

PROJECT TransmiT

Electricity Transmission Charging – Assessment of Options for Change

A response by Comhairle nan Eilean Siar, the Local Authority for the Western Isles of Scotland

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- The preferred Transmission Charging methodology outlined in OFGEM's Project TransmiT consultation paper significantly disadvantages the Scottish islands
- Comhairle nan Eilean Siar finds it totally unacceptable that the UK's area of best Renewable Energy resource is faced with a Transmission Charge seven times that of the North of Scotland mainland
- Forecast Transmission Charges are demonstrably blocking Renewable Energy development in the Scottish islands
- At Project TransmiT forecast Transmission Charges, island Renewable Energy schemes are not viable and island developers will not underwrite the cost of essential Radial Connectors for the islands
- 482.2MW of Renewable Energy generation in currently operational, consented, in planning or in advanced development in the Western Isles but cannot connect because of the impact of forecast Transmission Charges on the proposed Western Isles Radial Connector
- Of the 125MW of Marine Renewable Energy leases outwith Pentland Firth & Orkney Waters issued by The Crown Estate, 80% are dependent on island Radial Connectors
- Taking the Pentland Firth & Orkney Waters into account, two thirds of the UK's total projected Wave and Tidal Stream energy aspirations depend on island Radial Connectors which are being blocked by the outcomes of Project TransmiT
- At current subsidy levels and viewed over a 20 year perspective, the cost to the UK electricity consumer of island wind is half that of offshore wind and even fully socialised island links will save the UK consumer £1.8bn over 20 years by comparison
- Failure of the island links will mean that Scotland is unable to meet its challenging carbon reduction targets

THE RESOURCE

- 1.1 The Western Isles are home to one of the strongest and most consistent wind and wave regimes in Europe. Prevailing winds have an open approach over sea and waves have a fetch reaching over 4,000km to Newfoundland. The strength of this resource has made the islands the target of developer interest from all over the world.
- 1.2 Comhairle nan Eilean Siar views Renewable Energy as the key socioeconomic driver for the islands. Over the period 1991 to 2001, the Western Isles lost 10% of their population as people moved out of the islands seeking work. Historically, the islands have depended on traditional industries (textiles, fishing and crofting) which are now in decline and unable to sustain the island population. An over-dependence on the public sector is now making the island particularly vulnerable as that sector downsizes significantly.
- 1.3 With the best Renewable Energy resource in Europe and considerable fabrication and research capability at Arnish Yard and Lews Castle College respectively, the islands are well placed to capitalise on the Renewable Energy revolution. The installation of 480MW+ of generation capacity in the islands will

provide an unprecedented boost for the local economy. Unlike mainland UK where development of a 150MW wind farm is neither here nor there in terms of the local economy, the development of wind farm of that scale in the Western Isles is absolutely transformational for the closed island economy. It will help retain existing population and attract new people while opening up opportunities for island school leavers to remain in the community of their birth.

THE CHARGING OPTIONS

- 2.1 The Comhairle is disappointed that the **Socialisation** option was so quickly disregarded by OFGEM. Socialisation of Transmission Charges will encourage generators to develop in the area of best resource and highest return, away from densely populated areas where wind farms are not wanted to peripheral areas where wind farms are welcomed as a vital means of economic stabilisation and growth.
- 2.2 The Comhairle accepts that total socialisation may lead to sub optimal network growth but consideration should be given to partial socialisation to ensure that generators are directed to the areas of best resource in order to meet Scottish, UK and European carbon reduction and security of supply targets. Partial socialisation also ensures that the islands are not exposed to the level of disadvantage so evident through the proposed Improved ICRP methodology.
- 2.3 Comhairle nan Eilean Siar can not support the **Status Quo** option and is pleased that OFGEM have departed from it. The level of disadvantage facing the islands was a key political reason for launching the Project TransmiT process – the existing regime was obviously broken and required fixing. It should be noted that forecast Transmission Charges supplied by National Grid rendered the Western Isles four times worse off than the North of Scotland mainland. The Comhairle is disappointed that OFGEM have disingenuously modelled island Status Quo using a 1.8 Security Factor while modelling Improved ICRP at a Security Factor of 1.0 in order to dress up the latter. The Grid infrastructure is the same in both scenarios so why the different Security Factors?
- 2.4 The Comhairle is conditionally supportive of the **Improved Investment Related Pricing** option and recognises the benefits the regime offers to the wider UK transmission system. However, further work needs to be done on the Scottish islands component of this option before the Comhairle finds it acceptable. This additional work is outlined in section 5 below.
- 2.5 The Improved ICRP option, as presented in the Project TransmiT consultation paper, is totally unacceptable to the Comhairle as it actually increases the level of disadvantage facing the islands. Under Improved ICRP, the Western Isles have gone from being four times worse off than the North of Scotland mainland to being seven times worse off. This is clearly unacceptable.

DISADVANTAGED ISLANDS

- 3.1 Comhairle nan Eilean Siar is a lead member of the Conference of Peripheral Maritime Regions (CPMR) which successfully lobbied for inclusion of EC Directive 2009/28 (Article 16/7 refers) in European Law prohibiting discrimination against islands and peripheral areas through inequitable Transmission Charging. Regardless of OFGEM's protestations to the contrary, the Comhairle still contends that the current regime, and the proposed Improved ICRP regime, discriminates against the Scottish Islands.
- 3.2 To further protect the islands' position, CPMR is currently proposing the inclusion of Recital 63 of Directive 2009/28 as an Ex Ante Condition in the 2014 – 2020 EU Cohesion Fund. Ex Ante Conditions are defined for the Common Strategic Framework on a Fund specific basis. Failure to demonstrate compliance with an Ex Ante Condition means that the Member State in question is unable to access *any* EU Structural Funds. In our case, the Member State is the UK so the consequences of failing to comply with Recital 63 could be extremely serious. Recital 63 states, "*Electricity producers who*

want to exploit the potential of energy from renewable sources in the peripheral regions of the Community, in particular in island regions and regions of low population density, should, whenever feasible, benefit from reasonable connection costs in order to ensure that they are not unfairly disadvantaged in comparison with producers situated in more central, more industrialised and more densely populated areas". The case for fairer island charging could not be clearer and an equitable solution through Project TransmiT will allow the UK Government to access EU Structural Funds beyond 2014.

THE ALTERNATIVES

- 4.1 The only alternatives to a failed Project TransmiT process are the Section 185 provision of the Energy Act 2004 or additional Renewable Obligation Certificates for island wind.
- 4.2 The **Section 185** process is viewed by the Islands Transmission Group as a train wreck. Although the operating period for any adjustment has recently been extended to 2034, any adjustment still lasts for only 10 years. This means that, at best, investment certainty is only available for less than half the 25 year lifetime of an onshore wind farm. And that applies only to the first adopters. A wind farm in the Western Isles could trigger a global 10 year Section 185 adjustment in late 2015, meaning that similar schemes in Orkney and Shetland (or marine schemes) coming on line in later years will lose several years of investment certainty.
- 4.3 In any case, DECC's commitment to the Section 185 process is questionable. Assurances were given early in 2011 that DECC would run the Section 185 analysis parallel to the Project TransmiT process with an agreed tariff adjustment ready to drop in should Project TransmiT fail to find a solution. This has evidently not happened and, with Project TransmiT ready to report a set of inequitable tariffs which significantly disadvantage the islands, DECC are no nearer to identifying an agreed tariff adjustment. This is incredibly disappointing for the island Authorities who arranged for the submission of extensive data to DECC over a year ago to support their analysis.
- 4.4 For these reasons, the Section 185 process has lost all credibility and is not supported by Comhairle nan Eilean Siar.
- 4.5 The allocation of additional **Renewable Obligation Certificates** to island wind to offset prohibitive Transmission Charges is a possibility and the Scottish Government is open to this option. However, the RO system was introduced to foster emerging technology, not as a Transmission Charge discount and its use to offset prohibitive charges would be inappropriate. The Comhairle recognises the value of the RO system in bringing forward developing technologies and this support is absolutely fundamental to the survival and development of emerging technologies in and around the Western Isles.
- 4.6 The Renewable Obligation regime is also subject to periodic change and this erodes investment certainty. For these reasons, the use of Renewable Obligation Certificates to offset island Transmission Charges is not supported by Comhairle nan Eilean Siar.

THE ISLAND SOLUTION

- 5.1 What is required is a transparent and fair solution which follows the proven methodology of Project TransmiT and supports the areas of best resource without compromising the integrity of the wider network.
- 5.2 **Solution 1 – Extension of the Main Interconnected Transmission System.** Through a Connection and Use of System Code (CUSC) process, the application of Main Interconnected Transmission System (MITS) definitions should be reviewed. The Western Isles do not require a new definition for MITS but rather an anticipatory application of the current definition. With two circuits (existing AC and proposed HVDC) and a Grid Supply Point in Stornoway, the Western Isles will qualify for MITS status in October 2015. This status should

be confirmed now to provide some certainty in terms of forecast Transmission Charges. Orkney and Shetland will ultimately be served by two circuits but, in the meantime, significant on-island demand should be taken into consideration in terms of volume sharing. National Grid's definition of Local Works as benefitting only a single user does not apply to these islands so all Scottish islands should become part of the Wider network.

- 5.3 Classification of the Western Isles as part of MITS will automatically introduce the Volume Sharing Discount which Project TransmiT has already extended to intermittent users throughout the UK network. In the Western Isles, consistent wave energy will take up any slack left by onshore wind while significant demand will represent consistent baseload for the same HVDC cable. Along with a Security Factor of 1.0, as already conceded by Redpoint, this will bring Western Isles Transmission Charges to a reasonable level and will restore viability to island schemes.
- 5.4 It is interesting to note in this respect that, under Project TransmiT, a generator in Ullapool on the north west coast of Scotland benefits from the Ullapool to Beaully section of the proposed HVDC Radial Connector being classed as Wider Works while a generator in Stornoway has to underwrite the entire length of the same HVDC cable and suffer the prohibitive Transmission Charges associated with its cost. Disadvantage again.
- 5.5 **Solution 2 – Use of a generic Expansion Factor for the UK network.** The prohibitive island tariffs being proposed by Project TransmiT are the product of the eye watering cost of HVDC links to the islands. Use of a generic Expansion Factor, for example 400kV overhead line, for all network extensions in the UK system will reduce the level of disadvantage being suffered by the islands. Although the cost differential will have to be socialised, this approach is transparent and fair.
- 5.6 It is acknowledged that, in terms of the more distant island groups like Shetland, use of a generic Expansion Factor will not help with Transmission Charges due to the sheer distance of the link but perhaps a maximum distance cap could be introduced in these cases.
- 5.7 **Solution 3 – Removal of Converter Station costs.** In common with an approach being proposed by OFGEM in respect of the England – Scotland 'bootstraps', the cost of Converter Stations could be removed from the capital cost of the island links. According to SSE, this could reduce resultant tariffs by as much as 45% and would represent a good outcome for the islands.

COMPARATIVE COST OF ISLAND WIND AND OFFSHORE WIND

- 6.1 Comhairle nan Eilean Siar is disappointed at OFGEM's steadfast refusal to take socioeconomic factors into consideration. Network extension to the Scottish islands represents a generational opportunity to regenerate fragile economies currently facing an uncertain future due to chronic population, decline of traditional industries and an over-reliance of the shrinking public sector. It is the Comhairle's view that the UK Government should intervene in the Transmission Charging debate in order to effect one of the transparent solutions outlined in section 5 above. Such intervention will level the playing field for some of the most disadvantaged communities in the UK and will drive unprecedented levels of private investment into the UK's area of best renewable resource while contributing to UK and European security of energy supply.
- 6.2 OFGEM appear to be driven by the need to limit the impact on consumer bills. OFGEM will be interested to learn that even full socialisation of all island links to achieve all these objectives will actually cost the UK consumer less than the same level of generation through offshore wind at current subsidy levels.
- 6.3 Modelling carried out by the Island Grid Group (Comhairle nan Eilean Siar, Orkney Islands Council, Shetland Islands Council and Highlands & Islands Enterprise) indicates that the levelised cost of island wind is half that of offshore wind. If the ROC subsidies for 1GW of island wind (1 ROC) and 1GW of offshore wind (2 ROC) are modelled at a 40% load factor over 20 years, the

total subsidy cost for island wind is £3.1bn while the total subsidy cost for offshore wind is £6.3bn. The annuitised capital cost of all three island links over 20 years is £1.28bn. If the consumer pays for these links in their entirety (100% socialisation) and 1GW of island wind is generated, then the net saving to the UK consumer over 20 years, after Grid costs and subsidies, compared to 1GW of offshore wind, is **£1.8bn**. If the consumer pays for half the cost of these links (50% socialisation) and 1GW of island wind is generated, then the net saving to the UK consumer over 20 years, after Grid costs and subsidies, compared to 1GW of offshore wind, is **£2.51bn**.

CONCLUSION

- 7.1 The Western Isles already face structural disadvantage through a steadily declining population, decline in traditional industries and an over reliance on the shrinking public sector. At the same time, the Western Isles are home to the best renewable energy resource (wind and wave) in the UK and possibly Europe. For the first time in living memory, a happy locational coincidence is emerging between the growth of a vigorous new industry and some of the most fragile communities in the UK.
- 7.2 One reason for the establishment of Project TransmiT was to explore how disadvantage against Scotland's islands communities, inherent in the UK's outdated Transmission Charging regime, could be reduced so that the limitless potential of renewable generation in and around the Scottish islands could be unleashed in the national interest. Comhairle nan Eilean Siar is therefore astonished to see that, under Project TransmiT, the Western Isles have gone from being four times worse off than the Scottish mainland to being seven times worse off.
- 7.3 Through Project TransmiT, OFGEM proposes a Transmission Charging regime that will disadvantage Scotland's islands and block the development of up to 1GW of cost effective renewable energy generation. In the Western Isles alone, there is 482MW of renewable generation on the table and awaiting generation, to say nothing of the hundreds of Megawatts of marine and offshore wind capacity to follow by 2020.
- 7.4 Pending changes to the European funding system could mean that the UK Government is unable to access any EU Structural Funds from 2014 unless it can demonstrate that island generators "*benefit from reasonable connection costs in order to ensure that they are not unfairly disadvantaged in comparison with producers situated in more central, more industrialised and more densely populated areas*".
- 7.5 Comhairle nan Eilean Siar supports OFGEM's proposed Improved Investment Related Pricing methodology but only on condition that the Scottish islands are properly considered within that framework. The so called 'fallback' solutions of Section 185 and enhanced island ROC's have been shown to be unfit for purpose – the former has been roundly discredited and the latter is a technology development tool - so a transparent and enduring solution through Project TransmiT is necessary.
- 7.6 This submission lays out three credible and transparent solutions, all within the framework of Project TransmiT, which could bring island Transmission Charges to within reasonable and fair parameters. OFGEM is asked to review its commitment to consumer interest if it is prepared to forego 1GW of island wind generation at a saving of £1.8bn over 20 years to the consumer (100% socialisation of island links) or £2.51bn over 20 years (50% socialisation).
- 7.7 Project TransmiT, as reported, has failed the Scottish islands and is blocking delivery of security of energy supply and the achievement of carbon reduction targets while stalling immediate private investment of £1bn+ in the fragile Western Isles economy. Comhairle nan Eilean Siar urges OFGEM to *properly* consider the island situation through adoption of one or more of the transparent and enduring solutions presented in this paper.