

# Energy perspectives

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cornwallenergyassociates

## Renewables policy—between a Roc and a hard place

The diverse range of participants in the energy sector means that each and every issue usually triggers a range of differing views and responses. But very occasionally an issue will come along where there is widespread agreement that cuts across commercial differences. Reform of the Renewables Obligation (RO) seems to be one such issue, with the DTI's recent proposals for a significant reworking of the arrangements implemented less than five years ago attracting widespread opposition (albeit for different reasons).

### RO – a bold new way

After a decade of perseverance with the Non Fossil Fuel Obligation—which relied on periodic decisions on technologies and quantities by officials which were then underwritten by long-term contracts—it gradually lost credibility and the confidence of the government as development failed to keep pace with awards. By 1999 the government had concluded that a change was unavoidable, and set about overhauling the incentive structure. The RO was seen at the time as a very clever way of combining market philosophy with intervention while avoiding the rigidities of competing systems. The self-adjusting mechanism of floating certificate—or Renewables Obligation Certificate (Roc)—values that it introduced was very elegant. It allowed the premium for green power to vary according to the relativity of supply and demand

against government-set targets, while capping the total cost to the consumer by offering suppliers the option of paying a buy-out price.

### Gathering clouds

But with hindsight the RO was premised on two design flaws:

- while the attractiveness of new renewables build does increase relative to scarcity, the best returns will always be secured by investment in proven technologies, thus not necessarily advancing the cause of marginal technologies; and
- it took no account of the evolving carbon market, and the allied development that renewables was simply one component of a much wider and diverse low carbon agenda.

The implications of the first of these issues have been problematic for the government since 2005 when the RO was subject to scrutiny from the National Audit Office (NAO). Parliament's auditor highlighted the high cost of carbon reductions compared with energy efficiency mechanisms, and pointed out that some projects using the cheapest technologies, specifically onshore wind and landfill gas, received more support than they needed. The Public Accounts Committee (PAC) also criticised the RO for being too expensive, poorly targeted, and not subject to parliamentary scrutiny. It claimed that this level of support "is at least four times more expensive

than other means of reducing carbon dioxide." International comparisons also highlighted a tendency for other systems to deliver better value in terms of cost/MW for customers' money.

The second is becoming more apparent as the EU Emissions Trading Scheme (ETS) becomes established. It means that the economics of green technologies are subject to different variables that should throw up reinforcing incentives. But for the consumer at least for now both create significant incremental costs but without delivering significant carbon benefits.

Against this background, some in the industry saw the government's decision in late 2005 as part of a mandatory review to leave the RO intact—and in particular to retain onshore wind in the envelope of qualifying support—as a sign that fundamental reform would not occur. At the same time it had become clear to the DTI that, if it wanted to see roll-out on any scale, it needed to provide extra support for offshore wind.

### Further shift of direction

The proposals in the July 2006 energy review report, and explained more fully in an October consultation, took many by surprise. While the report reaffirmed the government's commitment to the RO, it addressed how the obligation might evolve to deliver its objectives better. Radical change proposals centred on:

- raising renewables obligation targets by up to a 20% cap;
- minimising the cost of this increase to consumers by removing the linkage to inflation of the buy-out fee from 2015-16;
- removing the investment risk caused by potential Roc oversupply against the annual targets by introducing a “ski-slope” mitigation scheme; and
- last, but certainly not least, providing greater support for emerging technologies through “banding” the obligation.

In effect banding would see emerging technologies, such as offshore wind and marine, receiving more support by gaining more qualifying Rocs than established technologies for the same volume of output. Importantly it also contemplates reducing support over time for established technologies—in effect onshore wind, as support for new landfill gas projects. This is a technology that already accounts for over a third of production under the RO (see chart opposite), and will be withdrawn from 2009. In its proposals DTI underlined the importance of grandfathering existing projects, suggesting a guarantee of the band for each project as it first operates. Overall the detail provided was poor, but what is clear is that the more bands there are and the more frequently they are reset, the more complex the RO will be to administer.

These proposals are, the DTI says, unlikely to have a significant impact on the overall price of Rocs as government intends that the total number of Rocs in the market should stay more or less the same. But the DTI does acknowledge that introduction of banding would represent a “significant amendment to the current system”, and it has highlighted

the wish to consult further before making a final decision.

**Industry indignation**

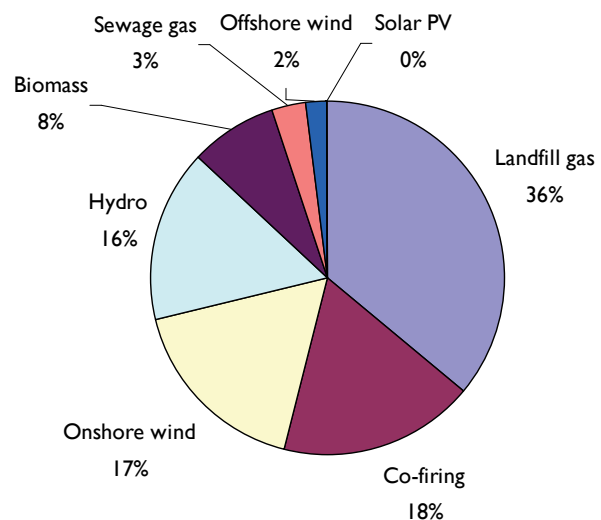
The response from the industry has been unambiguous. The Association of Electricity Producers, British Wind Energy Association (BWEA), Micropower Council, Renewable Energy Association, Scottish Renewables Forum and UK Business Council for Sustainable Energy said in an unprecedented joint response that they support the current structure of the RO and the principle of one Roc per MWh. They believe with some justification that the real barriers to renewables development are outside the RO. The group also warns of impacting investor confidence if too many changes are made to it. The organisations go on to say that a number of issues need to be addressed if the proposed changes are introduced. These include minimising revenue changes on existing projects—which is why the groups understandably do not support the proposed removal of the RPI buy-out linkage—otherwise new developments and those in the planning phase will be put at risk. The group also warns that any changes to the RO should be made in a timely and transparent manner, to minimise further negative impacts. They also believe that the principle of net cost neutrality as proposed by the government cannot be successfully applied, and that banding technologies simply will not work.

**Ofgem opprobrium**

As prominent in its opposition to the proposals has been Ofgem. In its response it notes the major changes in electricity markets that have taken place since the RO was introduced in 2002, especially the establishment of the EU ETS. Ofgem comments on the effectiveness of the RO to date and lines up with the NAO and the PAC, concluding the achievements have cost consumers much more than other carbon abatement measures. Ofgem characterises the government’s proposals as “an attempt to remove some of the excess subsidy and bring on a greater variety of renewable technology.” But it does “not think that the proposals have been rigorously analysed”, and it advocates “a more fundamental rethink before proceeding further.” In particular Ofgem says it does not believe banding would provide a solution to better targeting support. It has concerns too that the proposals will lead to a more complicated scheme that is more expensive to administer.

In other comments that will find less favour with the industry it also argues that the proposal to increase the targets after 2015 to 20% could significantly increase customer costs

**RO supported generation by technology**



Source: Ofgem

and is not justified. It is also unimpressed with the ski slope.

Its proposed solution is very different to the trade associations—it believes that the RO should be replaced and any policy to provide support to renewable generation should be linked to the development of the ETS as it should represent the market value of carbon abatement. Ofgem favours an approach based on long-term contracts for difference, whereby renewable generators would be paid the difference between an agreed price and the wholesale price inclusive of the value of traded carbon permits. It thinks this would deliver the government's objective of reducing carbon emissions and promoting renewable technologies at much lower cost to the consumer than the RO either in its current or proposed forms. Linking the level of support to wholesale power prices would also reduce the total cost of providing support if wholesale prices rise as the EU ETS becomes established and as more challenging reduction targets are set, the regulator argues.

**Wisdom of Solomon**

Two key questions now have to be resolved urgently. The first is whether the DTI proposals are as misconceived as the industry and Ofgem seem to think. The second is contingent on the first; if so, what

should the government be doing instead.

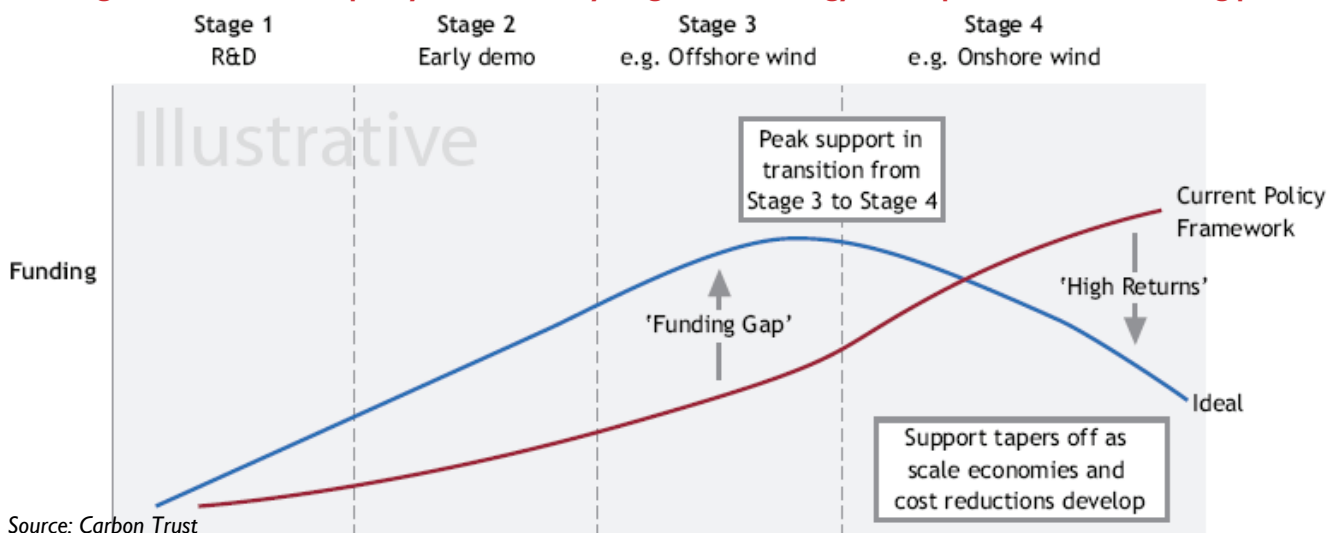
The first is the easier to answer. From our own analysis (which admittedly relies on industry cost estimates), while it is possible to impose a constraint on the total number of Rocs generated for the purposes of a modelling exercise, it is impossible to see how this might be delivered in practice. Multiple Roc awards of up to 2 Rocs for offshore wind and up to 5 Rocs/MWh for marine would appear to be needed to secure of commercial breakeven for these technologies. The flip side is that scaling back rights to new onshore schemes would be required, but would probably burst the bubble in development of these technologies we are presently seeing. In fact by no means all pending onshore schemes are economic at current power prices with scaled back Rocs. Many projects have cost characteristics rather less attractive than sites already developed. Given the expected application of grandfathering rights, we suspect that there will be insufficient unused Rocs to fulfil awards that could be needed to secure commercial breakeven for marine and offshore wind. Targets could also be met sooner depressing Roc values from current expected levels. While this may not be a bad thing, it is clearly wrong to imply there would be no overall change in

the volume of Roc-able generation in the market—in fact the proposed changes would have failed if this were the case.

And a decision to delink the buy-out at some future point effectively means that developers could require up to 20% more Rocs to secure commercial break-even compared with the continuation of the RPI link, and a real discount would be applied by project funds now. While such a step could be justified on public policy grounds, the practical effect needs to be properly factored into any regulatory impact assessment that is carried out and its implications fully understood.

Six months on from the July energy review report it is not easy to see how these issues can be robustly addressed. It is possible that some of these issues are soluble, but the overall impression is that the DTI has tried to construct a bold package whose sum is greater than the parts. It is also likely that a workable regime in all its necessary detail may take a considerable amount of time to define. A credible arrangement may be constructed two to three years hence (which is the government's aim) whereby the value available to those receiving multiple Roc awards would be real and lead to acceleration in investment from that point. But this would be at the expense of significantly undermining

**Funding under the current policy framework by stage of technology development vs. ideal funding profile**



### Carbon Trust's Renewable development premium

- fixed subsidy mechanism, e.g. feed-in tariffs or carbon contracts
- set at levels appropriate for investment at a given stage of the technology's maturity
- £x/MWh set for life of project, not subject to change
- subsidy reduced for later projects as they become more competitive
- Carbon Trust assumes for offshore wind £55/MWh, which gradually falls to £30/MWh from 2017
- Onshore wind is assumed to receive £25/MWh throughout

current build proposals, and there would inevitably be an hiatus. Some developers may decide simply to invest elsewhere in the world, where the rules are settled and where returns are more certain.

### Another shift unavoidable

So what should the government do instead? Intellectually the Ofgem proposals are attractive, in the same way that carbon contracts have merit. But do we really want to start from a clean sheet of paper? How would legacy schemes be treated? How would a transition to new arrangements be effected without killing off the significant development underway? The questions are no less fundamental than those that remain to be answered with regard to the DTI package. In short, this seems to us to be too radical a shift, and we probably have gone too far for that.

Five years in, the RO has begun to deliver—an unavoidable conclusion in the week in which new wind capacity exceeded 2GW. Many of the inhibitors to progress rest outside the RO, and we are beginning to see signs of progress in tackling them with movement on planning, network access and offshore transmis-

sion. But none of these issues are likely to be solved quickly. The planning inquiry into the £320mn Beaulieu to Denny transmission upgrade has begun but should last until at least December.

There have undoubtedly been windfall gains, but it is arguable that the windfalls under ETS have been much greater and look set to continue. It would also be wrong to stigmatise certain technologies as economic and others as not. Financing, location and other factors make such judgements dangerous and highlight the problems in pushing back decisions from the market onto planners.

As for the buy-out price, excess returns for some projects could be constrained by delinking it. But the impact of this change should not be under-estimated, and it could be the lesser evil simply to leave the current targets where they are. Provided a mitigation scheme such as the ski-slope were in place, it would provide an enduring incentive to build in the happy event the market looked as if it might exceed target.

As for marginal technologies, it is hard to see how additional incentives can be sensibly targeted under the RO. But retaining a market mechanism yet then subjecting it to systematic intervention in an attempt to engineer outcomes would probably deliver the worst aspects of two systems and the benefits of neither.

The Ofgem mechanism could of course be selectively applied to new developments but would need, we think, to co-exist outside (and with) the RO. Technology-specific obligations *additional* to the RO are also an option and would require specific targets of their own and differential buy-out fees, though this notion has been rejected in the past and could create huge complexity for suppliers.

In our view the Carbon Trust has brought forward the pick of the competing proposals. A renewable development premium, or “stepped” fixed feed-in tariff, is advocated. This approach would entail the offer of a fixed tariff, on top of the wholesale electricity price and climate change levy payment but exclusive of Rocs, to each technology for the life of the project depending on its level of commercialisation, which would be reduced over time as the technology matured and costs declined. The concept is shown diagrammatically on the previous page. Applying this type of policy, the trust suggests, would result in an additional 8.8GW of wind capacity by 2015 for an additional funding cost of £1bn by 2020. It would require modification so it could co-exist with the RO, but the design challenges seem of a lesser order than for banding or contracts-for-differences on their own.

### Stability needed

What is clear is that—be it banding, fixed price technology guarantees with or without long-term contracts, technology-specific obligations or stepped tariffs—all these mechanisms require judgment to be applied which essentially necessitates the government “picking winners”. Ultimately all regulatory interventions and incentives do just that.

The boundaries of the renewables market and the rules required to support it need careful definition, and the nascent carbon market is unlikely to reach maturity for some period of time. What's needed now and as a matter of urgency is the impetus to resolve this matter of the enduring working of the RO and to let the arrangement unwind over the remaining life of the obligation once and for all.

Let's hope that the March energy white paper does just that.

**About Energy perspectives:** this is part of an occasional series, Energy perspectives, from Cornwall Energy Associates. It is intended to provide informed, independent comment on topical energy market issues.