



April 2006

**Response to the Department of Trade and Industry's Energy Review
consultation document
'Our Energy Challenge' (January 2006)**

**- Renewable Energy – possible policies to assist the progress of
renewables**

The Renewables Obligation (RO) clearly isn't working

How the RO is supposed to work

The Renewables Obligation is a quota-based market mechanism that obliges retail suppliers of electricity to source a given percentage of the electricity they sell from renewable sources. As supply companies purchase power from renewable generators (in order to meet this quota) they receive certificates to prove its origin, known as Renewable Obligation Certificates (ROCS). These act as currency within the confines of the RO in addition to the standard price of electricity they sell. The value of Renewable Obligation Certificates fluctuates depending on the number of certificates in circulation compared to the level of demand. Failure to meet the percentage target over the course of a year obliges suppliers to then buy Renewable Obligation Certificates (ROCS) from suppliers that have exceeded the target, with the intended effect of incentivising suppliers to not only meet the target but exceed it for financial reward at their competitors' expense.

The RO was originally introduced on the basis that quotas would continue to rise until 2027 with all technologies remaining equally eligible for Renewable Obligation Certificates. It was deliberately designed as a technology neutral market mechanism that would facilitate the deployment of the cheapest technologies first, with the more expensive technologies becoming viable as opportunities for deploying cheaper technologies dry up and the ROC price increases.

The RO was envisaged as a separate market that would provide the extra premium needed by some technologies to compete with the conventional electricity generation industries that have enjoyed state support for decades in order to become competitive with minimal intervention from Government – most importantly, it was designed in such a way as to avoid the Government "picking winners".

Why the RO isn't working as intended

The effectiveness of the RO has been seriously called in to question recently, most notably by the National Audit Office, the Public Accounts Committee and the European Commission. The analysis by the European Commission of the mechanism's effectiveness compared to other EU renewable energy policies indicates that while the RO creates the greatest level of payment relative to generation cost (i.e. it pays the most per MW of power produced) of any policy in Europe, the actual costs of renewable generation in the UK are among the lowest, reinforcing the position taken by the National Audit Office that some technologies are receiving more support than they need.

It would seem logical to assume that with prices under the RO inflated to such an extent, deploying renewables in the UK would be an attractive proposition and lead to a significant build rate. The converse is however true. The European Commission rates the UK's RO as the fourth least effective support mechanism at delivering wind energy (the technology most favoured by the RO) in the EU 15. The principle reason for this is the higher risk premium requested by investors before they are prepared to invest in the UK, with secondary reasons of additional costs created by higher than average administrative costs and the relative immaturity of RO. The higher risk premium is requested due to uncertainty surrounding the ROC price resulting in risk for the investor, and more fundamental uncertainty about the long term future of the RO.

In comparison, renewable energy industries in Germany and Spain - that harbour less powerful wind resources and lower levels of support relative to generation cost - have significantly more renewable energy installed than the UK, both in terms of megawatts installed and as a proportion of their overall generating mixes.

This obstacle of risk has hampered the development of all renewable technologies to some extent, though perhaps the most important one (in terms of helping the UK meet its short and medium term renewable energy targets) damaged by this is offshore wind. Greenpeace is extremely concerned that if the RO is left unchanged with no additional measures introduced to compensate for its faults, we will miss yet another opportunity to put the UK back on track to decarbonising the energy system and meeting our long-term carbon reduction targets.

An additional problem with the RO is often called the 'cliff edge'. This can be briefly summarised as a disincentive to fulfil more than around 70% of the RO target at any given time, due to the effect going beyond this point would have on the value of the ROC price. As the target approaches, the demand for more renewable capacity decreases until the target is raised again. Reduced demand crashes the ROC price making it extremely unattractive for investors to go beyond the point where this crash occurs, which is around the 70% mark of the target. Consequently, the RO is inherently designed to miss the targets it sets.

How can the RO change?

There are 3 possible approaches:

1.) MAINTAIN THE RO IN ITS CURRENT FORM AND INTRODUCE ADDITIONAL MEASURES

For all the RO's faults, it has been argued that scrapping it and beginning again would undermine investor confidence to such an extent that it would set back the UK renewables industry for years. It should be noted that confidence is already ebbing away as demonstrated by the reluctance of the energy sector to invest in new renewable capacity, but the disruption caused by wholesale change at this stage will undoubtedly be significant.

The problems outlined above will likely worsen however unless some sort of extra assistance is made available that will both reduce the perceived risk for investors under the current arrangements and cater for the differing needs of the portfolio of technologies that the 'technology-neutral' approach of the RO does not. Additional measures could include:

Capital Grants – Round One offshore wind projects benefited from capital grants. They were provided by Government on the understanding that overall costs would reduce as the lessons of Round 1 were learnt. Unfortunately, the experiences of those Round 1 projects that actually went ahead were that costs had been largely underestimated, leading to an increase in the cost estimates at the same time as the capital grants were taken away for Round 2. Capital Grants at this stage might then be a useful contribution, both for re-energising offshore wind development and also as a means of lessening the cost implications of other emerging technologies that investors are currently reluctant to support in a concerted manner.

Complementary Feed-in Tariff – This could be introduced to provide additional support to technologies that currently struggle. Under this arrangement each technology could have a separate feed-in tariff set at a level that will make the technology competitive when combined with the sale of electricity and the income from the sale of ROCs. Adding a tariff of this nature would likely present logistical challenges in making sure suppliers were evenly obliged to purchase renewable power at a guaranteed price and not disadvantaged relative to their competitors from being required to purchase electricity from more expensive technologies, but these challenges are unlikely to be insurmountable. Germany has established an effective feed-in tariff system for some years that is not only delivering increases in capacity, but at competitive rates compared to markets such as the UK.

Although the German market is not liberalised to the extent of the UK, a degree of liberalisation has taken place and suppliers are not regionally divided in the way they once were. In addition, the German model is not the only model for introducing the principle of a guaranteed price. This is discussed in more detail in the section on feed-in tariffs below.

2.) MODIFY THE RO

It is possible that one or more of the modifications suggested below would remedy the problems of perceived investor risk and bias towards already competitive technologies without requiring wholesale reform of the market driven, quota-based approach. Possible modifications include:

Differentiated ROC allocation – the idea of fixing the allocation of ROCs for different technologies depending on their commercial competitiveness has been in circulation for some time. In essence, it aims to level the competitive playing field within the RO for technologies that currently sit far behind onshore wind in the queue of attractiveness for suppliers by reducing the number of ROCs allocated to successful technologies (EG, 0.75 ROCs per MWh of onshore wind and landfill gas) while increasing the number for emerging technologies. The Scottish Executive has already proposed to allocate 2 ROCs for each MWh generated by offshore wind and tidal power located within Scotland. The allocations could then be amended as forerunning technologies reach a point where they no longer require any support at all to compete in the conventional market, with the surplus premium realigned to those in need.

The main difficulty with this approach is the sheer complexity of deciding which technologies deserve exactly what level of ROC allocation, and at what point do the allocations change? There also likely to be some resistance from those within the industry that currently benefit from the status quo and who would be extremely resistant to change, and some form of grandfathering (see below) would also have to be introduced to protect existing commitments.

At the same time however, which ever approach is finally agreed upon, there will be a degree of complexity. Differentiating ROC allocations may well be no more complicated than any other amendment.

Fixed Head-room proposal – a key difficulty with the current RO is that the ROC price can be extremely unstable. This instability contributes to the need for large premiums in order to attract investors. In order to reduce this instability, as part of the Renewable Obligation Consultation 2005, the DTI proposed removing the fixed percentage approach currently in operation that will take us up to 15.4% by 2015. In its place, a review should be taken on an annual basis that looks at the shortfall in renewable output from the year before, and setting the target at, for example, 2% above the achieved generation output from the year before. The amount of head-room agreed upon needs further exploration, but the principle is clear. The impact would hopefully be that the market for ROCs is kept continually buoyant, meaning that the price for ROCs remains stable. Stability of the ROC price would reassure investors and reduce the level of premium requested, closing the gap identified by the EC between the level of support available under the RO and the amount of capacity installed.

Grandfathering – grandfathering essentially protects the contractual agreements of any project undertaken under the current arrangements. The mechanism would be effective in maintaining confidence in contracts already agreed and reduce the impact of either of the modifications suggested above.

3.) SCRAP THE RO COMPLETELY

Germany, Spain and Denmark - the three countries in Europe with the most successful renewable energy industries - developed their industries using a fixed price support mechanism (feed in tariff) rather than a quota-based obligation. Germany introduced its feed-in tariff in 2000, two years before the RO was introduced in the UK. This was a period of significant change in the UK electricity industry with the introduction of the New Electricity Trading Arrangements (NETA) as a move towards greater liberalisation within the UK market.

At the time of introduction, the market driven, quota-based approach was deemed preferable by both Government and industry as it appeared a more efficient way of incentivising the development of renewables and with the highly desirable feature, in the context of market liberalisation, of minimal Government intervention. The underlying assumption was that as demand increased for renewables, the market would respond accordingly and the winners and losers within the renewables industry would separate in accordance with market pressures. Evidently this has not happened. All industries except onshore wind have been stifled through an inability to attract long term investment at competitive rates.

Greenpeace's top priority is enabling the UK to have the best chance of avoiding dangerous climate change. To this end, Greenpeace believes that all renewables must be assisted to a position where their practicable potential can be realised in time to meet and exceed the Government's 2050 target of a 60% reduction of CO2 emissions.

A Feed-in Tariff – a fixed price feed-in tariff that obliges suppliers to buy all output generated by renewable sources could be introduced to replace the RO. The prices could be varied according to the relative economics of each technology, and even varied further within each technology according to geographical quality of the renewable resource (as occurs in Germany in relation to onshore wind). A common argument raised against this approach is that completely scrapping the RO would damage investor confidence in the short term. This may be true, but it could also be said that if modifications to the RO do not deliver results, then the extent of failure will be exacerbated and the window for wholesale change will be missed. In contrast, the evidence clearly indicates that feed-in tariffs are undoubtedly effective at facilitating renewable energy deployment, and under current arrangements, at a cheaper price than the existing RO(REF?). To put this in context, despite the best wind regime of anywhere in Europe, the UK still only has an installed wind capacity of around 1.3GW. In contrast, Spain has installed 9GW and Germany 17GW.

Another argument often raised against a feed-in tariff is the perceived difficulty in applying the model of the German feed-tariff to the UK. It may be the case that the German model is not applicable, but the principle of guaranteeing a price within the UK market presents no inherent conflicts with a market based, competitive market such as is currently in operation in the UK. For example, a Government agency could be established to pay

the subsidy directly to the Generator. The Generator would then sell the their renewably generated electricity to suppliers at prices paid for conventionally generated electricity. An additional incentive may be necessary for suppliers to take this electricity in order to compensate for the additional costs of balancing variable power sources, etc. This additional cost could then be passed on to the consumer through standard billing processes in order to remove the extra cost burden from the taxpayer as a whole.

Conclusion:

It is clear to Greenpeace that the RO s failing to deliver what was hoped and that it needs to change if the UK renewables industry is to stand a chance of meeting the Government's aspirational target of 20% by 2020. Although Greenpeace does not vigorously advocate one of the suggested ways forward over another, it would appear that a combination of modifications within the RO - such as differentiating the ROC price for different technologies - along with the introduction of a complementary feed-in tariff would seem the most effective compromise, introduced on the understanding that contracts already entered in to under the existing arrangements will be protected as outlined in the proposed grandfathering scheme.