



Scottish Council for  
Development and Industry

## POLICY SUBMISSION

### GB ECM-17 TRANSMISSION CHARGING – A NEW APPROACH

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SCDI is an independent and inclusive economic development network which seeks to influence and inspire government and key stakeholders with our ambitious vision to create shared sustainable economic prosperity for Scotland.

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## Transmission Charging – A New Approach

1. SCDI is an independent membership network that strengthens Scotland's competitiveness by influencing Government policies to encourage sustainable economic prosperity. SCDI's membership includes businesses, trades unions, local authorities, educational institutions, the voluntary sector and faith groups.

### Introduction

2. SCDI responded to National Grid's 'Pre-Consultation Document GBECM-17: Transmission Charging – A New Approach'. SCDI has also submitted evidence to the ongoing inquiry by the Energy and Climate Change Committee on 'The Future of Britain's Electricity Networks' which is considering whether locational pricing is a "regulatory barrier" that needs to be "overcome to ensure sufficient network capacity is in place to connect a large increase in onshore renewables, particularly wind power". SCDI has recently opposed proposals in the Charging Consultation Document 'GBECM-18: Location BSUoS Charging Methodology'.
3. SCDI has recently published *The Future of Electricity Generation in Scotland* <http://www.scdi.org.uk/energy/research.html> the first major independent study of the Scottish Government's renewable energy targets which was commissioned from the independent international energy research consultancy Wood Mackenzie. It concluded that Scotland can hit its target of 50% from renewable sources by 2020 and maintain exporting electricity to England and Northern Ireland. This would require £10bn of investment in new electricity generation.
4. In the draft UK Renewable Energy Strategy, the UK Government anticipated that around one third of new UK renewable capacity will come from onshore wind. In Scotland, Wood Mackenzie forecast that onshore wind will increase by 5.5 GW, from 1.3 GW today to 6.6 GW in 2020. In comparison, it forecast that just 2.3 GW will be added in England and Wales, and only around 1 GW in Northern Ireland. The report for SCDI has therefore underlined the importance of renewable energy development in Scotland if the UK is to achieve its renewables target.
5. The recently published report by the Electricity Networks Strategy Group suggested that the development of renewable energy in Scotland could be even more rapid. It sets out three scenarios for the growth of renewable electricity capacity in Scotland by 2020: from a minimum scenario of 6.6 GW of wind generation, to a second scenario of 8 GW and a third scenario of up to 11.4 GW.
6. In total, Scotland has an estimated potential of 36.5 GW of wind and 7.5 GW of tidal power, 25% of the estimated total capacity for the European Union and up to 14 GW of wave power potential, 10% of EU capacity. In the long-term, the renewable electricity generating capacity in Scotland may be 60 GW or more.

### The Need For A New Approach

7. SCDI notes recent comments by Alistair Buchanan, the Chief Executive of Ofgem, in evidence to the Energy and Climate Change Committee inquiry in “The Future of Britain’s Electricity Networks’ that “the industry is at a profound crossroads” and “there is a fundamental question as to whether the market design is fit for purpose going forward...is the current package of price controls and regulation for the network companies fit for purpose for the next 20 years.” As a result, Ofgem is currently asking in consultation documents: “should environmental change and should the renewable targets be the fundamental driver for the price control or the price regime going forward for networks?”
8. The need to look again at regulatory frameworks to incentivise the change a low carbon economy is also a key theme of the UK Government’s *Building Britain’s Future – New Industry, New Jobs*. It says: “in future, the market-shaping role of regulatory... decisions must be a key concern of policy makers... the importance and potential influence of this role must be recognised and managed more effectively.” On renewable energy it is stated that “clear incentives to produce and use renewable energy, along with action to facilitate installation sites and support for research and development, have given Denmark and Germany a head start in a number of renewable energy technologies... Britain needs to draw on the lessons of this experience in reflecting on how Government action influences conditions or shapes the market for UK-based businesses.”
9. SCDI welcomes the recently-published study by energy consultancy Poyry for National Grid. This found that that UK electricity supply could be more than 40% renewable, mostly from wind, by 2030. It concluded that the cost of electricity will be determined not by consumer demand but by the supply from wind and that power will be so cheap that other forms of generation will be unable to compete.
10. The challenge will be achieving this vision. As Alistair Buchanan told the Energy and Climate Change Committee: “we have seen potentially profound delays, particularly in the renewable investments. You have seen the providers of the product showing severe signals of stress... on the delivery side you are seeing a substantial nervousness. On the investment side you are seeing nervousness, particularly on offshore. I have heard a number of bankers call offshore an exotic style investment now because of the credit crisis....In addition to that the investment requirements that we have within the UK are suddenly becoming very lumpy and with that lumpiness potentially quite risky for the providers of that capital, so a nuke or a carbon capture scheme are huge investments. Consequently, looking at the credit crisis against our profile of capacity going forward and assuming, which we have to, that the environmental rules are not going to be waived, then that combination becomes very uncomfortable.”
11. This calls into question the current market-based locational charging model. The challenge becomes creating a fair, predictable regime which incentivises large-scale and international investment now in the areas with the best supply from wind to achieve the vision of clean, cheap and secure electricity generation.

## Case Studies

12. In its response to the consultation document GB ECM-17 issued by National Grid, Statkraft UK Ltd state that the development of “several renewable energy interests in the remote areas of Scotland, such as the Orkney islands... to date has been inhibited by the uncertainty and potential high costs of existing TNUoS both for the North of Scotland and the islands. Earlier this year Statkraft publicly announced that development of the FSOL Wind Project in Orkney (proposed capacity of up to 125 MW) was suspended due to signals that existing TNUoS costs were going to retain the *Status Quo* for the foreseeable future.”
13. Located in the area of the UK and, indeed the world, with the highest load factors for wind energy, the proposed 550MW Viking Energy wind farm on Shetland would alone meet 12% of Scotland’s renewable energy target and 5% of Scotland’s CO<sub>2</sub> reduction target. While no actual TNUoS figure exists for island locations (contrary to National Grid’s objective of ensuring that TNUoS is predictable), one estimate for Viking Energy is in excess of £96/kW, which would be the highest for any UK project. If the TNUoS is set at this level, transmission charging would be the single biggest negative sensitivity the project faces (only load factor which is a physical risk has a potentially higher impact).
14. Viking Energy has sought derogation from GB SQSS to request a single circuit transmission connection to mainland Scotland in order to reduce the cost of the connection to the UK consumer, the project and its sensitivity to TNUoS. In other words, the currently estimated transmission charges are so high for this project that the developer has deliberately and verifiably opted to reduce its security in order to limit its exposure to unpredictable, high and discriminatory TNUoS. This is an identified risk of itself and this should be a clear signal to National Grid.
15. These case studies illustrate serious flaws in the current transmission charging regime: significant extra cost, volatility and uncertainty. In island locations, there is further uncertainty over circuit numbers and security requirements which are currently based on annuitised capital costs rather than being based on the National Grid’s model and are subject to significant future volatility. The range of transmission charges that developers in the Highlands and Islands must build in to their business plans are significant enough to model project economics that show they are viable one year and unviable the next. This analysis demonstrates that, perversely, the current transmission charging regime disincentivises investment in the areas with the most productive and reliable resources.

## A New Approach

16. SCDI has consistently made the case that the current system of transmission charging is wrong and unfair. It has resulted in higher and less predictable charges for Scottish based generators and is a particular disadvantage to those companies developing renewable energy projects in the Highlands and Islands where there is the UK’s best and the most reliable sources of renewable power.

Scottish generation accounts for 12% of the total, but pays roughly 40% of total UK transmission charges – around £100m per annum more than its ‘fair share’. This will increasingly become a barrier to renewable development as growing global demand for turbines drives up the cost of projects, rapid expansion is needed in more marginal areas of the country and the margin of financial return is squeezed. It will also disincentivise investment in extending the lives of and constructing new thermal plants to back up the variable power from renewables.

17. SCDI is supportive of the proposals by the Scottish Government, ScottishPower, Scottish and Southern Energy, and the Scottish Renewables Forum for a new methodology in which there is a level-playing field with generators using the UK transmission network being levied at a uniform rate for each unit of energy that enters the system, irrespective of its location. This would appear a simpler, more predictable and fairer system, which is aligned with Government policy objectives and would not impose extra costs on National Grid or the consumer. The proposed approach would support integration of the European energy market. A majority of European countries use a postal charge, especially on the continent. In its Strategic Energy Review published last November, the European Commission has identified the creation of a European super-grid as the key for European energy security and achieving the decarbonisation of supply.
18. European Directive 2001/77/EC clearly calls for charging regimes to be non-discriminatory for electricity from renewable sources, including in peripheral areas. This is plainly contravened by the current transmission charging model.
19. SCDI response has focussed on onshore wind from the Scottish mainland and islands. However, SCDI has also received representations from companies involved in the Scottish inshore and Round 3 offshore wind process and from wave and tidal companies involved in the Round 1 Pentland Firth process. These developers face higher and generation costs than established technologies like onshore wind. They have emphasised that without projects remaining viable they will not proceed and the locational charging regime could destroy their viability.
20. SCDI accepts the view that there are a range of important barriers to investment in new generation, renewable or otherwise, such as the present planning regime. But the evidence is that the current transmission charging regime is a significant disincentive and that a more appropriate approach is needed for new challenges.

## Conclusion

21. SCDI warmly welcomes the work of the Energy Networks Strategy Group and its vision of subsea cables from the Scottish islands and around the coasts by 2020. These would eventually form part of the incrementally developed European super-grid enabling Scotland’s renewable energy resources to power Europe. This vision runs contrary to the signals which are sent by the current model of transmission charging and it will not be achieved if investment is not incentivised.

22. SCDI welcomes this further consultation from National Grid and the opportunity to provide further evidence and comment. However, rather than concentrating on the detail of the operation of today's transmission charging methodology, SCDI would have preferred if National Grid focussed on UK and European renewable energy targets and which transmission charging model will best get us there. Government and industry are clear that in the UK and globally we are entering a period of fundamental reform of the economy and energy supply, with new, lower carbon and less centralised models for both growth and electricity generation.
23. National Grid should carefully consider the analysis and case studies on the disincentives for investment in important renewable energy projects which SCDI and other economic development bodies have provided. But in this climate of change, SCDI would urge that it also looks at the wider case for fundamental reform and a new model of transmission charging which better promotes the UK's renewable energy, climate change and industrial objectives.

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