will leave only 32MW for a Community Wind market already flagged at 134MW plus Floating Offshore Wind and the considerable level of Wave Energy generation anticipated in the 2030’s.

OFGEM’s analysis which suggests that a 450MW link would represent the best outcome for existing and future consumers rests on a shaky methodology which only produces OFGEM’s required output when a specific set of scenarios are entered, one of which is clearly unachievable. For reasons outlined above, the ‘Steady State’ scenario should be removed from the analysis while the ‘S4’ scenario should be retained. This will provide the assurance that a 600MW cable represents the best outcome for existing and future consumers. OFGEM’s selective quoting from the ESO’s assessment, ignoring the statement, “SHE-T are submitting a Needs Case to OFGEM based on the 600MW HVDC cable (Option 2), on the conditional aspect that CfD’s are awarded to some of the major projects on the island. The SO would agree with this approach as the awarding of these CfD’s would eliminate ‘Steady State’ as a viable future on the Western Isles and change the Least Worst Regret to Option 2” (Source, ESO), leaves OFGEM open to challenge. Also, there is the issue of OFGEM applying different methodologies in Orkney (Mid Point for Tipping Point) and Western Isles (Optimum Point for Tipping Point) – see question 4 above - in order to arrive at pre-determined outputs. We do not feel this represents transparent consultation.

We have clearly demonstrated that scenario S4 (638MW) is eminently achievable with existing contracted generation, community generation currently in Planning, community generation in Scoping, Distribution generation requiring to be displaced to HVDC and Floating Offshore Wind. OFGEM’s own dataset shows that the regret for 638MW on a 450MW cable (the most likely outcome under OFGEM’s present thinking) is £90m while the regret for 638MW on a 600MW cable is £0m. Even if only 422MW of generation comes forward, the regret, on a 600MW cable, will be just £44m, half the regret of the outcome OFGEM is proposing.

*The UK Climate Change Committee’s recent ‘Net Zero’ report, which will set the direction for UK Climate Policy for the next thirty years is clear on the need for new Transmission infrastructure to enable achievement of the Net Zero emissions target in the interests of all UK residents. The Committee is clear that significant expansion of, and anticipatory investment in, transmission networks is required to deliver this additional low carbon generation. “A relatively large expansion in [network] capacity is likely to have low regrets, ‘future proofing’ the network to enable greater electrification if necessary and for enabling demand to respond more readily to variations in low carbon electricity supply. Transmission network capacity will need to keep pace with developments of generation and interconnection. **It is essential that,***

when Grid capacity is increased, this is to a sufficient level to avoid having to upgrade the capacity again prior to 2050”.

iii. Do you consider that consumers could be appropriately protected from the cost 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?

Yes. Future consumers will not have to bear the considerable regret of future constraint costs on a restrictive 450MW cable and, for a maximum of 7.5% on current project cost, a further 150MW of capacity can be released, delivering clean, green electricity into the GB energy mix, enhancing the UK's Security of Supply and minimising the cost to the consumer of accessing Renewable Energy. OFGEM say that it is not concerned about the local economy but, through regulation, OFGEM is supposed to deliver five outcomes for consumers: lower bills, lower environmental impacts, improved reliability and safety, better quality of service and better social outcomes. A 600MW provides the future GB consumer with lower bills, less environmental impact (through roll-out of carbon free Onshore Wind and electrification of heat and transport), improved reliability (from a diverse domestic energy mix) and better social outcomes (improved circumstances for electricity consumers who already pay a distance related dividend for their electricity). It has already been demonstrated that a 600MW link carries a potential local socioeconomic impact of £229m while a 450MW link carries £174m. OFGEM should also take cognisance of its obligation under the Islands (Scotland) Act, 2018, to have regard to island communities in exercising its functions.

SHE-T has indicated that the consumer can be insulated from the additional cost of a 600MW solution through the re-purposing of unused capital allowances in the North of Scotland Generation area. Our understanding is that these are allowances which SHE-T can voluntarily surrender to OFGEM and could be far better used future proofing the North of Scotland network as Scotland drives towards its Net Zero GHG emissions target by 2045. The Comhairle fully supports the re-purposing of these unused allowances.

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

Competition is good in an area where the Regulated Monopoly TO has been dominant for decades. However, competition for the sake of it can not be allowed to kill off the Western Isles Transmission Project through elongated timelines when all parties are focused on delivery through the 2019 CfD Auction regime. SHE-T have tendered extensively for a project which faces very challenging and unique substrata and seabed conditions – this should be recognised by OFGEM and benchmarks from non-comparable projects carried out in a benign engineering environment should not be allowed to de-rail this project.

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. SPV and CATO would delay the project beyond the 2023/24 and 2024/25 CfD Delivery Years that are foundational to the delivery of the Western Isles link. OFGEM first consulted on CATO in 2012 and its timely introduction could have worked well in the Western Isles context. However, as in so many other areas, uncertainties of OFGEM's own making (by delaying the introduction of CATO) are now threatening this critical piece of national electricity infrastructure.

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

CPM is acceptable providing it recognises the key challenges faced by a TO providing infrastructure in the most hostile conditions in the UK. We have the fear that CPM based on less challenging construction conditions, could impose an unworkable cost limit on SHE-T

resulting in an endless round of crimination and recrimination, ending in the Courts. Meanwhile, the ensuing delays mean the failure of the Western Isles Transmission Project and the link never gets built.

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?

OFGEM state, “We don’t anticipate that the CPM would result in any delays to project delivery. There is no requirement under the CPM for SHE-T to carry out materially different project delivery work in addition to that which it would undertake if the project were delivered under SWW”. This may be true for the highly developed 600MW proposal presented to OFGEM by SHE-T but a move towards a 450MW cable capacity will require substantive re-tendering by SHE-T which will add 12 to 15 months to project delivery and will knock our island developers out of the 2023/24 and 2024/25 Delivery Windows linked to the 2019 CfD Auction Round. Essentially, an OFGEM decision for 450MW will kill the Western Isles Transmission Link project.