



Europe Economics Executive Brief

REVIEW OF THE RENEWABLES OBLIGATION

The Renewables Obligation (RO) is the most important driver of investment in the renewables sector, providing up to £1 billion of subsidy per annum by 2010. The DTI launched a review of the Obligation in March 2005, inviting views on a range of issues from extending the profile of the Obligation to 2020 to reducing the eligibility of low cost renewables technologies. This executive briefing sets out some of the key issues raised by the review, and uses Europe Economics' "ROC Simulator" to model the possible effect of some of the policy changes under discussion.

The Renewables Obligation

The RO came into effect in April 2002 and replaced the earlier Non Fossil Fuel Obligation (NFFO) as a means of encouraging the generation of electricity from renewable sources of energy.

The RO requires electricity suppliers to deliver Renewables Obligation Certificates (ROCs) each year demonstrating that a specified percentage of electricity has originated from renewables generation. The specified percentage grows year by year and is set to reach 10.4 per cent in 2010 and 15.4 per cent by 2015. Certificates are issued to accredited renewables generators on the basis of units of electricity generated and are sold to supply companies alongside the sale of the electricity.

As an alternative to delivering ROCs, suppliers can make a 'buy out' payment. This was initially set at £30/MWh and increases annually in line with the retail price index. These payments are recycled to suppliers in proportion to the number of ROCs which they have delivered.

If renewables generation falls below the target percentage in any year, these recycled buy out payments increase the value of the ROCs and thus provide an additional incentive to invest in renewables

generation. At the same time the buy out mechanism puts a cap on the cost of the RO to suppliers and ultimately to consumers.

The Review

The government's 2003 Energy White Paper committed the government to reviewing the progress of the RO in 2005/06 and elaborating a strategy for the decade to 2020.¹ The White Paper stated that the review would take account of the experience of carbon prices arising from the EU emissions trading scheme and of the costs of renewables technologies.

The DTI launched the review in March 2005 with the publication of a preliminary consultation document,² supported by a number of studies commissioned from consultants.

The government has made clear that maintaining investor confidence is a critical issue, and that the review will not change the basic framework for supporting renewables. This is reflected in the terms of reference for the review, which explicitly rule out consideration of the replacement of the RO with an alternative

¹ DTI (2003), "Our energy future – creating a low carbon economy", February

² DTI (2005), "2005-6 Review of the Renewables Obligation; Preliminary Consultation Document", March



mechanism for supporting renewables and any reductions in the buy-out price or the level or duration of the RO.

As part of the review, the DTI will consider the conclusions of a report published by the National Audit Office (NAO) on the government's renewable energy policy.³ The NAO's recommendations include keeping track of the value for money of the RO and establishing criteria for reducing or withdrawing support as technologies become commercially viable.

The DTI is seeking responses to its preliminary consultation by 13 June. A further consultation will take place later in the year at which point the DTI will put together firm proposals for change.

Consultation Topics

1 The effectiveness of the Obligation

The consultation document presents data showing that generation of ROC-eligible electricity has increased by approximately 60 per cent since the start of the RO in April 2002. It is estimated that in 2004 2.8 per cent of electricity will have come from renewables sources under the obligation. However, this is well below the target for 2004/05 of 4.9 per cent.

The DTI argues that the figures fail to demonstrate the full impact of the RO, as a result of the long lead times needed to develop renewables projects. The document highlights the substantial number of onshore and offshore wind projects in the pipeline.

In analysing the effectiveness of the RO, there are some specific issues which merit further attention:

- the extent to which build so far is due to pre-existing NFFO contracts rather than the RO;
- whether the structure of the electricity market operates to the disadvantage of independent renewables developers;
- whether the incentives provided by the RO are weakened by the perception that ROC values might fall sharply towards zero once the level of renewables generation reaches or exceeds the obligation (the "cliff-edge");
- the value of other benefits arising from the RO apart from the reduction in carbon emissions - given that the DTI quotes these benefits as justification for supporting renewables despite the high cost per tonne of carbon saved.

2 Energy from mixed wastes

Electricity generated from the firing of the biomass element in mixed waste is not eligible for ROCs unless it is generated using specified advanced conversion technologies, but such electricity does count towards national targets under the EU Renewable Energy Directive.⁴ The consultation document seeks views on options for extending eligibility for ROCs to electricity generated in this way. An accompanying consultants' report assesses the possible impact of such change.⁵

The principal issues raised by this proposal are the impact of extending eligibility on ROC prices and the development of other renewables, or alternatively the cost to consumers if the DTI makes an offsetting increase in the size of the RO. The consultants' report suggests that a substantial proportion of plant that might benefit from this extension would be built

³ NAO (2005), "Renewable Energy", February

⁴ Directive 2001/77/EC

⁵ ILEX (2005), "Eligibility of energy from waste – study and analysis", March



without the need for further support from inclusion in the RO.

3 Lower cost renewables technologies

The NAO's report found that *"the level of support provided by the Obligation is greater than necessary to ensure that most new onshore wind and large landfill gas projects are developed."*

The DTI's document invites views on the evolving economics of lower cost renewables technologies. This discussion is supported by consultants' reports which provide detail on the construction and operating costs of renewables generation and likely movements in wholesale electricity prices, taking into account the EU Emissions Trading Scheme.⁶

The DTI requests views on whether it might be possible to reduce the support that the RO gives to landfill gas in the future. However, the DTI does not think there is a clear-cut case to reduce the support given to onshore wind, because some higher-cost wind sites might become unviable.

The government recognises the danger of damaging investor confidence by introducing changes and gives assurances that there would be a substantial notice period for any changes and that these should not affect projects currently under development.

Europe Economics has used its *ROC Simulator* (see box) to analyse how reduced eligibility might affect the overall level of renewables build.⁷ The table shows the effect on levels of renewable generation by 2015/16.⁸ The results suggest that a reduction in eligibility would deter some new

⁶ Enviro (2005), "The costs of supplying renewable energy", February; OXERA (2005), "What is the potential for commercially viable renewable generation technologies?", January

⁷ Eligibility for the technology concerned was assumed to fall to 80% for all new build plant from 2008/09.

⁸ The figures include the output from onshore wind or landfill plant which is no longer eligible for ROCs.

ROC Simulator

Europe Economics has constructed a model which simulates the workings of the renewables market.

ROC Simulator uses stylised versions of the supply curves published by the DTI's consultants Enviro to model ROC prices and future new build decisions (broken down by technology).

Examples of questions that *ROC Simulator* can help to answer include:

- What is the impact of announcing firm targets to 2020?
- What are the effects of different options for reducing eligibility for low-cost technologies?
- How might movements in wholesale prices affect the renewables market?

build, particularly for onshore wind. However, because fewer ROCs are issued ROC prices would rise, and this would lead to an increase in new build of other renewable technologies. In both the scenarios tested, the net effect was a reduction in overall renewable generation.

TWh/year by 2015/16	Reduced eligibility for	
	Landfill	Onshore wind
Change in output from technology concerned	-0.9	-8.4
Change in output from other technologies	0.8	5.5
Net effect	-0.2	-2.9

A crucial driver of this result is the government's decision that any reduction in eligibility would only affect future new build plant. Other scenarios run by Europe Economics suggest that a reduction in landfill eligibility would *increase* overall renewable generation if eligibility were also reduced for existing landfill plant.



4 Obligation levels beyond 2015/16

The maximum level of the RO was raised on 1 April 2005 from 10.4 per cent of electricity supplied from 2010/11 onwards to 15.4 per cent in 2015/16 and beyond. The consultation document seeks views on a further increase after 2015 taking into account government aspirations to source 20 per cent of electricity from renewables by 2020. The consultation stresses the potentially large additional cost to consumers but also recognises that major projects may need greater certainty about long term ROC prices if they are to proceed.

Using its *ROC Simulator*, Europe Economics simulated the effect of increasing the level of the RO to 20.4% by 2020/21. The results suggest that a higher Obligation for years after 2015/16 may not have any effect on the level of renewables generation until the end of this decade. If so, it would provide an argument against making expensive long-term commitments at this stage.

5 Combined Heat and Power

The consultation document sets out a proposal from the CHP industry under which electricity generated by good quality CHP plant would not count towards an electricity supplier's total supply for the purpose of the RO. The amount of electricity exempted each year would be capped and there would be an offsetting increase in the RO in order not to reduce the value of ROCs. The effect would be to increase the value of electricity sold by CHP generators with the aim of encouraging further investment.

The proposal raises issues of managing 'deadweight' effects and assessing value for money. There is also the more general question of whether it is appropriate to link the level of support for CHP to that for

renewables where the rationale for support may be different.

6 Operation of the ROC market

The main concern identified is lack of liquidity in the market for ROCs with possible adverse effects on ROC prices and investment. A number of technical changes are outlined which could reduce market uncertainty and allow more involvement by non-electricity suppliers. However, the need for legislation would delay any changes.

7 Administration and other issues

The consultation document concludes with a section on possible changes to the details of the RO and its administration. These principally relate to the timescales for issuing ROCs and demonstrating compliance, and to the arrangements for smaller generators.

Conclusion

The DTI has deliberately kept the scope of the review within tight bounds. Nonetheless, some of the changes under consideration would have important implications for the renewables sector.

While the analysis published by the DTI so far is a helpful starting point, quantification of the potential impact of different policy options would be valuable. The modelling discussed in this briefing illustrates the type of analysis that can be done.

Europe Economics would be pleased to help with any further issues that may arise in relation to the review or on other issues.

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