

REF
RENEWABLE ENERGY FOUNDATION

14 BUCKINGHAM STREET, LONDON, WC2N 6DF

TEL: 020 7930 3636

EMAIL: research@ref.org.uk

Stephen Clark
Renewables Obligation Policy
Department of Business, Enterprise and Regulatory Reform
2nd Floor, 1 Victoria Street
London
SW1H 0ET

Emailed to: roco.info@dti.gsi.gov.uk

6 September 2007

Dear Mr Clark:

Reform of the Renewables Obligation

I am writing on behalf of the Renewable Energy Foundation, a UK registered charity publishing data and analysis relating to the renewable energy sector. We are the sole publishers of monthly load factor data relating to all 900 renewable generators registered under the Renewables Obligation.¹ This letter and the accompanying document together constitutes our formal response to the consultation on the *Reform of the Renewables Obligation*.

Bearing in mind the great quantity of material which will be presented to BERR in relation to this consultation we have attempted concision in our responses, but are happy to provide further discussion should these be required.

Yours sincerely,



John Constable
Director of Policy and Research

¹ For further information see <http://www.ref.org.uk>

Response of the Renewable Energy Foundation to *Renewables Obligation Consultation (2007)*

INTRODUCTION

The Renewable Energy Foundation has from its inception in 2004 identified flaws in the Renewables Obligation (RO) and called for action to remove them. We believe that the current pattern of investment in renewable electricity generation, which is a direct outcome of the structure of the Obligation, is severely sub-optimal for United Kingdom, will not set the economically compelling example without which our climate policy will be little more than gesture, and is inimical to the long-term interests of the renewable energy sector.

We therefore welcome the announced intention to revise the Obligation as an implicit acknowledgment that the system has not been as successful as might be wished. However, we regret the BERR is unwilling to be more overtly critical, and suggest that the indirect tack chosen may prevent a more efficient approach to the revisions.

In particular we are concerned that the proposed “banding” of the Obligation, which in a we welcome in principle, is founded solely on the suggestion that lower cost renewables are currently oversupported. While this is true, we believe that **the merit gradients between technologies present a much stronger and more sophisticated case for revising the Obligation.**

We have repeatedly argued in earlier submissions and statements that renewables capable of offering *firm* capacity should be incentivised in preference to those that cannot. The United Kingdom’s need for controllable power capacity capable of being despatched to meet load is critical, and should be regarded as of much greater significance than the mere production of a certain quantity of electrical energy.

Thus, while we agree that Landfill Gas, for which there are limited expansion possibilities, and Sewage Gas, for which there is greater remaining potential, are over-rewarded within the current system, we believe that relegation to a very severely reduced band is not a just reflection of the intrinsic merit of the technology, which is fully despatchable and thus of high value. While we agree that inefficient use of consumer subsidy must be prevented (and we suggest below that grandfathering should *not* form part of the current proposals), we believe that it would be highly undesirable to needlessly suppress the growth and technological improvement of a high value sector (for example the application of acid phase digestion to sewage gas plants).

In offering these general remarks about deficiencies in the approach to reform of the Renewables Obligation we are not unmindful of the extreme difficulties now facing BERR. The RO is deeply and fatally flawed, but there is a lack of the political will needed to recognise this failure, grasp the nettle of abolition, as Ofgem has suggested, and start again, perhaps with feed-in tariffs, or, better still, a fine-tuneable carbon tax. BERR is therefore left in the unenviable position of having to patch and mend, but the faults requiring remedy are not minor. In addition, the costs and difficulties of administering the existing scheme have already attracted negative comment from Ofgem, and a more complex scheme can only increase the costs which will ultimately be borne by the consumer.

Notionally technologically agnostic, the RO has in fact predictably and dramatically over-rewarded only a handful of the least capital intensive technologies, irrespective of their intrinsic merits, and has served to suppress activity in others, and to weaken interest in technological innovation, there being no necessity to give birth to invention.

Furthermore, Ofgem has demonstrated that the current system has delivered only modest emissions savings at a cost to the consumer of nearly ten times that of carbon abatement via the other climate change support mechanisms. We consider this demonstrates a fundamental failure in the design of RO system.

Introduced for largely political reasons the system is now shown, in fact, to be unable to deliver the politically determined targets that justified its creation in the first instance, and will certainly fail to assist in meeting the still more ambitious targets now likely to be required of the United Kingdom by the EU target for 20% total primary energy to be obtained from renewables.

The RO has therefore failed in all three of its main aims: it has stifled technological innovation not encouraged it; it has misdirected funds and thus entailed a serious opportunity cost in terms of emissions savings; and it has failed to deliver targeted quantities of electricity.

These general areas of difficulty can only be addressed by further attempts to shape the market, with the risk that the modifications will themselves fail. Consequently, **we conclude that the long-term lessons of the Renewables Obligation reveal the risks of complex and inflexible attempts to force markets to behave in a desired fashion. If there must be intervention, the intervention must be simple.**

We therefore urge BERR to confront ministers with the necessity of regarding the banding revisions to the RO as temporary and transitional steps to removing the system altogether, as suggested by Ofgem. With this aim in view – damage and waste limitation - the task will be simplified, and the outcomes more likely to be productive. Put another way, a banded obligation is unlikely to be in itself satisfactory as a long term support mechanism. However, as a short and medium term precursor to abolition and replacement with a carbon tax banding might function as an effective means of weaning the renewables sector without making it a permanent addict of state support. It would greatly assist market planners if the transitional nature of this revision were to be made apparent as soon as possible.

ANSWERS TO SPECIFIC QUESTIONS

Questions are as found in the consultation texts, and are presented in bold italic type. We have not offered responses to all questions.

Q1: Are there any technologies that will fall into the reference band as ‘others’ that should be given a different support level? Please provide evidence as to the technology and cost.

Q2: Do you agree that it is appropriate to distinguish between energy crop and regular dedicated biomass projects?

Regardless of whether it is desirable we wonder whether it is in fact feasible to do so, given the already complex nature of the system.

Q3: Do you agree with the rationale for grouping technologies in this way?

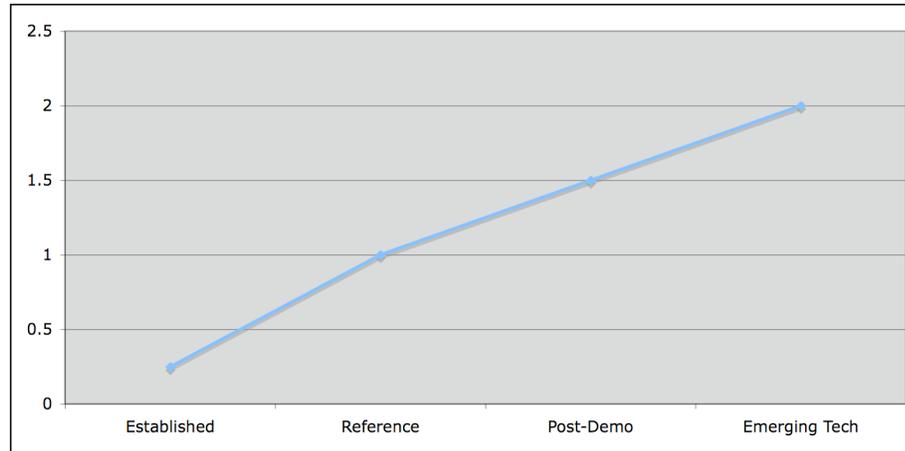
As noted above in our Introduction we believe that it would be more helpful if the bands were to recognise merit gradients between despatchable and non despatchable renewables.

Furthermore, while we appreciate the motivation behind grouping technologies into just four bands, namely relative simplicity, we believe that this may have the unintended consequence of driving investment into the single technology within a band that has the lowest development costs. That is, the problem of artificially favouring one technology over another will arise, as it does at the moment, but at a finer level of granularity.

Q4: Do you agree with the proposed banding levels? If not, please provide evidence as to why these should be changed. Views are also invited on the reports by Ernst and Young and Oxera published alongside this consultation document

We are very concerned at the proposed graduations in the banding levels. BERR plausibly rejects separate bands for individual technologies on the grounds of simplicity (see para 2.8 in the consultation text), and proposes the creation of four groups of technologies, Established, Reference, Post-demonstration, and Emerging (see 3.5). While entirely understandable this approach does not offer a high degree of discrimination, and there will be considerable variation between the technologies (and between instantiations of technologies) gathered together in one band. **Given this wide variation within the categories, and the generally coarse-grained approach of the bands, we believe that the graduations of rewards between one band and another should have a linear relation one to another unless a non-linear relationship can be thoroughly rationalised.** To put this another way, in a perfectly tuned support system each technology would get the same percentage of incentive above the average cost of development (assuming what we want to reward each technology equally, and putting aside other issues of quality as despatchability). However, by grouping technologies into bands this degree of precision has already been sacrificed, and replaced by a relatively arbitrary binning. Given this it seems important for the relation between the bins to be consistent, unless very specific reasons can be given for favouring or penalising those in a particular bin.

At present the ROCs per MWh proposed (0.25 for Established, 1 for Reference, 1.5 for Post-demonstration, and 2 for emerging technologies) are clearly non-linear:



ROCs/MWh (vertical axis) in each of the four bands proposed

This distribution does not appear to be justified by any reasoning in the consultation texts. Depending on the perspective chosen we might say that Established technologies should be offered more (0.5 ROCs/MWh) to bring them into line with the others. Alternatively that Post-demonstration and Emerging Technologies should have their shares increased (to 1.75 ROCs/MWh and 2.5 ROCs/MWh respectively). **From both perspectives it appears that technologies in the Reference case are being favoured without any proffered rationale.**

In the absence of such reasoning the only manifestly equitable solution appears to us to be revise the graduation of the rewards.

In view of the points made in our introduction, above, with regard to the merits of continuing to incentivise further technological development in low capital cost firm renewables such as sewage gas it might seem that increasing the reward offered to the lower band from 0.25 ROCs/MWh to 0.5 ROCs/MWh would be a sensible choice, and we recommend this for consideration. However, **given the stated aim of the revision, namely to increase the uptake of post-demonstration and emerging technologies, we suggest awarding 1.75 and 2.5 ROCs/MWh to these bands.**

In addition we are not convinced that onshore wind is usefully bracketed with hydro power in the Reference band. Indeed, given that, as the consultation text remarks, they are both “well-established” technologies, and it is a byword of the wind industry that its technology is relatively cheap and market ready, it is on the face of it odd that they are included in the Reference band at all. Rising electricity prices should make both technologies attractive without extreme levels of subsidy support, a point already evident in the well-known comments of the National Audit Office and Ofgem.

Hydropower has, of course, redeeming intrinsic qualities that could be argued to justify its position in the Reference grouping. Onshore wind, however, does not clearly belong to this category. Any sector analyst familiar with the IRR expected of onshore wind projects would agree that current subsidy offers extraordinary rewards for investors. *While we accept that the capital cost of wind plant had increased significantly at the time at which DTI (as it then was) was considering banding, it seems to us an over-reaction to assume that these cost increases are*

significant enough to overcome the very considerable degree of oversupport provided under the unbanded RO, and more or less certain to persist.

In relation to the last point we note that BERR's consultants, Ernst & Young, write in their study *Impact of Banding the Renewables Obligation*, that:

Levelised costs for onshore and offshore wind technologies rise to 2010 to reflect a view that the current turbine supply constraints and the high price of steel will continue. After this, prices are expected to fall as the supply chain stabilises.

In view of this **we do not see why onshore wind, notoriously one of the least capital intensive of renewable technologies, and in itself mature, has been accorded a place in the Reference band. Instead we recommend that onshore wind is placed in the Mature Technologies band.**

Failure to reband onshore wind will greatly weaken the beneficial effects of banding overall, particularly if the non-linearity of the graduations noted above is retained.

Moreover, we further note the contradiction between paragraph 3.3 and paragraph 3.7. In 3.3 BERR writes:

[...] we do not think that multiple ROCs should be provided for the development of wind farms at sites where wind speed is low and grid or customers are distant.

However, at 3.7 we read:

Onshore wind and hydro-electric are both well-established technologies but which require significant capital investment proportionate to the electricity generated. They also have a wide range of levelised costs which reflects the degree to which their output is dependent on the energy from the wind or water which passes through the turbine. [sic]

It seems likely to us that these passages were written by different authors. Certainly, there is a conflict between the robust attempt in 3.3 to ensure the efficient use of resources, rather than the encouragement of fundamentally ineffective generation proposals, and the confused sentences in 3.7 which seem to suggest that windless sites, or waterless hydro plants, deserve more subsidy simply because they are windless and waterless.

We further note in this regard that the current proposals to reverse an earlier plan to break the link between RPI and the buy-out price are misconceived. The consultation text observes that since making the initial decision "we have seen rises in the costs of renewable electricity technologies":

Moreover, new analysis commissioned to inform our banding proposals indicates that we are likely to see further rises in the costs of renewable electricity technologies in 2010/11. The implication of this is that the projected deployment of renewables is now lower than at the time we published the Energy Review Report.

However, the new analysis, the Ernst & Young report, in fact suggests that the costs of major renewable electricity technologies such as onshore and offshore wind will rise and then fall back to 2006 levels. In this context BERR's decision to abandon plans to break the Buyout-RPI link in order to protect the consumer from expense is difficult to understand. There is no merit in

providing excess support to the renewables sector, and a high risk that this will result in a loss of public confidence. We believe that BERR should revisit this matter.

Q5: Do you agree with the proposal that Geopressure occurring in conjunction with fossil fuel should be excluded from the RO?

Since this is technically a non-renewable source there seems little reason to oppose its exclusion. However, we take this opportunity to observe that semantic questions such as this can only arise under a poorly designed system such as the RO.

Q6: Do you agree with the principle of providing independent advice to Ministers to help agree UK wide bands, and on who should provide that advice?

We wholeheartedly endorse the principle of providing independent advice to Ministers. However, the slightly compressed grammar of this question recalls the Latin epigram, *Quis custodiet ipsos custodes?* (who oversees the overseers?), and reminds us of the extreme difficulty of ensuring that the advice is impartial and the committee not vulnerable to becoming the lobbying captive of commercial or political interest. We suggest that a respected and obviously independent energy economist, and we suggest Dr Dieter Helm of New College, Oxford, should be appointed as the Chair of the committee and then given the liberty to select his deputy, and that they should then select the remaining members of the committee.

Q7: Do you support this approach to timing of reviews?

We would prefer the timing of reviews to be left to the independent committee, which should be convened as a matter of urgency to determine this matter.

Q8: Do you agree with the criteria set out in paragraph 4.14? Should there be any additional criteria?

No additional criteria are needed, given criterion (g).

Q9: Do you agree that the proposed trigger points for grandfathered rights, including the transitional arrangements for projects consented on 1st April 2009, are appropriate?

We do not accept that grandfathering is required, certainly not beyond the point at which initial investment has been paid back which we understand tends to be about 10 years, and in some cases we believe is very much less. Current projects in receipt of hyperprofits under the Renewables Obligation should not be guaranteed continuance of manifestly undue rewards; to allow such a state of affairs to continue would be corrupting for the renewables sector, unjust for the consumers who are obliged to bear the cost and discreditable to government.

Q10: Should the electricity generated from power stations that add additional capacity after the point at which they are grandfathered be calculated as a fraction pro rata to the installed capacities and/or be subject to separate metering at the generators' discretion?

The over-complication implicit in fractional grandfathering is an argument against it, and indeed against grandfathering overall.

Q11: Do you agree with the proposed treatment of projects under 50 kW as set out in para 4.21?

This special treatment is unobjectionable.

Q12: Is there any reason why RO support at the grandfathered level would need to continue after the initial investment had been paid back?

As noted above in response to Q9 we do not believe it is in the national interest to guarantee undue rewards. While Government should endeavour to preserve market confidence, there is little merit in persisting in a known and manifest error, and doing so is more likely to undermine governmental credibility than reinforce it. **Grandfathering is in principle undesirable from the point of the view of the subsidising consumer and should be dispensed with altogether.** *At the very least grandfathered rights should be limited, and the payback of initial investment is a suitable point.* However, we are concerned that determining this point will be difficult without the co-operation of plant owners, and may result in much creative accounting.

Q13: Accepting that there will be variation between projects, is 20 years a fair proxy for project financing?

No. If it is assumed that the distribution is normal with a mean of twenty years, but the distribution is in fact skewed then absurd results will ensue. A thorough database should be obtained in order to design grandfathering that does not inadvertently over-reward many projects.

Q14: Should this provision apply to projects under NFFO 3, 4 and 5 from date of contract, date of first supply or date of commencement in RO?

Once again, the Byzantine nature of these questions reveals the fundamental folly of grandfathering, and of complex market interventions. If grandfathering entails such bureaucratic intricacies, then grandfathering should be avoided altogether.

Q15: Is a guaranteed headroom of 6% adequate, given the ability of suppliers to bank ROCs and our intention to also remove the risk of a ROC price crash through introducing the ski-slope?

The fact that BERR considers it necessary to consider Headroom and Ski-slope in order to trim the RO is a severe indictment of the original plan, and “in-flight redesign” of this kind seems very unlikely to be either successful or to avoid further unforeseen consequences.

We conclude, as discussed in our introduction, that BERR should be planning for the supersession of the RO, not its distressed preservation in the longer term. **We therefore recommend that neither Headroom nor Ski-slope are adopted.**

Q16: At what point in time should the level of Obligation for a given obligation period be announced?

This matter should be left to the independent advisory committee.

Q17: Do you agree with the intention to take a power to introduce a ski-slope in primary legislation subject to a later need?

No. See our answer to Q15 above.

Q18: Do you agree with the need for a special co-firing criterion for an emergency review of banding? Is 10% of ROCs an appropriate trigger point?

The UK's need for firm power, and the likely impact of the ambitious EU renewable energy targets could make co-firing extremely attractive in the future, and beneficial to the United Kingdom and its people in terms of security and reliability of supply, and meeting EU obligations at reasonable cost. It seems to us inadvisable to place any sort of barrier to prevent unfettered market movement towards this option. **We therefore oppose the introduction of any special review trigger related to co-firing volumes.** Elsewhere in the Consultation the Government expresses its wish to honour market principles; this would be a very good point at which to demonstrate its credentials on this matter.

Q19: Do you agree with the Government's proposal that reducing support and reviewing the co-firing band for regular biomass if it contributes 10% of ROCs makes a cap on co-firing unnecessary? If not, please provide evidence as to what the likely impact of uncapping co-firing at the proposed level of support would be and the level of cap appropriate.

We agree that a cap on co-firing is unnecessary.

Q20: Do you agree with the proposed treatment of energy crops set out in paragraphs 6.9–6.14?

We support the measures outlined, and applaud their rigour and commitment to encouraging energy crops in the United Kingdom.

Q21: Do you agree that sustainability requirements should cover all biomass users?

Yes, though the bureaucratic burden must be tolerable small users.

Q22: Should those generating less than 50 kW be exempted from sustainability reporting? Should any other threshold be used

It seems undesirable to make exceptions in regard to this important matter, and preferable instead to ensure that the bureaucratic burden is tolerable for small generators.

Q23: Do you agree with the criteria to address sustainability for biomass?

Yes.

Q24: Do you agree that Ofgem should freeze the ROCs of operators who do not provide the necessary information on sustainability?

Yes.

Q25: Do you agree that deeming the fossil fuel content of waste is appropriate? Should operators be given the opportunity to present Ofgem with evidence that the fossil fuel content is lower?

Quasi-arbitrary assumptions (“deeming”) are clearly undesirable; operators should have the opportunity of presenting empirical evidence to support other estimates.

Q26: Is 65% fossil fuel the right level to deem? Does the remaining 35% receiving ROCs provide a suitable incentive through the RO without compromising the Government’s aspirations for increased recycling?

Q27: Do you agree that the RO should be made ‘neutral to waste (SRF)’ in this way? Would there be any negative consequences? Do you agree that a CEN based definition is appropriate?