

Scottish Renewables Response

Project TransmiT - Electricity transmission charging: assessment of options for change

Introduction

Scottish Renewables has welcomed Ofgem's review of transmission charging and the opportunity to contribute to the assessment of options for change throughout this process.

Our response is set out below, and covers our overall response to the proposed introduction of 'Improved ICRP' and our views on the indicative tariffs outlined for the island groups of Western Isles, Orkney Islands and Shetland Isles.

The options for change

Scottish Renewables has consistently argued for the introduction of a postalised approach to transmission use of system charging. We believe it to be a transparent, straightforward and equitable approach to charging ever-increasing amounts of generation using the electricity network. Redpoint's modelling work has shown that the introduction of Socialised charges would have the greatest positive impact on progress towards decarbonisation of our electricity supply of the three options considered at this stage of the review.

There are other clear advantages associated with a Socialised charging methodology, including: simplicity, predictability, transparency and less volatility of charges. The additional renewables generation brought on to the system as a result of socialised charges would also contribute significantly to energy security, reducing our dependence on gas imports.

However, we accept that the introduction of Improved ICRP is a significant step forward and will lead to greater investment in and deployment of renewables than the existing charging framework, which is clearly in line with the review's objective to 'ensure that arrangements are in place to facilitate the timely move to a low carbon energy sector whilst continuing to provide safe, secure, high quality network services at value for money to existing and future consumers'.

In particular, we support the principle that charging better reflects the profile characteristics of current and future transmission system users and that reform is necessary to overcome the fact that 'the status quo may lead to a barrier to entry for

intermittent generators whose impact on the network and hence the investment costs are not reflected by the transmission charging tariff they receive’.

On a more detailed point, we seek reassurance from Ofgem that low load factor generation will benefit from lower TNUoS costs in all the Scottish charging zones, despite the fact that there is no high load factor plant in a number of these zones against which to balance renewable generation charges. The answer to this question will of course materially impact on our support for the introduction of IICRP as it would have a significant impact on the charges paid by our members.

We believe that there should be no expansion factor in respect of HVDC convertor stations, as this is consistent with the treatment of transformers and other apparatus. This is likely to result in a more optimal long term geographical dispersal of generation plant and deliver the optimum level of renewables deployment at least cost.

Our main concern with the proposed introduction of Improved ICRP is the level of charges that this would result in for the Scottish islands. We believe that these are unfair and inconsistent with the objectives of the review, and make detailed comment on this issue below.

We understand that setting the expansion factor in respect of HVDC convertor stations at zero would result in a significant reduction in costs for connections to two of the main island groups and at this stage we would welcome further information from Ofgem and National Grid on the impact of this proposal on local circuit and TNUoS charges for the islands.

Status Quo

Scottish Renewables entirely opposes the continuation of present transmission use of system charging arrangements. Redpoint’s modelling has shown that both IICRP and socialisation of charges will increase deployment of renewable electricity generation, securing greater progress towards national targets, and potentially driving down wholesale electricity costs.

Island connections: the problem

The Scottish islands are home to some of the country's strongest renewable energy resources and we are concerned that the indicative tariffs published by Redpoint would continue to make large scale renewable energy development on the islands uneconomic. This would have a negative impact on the UK's aspirations for low carbon energy, security of supply and competitively-priced electricity.

Charges for the Scottish islands must be brought down to a level where development is economic if the UK's renewable energy targets are to be met in the most effective and efficient way possible for consumers. This would also have the effect of creating the foundations for further future growth in the expanding wave and tidal sector and the next generation of offshore wind.

The methodology used to calculate charges for future generation on the islands is qualitatively different to that used to calculate charges for mainland transmission upgrades and for other islands, which are charged as part of the mainland network and so incorporated into the methodology covering the mainland network, including both the Isle of Anglesey¹ and the Isle of Skye².

It is also inconsistent with other types of network regulation in the UK, where the aim of achieving the breakdown of geographical boundaries has led to consistent treatment of the islands and mainland Great Britain.

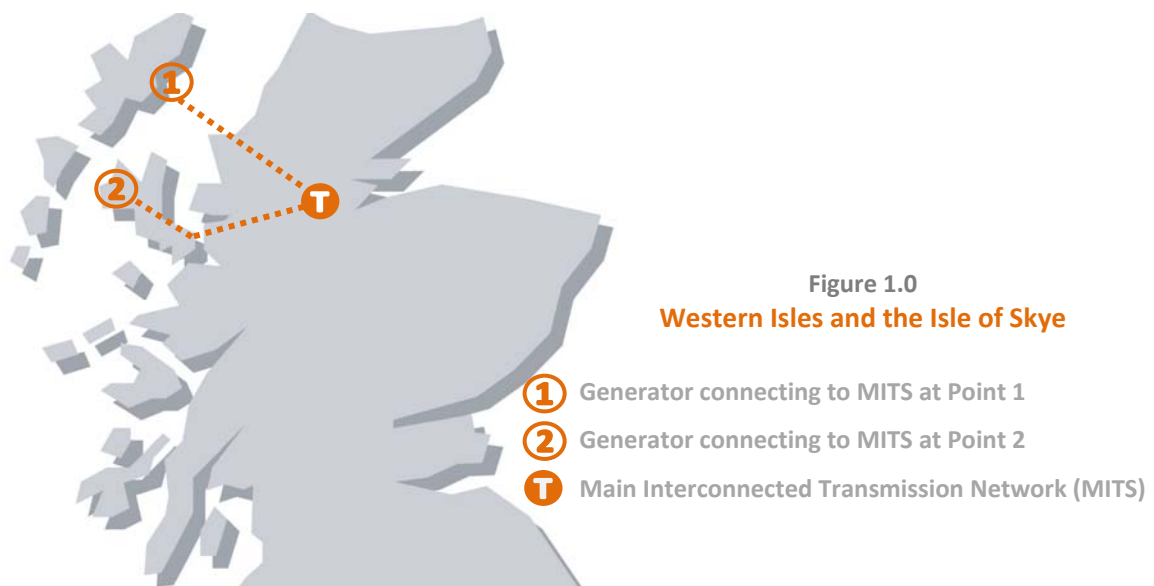
Essentially, under the existing proposals, projects on the Scottish islands would be charged in much the same way as an offshore wind farm. However, the islands have distinctly different characteristics, including the existence of demand on the islands³, where imports of electricity from mainland Great Britain will occur at times of higher than expected demand, or reduced renewables output.

One way to demonstrate the inconsistency with other parts of the GB network is to compare how a generator would be charged if they were to locate on the Isle of Skye, which is treated as a part of the mainland network, and if that same generator were to connect to the Western Isles from the same grid node. Simplistically, at present if an onshore wind farm connected to the transmission network anywhere on the mainland, and for instance at Point 2, the TNUoS charge would be calculated based on an average per kilometre cost from the point of connection. However, if that same developer wanted to connect its wind farm to the transmission network at Point 1, the TNUoS charge would be based on the actual capital expenditure between the point of connection to the closest mainland grid node.

¹ The Isle of Anglesey is connected to the mainland with a 400kV circuit as Wylfa Magnox Nuclear Power Station is located to the north of the island

² The Isle of Skye is connected to the mainland at 132kV, and part of the mainland zone 'West Highland and Skye'

³ Shetland, Orkney and the Western Isles have an approximate total populace of 70,000



These capital costs are significant, and in the above example, are being driven by two factors outwith the developers' control: the choice of route requiring a longer sea crossing and the use of undergrounding the onshore part of the connection.

Ultimately, these decisions are a result of the difficulties associated with building overhead transmission lines in particularly scenic parts of the Western Highlands. We do not accept that these factors should be allowed to make connections to an area with outstanding renewables resources uneconomic or to deny the Western Isles the opportunity to create a new and sustainable economic driver and provider of employment. Moreover, the new connection would have significant social and environmental benefits, improving the stability of the local network and reducing significant running costs of diesel generators, which is subsidised by around £19 million per annum to provide carbon heavy back-up generation to the Western Isles

The proposal: aligning charging methods for both island and mainland generators

To ensure consistency across the GB network, we believe that consideration should be given to basing TNUoS charges for the islands on a notional cost of transmission upgrade or extension in the GB network, rather than the actual capital costs of these new connections.

Such an approach would more closely align the scale of any incremental charges with underlying cost assumptions used to calculate charges in existing areas of the network, and would effectively share a proportion of the costs of the connections. Throughout this proposal, we provide a rationale as to why use of the island links should be charged for just as a mainland link is charged for, and in particular, why a proportion of the costs being shared actually reduces cost to the consumer.

It is important to note that Scottish Renewables is not proposing to change the current system, but see that the current system should also be applied to the islands. Such an approach will facilitate renewables development at least cost to the consumer whilst facilitating competition in the generation market.

Scottish Renewables commissioned analysis to assess the impact of this proposal could have upon TNUoS charges for both generation and demand across the GB market. If the option on the margin of this proposal was employed (*an expansion factor of 1 - equivalent to 400kV OHL*) within the calculation of the local circuit tariff for generation on the Scottish islands the impact is negligible on wider generation TNUoS tariffs.

However, if the current calculation of the islands local circuit was to remain as it is now, the downward pressure on the wider generation TNUoS tariffs would be greater than in the reverse, thus generators across GB would benefit. However, generation on the islands would not come forward at scale, and so this situation is unlikely to present itself.

We set out some detailed analysis on costs to consumers, the legality of island charging framework, and the socio-economic benefits below.

Least cost progress to targets

To realise renewables targets in the most prudent and economically efficient way possible, we believe that Ofgem must take a full analysis of 'cost reflectivity' within the charging methodology for the islands' connections and how this can capture the overall social and economic benefits resulting from sharing a proportion of these costs.

We would argue strongly that the efficiency of transmission charging cannot be judged in isolation, nor can it be judged as independent to renewable electricity policy objectives. The Department of Energy and Climate Change has itself recently stated that 'if a technology costs less than 2 ROC's we should maximise deployment of it'⁴.

Scottish Renewables' members have stated that under the proposed ICRP model, renewable electricity developments on the Scottish islands will be uneconomic. This would mean that some 1.2GW of onshore wind projects in scoping, planning or with planning consent would not go ahead. This lost capacity is likely to be replaced by a similar capacity of offshore wind, which would push up costs for consumers.

⁴ Consultation on proposals for the levels of banded support under the Renewables Obligation for the period 2013-17 and the Renewables Obligation Order 2012. Page 11. October 2011.

Research commissioned by Highlands and Island Enterprise has demonstrated significant costs savings to consumers through partial cost sharing of the island connections and support required for an additional 1GW of offshore wind compared to the necessary ROC support for 1GW of offshore wind over the twenty years of RO support.

The importance of quantifying the economic efficiency of transmission charging as part of a wider appraisal of economic efficiency is also articulated in Article 16.3 of the Renewables Directive 2009/28/EC where it states that Member States should take 'particular account of all the costs and benefits associated with the connection of those producers to the grid and of the particular circumstances of producers located in peripheral regions and in regions of low population density' and then continued in Article 16.4 where it states 'Where appropriate, Member States may require transmission system operators and distribution system operators to bear, in full or in part, the costs referred to in paragraph 3.'

Our view is that solely on the basis of affordability and the realisation of targets at the lowest overall cost; there is a clear obligation to develop an enduring solution to connecting the Scottish Islands.

Similarly, if the option on the margin of this proposal was employed within the calculation of the local circuit tariff for generation on the Scottish islands the outcome is also negligible on demand TNUoS tariffs.

Consistency with the Renewable Energy Directive

The proposals to apply a different charging methodology to upgrades to the Scottish islands from onshore upgrades may be inconsistent with member states' obligations under European law (including the Directive on the promotion of the use of energy from renewable sources (2009/28/EC) and also, the Internal Market in Electricity Directive (2009/72/EC)). The principle of non-discrimination between generators is clearly enshrined in both directives and the differential treatment of generators located in certain Scottish Islands and on the mainland may be inconsistent with existing legal requirements, especially when the effect of this differential treatment is to render uneconomic proposed developments on the Scottish islands.

Whilst past communication from the European Commission did not find the application of differential transmission costs to be inconsistent with the obligations outlined above, we believe that the foundation of his reasoning can only rest on the assumption that such differential costs are calculated in a uniform manner, with associated assumptions applied consistently - as is the essence of network regulation. Put simply, producers in the same class or category require to be treated in the same way. This does not necessarily mean that their costs will ultimately be the same but that the method for establishing such costs is the same.

In the context of the Scottish Islands, this reasoning would not support different transmission costs being reached on the basis of different methodologies as is currently the case. In summary, we believe that the current methodology as it is applied to the Scottish islands requires to be changed to ensure (at the very least) that generators on the Scottish Islands are treated in a consistent manner with other onshore generators. To the extent that the removal of this inconsistency was not sufficient to support the development of renewable generation on the islands, we believe that a question would remain as to whether further measures would require to be taken in order to ensure full compliance with the Renewables Directive.

Island ROCs

Whilst we believe that our concerns over island charges should be seen as part of the reforms to transmission charging, if the issue of prohibitively high local circuit charges is not resolved, Scottish Renewables would support the introduction a supplement to the ROC value for projects on the Scottish islands. This would offset developers' additional transmission charging costs and allow them to proceed with their projects. Whilst ostensibly this would add to costs for consumers, it would actually limit costs to consumers by ensuring the delivery of significant amounts of cost-effective onshore wind, as set out above.

Section 185

The option of using Section 185 (of the Energy Act 2004) to reduce prohibitively high transmission charges for the Scottish islands is very much seen as a last resort by our members and is by no means an optimal solution. A cap under Section 185 for transmission use of system charges is limited to 10 years, which provides very little comfort to investors. It is also unclear how the cap would be triggered and at what point the cap would expire for later investors. For example, if a project in the Western Isles were to trigger the cap in 2013, and the cap were in effect for 10 years, would this only provide a cap until 2023 for other developments no matter when they were commissioned or would other projects also receive a 10 year cap?

Wider socio-economic benefits

Whilst we understand that wider socio-economic benefits are included within the remit of Project TransmiT, it is important to bear in mind that renewable energy offers significant socio-economic benefits to some of the UK's, and indeed Europe's, most remote communities. As highlighted earlier, Scotland's islands are also home to some of the UK's best wind energy resources and is where the vast majority of the UK's proposed wave and tidal developments are located.

Scottish Renewables believe that failing to address the issue of high charges to Scotland's islands will jeopardise the development of the UK's world-leading wave

and tidal sector at risk. The recent European Commission paper “Developing a Maritime Strategy for the Atlantic Ocean Area⁵” states:

“The potential of the Atlantic's powerful waves and strong tides needs to be exploited as well. The predictable nature of energy from tides can complement the fluctuating energy from wind. Islands can receive a high proportion of their energy from the sea. However successful deployment of large scale offshore renewable energy will only happen if grid connections are ensured to link the main production centres to the consumption.”

It is clear that marine energy offers such potential. The recent Member State position paper on marine energy, co-signed by nine Member States, underlines the potential for marine energy alone to provide 26,000 direct EU jobs from ocean energy by 2020 and 314,000 direct EU jobs from ocean energy in 2050.

RenewableUK estimates the UK marine energy industry could employ 19,500 individuals by 2035, bringing £6.1bn investment and generating a GVA of £800m per annum⁶, with over 800 people employed in the sector already. A study commissioned by wave energy developer Aquamarine Power estimated a 200MW wave farm off the coast of Orkney would generate almost £300m of additional economic activity in Scotland. In addition, 8,503 job years would be created, equating to an average of 52 additional jobs each year in Orkney, and 6 jobs each year in the rest of Scotland over a 26 year period. To date the company has installed two full scale devices and spent more than £3 million directly into the local Orkney economy, and has worked with more than 40 local businesses.⁷

On the Western Isles, Stornoway Wind Farm commissioned a study to demonstrate the impact of their proposed 150MW wind farm on the local economy. Its key findings were:

- £48 million of materials and labour are predicted to be sourced within the Western Isles during its construction
- The construction of the windfarm could directly support 196 jobs in the Western Isles and a further 181 in the rest of Scotland. The majority of these jobs will be high value jobs associated with civil engineering, construction and manufacturing of towers
- Overall, 792 jobs could be supported across Scotland by the construction and operation of the Stornoway Wind Farm, relating to direct, indirect and induced effects, of these 247 jobs would be based on the Western Isles
- In addition, almost 25 jobs could be supported on the Western Isles relating to the community benefit, lease payments and compensatory payments to crofters in relation to direct, indirect and induced effects
- The value of these funds accruing to the local community, discounted to a net present value, could amount to over £28 million

5 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0782:FIN:EN:PDF>

6 http://www.bwea.com/pdf/publications/WandT_Sol_report.pdf

7 <http://www.aquamarinepower.com/sites/resources/Reports/3137/Socio-economic%20assessment%20of%20Aquamarine%20Power%20Oyster%20project.pdf>

Overall, therefore, we can see from these two examples the considerable socio-economic benefits which would accrue to the Scottish Islands through the enablement of wind, wave and tidal development.