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Dear Anthony

**Ofgem – Electricity Transmission Charging
TRANSMIT - Assessment of options for change
RenewableUK consultation response**

About RenewableUK and our response

RenewableUK is the trade and professional body for the UK wind and marine renewables industries. Formed in 1978, and with over 660 corporate members, RenewableUK is the leading renewable energy trade association in the UK, representing the large majority of the UK's wind, wave, and tidal energy companies. Our members include supply chain companies both manufacturing and services; renewables developers & generators; and energy companies with renewables' portfolios. Some members may make their own responses to consultations where they have specific expertise, perspectives or interests that are wider than the wind, wave and tidal sector. It follows that not all members necessarily agree with or support the association's response. The association's response aims to represent wind, wave and tidal industries to the best of our ability, aided by the expertise and knowledge of our members.

Introduction

Our response references the Ofgem consultation document¹ and the supporting Redpoint report and spreadsheet² and our response³ with Scottish Renewables to the call for evidence.

Our response comprises: this Introduction, a Summary and 8 sections:

- a) Principle consultation question response
- b) Key issues
- c) Responses to Questions
- d) Conclusion
- e) Analysis of how stresses are addressed by proposals (Annex 1)
- f) Additional Detailed Comments (in Annex 2).
- g) Commentary on Ofgem's reasons for rejecting socialised charging (Annex 3)
- h) Consultation Feedback – Ofgem's Questionnaire (Annex 4)

Summary

RenewableUK supports the consideration of improved ICRP in the CUSC process, as a major change to transmission charging would not be appropriate at this stage with the coming of the European electricity market.

In particular improved ICRP should:

- recognise the implicit sharing of transmission assets by variable wind, wave and tidal generation with other generation sources; and
- treat HVDC converter stations in the same manner as AC substations. AC substation costs are recovered through the residual tariff element of the charges and so should HVDC converter stations.

We request that Ofgem issues such directions under its SCR.

RenewableUK has raised concerns about offshore charging impacting on onshore generation tariffs and about charging for coordinated networks offshore. We will address these issues in a separate paper as they are too new and intricate to consider in this SCR.

In order to reduce the cost to consumers of meeting low carbon targets, Ofgem and DECC should quickly facilitate access to the cost effective wind resources on the Scottish Islands. At the proposed levels of transmission charges and support mechanisms we do not foresee these projects coming forward.

A uniform transmission tariff⁴ has several advantages and can be made cost reflective when combined with other changes: so it should not be ruled out in future, however transitional arrangements would need very careful consideration.

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<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=173&refer=Networks/Trans/PT>

2 <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=174&refer=Networks/Trans/PT>

3 <http://www.scottishrenewables.com/publications/project-transmit-call-evidence/>

4 Also called postage stamp or socialised.

A. Principal consultation question

In our view the principal consultation question Ofgem is asking is: **which charging methodologies should be taken forward to the CUSC process?**

RenewableUK generally supports Ofgem's proposal to take forward the improved ICRP model into the CUSC process with some specific recommendations.

Ofgem's stated view is that **"an improved form of ICRP is the right direction for transmission charging"**. We welcome Ofgem's initial view "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". RenewableUK agrees that the proposal appears to be more cost reflective by recognising the implicit sharing of much transmission capacity between variable⁵ renewable generation and fossil fuel plant and therefore is better for variable generation such as wind; although for projects south of the Mersey there will be either no benefit or an increase in charges. We note further changes to the ICRP methodology are proposed and we request early sight of proposals so that we can evaluate these and give our final views.

We have analysed the options put forward by Ofgem against the "stresses" in the current methodology which we identified in our response to the call for evidence; that analysis (see Annex 1) shows that fully socialised⁶ charging has many advantages in resolving those stresses.

There are clearly advantages of socialised charging as identified in Annex 1, in addition there is improved certainty of hitting the 2020 targets, plus the methodology would be simple and charges would be less volatile therefore more predictable, clear and transparent.

We do not agree with Ofgem's logic for rejecting socialised charging (see Annex 3). However, we do not think that socialised charging should be considered for implementation in the forthcoming SCR⁷ CUSC process. Our reasons for not considering socialised charging at this stage are as follows:

- Ofgem has restricted the number of changes it has allowed to be brought forward under project TransmiT to just two options with one variant each. There are other options which could be considered to identify the best options for long term change.
- The European electricity market is in progress under the third package and may result in changes to transmission use of system charging. Charging for transmission

⁵ Known as "intermittent" in industry parlance.

⁶ We prefer the term "uniform tariffs".

⁷ SCR – Significant Code Review.

in GB should not undergo significant change until it is certain that such change will be aligned with Europe and not subject to further major changes.

- Socialised charging would be a major change compared to the current methodology and would create winners and losers. The treatment of these different users would need very careful consideration which would take considerable time and resources with the associated uncertainty.

B. Key issues

Our key issues are as follows with additional information in the question responses and in Annex 2.

1. **Compliance with EU directives and third package.** Our call for evidence referenced EU directives. We expect the directives to be taken into account in the consultation and to be addressed. Ofgem should direct the CUSC process to address this shortcoming.
2. **Charges for local assets offshore and offshore coordination.** Although it is not an issue for current offshore projects with the current support mechanisms, we have raised concerns about the long term impacts of local charges for offshore on the relative costs of onshore and offshore generation and the greater uncertainty as offshore networks utilise increased coordination. We do not expect this issue to be resolved at this stage but want to ensure that this long term issue is recognised. RenewableUK will digest National Grid's recent paper on charging for offshore coordinated networks and provide a further assessment of this issue
3. **Redpoint modelling and sensitivity.** The Redpoint modelling is a significant piece of work but is devalued by lack of sensitivity analysis. There are some serious concerns with regard to the assumptions and inputs which could potentially change the conclusions and which we are unable to evaluate due to the lack of sensitivity analysis. Further comment on these issues is in Annex 2.
4. **Offshore wind cost assumptions.** The strike prices for offshore wind in the Redpoint model are £128-137/MWh in 2020, whereas the DECC offshore wind cost reduction task force⁸ has a target of £100/MWh target by 2020. In our view the

⁸ http://www.decc.gov.uk/en/content/cms/meeting_energy/wind/offshore/owcrtf/owcrtf.aspx

conclusions of the Redpoint work could be very different if £100/MWh was used in the sensitivity analysis.

5. **Interconnectors.** The Redpoint model does not consider the levels of interconnection which we expect in 2030. No sensitivity to this effect is available. In particular, there is only one interconnector to Norway which is connected in the North East of England. There is at least one interconnector proposed to connect at Peterhead in North East Scotland. An interconnector at Peterhead would have a significant impact on north south constraints and market prices as it would be exporting to Norway in high winds (relieving North South flows) and importing during low wind periods reducing peaking gas generation costs.
6. **European Market Integration.** Ofgem have stated that they “identified a spectrum of emerging options” for charging in Europe and that “the exact form of these changes and the scale of their impact on transmission charging in GB is uncertain at this time”. Ofgem have not expanded on these options or provided any analysis or commentary and yet Ofgem state “Improved ICRP appears more consistent with the direction of travel of EU policy “. We do not understand Ofgem’s conclusions or the contradictory statements on GB charging and its integration into the EU target model. In addition we would expect the high levels of constraints identified in Redpoint’s modelling to result in some market splitting under the EU target model which would then completely change the outcome of the modelling. We conclude that the GB charging model may be subject to future change as part of the EU electricity market.
7. **G:D Split.** We note that the G:D split will need addressing to meet EU regulations. The sooner this is addressed and flagged the better so that contracts can be adjusted and disruption to market participants minimised.
8. **Islands charging.** The improved ICRP model makes only a marginal difference to charging on Scottish islands, with a modelled charge⁹ of £77/kW/annum on the Western Isles. This level of charge and the uncertainty with regard to future changes makes the economics of onshore wind projects extremely challenging and does not assist the establishment of the UK’s nascent wave and tidal sector. Because of the scale and cost effectiveness of onshore wind generation in the Scottish islands, it would be a significant benefit to consumers to bring forward this resource to contribute to both 2020 targets and 2030 decarbonisation. Something needs to change to access the wind resources on the islands. That change must either be to the support mechanism or to the charging methodology; which can take account of

the special and unique circumstances on the Western Isles, Orkney and Shetland. Changes to the support mechanisms (e.g. ROCs, FITs and CfDs under EMR) would take significant time and new legislation. Ofgem should consider the benefits and costs to the consumer of the two courses of action and direct the SCR accordingly.

9. **Transitional arrangements.** There is a dearth of any explanation on timing or transitions for any changes. Ofgem needs to provide a discussion or proposals in order to minimise disruption and to understand the impacts of the proposals.

⁹ There was considerable disagreement at the Ofgem TransmiT Working Group on what the Status Quo for island charging is. In our response to the call for evidence we have presented a wide range of charges that have been proposed.

C. Consultation Questions

CHAPTER: Four

Question 4.1: Do respondents consider that we have appropriately identified and where possible quantified the impacts of the Project TransmiT options?

There has been a significant amount of work to quantify the impacts however our comments in Sections A, and B above indicate where there is uncertainty.

Question 4.2: Do respondents consider that there are additional impacts which we should take into account in the decision making process and, if so, what are these?

Our comments in Sections A, and B above indicate where there are additional impacts which should be considered including costs to the consumer for different options for the Scottish Islands.

Question 4.3: Do respondents consider that we have appropriately identified the potential interactions of the Project TransmiT options?

We assume that the question means interactions between transmission charging and low carbon generation support schemes. As we have identified in Annex 4 Government support mechanisms already take account of costs of different sources of generation in different locations and technologies. Transmission charges are another factor in the costs.

Question 4.4: Do respondents consider that we have appropriately identified the likely impacts and consequences of these interactions?

Redpoint have modelled one view of costs and set support mechanisms accordingly. Elsewhere in this response we have requested sensitivity analyses to understand the impacts if costs change from current predications.

CHAPTER: Five

Question 5.1: Do respondents consider that we have appropriately identified and taken account of the key sustainability issues?

We note that "the socialised approach reduces the risk of not meeting the UK government's 2020 renewable generation¹⁰" for any particular level of support. In our view certainly in meeting 2020 targets will also have an impact on the 2030 decarbonisation goal as early deployment will drive the renewables supply chain and reduce costs.

We note that ICRP improves the chances of meeting 2020 targets compared to the Status Quo.

In our view the benefits of meeting the 20% renewable energy target in the wider economy have not been considered (e.g. the risks of the heat and transport sectors only delivering at higher costs) so that the benefits of both improved ICRP and socialised charging in this respect have not been fully accounted for.

¹⁰ Ofgem Consultation section 6.14.

Question 5.2: Do you think there may be long term and strategic benefits associated with the development of HVDC technology, in particular the treatment of converter station costs for links that parallel the AC network, which Project TransmiT modelling has not fully considered because of the timeframe of the modelling (i.e. 2030) and the limited nature of the bootstrap options?

There are long term and strategic benefits of HVDC technology. These benefits will be utilised in several sectors including bootstraps, interconnectors, and islands connections and connecting offshore renewable generation.

Question 5.3: Do you have any supporting evidence for a different treatment of the converter station costs for the planned bootstrap HVDC options?

Converter stations are no different from a charging perspective than AC substation assets. They both change and control the physical properties of the electricity that is being transported in order to minimise the cost per MWkm of doing so. AC substation costs are recovered through the residual tariff element of the charges. Incorporating the HVDC converters into the cable cost of the HVDC assets is inconsistent with this approach and so HVDC converter stations should be treated as AC substations.

E. Conclusion

We support the consideration of improved ICRP in the CUSC process, as a major change to transmission charging would not be appropriate at this stage with the coming of the European electricity market.

In particular improved ICRP should:

- recognise the implicit sharing of transmission assets by variable wind, wave and tidal generation with other generation sources; and
- treat HVDC converter stations in the same manner as AC substations as converter stations are no different (from a charging perspective) than other AC substation assets. They both change and control the physical properties of the electricity that is being transported in order to minimise the cost per MWkm of doing so. AC substation costs are recovered through the residual tariff element of the charges and so should HVDC converter stations.

We request that Ofgem issues such directions under its SCR.

RenewableUK has raised concerns about offshore charging impacting on onshore generation tariffs and about charging for coordinated networks offshore. We will address these issues in a separate paper as they are too new and intricate to consider in this SCR.

In order to reduce the cost to consumers of meeting low carbon targets, Ofgem and DECC should quickly facilitate access to the cost effective wind resources on the Scottish Islands. At the proposed levels of transmission charges and support mechanisms we do not foresee these projects coming forward.

A uniform transmission tariff¹¹ has several advantages and can be made cost reflective when combined with other changes: so it should not be ruled out in future, however transitional arrangements would need very careful consideration.

We look forward to the feedback on our response and welcome further engagement with OFGEM in these matters and look forward to working together with our members to improve the operation of the transmission charging regime

Yours sincerely,



Guy Nicholson Head of Grid for RenewableUK,

¹¹ Also called postage stamp or socialised.

ANNEX 1 - Assessments of Ofgem options against stresses identified in RenewableUK response to TransmiT call for evidence

RenewableUK Assessment of Ofgem TransmiT Proposals -											
SCHEMES		Are the Stresses addressed? (see response to call for evidence)									
		2	3	4	5	6	7	9	10		
		Off-shore vs. on-shore	HVDC Bootstraps [4]	Islands	DG	Inter-connectors & international parity	Storage and Peaking plant	Co-ordinated off-shore network	High charges for wind at 35% LF	High charge in North of GB	
Differences from Ofgem Schemes are outlined	Ofgem proposed schemes in yellow										
IICRP pre 1 April 2015	IICRP	See below [1]	No	insufficiently[5]	n/a	n/a	Depends	no	depends	partly	
IICRP post 1 April 2015	IICRP with G:D 27/73 IICRP with G:D 15/85	No magnified[2]									
	Socialised	Yes	yes	Yes	n/a	no	Depends	yes	depends	yes	
	Wider only Socialised	No	yes	No	n/a	no	Depends	no	depends	yes	
	IICRP X HVDC converters	[3]	partly	insufficiently[5]	n/a	n/a	Depends	no	depends	partly	
Notes		1 To assess this stress we must consider pre and post the change in G:D split 2 Effect of onshore vs. offshore differential is magnified as G% is reduced 3 Same as IICRP above 4 The stress assessed here is about HVDC bootstraps and not about HVDC links used in offshore windfarms 5 W Isles charges drop under ICRP - but charges of £77/kW compared to £10/kW for north of Scotland is still not a solution.									
Colours	magnified	An existing stress is magnified									
	depends	Some projects will benefit (e.g. in north) others will be negatively affected (e.g. in south)									
	insufficiently	Change is beneficial but not sufficient to remove the stress									
	partly	The stress is reduced									
	partly +	The stress is reduced further									
	yes	The stress is solved or removed									
	No	The stress is not addressed									
	n/a	The scheme is not relevant to the stress identified									

ANNEX 2 -Detailed comments on modelling

Assumptions used in the Redpoint model

We have noted our concerns (Section B above) about the absence of any sensitivity analysis in the Redpoint model and some of the assumptions particularly with regard to interconnectors and price of offshore wind. There are other areas where we have concerns about the assumptions which we raise because there is no sensitivity analysis.

We have significant concerns regarding the modelling of renewables using technology and regional / zonal parameter averages. In our view this high level modelling cannot predict site specific and project specific responses. Previous experience of forecasting PV costs to develop feed in tariffs shows how such forecasting can be result in difficulties for policy makers.

We note that Redpoint have used highly optimistic timescales for nuclear build with planning & build timescales of 7 years (Table 23). We note that the PB Power report¹² referenced by Redpoint (Page 21) has timescales of 10 years to 14 years. Whilst we recognise that Redpoint assume some preliminary development takes place outside their model timescales, the construction and development timescales appear highly optimistic. We are commenting on these numbers as renewables have lower lead times and we are concerned that the relative costs have been fairly modelled.

The CfD prices for nuclear used by Redpoint are stated in Tables 14-16. It is not clear how these prices are used. We assume that a CfD struck in 2014-16 for a nuclear project would first generate in 2020-2022 i.e. 5 years later. In which case the prices stated in the tables for 2026-28 and 2029-30 are redundant as they are never used. We would like to have confirmation about which prices have been used.

Redpoint assume that nuclear costs will fall faster than onshore wind (table 14); we question this assumption when technology commissioning rates for wind globally are some four times¹³ greater than nuclear and wind capacity deployment is growing at a much faster rate.

¹² PB Power, Electricity Generation Cost Model – 2011 Update, Study for DECC (June 2011)

¹³ http://iea.org/papers/2011/CEM_Progress_Report.pdf table 1 Wind ~40GW per annum growing at ~25% per annum and nuclear ~ 10GW/ annum growing at <5% per annum.

Annex 3 commentaries on reasons for rejecting socialised option

Ofgem is “consulting on ruling out socialised charging as an option for transmission charring” because according to the consultation document:

1. The cost of certainty of meeting targets is “disproportionate”;
2. Regional patterns of poverty are exacerbated;
3. Risk of straying into government policy on low carbon support mechanisms.

With regard to the reasons for rejection we note that:

1. In RenewableUK’s opinion increased renewable energy insures consumers against unpredictable and uncontrollable global fossil fuel price rises as evidenced by Ofgem’s project Discovery. The extra costs predicted for socialised charging appear to be largely a function of the assumptions on the relative costs and levels of deployment of nuclear, CCS and renewables. There is no sensitivity analysis even though no-one can accurately predict future costs. Although absolute cost changes are stated there is no calculation of “proportionality” as overall costs are not stated. Therefore, the claim that the costs are “disproportionate” is not substantiated and no evidence is provided¹⁴. The government’s 2020 target is for 15% of energy and renewable electricity is only one part of meeting that target. Therefore a complete analysis of the benefits, reduced risks and alternatives is needed before the objection could stand.
2. RenewableUK is concerned about fuel poverty and has the view that renewable energy will help protect more future consumers from fuel poverty by reducing exposure to volatile global fossil fuel prices. Ofgem is right to consider the impact of any changes on fuel poverty, however such analysis is necessarily uncertain and Ofgem have not assessed this impact alongside other uncertainties, in particular fossil fuel price volatilities. A high renewables scenario can protect the future consumers against increasing fuel poverty due to risks in fuel prices, nuclear delays, and uncertain prospects for CCS.
3. Government support mechanisms will inevitably take account of costs of different sources of generation in different locations and technologies. Support is already greater for some technologies which are under development; greater for smaller projects to recognise costs; greater for offshore, partly to recognise higher transmission costs. TransmiT must inevitably deal with these issues, as it has done with Redpoint by modelling various levels of support mechanisms.

¹⁴ In a communication from Redpoint the power sector costs of Socialised charging increase by 1.7% 2021-2030. In our view this change is much smaller than potential sensitivities to fuel costs and other cost changes and is not a sufficient case against this charging model.

We therefore disagree with Ofgem's reasons for concluding that socialised charging should not be explored further.

For future reference when charging changes are next re-examined that examination should include:

- Comparison of the extra costs under socialised charges to other costs (e.g. in heat and transport sectors) that may be needed to meet targets.
- Comparison of changes to consumer bills under socialised charging with total costs of consumer bills and compared to potential changes to consumer bills due to fossil fuel price volatility.
- Consider socialised charging with other factors to add cost reflectivity e.g. loss adjustment factors.
- Consideration of retaining status quo for demand charges as there are already significant differences in generation changes and demand changes. E.g. north of Scotland has ~5-6 generation zones for one demand zone. So the concept on 14 demand zones for one generation zone cannot be out of the question.

ANNEX 4 Consultation Feedback

1.1 Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?

We welcome Ofgem's inclusive approach with industry involvement in the process. The timescales involved however, have been too long leaving increased uncertainty. The complex and far reaching modelling undertaken by Redpoint to assess the proposals has no sensitivity analysis which would help understanding of potential unintended consequences and risks of the different options. Ofgem constrained the industry working group (against its wishes) to only 2 variations from the Status Quo which severely constrained innovation, analysis and understanding. In this first consultation Ofgem now propose adding more options. These options would have been welcome earlier in the process to reduce delay and uncertainty.

2. Do you have any comments about the overall tone and content of the report?

We have no comments on the tone. The content of the report should have been wider to reflect and put in context the earlier work by academics, and the comments received in the call for evidence.

3. Was the report easy to read and understand, could it have been better written?

The questions in the report did not deal with the substantive decisions and options and were more peripheral. The questions are poorly drafted, unclear and difficult to understand and answer.

4. To what extent did the report's conclusions provide a balanced view?

The conclusions are not well argued nor is evidence provided to support them. Only partial or selective information is provided.

5. To what extent did the report make reasoned recommendations for improvement?

The recommendations (whether reasonable or not) were not well reasoned and substantiated.

6. Please add any further comments?

The consultation did not consider or review relevant European Directives and Laws and as a result did not assess the options or make recommendations taking these into account.

1.2. Please send your comments to:

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