THE HIGHLAND COUNCIL

Agenda Item	12
Report No	PED 9/11

PLANNING ENVIRONMENT AND DEVELOPMENT COMMITTEE
19 JANUARY 2011

PROJECT TRANSMIT: RESPONSE TO CALL FOR EVIDENCE

Report by Director of Planning and Development

Summary
This report asks Members to note the response made by The Highlands and Islands Transmission Working Group to a request from OFGEM for views and evidence on Project TransmiT. This is OFGEM's review of the charging regime for energy generators accessing the transmission grid and of the underwriting arrangements they currently require before they will connect new projects to the grid.

1. Background

1.1 OFGEM, the Office of Gas and Electricity Markets, issued a call for evidence on Project TransmiT, their review of transmission charging and associated connection arrangements, at the end of September 2010. The Highlands and Islands Transmission Working Group (HITWG), is a partnership of Highlands and Islands Local Authorities and Highlands and Islands Enterprise. It was established to lobby on behalf of the region for equitable access to the transmission grid system, including how the construction of new infrastructure is paid for, and how we ensure that new generation from the area is able to connect to the transmission grid system at an affordable cost.

1.2 The management of the electricity market is a highly technical area. HIE on behalf of HITWG, has contracted Xero Energy Limited, a specialist energy consultancy to advise the group on the technical aspects of responding to consultation requests such as this. That procurement process has only recently concluded hence the lateness of the group's response to this particular request. OFGEM did however permit a late submission, and the final version of the group's response is attached as an Appendix to this report.

1.3 OFGEM describe the purpose of the review as being to facilitate movement towards a low carbon energy sector while at the same time ensuring a safe and secure, and value for money, electricity network. It concentrates on transmission charging arrangements, as well as the range of difficulties experienced by those wishing to connect to and use the transmission networks. The review seeks views and evidence on whether this remains the best way of achieving their low carbon objectives, as well as a safe, secure and high quality network at a fair price to consumers.

2. Highlands and Islands Transmission Grid Group Submission

2.1 Large scale investment in infrastructure is essential to transport the energy resource in the Highlands and Islands to the centres of demand in the south. The submission to the Project TransmiT consultation process concentrates on two elements of the current process which are considered to be discriminatory and which prevent renewable energy resources in the Highlands and Islands from accessing the grid, namely:-

- The current transmission charging regime which leads to prohibitively high charges in the region;
- The current arrangements for connection and underwriting of new projects.

2.2 The submission stresses the need for change. The present Transmission Network Use of System (TNUoS) regime, with its emphasis on locational charging, is not suitable for a country that plans to utilise a range of low carbon generation technologies from a variety of geographical locations to provide its future energy requirements.

2.3 OFGEM state that they are keen to encourage competition in generation and supply. However, the high capital costs required to gain full access to the transmission system act as a barrier to this. The Highlands and Islands submission underlines this by showing that only operators with access to significant funds can take forward projects. Operators have to fund the capital costs required, both in terms of enabling works to connect to the grid, as well as underwriting the costs for that grid connection four years in advance of it actually being required, a significant outlay prior to any financial return on their investment.

2.4 Changes to the underwriting regime are promoted in the Highlands and Islands submission. OFGEM are being urged to consider practice elsewhere and the question is posed, whether there is any other country (USA offers a loan guarantee scheme for example) that expects generators to take all the risk and cost of building new transmission lines.

2.5 The submission moves on to suggest changes to the charging regime that would help OFGEM achieve the stated objectives of Project TransmiT, namely to facilitate a low carbon energy sector. These include;

- A charging regime that does not only encourage generation close to the existing network, but anticipates the new networks that a low carbon energy sector will require;
- A level playing field for UK generation and European generation. Recent changes to the charging regime for accessing interconnectors means that European generators will be able to access the UK without having to pay the TNUoS required by British generators;
- TNUoS charges seem to assume that all generators are equal. This seems to contradict the principles surrounding the Renewables Obligation which is designed to help develop new low carbon technologies, and not to act as a subsidy for generators facing high

connection and charging costs.

2.6 On the question of seeking value for money, some issues that Project TransmiT might like to consider include work undertaken by National Grid which suggests that it is more cost effective to over invest in transmission than under-invest. Furthermore, OFGEM can learn from European examples (Denmark and Germany) where it has been possible to support renewable energy projects in remote locations without compromising economic efficiency.

2.7 OFGEM are looking for examples of the charging regime impacting on generation. The postponement of the Western Isles subsea link until possibly 2015 because of reluctance amongst developers to underwrite the costs is one. Developers have invested significant amounts to develop projects so there is no lack of commitment. However, they are not prepared to commit to TNUoS charges close to £97/mw.

2.8 In the Highlands the situation is not considered to be quite so severe at the current time. However, the anticipated costs of sub sea grid connections known as “bootstraps” will in the future be added to the overall costs of the transmission grid. This could significantly impact upon the cost for Highland projects of accessing the transmission grid. Currently the highest TNUoS charge in the Highlands is for projects on Skye which have to pay £23/KW/year. It is estimated that the costs of the “bootstraps” could double this, and thus act as a disincentive to the development of the area’s renewable energy resources. While the 2004 Energy Act allow for caps to be placed on the costs of island (Western Isles, Orkney and Shetland) generation projects accessing the grid, there is no such concession available for the Highlands to mitigate the increased costs involved in getting the energy generated by these projects into the transmission grid.

2.9 The uncertainty surrounding the amount of TNUoS that may be required could prevent the entry of smaller developers, for example, community based projects to the market. This uncertainty can have an impact upon the ability of these projects to raise sufficient capital. However, larger players, such as the major utilities are able to spread the costs involved in paying for expensive infrastructure upgrades across their wider portfolio of investments.

3. Implications

3.1 There are no resource, legal or equality implications arising from this report. Supporting the development of renewable energy in the Highlands complies with the Council’s Single Outcome Agreement aim to safeguard our environment by ensuring that carbon emissions are reduced.

4. Conclusion

4.1 The Highlands and Islands Transmission Working Group response to the OFGEM call for evidence on Project TransmiT underlines the need for reform of the current charging and connecting regime. Measures to protect the interests of those users who have invested on the basis of the existing regime

should also be introduced. Furthermore, it would be helpful if policy on access to the grid and on underwriting those connection charges mirrored Governmental policy aims on sustainability and renewable energy and carbon reduction targets that ultimately lead to a low carbon generation future. The introduction of capping powers under Section 185 of the Electricity Act would help projects, particularly in the islands to come forward more quickly than waiting for transmission charging reform. At the same time recognition needs to be taken of the implications for Highland based generation from the development of subsea links on the west and east coasts.

5. Recommendation

5.1 Members are asked to note the submission, as contained in Appendix 1 to this report, by The Highlands and Islands Transmission Working Group. This contains a response to OFGEM's call for evidence on its Project TransmiT initiative reviewing transmission charging and associated connection arrangements.

Signature:

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Date: 10 January 2011

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Background Papers: Project Transmit response to call for evidence

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HIE
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Iomairt na Gàidhealtachd 's nan Eilean

Dear Stuart

Highlands and Islands response to Project TransmiT call for evidence

Highlands and Islands Enterprise (HIE) is the Scottish Government's agency responsible for economic and community development across the northern half of Scotland and the islands.

Renewable energy resources in HIE's area constitute the greatest concentration of potentially exploitable renewable energy resources in the UK. Indeed, the area has a long association with the production of renewable electricity given the existence of much of Scotland's large scale hydro which has contributed to the UK's electricity generation for a number of decades. The region is home to some of Europe's strongest sustained wind regimes along with some of the world's best wave and tidal regimes and is well placed to contribute to UK and European carbon reduction and renewable electricity generation targets *if* key regulatory barriers can be effectively addressed to facilitate deployment of renewable technologies. The Highlands and Islands are also well placed to contribute to the regulatory objective of security of supply by facilitating the deployment of a geographically dispersed, range of technologies which also makes economic sense in a wider context as demonstrated by the attached Scottish power report.

HIE along with its local partners: the democratically elected local authorities covering the north of Scotland and the islands: Shetland Islands Council, Orkney Islands Council, Comhairle nan Eilean Siar, Highland Council, Argyll & Bute Council and Moray Council make representations to key participants on behalf of industry to influence the way in which grid construction is triggered, underwritten then accessed and charged for in the region. We are working closely with Scottish Government in relation to a wide range of regulatory issues and are supporting its efforts to challenge barriers currently blocking renewables development across Scotland. . Included in our efforts have been responses to many industry consultations where experience has taught us that our joint response on behalf of seven partners tends to be counted as one. Given that this consultation this has potentially far reaching impacts for the Highlands and Islands, we hope that it will be given due recognition in terms of both weighting and 'headcount'.

The two main regulatory barriers to the development and deployment of renewables in the Highlands and Islands are:

1. The current transmission charging regime which leads to prohibitively high charges in the region
2. The current arrangements for connection and underwriting of new projects.

We therefore welcome Project TransmiT and the opportunity to share our views on the scope of the review with the caveat that if TransmiT does not resolve these fundamental issues, the ability of the Highlands and Islands to contribute to

We note that the energy sector today is very different to that when the current TNUoS-based regime was first conceived. TNUoS might seek to signal investment but, combined with the underwriting regime, we do not think it is successful in promoting it. Whilst the current regime may have been appropriate for a newly-privatised industry where there was scope for efficiency savings, it is arguably out-of-date for the investment challenges faced today. Levying higher charges for access and use of the transmission network on generators furthest from centres of demand was an effective signal when the UK had an over-supply of conventional generation and secure sources of fuel. However, we feel it doesn't fit with current UK policy objectives which require a fundamental shift to a more mixed and geographically spread energy supply, including a significant renewable energy element.

While renewable energy generation is currently highlighting some of the issues with the existing regime, there are other low carbon generation technologies on the horizon which will have similar difficulty in responding to locational price signals such as Carbon Capture and Storage and Nuclear.

We are aware of the contradictions between the Electricity Directive and the EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources but would like to draw attention to the advice from the hearing at the European Parliament last December which found that there is a clear political (as opposed to legal) case for transmission charging reform in the UK to better meet the requirements of the Directive and the delivery of 2020 targets. We hope that a more positive interpretation of the Directive can form the guiding principals for the review.

Our comments relate principally to the electricity sector, as this has been the focus of our work and electricity-generating projects are by far the bulk of projects being developed in the Highlands and Islands. Much of the area and around 48% of the population is also off the gas grid and our basic points of principle also apply to the gas networks. We note that the UK as a whole has challenging energy targets, and that renewable heat and biogas will also be important. We are concerned at the lack of growth in this sector, and we are looking forward to the introduction of the Renewable Heat Incentive (RHI).

The remainder of this response focuses on the questions posed in the call for evidence.

Connection arrangements

We urge Ofgem to treat connection arrangements with the same gravitas as charging as the two are of equal importance to generation projects in the Highlands and Islands. One of Ofgem's stated aims is to facilitate competition in generation and supply, however, in our view the current connection arrangements are not conducive to this. The call for evidence asks about *"the practical and commercial difficulties being faced by parties seeking to connect to and use the transmission networks"* of which there are a number of examples we can bring to your attention.

Under the grid access model being implemented by Government, a new generator or demand user seeking to connect to and use the transmission system will be able to gain full access to the transmission system once all the "enabling works" are completed. In the Highlands and Islands the capital costs of these enabling works are typically, and often prohibitively, large. For example, a transmission dependent project seeking to connect in Shetland would be faced with an underwriting liability for the full cost of a transmission connection, currently estimated at £547m.

In addition, projects are required to provide security for underwriting a grid connection four years from date of connection. This means that projects sited in the Highlands and Islands are regularly expected to provide significant security as it ramps up, prior to achieving financial close. This leads to a reduction in the number of operators with sufficient access to finance to deliver these projects and a resulting lack of competition in generation and supply in areas with high connection costs. For example, there are 26 projects of =50MW in operation, under construction or in planning in the Highlands and Islands but only 13 different operators which leads to a high incidence of repeat ownership. We will be happy to provide specific examples in confidence of where underwriting commitments have created an unnecessary commercial barrier to market entry by project developers in the Highlands who would otherwise be able to proceed with projects but are having to consider diluting ownership or outright sale of their projects. Underwriting in these cases is providing a commercial barrier to market entry which in provides a hindrance to facilitating competition in generation and supply.

The situation in the islands is exacerbated by the classification of enabling works, their relative distance from the MITS and the resulting costs attached to this interpretation. There are two recent, high profile examples of where the dual issues of charging and underwriting have prevented island generation projects from proceeding:

1. Bheinn Mhor Power has consent for a 118MW wind farm on the Isle of Lewis and was required to provide underwriting for a 2013 connection by the end of October 2010. Even if a resolution to the prohibitively high transmission charge estimates of £97.51/kW/pa could have been found, the project would not have been able to proceed on the basis that underwriting liabilities were too high.

2. Viking Energyis expecting to, this month, apply to move its grid connection offer back by 1 year to 2015 on the grounds that underwriting liabilities totalling 10s of £millions are required by the system operator at a point where the project is unable to sanction such guarantees.

We very much support further change to the underwriting regime. We are aware of work being undertaken by National Grid which looks at changing the basis of underwriting from full cover of spend to an assessment of the risk a generator poses.

Where the economically efficient choice is to build infrastructure which will, for a relatively short period, have excess capacity or 'headroom', the principle has been established from the current charging methodology that the short term cost of headroom should be socialised across all generation. The same principle could readily be applied to underwriting which would provide some reduction to the commercial barrier the current connection arrangements represent.

More fundamentally, we are also interested in learning from practices overseas – where consumers or the government share the risk of new transmission assets. For instance the US Federal government has a loan guarantee scheme to promote investments in the energy sector.

We feel that the connection and charging arrangements should be giving consistent and compatible signals. For instance it is difficult to understand why generators pay

27% of all transmission charges but can sometimes be asked to underwrite 100% of the costs pre-connection.

We suspect that it is very unusual – perhaps even unknown elsewhere – for generators alone to be asked to take on all of the risks and costs of building major new transmission lines to access new areas of major resource concentration.

Finally we would like to note that the implementation of Connect and Manage has made a very real and positive difference to many projects in other parts of Scotland and the UK and we very much welcome that. The policy is however limited in the extent to which it can help projects in the Highlands and Islands with savings of around 5% for projects on the mainland and virtually nil in the islands, where investment costs, user commitment, risk allocation and use of system charges remain the primary barriers to overcome.

Charging arrangements - Objectives

HIE agrees with the objectives of the review, namely "*to ensure that we have in place arrangements that 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.*" The objective is, on its own, very difficult to assess and so we would suggest developing some more specific objectives during the review.

For instance where investments can be shown to benefit consumers in the long-run, the connection and charging arrangements should be bringing forward investment. HIE acknowledges that it is not easy to identify unequivocally these investments. Some kind of assessment framework would however give investors some useful signals.

Current charging principles

Ofgem asks "*Whether the principles on which the current charges are derived remain fit for purpose given the new and emerging challenges that the energy sector faces. If not, evidence of why this is the case and suggestion of what alternative or additional principles should be adopted.*"

We take here that the current charging principles refer to National Grid's charging objectives in Condition C5 of its licence (cost reflectivity, promotion of competition and business reflectivity), as well as the additional principles in National Grid's charging statement (stability, transparency, practicality and charging based on incremental costs).

First and foremost we believe that the charging regime has to be compatible with the wider context in which the energy sector operates. Specifically government policy can and does have a major bearing on the economics of projects and we feel it is counter-productive to devise a charging regime in isolation of market support measures. Any reform of the charging and connection (underwriting) regime needs to be done taking full cognisance of market support measures and any potential future reductions, otherwise there is the risk that the positive impacts of reform could be undermined and compromise the ability of the Highlands and Islands to meaningfully contribute to carbon reduction targets.

There is an underlying theme that Ofgem feels it should reflect real-world costs and promote competition, and that if costs are too high, or if other desirable but non-monetary benefits are not realised, then it is government's job to address this.

For instance the 2008 Lords Economic Affairs Committee report on the Economics of Renewable Energy notes the Government's position on zonal losses that "*If the marginal generator* [required to meet Government targets] *is located in Scotland, then charging for transmission losses would increase the amount of support it required, and raise the amount of profit made by those generators in areas with lower transmission losses.*" Whether this requires Government support to be locational or transmission charging to be non-locational is debatable. However what is clear is that the charging regime and government support mechanisms are strongly interactive, and that consumers do not benefit from them being developed in isolation from each other.

HIE would like to see the charging principles and the charging methodologies themselves tested against the central objective of Project TransmiT to facilitate a low-carbon energy sector. For instance:

- The existing charging regime encourages generation to site close to existing networks. However much of the existing network was developed strategically for the mix of generation then being promoted. Low carbon networks will look very different and the charging regime should be incentivising this re-wiring project.

- Does the charging regime put GB users on a level playing field with European imports and exports, and promote interconnections that could improve security and stability of intermittent resources? HIE is very concerned that the current charging regime puts Scottish exports to centres of demand in England at a significant disadvantage compared to those from continental Europe. This is exacerbated by recent changes to the interconnector charging regime which exempts interconnectors from paying TNUoS.

- Why is there a preference in Ofgem and National Grid to charge incrementally? What exactly is this trying to achieve? How does this sit with large investments in shared assets that can last fifty years or more and benefit present and future system users?

- What does charging incrementally mean in practice? Offshore TNUoS is more or less the pro-rata annuitised actual cost of the offshore assets. Onshore mainland costs are derived from future marginal costs but factored by present-day revenue recovery which is unrelated to the future costs being signalled. It is difficult to see a consistent rationale here.

- Is it right to assume in setting TNUoS that all generators compete equally? Government policy is to promote a diversity of low carbon technologies, and to provide emerging technologies or sectors with relatively higher levels of support to overcome market barriers. This tends to reduce competitive pressure between technologies and enhance it within technology bands. Market support measures such as the Renewables Obligation are designed to stimulate activity in a range of renewables generating technologies and help overcome development barriers. They are not designed as a subsidy for high transmission connection and charging costs.

- Other policies might prescribe development in certain geographical areas, with questions on project size for instance – but not location – being left to the market.

- Emerging technologies cannot compete with established technologies. If the charging regime assumes all generators are equal it will not assist new technologies in connecting and hence inhibit market entry and future competition.

- In charging cost-reflectively, why focus on MWkm and hence distance as the main unit cost? Actual costs of transmission lines do not increase linearly with distance.

- Is it right to assume that negative charges serve the same purpose (for maintaining a differential signal) as a positive charge? Ofgem's policy appears to be that credits and charges serve a different function for demand but the same function for generation. We would question whether this difference in treatment is defendable, and / or whether payments can be viewed in the same way as a charge.

This is not an exhaustive list of questions for the review, but hopefully gives Ofgem a flavour for some of the areas in which we feel the existing and new regime proposals should be tested.

Charging arrangements – value for money

Similar to earlier comments, we would suggest the development of an assessment framework which can go some way towards measuring value for money. Some initial comments are that:

- Work by National Grid on the SQSS review suggests that over-investment in transmission is generally more cost-effective than under-investment.

- Charge volatility for most projects is either a tax or a windfall gain, achieving little for projects unable to re-locate.

- Front-loaded tariffs that do not recognise future long-term benefits do not provide value for money for future consumers (for example, hydro power is cheap, reliable and carbon free, benefiting consumers now some 60-70 years on from the massive capital-intensive project required to establish it).

- Alternative charging models overseas (e.g. Denmark and Germany) which have been developed specifically for the delivery of renewables and low carbon technologies and projects in remote locations apparently have not compromised economic efficiency. We suggest that the Regulator should refer to overseas examples (where the penetration of renewable electricity generation into the market has been much greater and quicker) when considering a new UK approach.

Facilitating low carbon generation

Ofgem asks whether the current arrangements "*facilitate appropriately the connection of low carbon generation including renewables*" asking for "*evidence of impacts of transmission charges on such generation.*"

Following recent events in the Western Isles, it should now be clear to Ofgem that high island TNUoS charges are not affordable. Even if the immediate hurdle of underwriting risk could be overcome, developers could not justify progressing on the basis of a £97+ charge.

Developers on the islands have already committed several million in development costs, and provided credit cover for pre-construction work on the subsea cable. Therefore lack of commitment is not the issue. It is simply that rising TNUoS estimates have made any further discussions of ongoing commitment untenable. If Ofgem would like any further or more specific evidence on the Western Isles, HIE would be pleased to facilitate this on request.

On the mainland, the impact of TNUoS on projects is less obvious but still present. Developers still have no certainty on the level of TNUoS and are impacted by system developments over which they have no control. Keeping abreast of regulatory change is a constant challenge, in particular for smaller community-based projects. For many there is an element of trust or faith that charges will remain reasonably flat, although in reality this is far from guaranteed by the methodology.

Small players are the most exposed to changes in cost allocation – they do not have a varied portfolio that might offset some of the impacts. Regulatory risk also increases uncertainty for their funders and so is very likely to increase finance costs, if not deter investment. Investors might try to understand the nature of the risk, but at present even National Grid and energy utilities struggle to accurately forecast transmission charges – so in this case improved understanding may not actually mitigate the risk!

The potential for TNUoS to be levied on distribution-connected projects is very serious, and difficult to understand, especially for those projects that clearly do not use the transmission system. Modelling undertaken for the DTI in 2005 to inform the use of Section 185 powers found that (a) distributed generation would be important in meeting targets and that (b) in many cases it would not be economic if TNUoS was levied.

Priorities for the review

HIE acknowledges that there are some very challenging issues to address in Project TransmiT. Our initial view at this stage is that fundamental reform is required, which will inevitably bring with it some major concerns around transition for existing users who have invested on the basis of the current regime. We believe that a key priority for the review should be to provide some ground rules and assurances to users that their existing investments will not be stranded by regime change. This should aid an open and principles-based discussion for the review.

We would welcome as part of TransmiT a review of National Grid Electricity Transmission's license objectives to reflect Government policy, sustainability and renewable energy & carbon reduction targets which would enable them to better facilitate the transition to the infrastructure required to support a low carbon generation future.

The review will also need to balance the need for timely progress through evolutionary change against the desire to have minimal disruption and a one-off

major regime change which 'fixes' all of the problems identified. Flexibility to implement solutions as and when they are identified is probably most important.

HIE supports interim changes to the underwriting regime where this facilitates earlier connections. We also support the use of Section 185 transmission capping powers where this can help projects earlier than reform of transmission charging. We believe that the updated evidence base required for implementing a cap should be set in train in parallel with Project TransmiT, and note that the same evidence will be very relevant to Project TransmiT.

Finally identifying and managing interdependencies with other energy sector initiatives should be prioritised. We would like the review to learn lessons from the past where reform of for instance the SQSS has stalled awaiting the outcomes of the Transmission Access Review, and latterly outcomes from the Transmission Price Control Review. We feel Ofgem is best place to maintain a managerial / co-ordinating role ensuring that momentum is maintained for all of the essential workstreams. Included in these are:

- The fundamental SQSS review
- The transmission price control review
- The energy market review

A useful first step would be to establish where transmission charging and connection arrangements link in to these other reviews. For instance the SQSS and the transmission price control both feed into the amount of revenue that charges must collect. The charges in turn influence the demand for new transmission and whether SQSS compliance is affordable. Innovation incentives proposed for the transmission price control review are intended to, *inter alia*, reward users for work on transmission charging methodologies – could this be relevant to work on Project TransmiT?

Finally, the Code Governance Review outcomes are coming into effect, and as Project TransmiT progresses we would ask Ofgem to consider any extra measures that can be taken to ensure that smaller players are effectively engaged. HIE and its' Local Authority partners have good links with the renewables and community renewables sector and would be pleased to assist with this.

We hope you find these comments useful and look forward to engaging fully and positively with the ongoing Project TransmiT process.

Yours sincerely,

Elaine Hanton
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Highlands and Islands Enterprise

In partnership with:
Shetland Islands Council
Orkney Islands Council
Comhairle nan Eilean Siar
Highland Council
Argyll & Bute Council
Moray Council