

**ADJUSTING TRANSMISSION
CHARGES FOR RENEWABLE
GENERATORS IN THE SCOTTISH
ISLANDS UNDER SECTION 185 OF
THE ENERGY ACT 2004.**

**GOVERNMENT STATEMENT AND CALL FOR
VIEWS ON EVIDENCE BASE**

ADJUSTING TRANSMISSION CHARGES FOR RENEWABLE GENERATORS IN THE SCOTTISH ISLANDS UNDER SECTION 185 OF THE ENERGY ACT 2004.

Executive summary

1. Section 185 of the Energy Act 2004 gives the Secretary of State the power to adjust transmission charges for renewable generators in a specified area of Great Britain. The power can be exercised if renewable development in that area would be likely to be deterred or hindered in a material respect by the level of transmission charges that would otherwise apply.
2. The Energy Act power was taken to address concerns that the introduction of a GB-wide cost reflective charging regime for the transmission network on 1 April 2005 might hinder the development of renewable generation in North of Scotland.
3. The Government indicated, in March 2005, that it was minded to develop an adjustment scheme to support renewable generation in the Scottish islands of Shetland, Orkney and the Western Isles. A consultation was launched in July 2005 - [Adjusting transmission charges for renewable generators in the north of Scotland consultation](#). This sought views on whether such a scheme should also be extended to any part of mainland Scotland and on the level of the discount on transmission charges.
4. Before making a scheme, the Government must be satisfied that the scheme is likely to result in an increase in renewable generation on the Scottish Islands.
5. The Act provides that any shortfall in transmission charging revenue because of a section 185 scheme must be recovered from electricity suppliers. It is envisaged that the increased charges will be passed on to electricity consumers, who will ultimately bear the costs of any scheme. Therefore, the Government also needs to be satisfied that a scheme provides a beneficial and cost-effective way of supporting additional renewable generation.
6. Last year the Government commissioned a team of consultants to provide an understanding of the difference in the economic position of developing wind farms in the Scottish Islands relative to alternative locations in the North of Scotland, and how any scheme may affect the relative economics of island wind farm projects. This study provides much of the evidence-base needed to inform the debate as to whether a section 185 scheme should be made.

7. The focus of this project was on electricity generation using wind farm technology on the Scottish Islands of Orkney, Shetland and the Western Isles to 2024, the latest point at which section 185 provides that a scheme must expire. The consultants estimated evidence based costs and revenue streams of constructing and operating wind farm projects in different locations. They were also asked to provide a clear analysis of the overall internal economics of wind farm projects in the Islands relative to an appropriate Scottish mainland comparator, and of the impact of alternative transmission charging regimes on overall project economics and the likely development of schemes on the Islands. The analysis was intended to inform the debate as to whether, in the absence of a section 185 scheme, transmission charges would be likely to deter, or otherwise hinder in a material respect, development of renewable generation on the Scottish islands.

8. The analysis suggested potential returns to investors on Shetland and Orkney much greater than comparable areas such as the North of Scotland where development of similar projects is already underway. This suggests that a section 185 scheme will not be required to make these projects viable. While the economics of projects situated on the Western Isles was less favourable, the case for a section 185 scheme was still only marginal.

9. This was not the outcome anticipated by Government given earlier work on section 185. A second consultant was consequently engaged to provide an assessment of the data used in the original study.

10. It was the second consultant's opinion that the original assumptions were reasonable. As recommended by the second consultant, some of the original sensitivities were tested. This again suggested that the overall conclusions were sound.

Conclusion

11. On the basis of these findings it is the Government's opinion that there is no case to proceed with a section 185 scheme for Orkney or the Shetlands, and that there may be a marginal case for a scheme for the Western Isles. The Government is therefore minded not to try to develop a section 185 scheme for the Shetland and Orkney Islands. The Government is also minded to postpone the decision on whether to develop a section 185 scheme for the Western Isles until after the Renewable Energy Strategy consultation to ensure any decision is taken in the light of new support for renewables resulting from that consultation.

12. The purpose of this statement therefore is to seek views on the Government's proposed approach and the validity of the evidence base

being published at the same time. Where respondents disagree with the evidence it would be useful if specific data that demonstrates why it is wrong could be provided.

Renewable Energy Strategy

13. The Government has recently published a consultation on developing a new UK Renewable Energy Strategy (RES) - www.berr.gov.uk/renewableconsultation .

14. The power to make a section 185 scheme is concerned with addressing a hindrance to development caused by high transmission charges. The analysis published with this statement suggests that the key difficulties for Island-based renewable projects are not being caused by transmission charges, but other practical issues including planning and supply chain constraints. This suggest that the section 185 power is not the right instrument for supporting the development of renewables on the Scottish Islands - indeed, in the absence of evidence that transmission charges are causing a material hindrance to that development, the Government has no power to make a scheme.

15. Bringing forward renewable projects to meet environmental targets is fundamental to the Government's climate change policy. If the challenging 2020 target is to be met the right regulatory framework must be in place. The Renewable Energy Strategy consultation clearly demonstrates the Government's commitment to supporting renewables across the country by putting in place the necessary support mechanisms and creating the right regime. This includes addressing the major non-financial constraints to renewable deployment, including issues such as planning and supply chain constraints.

16. The Government and Ofgem have also published the final report of the Transmission Access Review. The report sets out steps to improve grid access for new generators including measures to accelerate connections in the short term, to deliver wider access reform and to take urgent steps to plan for essential new investment in the transmission network.

Policy Background

Why was section 185 introduced and what does the power mean?

17. The 2004 Energy Act extended the New Electricity Transmission Arrangements to Scotland. This change - which created the British Electricity Trading and Transmission Arrangements (BETTA) – introduced, for the first time in Scotland, cost-reflective transmission charging. This is where users of the transmission system pay according to the cost of transmitting the electricity. Government believes this cost reflective system is a sensible basis for charging, so that operators take account of the true cost of transmitting electricity.

18. The introduction of BETTA has also brought important benefits to renewable generators in Scotland. In particular, it brought easier and cheaper access to the full GB market, enabling them to get the best price for their power. Additionally, it removed the charges for using the Anglo-Scottish interconnector.

19. However, in 2004, in response to feedback from stakeholders, the Government recognised that it may be necessary to ease the transition to BETTA in certain remote areas of Scotland to avoid preventing or delaying the deployment of renewables. The Government, therefore, proposed section 185 as a transitional provision.

20. Section 185 gives Ministers a discretionary power to adjust transmission charges if there is an area of Great Britain that has significant potential for renewable development, but that development would be likely to be deterred or “hindered in a material respect” by the level of transmission charges.

21. The Act provides that any shortfall in transmission charging revenue because of a scheme must be recovered from electricity suppliers. The costs of any scheme will therefore be passed on by suppliers in higher charges to electricity consumers. So the Government must not only be satisfied that high transmission charges are hindering development in a material respect. It also needs to be satisfied that the extra renewable generation delivered as a result of the scheme will be of a sufficient level to justify the additional cost to consumers.

22. Section 185 was amended in the Climate Change and Sustainable Energy Act 2005 to provide an extended end date for any scheme to 4 October 2024. The specific reason for extending the end date was that the ten year lifespan of the clause originally started with commencement of section 185 giving a final date for the termination of any scheme of October 2014. Had this stood, section 185 would have been virtually

redundant given the remote chance of any potential projects being built and connected early enough to benefit from a scheme.

Progress since the 2005 Consultation

23. The March 2005 consultation was about two things – the impact of section 185 on renewables development on the islands and whether to extend the power to the mainland. The outcome of the consultation on the latter point was that there was no reason to extend the scheme to the mainland. Because of a lack of clarity about the way forward, a formal Government response was not published.

24. Alongside this statement, Government published a summary of the responses received to the 2005 consultation [Adjusting transmission charges for renewable generators in the north of Scotland consultation](#) that sought views on whether a section 185 scheme should extend to any part of mainland Scotland and the level of the discount on transmission charges.

25. During the intervening three years, the Government has remained committed to making a scheme provided that the evidence showed that it was appropriate. In 2005 it was clear that no projects would be in a position to benefit from a scheme until 2014, and even this date was dependent on the infrastructure being in place and therefore subject to revision. Further analysis on newly available cost and performance data was required before we could assess whether the Government had grounds to make a scheme, in the light of the tests in the legislation. The make-up of any scheme would also be dependent on a number of external decisions that are the subject of on-going processes, including National Grid's Security and Quality of Supply Standard review.

26. Subsequently Government has used the intervening time to gather data of a much more robust nature than was available in 2005 in order to demonstrate whether the conditions for making a scheme were. Much of the necessary technical and costs (such as data on load factors for different locations in Scotland) information either did not exist until recently or is continuing to evolve.

27. Government commissioned IPA Energy (see report at published alongside this statement) to undertake a study in order to establish an evidence base as to whether, in the absence of a section 185 scheme, transmission charges would be likely to deter, or otherwise hinder in a material respect, development of wind farm generation on the Scottish islands. The study looked at island wind farm economics relative to an appropriate Scottish mainland comparator where a wind farm would be demonstrably viable. It was also intended to provide evidence to help develop the methodology required to define and draft a section 185 scheme if the evidence supported the making of a scheme.

28. In carrying out their study, IPA interviewed all the key stakeholders, including developers of wind farms on the Islands and mainland, National Grid as “owners” of the transmission charging methodology and SHETL (a subsidiary of Scottish and Southern Energy), the owner of the transmission system in the north of Scotland currently developing proposed links between the Islands and the National Transmission System. In particular, IPA looked to identify the differences in the project economics between developments on the mainland and on the Islands. During this process, many developers indicated that a section 185 scheme would be important and some identified it as the single most important factor. They were all of the opinion that a decision on the future structure and level of any scheme was critical and want a decision made quickly. Contrary to these claims, IPA’s findings did not support the idea that a section 185 scheme was crucial.

29. Given the position of many developers and in the light of previous statements that Government was committed to developing a scheme, a second independent consultancy, E-connect, was commissioned to undertake a “peer review” of the input assumptions IPA used in their study to assess whether their findings were reasonable and realistic. E-connect’s report (published alongside this statement) confirmed IPA’s input assumptions. As part of their review, E-connect suggested that IPA’s findings should be looked at again using higher capital costs and lower load factors. IPA’s findings continued to suggest high IRRs even after running these alternative “worst case” assumptions through the analysis. Independently IPA also re-confirmed the transmission cost data with National Grid and SHETL.

30. Government is now at a stage where we can make this statement with a degree of confidence not previously available given this new and more robust data. To have further confidence however we are taking this opportunity to consult on the evidence base published alongside this statement.

Proposed next steps

31. In the light of the analysis being published today, the Government is minded to take the approach:

- a. Not to develop a section 185 scheme for the Shetland and Orkney Islands.
- b. Postpone the decision on whether to develop a section 185 scheme for the Western Isles until after the Renewable Energy Strategy Consultation.
- c. Seek views on (a) and (b) and the evidence base used to reach these conclusions.

Rationale for decision

32. IPA's analysis shows that there is no case for a section 185 scheme on the Shetland and Orkney Islands, as they have not found evidence that there is any hindrance to windfarm development in those places. The report suggests that the much higher load factors than on the mainland (i.e. significantly higher and consistent wind speeds) will more than compensate for increased capital and operating costs that developers may face on those islands. Estimated internal rates of return (IRR) for the Shetlands and Orkney for a 150MW wind farm are 40.3% and 40.5% respectively for double circuit connections (and even higher for a single circuit connection for Shetland), compared to an IRR for an equivalent project on the Scottish mainland of 14.6%.

33. We have subsequently used sensitivities on IPA's data to look at projected IRRs using a combination of the highest transmission cost assumptions with the lowest wind speed assumptions. Even with the most pessimistic assumptions the IRR for the Shetlands and Orkney are 21% and 17.5% respectively.

34. To put these IRRs into context the table at annex A shows the hurdle rate IRR assumptions for on-shore wind farm development used by the Redpoint-led consultants on the Implementation of the EU 2020 Renewable Target in the UK Electricity Sector. Under various policy scenarios these range from 8.1% to 11.9%. For comparison, the consultants' hurdle rate assumptions for offshore wind are 8.5% to 13.2%, and for wave and tidal 9.2% to 14.6%

35. The sensitivity testing we have carried out clearly shows that a case for adjusting the transmission charges cannot be made for the Shetlands and Orkney, and that IPA's conclusions are robust.

36. IPA's findings did however indicate that there might be a marginal case for a section 185 scheme for the Western Isles with projected a projected IRR of 13.2% assuming a single circuit connection and 9.5% for a double circuit connection. More work, however, would be required to determine whether (and if so the extent to which) projects on the Western Isles were likely to be held back, and whether it is transmission charges which are likely to be responsible for any hindrance. In particular, a decision on whether to build a single or double circuit connection to the mainland will impact on the case placing an additional, and potentially decisive, uncertainty on whether a scheme for the Western Isles should be made.

37. Further detail can be found in the executive summary to the IPA report. This shows the projected IRR for a number of scenarios in the Western Isles, Orkney and the Shetlands.

38. Clearly given the nature of forecasting Government does not claim that these reports can give perfect information. However, following the additional step of the “peer review” Government is comfortable that the two reports provide us with the best possible information at this time and give a significantly more robust picture than was possible in 2005.

39. There remain two other elements that may affect the ultimate accuracy of IPA’s findings:

- (i) Ofgem has identified two options for establishing links between the Scottish Islands and the mainland – the links could be built by SHETL or potentially opened up to competition. In 2007, Ofgem approved funding for SHETL to take forward pre-construction works on its proposed links to Shetland and the Western Isles, and issued a consultation to seek views on the options it had identified. Ofgem is expected to publish the outcome of this consultation in the near future. The outcome of this consultation will potentially bring future connection costs down, further weakening the case for a section 185 scheme to compensate for high transmission charges. It could also demonstrate that IPA has not used high-end assumptions to reach their conclusions.
- (ii) National Grid is leading a separate review of the security standards (the “GB SQSS Review”). It will examine, among other things, the relevant security standards to be applied to transmission infrastructure for renewables, as opposed to conventional generators. In particular it will determine whether the additional security provided by a double circuit connection warrants the extra costs this would inevitably entail.

40. Government continues to keep in close touch with both Ofgem and National Grid to ensure we can share information as it becomes available. It is however almost certain that neither review will radically change IPA’s conclusions – indeed any changes are likely to reinforce IPA’s findings in a way that makes the case for a section 185 scheme even less more favourable.

Call for Comments

41. BERR invites views on any aspects of this statement, in particular whether the proposed approach in delaying making a decision for the Western Isles is the right one. We would also welcome views on the two economic reports published as annexes to this study. It is important that the data underpinning the Government’s approach is the best available.

42. The deadline for responses is 26 September 2008. When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding as a representative body, please make clear who the body represents and, where applicable, how the views of members were assembled. A written response can be submitted by post, fax or e-mail to:

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Questions about the policy issues raised in this document or the associated annexes should also be sent to this address.

What happens next?

43. Following the deadline, the Government will consider responses and publish a formal response within three months.

Confidentiality and data protection

44. Your response may be made public by BERR. If you do not want all or part of your response or name made public, please state this clearly in the response. Any confidentiality disclaimer that may be generated by your organisation's IT system will be taken to apply only to information in response for which confidentiality has been requested.

45. Information provided in response to this statement, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes (primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1998 and the Environmental Information Regulations 2004). If you want other information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply, and which deals, amongst other things, with obligations of confidence.

46. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

Example calculated hurdle rates for different technologies, 2010 from Redpoint analysis for Renewable Energy Strategy.

Technology	Extended RO	Standard FIT	FIT/Tender
Onshore wind (High)	9.1% - 11.5%	8.1% - 9.7%	8.1% - 9.7%
Onshore wind (Medium)	9.4% - 11.9%	8.3% - 10.1%	8.3% - 10.1%
Onshore wind (Low)	9.1% - 11.3%	8.3% - 9.9%	8.3% - 9.9%
Offshore wind (High)	10.2% - 13.2%	8.5% - 10.5%	9.4% - 12.2%
Offshore wind (Low)	10.0% - 12.8%	8.7% - 10.9%	9.6% - 12.8%
Biomass regular	10.0% - 13.4%	7.7% - 9.6%	7.7% - 9.6%
Biomass energy crop	10.1% - 13.7%	8.1% - 10.2%	8.1% - 10.2%
Biomass CHP	11.5% - 15.7%	9.7% - 12.6%	9.7% - 12.6%
Wave	10.2% - 13.2%	9.7% - 12.5%	10.5% - 14.0%
Tidal Stream	10.7% - 14.1%	10.0% - 13.1%	10.9% - 14.6%
Tidal Range	9.7% - 12.3%	9.2% - 11.6%	9.7% - 12.5%
Biowaste	10.9% - 14.1%	9.9% - 12.9%	9.9% - 12.9%
Biogas	10.2% - 12.9%	8.9% - 10.9%	8.9% - 10.9%