

Stephen Clark
Renewables Obligation Policy
Department of Trade & Industry
2nd Floor
1 Victoria Street
London SW1H 0ET

6 September 2007

Dear Mr Clark,

Response to the consultation on Reform of the Renewables Obligation

Summerleaze Ltd is one of the most long-standing and substantial investors in renewable energy in the UK. We commissioned our first renewable generating station, at Wapseys Wood landfill in Gerrards Cross, in 1987. In each of the last two years, we have produced over 300 GWh of renewable electricity.

We sold our landfill-gas generation business earlier this year with a view to reinvesting in less mature sectors of the market, where private companies like ours can best utilize our advantages of independence and flexibility. The structure of the renewable-electricity market is therefore of great significance to Summerleaze. Our confidence in its stability and rationality will determine the extent to which we reinvest in the sector, or look for alternative investments that are less exposed to political manipulation.

Summerleaze had already begun investing in two immature renewable technologies – anaerobic digestion (AD) and renewable hydrogen – before the landfill-gas business was sold. We hope that AD will be a significant part of the development of our company in the coming years, and that it will play an increasing role in meeting the challenges of the UK's wastes-management and renewable-energy sectors. However, our most substantial investment in this area – Holsworthy Biogas Plant in Devon – is threatened by the proposals in the consultation regarding grandfathering of emerging and post-demonstration technologies.

Holsworthy is the largest and oldest merchant AD facility in the country, representing approximately 70% of the total output from non-sewage AD generation in the UK. To undermine its prospects is to undermine the prospects for the sector. The lessons regarding vulnerability to changes in the support mechanism will not be lost on investors in other technologies either.

Our subsidiary, AnDigestion Ltd, which develops and operates our AD facilities, has submitted a response to this aspect of the consultation. Naturally, Summerleaze endorses the views in that submission. We request the Minister to give careful consideration to the advice that AnDigestion has obtained that the proposals are discriminatory and unjustified in this regard.

Summerleaze has seen many policy proposals and “improvements” come and go in the more than 20 years that we have been involved in renewable energy. In general, each “improvement” to existing policy has made matters worse. The current proposals to “refine” the RO are no exception. Like their predecessors, these changes are intended to improve the efficiency and delivery of the mechanism through the use of increased targeting and micro-management. Though it will be impossible to demonstrate what would have happened had these proposals not been implemented, and any increase in renewable output will therefore be claimed as a success, it is certain that in reality these proposals will do more harm than good.

We set out the many arguments against the proposed banding of the RO in our response to the previous round of consultation on the banding proposals. Although Summerleaze may, in theory, benefit from the proposed changes (as our principal investment is now in a sector that is being banded up), we stand by those arguments. Even if those benefits were real, which we doubt, we do not believe that it is any more in our interests than in the broader interests of the industry, of the environment, or of society, for the Government to implement proposals that bear so little relation to reality that they must inevitably be challenged and modified or replaced in due course, with further upheaval and uncertainty to all in the industry, beneficiaries or victims of the current proposals alike.

Many of the arguments that we raised in the earlier consultation were also made by the broader industry, for instance in the submission of the Association of Electricity Producers (AEP), of which Summerleaze is a member. Yet the Government seems to have taken very little account of the criticisms posed by those who have the most experience of the renewable-electricity market, when developing the detailed proposals that are the subject of this consultation. We agree with the AEP that “the Government is misrepresenting the responses received to that consultation when it suggests that there was a consensus in support of banding. In many cases no change was preferred over the banding proposal.” It is clear that the captain, confident in the assurance from designers who have never been to sea that his ship is unsinkable, has set course for the iceberg, will not be persuaded by the experienced members of his crew to change course, and now wishes only to discuss the seating arrangements on the deck. It is in this spirit, somewhere between frustration and resignation, that we have responded to this document.

We wait with apprehension for the conclusions from this round of consultation.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Bruno Prior', with a stylized flourish at the end.

Bruno Prior
Director
Summerleaze Ltd

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.

The inclusion of “others” within the Reference category, rather than within the Emerging-technologies or Post-demonstration bands implies that technologies that have not even been thought of yet will come to light fully-formed and competitive with established technologies like onshore wind. This is highly unlikely. The risk that this categorization will deter new technologies is much greater than the risk that inclusion of “Others” within the Emerging-technologies band would result in new, competitive technologies being over-rewarded or flooding the market before the earliest review period. “Others” should be included within the Emerging-technologies band. The existing list of technologies would then be sufficient.

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

No. There is no additional carbon-benefit (in fact, use of residues probably has greater environmental benefits). In the looking-glass world in which something is worth what a consultant thinks is needed in order to deliver it, rather than simply what it is worth, then perhaps the answer would be “yes”. But one should not take looking-glass questions and answers seriously.

It is also inappropriate to provide more generous incentives to use biomass for electricity-generation than for other purposes, such as green heat, which deliver greater environmental benefits. Whatever levels of support are provided to biomass-users under the RO should be matched immediately by incentives that encourage the use of biomass for production of heat, proportionately to their relative carbon-benefits, to avoid distorting the market and making inefficient use of our biomass resources.

Those who use biomass should be under an obligation to demonstrate that the fuel is from sustainable sources (i.e. the area from which the fuel was drawn was/will be replanted, and that no rainforest or other sensitive habitats were destroyed to make the land available for its production). This should be a positive obligation to document the source of the fuel, and not a negative obligation not to use fuel which is shown to have come from unsustainable sources. A commitment on the part of the industry to apply various checks for sustainability “where practical” is insufficient. How often will it prove practical where there is any element of doubt about the sustainability?

There is an issue with regard to how a single furnace/turbine-pair in a coal-fired power station, which is converted to use biomass exclusively, will be treated. Some large generators hope that this will be treated as dedicated biomass. If the RO is now being designed according to questions of need rather than value, and if existing stations that received grants are to be banded down, then existing coal-fired power-stations whose capital was originally provided by the state, whose returns have been guaranteed by regulation, and for which costs of conversion (per MW) are very much less than the cost of building new dedicated plant, should be treated in the same way as other existing installations, and be banded down accordingly.

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

No. The Government needs to decide whether it is providing support on the basis of need or on the basis of value. If on the basis of value, there is no justification for banding. If on the basis of need, the banding levels are too imprecise to provide what the various technologies need.

In the unlikely event that the Ernst & Young (E&Y) guesstimations proved correct for any, let alone all the technologies, then some technologies will be reaping “windfall profits” while others will be uneconomic in most cases. The value of electricity from technologies receiving double ROCs will likely be in the region of £120/MWh, falling to perhaps £110/MWh (at today's prices) as we enter the fixed-headroom period (post-2015), if the Government's forecasts of the level of compliance are correct. E&Y calculate that the medium levelised costs for emerging technologies are as shown to the right. Even leaving the hopeless PV out of the equation, that is a range of £92/MWh in levels of support needed to deliver a range of technologies, of which only one (AD) is calculated to be economic at the energy-value (£120/MWh) resulting from allocating double ROCs. And even AD is calculated to be uneconomic by 2010, at the anticipated levelised costs of £133/MWh. The whole point of banding is supposedly to deliver a range of technologies, and yet the Government's own figures suggest that most emerging technologies will not receive sufficient support.

<i>Technology</i>	<i>Costs (£/MWh)</i>
AD with CHP	107
Dedicated energy-crop	122
Gasification/pyrolysis	127
Dedicated biomass+CHP	135
Tidal	181
Wave	199
PV	635

If support for the emerging-technologies band were increased to deliver an energy-value that would be expected to deliver a reasonable number of projects from the various technologies, on the basis of E&Y's guesstimations, then some of the more competitive members of the band would be reaping the sorts of “windfall profits” that the Government has found so offensive in the unbanded RO. But then again, as the range of project costs within each technology varies wildly, even subdividing this band would still yield “windfall profits” to those projects of each technology that were most competitive (i.e. efficient and justifiable). It seems that the Government will be unable, despite their best efforts, to prevent the most efficient installations from making more profits than less efficient installations. They will simply have redefined the notion of efficiency. To date, efficient installations have been those that delivered renewable energy most cheaply. Under the proposals, efficient installations will be those examples of each technology that are cheaper than others of their technology-class, regardless of whether they are more expensive than examples of cheaper technologies that were made uneconomic by the changes. It is analogous to giving preferential support to the Lexus RX Hybrid over the Rover Mini, because the Lexus is the most efficient in its class (SUVs) whereas the Mini is only in the middle of its class, even though the Mini is in reality twice as efficient as the Lexus.

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

Under the Non-Fossil Fuel Obligation, between 1991 and 1998, the costs of landfill-gas and onshore-wind generation converged. By NFFO-5, there was only a 5% difference between the weighted-average prices bid for the two technologies.¹ These prices were, of course, too low (at around £30/MWh) for both technologies, accounting for the low uptake of the later NFFO tranches, and the very much faster development of renewables under the RO than under NFFO. Nevertheless, since the mid-90s, it has been a reasonable assumption within the renewables sector that the costs of landfill-gas and onshore-wind generation are similar and competitive.

¹*Evaluation of DTI Support for New and Renewable Energy under NFFO and the Supporting Programme*, Final Report to the Department of Trade and Industry by Frontier Economics and Byrne O Cleirigh (December 2001), Annex 4. <http://www.berr.gov.uk/files/file21996.pdf> (main report) and <http://www.berr.gov.uk/files/file21997.pdf> (Annexes)

Yet, according to the proposed banding, the average cost-differential between the two technologies is now around £30/MWh (the approximate value of the difference between the Established band in which landfill gas is categorized, and the Reference band into which onshore wind falls). This is strange, because, by E&Y's estimations, the difference between the medium levelised costs of landfill gas (£48/MWh) and of the larger, better-located wind projects (£62/MWh) is less than half the difference in support provided to the technologies. The consultation document states (para. 3.3) that:

“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. The RO was developed as a market mechanism to pull forward the most economic and efficient projects and this remains our aim within the bands set out below.”

The comparison of the more efficient examples of the technologies would seem, therefore, to be the one that the Government intended. According to their own figures and objectives, there does not appear to be any rationale for the scale of the difference in support for these two technologies.

Those figures are, anyway, highly suspect. The wind industry's trade association, the BWEA, states that:²

“Wind energy is one of the cheapest of the renewable energy technologies. It is competitive with new clean coal fired power stations and cheaper than new nuclear power. The cost of wind energy varies according to many factors. An average for a new onshore wind farm in a good location is 3-4 pence per unit, competitive with new coal (2.5-4.5p) and cheaper than new nuclear (4-7p).”

So the BWEA's estimated costs for well-located projects is, at £30-40/MWh, half E&Y's levelised costs of £62-72/MWh, and considerably lower than E&Y's estimate for landfill gas of £48/MWh.

One would have thought that an industry's trade association should have at least an approximate grasp of its costs of development. And there are aspects of the E&Y figures on onshore wind that reinforce the suspicion that their estimated costs for onshore wind are exaggerated significantly. For instance, they indicate (p.8) that the operating costs for well-located projects are £38,000 – £54,000/MW/year and for lower-wind sites £38,000 - £44,000/MW/year. They assume that the load factor for the good sites is 31% and for the poor sites is 26%, which allows us to calculate that their assumed operating costs are between £14 and £20/MWh for the better sites, and between £17 and £19/MWh for the worse sites. It is axiomatic within the renewables industry that combustion technologies are relatively low-capital-cost, high-operating-cost installations, whereas onshore wind projects are relatively high-capital-cost, low-operating-cost installations. But E&Y's figures imply that the operating costs for onshore wind are as high as for many combustion projects.

The rationale for differential support is that less mature technologies need encouragement to allow them to move along the learning curve and reduce their costs. If technologies are simply more expensive with no prospect of becoming competitive in the future, the argument for differential support is undermined. Onshore wind is, by most people's standards, a mature technology. This is reflected in E&Y's calculations, which indicate that the anticipated levelised costs in 2015 will be no cheaper than today, and by 2020 will be 2-3% cheaper than today. That is 0.15-0.23% per year, if we take E&Y's starting figures. If we take the figures that the industry itself believes, and was prepared to bid in NFFO-5, then onshore wind is travelling fast in the wrong direction along the cost curve. An unlearning curve? The cost of experience? Whatever we call it, there appears to be no justification for maintaining high levels of support for a mature

2 <http://www.bwea.com/ref/faq.html#cost>

technology that is getting more expensive with time. Or put another way, there is no rational basis for differentiating the levels of support provided to onshore wind and landfill gas.

The same exercise could be carried out comparing many of the technologies under consideration. Offshore wind, for instance, is estimated by the BWEA to cost around 40% more than onshore wind.³ Based on the BWEA's figures for onshore wind, that puts the cost of offshore wind at £42-56/MWh. E&Y quote medium levelised costs of £91/MWh. The BWEA predict that "as happened onshore, these prices are expected to drop as technology improves and more experience is gained." E&Y predict that costs will have fallen by the grand amount of 6.5% by 2020 (0.5% a year), still over 50% higher than the BWEA indicate that the technology costs today.

E&Y's figures provide scant justification for the levels of support to be received by many of the technologies under a banded RO, and in any case, most of E&Y's calculations appear to be wildly inaccurate. In many cases, E&Y cannot possibly know what the costs of technologies will be in 2015 or 2020, and the figures provided represent little more than attempts to pin the tail on the donkey using pseudo-predictive arithmetic – a methodology that appears to have failed to have predicted, even approximately, the current costs of some of the more mature technologies.

Several technologies (besides onshore wind) are shown as being significantly more expensive in real terms by 2020 than they are today. If this were true, there would be no justification for supporting them beyond the value of carbon avoided, but there is no reason to regard these guesstimations as accurate.

The costs of some other technologies (e.g. PV, wave and tidal) are expected to fall significantly, but as those costs do not fall by 2020 to the point where the technology would be economic at the level of support provided, one has to ask how the learning-curve will be traversed in order to achieve these savings when the support will be insufficient to enable development? A modern Catch-22.

As for the Oxera report, if E&Y's figures are as inaccurate as they appear to be, Oxera cannot forecast with any degree of accuracy the impact of measures based on false assumptions about the economics of the various technologies. This is compounded by a failure to grasp the realities of the market impacts of the measures under consideration (see below). But then, what are we doing, forecasting the outcomes of markets? If it were possible to do this accurately, why would we bother with markets?

An interesting illustration of the unreliability of the calculations in these two reports, and therefore of the assumptions on which the proposals are based, has come to light recently. DBERR has circulated a questionnaire to the industry, asking for its advice on the potential for renewables and how to encourage it, with regard to the European targets to achieve 20% renewables by 2020. This seems somewhat contradictory, when the basis of the proposed modifications to the RO is that DBERR can predict with great accuracy how much various technologies cost and what contributions they will make. For instance, the questionnaire asks with regard to renewable electricity:

3 <http://www.bwea.com/offshore/faqs.html#cost>

“What is the scope for increasing deployment of each of the following technologies? What constraints would need to be overcome, and how much would be the cost (for industry, consumers and taxpayers)?

- *On-shore wind*
- *Off-shore wind*
- *Biomass*
- *Tidal barrage*
- *Hydro*
- *Wave/ tidal stream*
- *Solar*
- *Micro-generation”*

Are DBERR not satisfied with the answers provided by E&Y and Oxera? How is it possible for the Government to push on with its proposals to modify the RO when it does not have confidence in the assessments of the studies on which those proposals are founded? If this is just consultation and not an indication of dissatisfaction with the reports, why is DBERR consulting twice simultaneously on the same subject?

“To what extent can increased deployment be delivered through enhancing the RO? What (if any) other financial incentives should be used?”

Oxera have calculated this for the Government. The RO consultation has used those calculations as justification for the proposed measures (e.g. paras. 2.5 & 2.6). Is there a problem with those calculations? If there is doubt about the validity of those calculations, is the Government not obliged to reconsider not just the detail of the proposals, but the generality as well? To change the RO without being confident of the effect of and justification for those changes would be irresponsible.

The RO is not an appropriate mechanism through which to provide support for RD&D, as it is now being asked to do under the banding proposals. Co-firing would be best taken out of the RO, so that it could contribute as much as is appropriate without threatening to collapse the value of ROCs. The availability of funds to enable separate support for these aspects would have avoided the need to butcher the RO in the manner proposed. But when these points have been put to representatives of the Government, the answer has been that there is no additional money available for separate mechanisms, which is why differential support has to be delivered through the RO. But if the question about “other financial incentives” is not completely abstract and pointless, it seems that funds may in fact be available. This was not an option considered when the generality of banding was first consulted on. If it is now available, the Government ought to reconsult on the generality.

The questionnaire also asks about how to “reduce planning constraints”, “overcome grid connection issues”, “address supply-chain constraints”, what other issues might be relevant, and how measures to address these issues might affect the levels of deployment. If all of these are open to speculation, the degree of confidence that can be placed in E&Y's and Oxera's calculations must be minimal. The questionnaire reveals that the Government has little confidence in current advice on the future costs and contributions of renewables, and therefore cannot state with any confidence that banding the RO will have the effects that they claim, let alone that the levels proposed are the right ones.

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

Naturally-occurring geopressure should be included within the RO, while the RO remains the only viable mechanism to reward use of energy that would otherwise be wasted.

However, the tensions inherent in a technology that is dependent on fossil fuels as a transmission mechanism, whose encouragement might make marginally uneconomic fossil-fuel deposits economic (and therefore increase carbon emissions, in a manner analogous to the effect of supporting co-firing on the choice whether to dispatch coal or gas), and yet which does not result directly in additional carbon emissions, demonstrates the inadequacy of our current mechanisms, which reward amorphous or arbitrarily defined “greenness” as a positive rather than simply placing a cost on carbon emissions as a negative. If we had proper carbon-pricing, there would be no need to make the arbitrary decision whether geopressure is or is not a renewable.

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 do not need any more quangos, NDPBs or commissariats. An independent body will be yet another burden on the taxpayer, and a means for Ministers to avoid their responsibilities, with the vices of any centralized, coordinating organization, but without democratic accountability.

Independence does not mean impartiality, as the members bring their prejudices with them to the committee table. These prejudices have the tendency to become self-fulfilling prophecies, as policy is tweaked to provide more support to the technologies they favour. The illusion of authoritativeness that membership of such an advisory body confers will make it difficult for dissenting voices to be heard, and therefore for the Minister to receive good and balanced advice.

Neither the Minister nor the members of an independent body can know the circumstances of every renewable project (those that exist, and those that might) and the latest developments in their markets and technologies. Independent advice is no answer to the questions of the diffusion, transmission and use of knowledge in society. If proposals require central coordination, whether by a Minister or by an advisory committee, they have created an institutional framework that will sooner or later succumb to the intractable problems that Hayek identified.

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

Infrequent or absent reviews could leave some technologies to stagnate, if the previous decision had been faulty or circumstances had changed significantly. Frequent reviews increase the uncertainty faced by developers, that they may not get the level of support that they believed they would receive when they started planning a project. Either way, some development is deterred. The necessity for reviews, whether frequent or infrequent, demonstrates that the banding proposal is conceptually flawed, and that we need to return to the drawing board.

If the review process must take 30 months, as indicated, then a five-year frequency is as frequent as could be tolerated. Any higher frequency than this, and the industry would be under almost perpetual review. However, a 30-month review period is intolerable. The Sword of Damocles will be hanging for that period over all those technologies whose banding may be adjusted. It will be difficult for the Government to prejudge the outcome of the review, so a degree of uncertainty is likely to apply to most technologies. Development is likely to proceed in waves, as it slows during each review period while it waits to learn the outcome of the review. The answer, if we must have a system that requires reviews, should be to carry out the reviews very much quicker than this. 18 months (including Review Period and Notice Period) should be more than sufficient.

The Government should recognize that five-year review periods are likely to intersect in a complex manner with the electoral cycle, increasing the uncertainty in the industry.

The attempt to match the review cycle to the phases of the EU Emissions Trading Scheme (EU-ETS) is made ineffective by the fact that the Government currently cannot say with confidence what form any European mechanism will take after 2012, either with regard to the way the mechanism works or with regard to the periods over which it applies. Moreover, even if the mechanism were broadly an extension of the current EU-ETS arrangements with five-year phases, the fact that each RO review takes 30 months will mean that the conditions in the carbon market from the time that the results of the review are enacted may be very different to the conditions in the carbon market that were considered in the review.

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

“Other unforeseen event with significant effect on the operation of the RO” would seem to cover just about all possibilities, and make additional criteria unnecessary. With this set of criteria in place, the industry can be assured that a review may be just around the corner at any time. There will be no complacent assumptions that the current levels of support will be maintained – all technologies being exposed, via impacts on compliance, to changes to any other technology as well as their own. Uncertainty will rule, forward values will be more heavily discounted, and costs of development will increase, particularly for less mature technologies.

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?

The proposals with regard to grandfathering of emerging and post-demonstration technologies are highly prejudicial to Holsworthy biogas plant, operated by AnDigestion Ltd, a subsidiary of Summerleaze. AnDigestion has submitted its own response to the consultation with regard to this point. Summerleaze strongly supports AnDigestion's submission, and refers the Government to this submission for its answer with regard to this question. In short, if the Government is to honour its oft-repeated pledge not to prejudice existing installations, emerging and post-demonstration technologies with significant fuel costs must not be grandfathered down.

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?

Operators of some technologies, such as anaerobic digestion (AD), may invest to increase their output by increasing the utilization of the existing generating equipment (i.e. increase the load factor), rather than by adding capacity. If additional output can only be measured either by reference to installed capacity or by separate metering, such installations will be unable to gain the benefit of their investment, and such investment will be deterred, though these may be some of the most efficient increases in renewable output that could be achieved.

This is only an issue if such technologies are grandfathered down, as proposed. The answer is to exempt such technologies from grandfathering.

In the case of technologies that are grandfathered up, such as landfill gas, investments may already have been made on the basis of projected gas curves and expected yields. To reduce the level of support received by additional capacity is to renege on the commitment to protect “the position of those who have made significant investments”. The simple solution for technologies that are grandfathered up is to grandfather the sites, not the capacity.

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

No comment.

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

If the Government can guarantee that all projects will achieve payback in a predictable period of time, or that those whose payback is delayed for some reason will be suitably compensated, then it may be appropriate for the Government to consider withdrawing support from projects after a notional payback period. Failing that, the Government should not behave as though project economics were predictable and regular across all projects, particularly given their uncertainties in this regard that were highlighted in our answer to question 4. The possibility that some projects may run for longer than the expected payback period balances the risk that other projects may never achieve payback. To remove that possibility would increase the risk and either discourage businesses from investing or at least force them to look for higher returns during the payback period, which will inflate the cost of renewables.

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

The shorter the period that is grandfathered, the earlier will grandfathered projects be closed. They may not close immediately, and may continue to run for as long as there are no problems, no additional investment is required, and they can continue to cover their running costs with their reduced revenue. But as soon as the projects require additional spending, which comes to all old installations sooner rather than later, they will be more likely to close than if a limit had not been put on the grandfathered period. Throwing away existing capacity is not a good plan for a government that wants to maximise renewable output.

It also presents a challenge in terms of managing the fixed headroom proposals and the impact on compliance. A large number of grandfathered projects coming off-line from around 2015 onwards could have a significant depressive effect on compliance-levels. The fixed-headroom mechanism is not designed to accommodate a situation where compliance is falling.

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?

25 years from date of commencement in RO.

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?

No. The uncertainties over annual outputs are greater than generally acknowledged. The assumption is that only intermittent technologies, such as wind and wave, will vary significantly year-on-year, and that the range of probable variation can be measured with reasonable accuracy. This does not allow for breakages (e.g. Danish offshore wind has suffered severe unpredicted problems that have affected its output by more than would have been predicted from natural variation of the resource). Nor does it allow for the impacts of other factors on decisions to adjust the utilization of existing plant, such as the effect of carbon-prices in the EU-ETS on operation of co-fired capacity, the market value of heat and annual climatic variation on decisions about utilization of CHP, conditions in the wastes markets on technologies that treat waste, and the potential impact of regulatory decisions. Nor does it take account of the

possibility that the steady year-on-year increases in the overall level of demand for electricity may not continue (2006 having been the first year for a long time when total electricity consumption fell).

Perhaps more importantly, a low headroom assumes perfect knowledge in the market, and perfect confidence in the Government's ability to predict the future. Neither of these assumptions is reasonable. Developers cannot know accurately the scale and timescale of their rivals' plans. They cannot even know that their own intended developments will go according to plan. The Government is no more clairvoyant in this regard. The result is that developers will not develop as the risk increases that annual variability will result in full compliance, for fear that they may not even receive the full buy-out value of their ROCs, let alone any recycled value. Given the imperfection of developers' and the Government's knowledge, developers and financiers will require a substantial headroom to be confident that this devaluation of their ROCs will not occur. Additional headroom on top of the headroom to cater for annual variability is required to cater for this factor. Given that the annual variability is probably underestimated, and there may be a material risk of variation by 10% or more, the total headroom required to avoid discouraging investment is more like 20%.

This is why it has always been a mistake to talk about achievement of the targets within the RO. By the very nature of the mechanism, it has never been possible to achieve full compliance or anything close to it, and therefore it is not possible to achieve the targets. Long before others started talking about the cliff-edge, Summerleaze pointed out in our response to the consultation on the original proposals for the RO that it was necessary to set the level of the obligation well above the intended level of delivery, for this reason. This is why setting the profile according to expected levels of delivery (i.e. slow increases in the early years) was a mistake and resulted in less delivery than expected. At some point, the Government will have to recognize that a market mechanism labelled an Obligation does not deliver what the market players are notionally "obliged" to deliver simply because that is what the Government want them to deliver, but what the market players have incentives to deliver, which is a significantly lower amount because of the nature of the mechanism and rational attitudes to risk.

The intention to introduce a "ski-slope" mechanism does not reduce this risk. It increases it. To date, generators have been confident that they would continue to get at least the buy-out price. That is because the cliff-edge produces such a draconian effect that they could all be confident that investment would be deterred as compliance approached 100% (in practice, well before it, as explained above). If you turn the cliff-edge into a ski-slope, you destroy that assurance. Now developers and financiers have to calculate the risk that other developers might choose to develop even as we approach full compliance, and thereby collapse the ROC price. In terms of contracting forward, which is what most renewable projects need to do, this will very greatly increase the amount that forward values are discounted for the risk of a price-collapse, which will kill many projects. This is a classic example of the general rule of government intervention – that it usually has the opposite effect to the one intended.

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

Sufficiently late that it is possible to predict with reasonable accuracy the renewable output in the period in question, but sufficiently early that it is possible for those businesses who wish to contract forward to do so without incurring heavy discounting for the uncertainty. The Twelfth of Never, perhaps?

There is potential and incentive for electricity companies to game the process by which the Government sets the level of the Obligation. A vertically-integrated electricity company whose supply business is larger than its renewable-generation business, and who therefore has a net demand for ROCs, will have more to gain by withholding or providing misleading information

that causes the Government to underestimate the number of ROCs coming into the market in a period than it has to lose by thus depressing the value of its own generation during that period. Conversely, generating businesses will have strong incentives to overestimate their forthcoming capacity and underestimate their lead-times, as this will encourage the Government to overestimate the potential number of ROCs in the market, increase the level of the Obligation, and thereby increase the value of their output. Given the dominance of the vertically-integrated businesses in the industry, it may be expected that the former will outweigh the latter, but the Government cannot expect to be receiving accurate information in either regard, nor to have any strong basis on which to adjust the information provided in order to take account of the genuine and deliberate mistakes which undoubtedly will both occur. Of course, if Ofgem and the Government had not abandoned the policy, pursued in the early years following privatisation, of prohibiting vertical integration, this would be a more manageable problem, but it is not possible now to undo the damage that has been done by the abandonment of this policy in recent years.

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. The existence of the power to introduce a ski-slope mechanism without further primary legislation will be sufficient to cause the conditions described in the final paragraph of the answer to question 15 above. The Government should rule out ever introducing a ski-slope mechanism, to avoid at least one aspect of the damage that will be caused by these proposals.

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?

By some estimates, the wind resource in the UK is sufficient to supply the total electricity demand of the country – many times the level of the Obligation. Similar claims are made for the potential of wave and PV, though the economics of these technologies at present make it unlikely that they will threaten to collapse the ROC price in the near future. Advocates of geopressure technology, whose inclusion in the RO is being considered, claim that it has significant potential which could have a significant impact on compliance levels and therefore ROC values. Why is it that large volumes of output from one particular technology are considered more threatening than from other technologies? If there is to be a sub-cap or -trigger within the RO cap, why should it apply only to co-firing?

The need to consider ski-slopes and caps within caps demonstrates the irrationality of the mechanism, whether banded or not. As we approach full compliance, the marginal value of those aspects of renewable electricity that the RO seeks to reward (“greenness” and “newness”) falls to zero within the mechanism, even though, in reality, the marginal value to society is little different to the value of these aspects at a slightly lower level of compliance. Mechanisms that trade within a cap, whether the RO or the EU-ETS provide irrational incentives that distort choices.

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.

There is a great deal of uncertainty regarding what qualifies as “energy-crop” co-firing and what counts only as “regular biomass”. The differential levels of support for the two forms of co-firing will provide strong incentives for agricultural products that are currently grown nominally for purposes of food production to be redefined as being grown principally for the purposes of energy generation. This can include imported as well as home-grown products, so

the physical constraint on the resource is not the safeguard against this development that some assume. It is not only regular biomass co-firing, therefore, that could threaten to swamp the RO. As argued above, a marginal improvement would be a threshold above which any technology would be reviewed, but the real solution is to move eventually (while protecting existing investments) to a system without a cap.

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

The RO is an inappropriate mechanism through which to deliver an agricultural incentive. There does not appear to be any other justification for treating “energy crops” differently to “regular biomass”. And in the current circumstances of increasing demand for and prices of food, the agricultural justification is looking more shaky.

It is not obvious why energy crops are better used for generation of electricity than for production of heating fuels or transport fuels. But the provision of separate incentives with very different values for the use of energy-crops in power stations and for production of biofuels, and the absence of any mechanism to encourage their use for heat, implies that the Government has divined some reason why one use should be preferred over another. The three uses would be treated more equally (though heat would still be penalised by the range of policies) if the agricultural subsidy, to the extent that it is justifiable or politically necessary, were targeted at the agricultural product and not at certain types of energy produced therefrom.

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

Of course. As described in answer to question 2, these requirements should be strict, not vague and applicable only “where practical”, as the co-firing operators are proposing.

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

No comment.

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

Customers of biomass must be able to demonstrate that it was grown on land that was not deforested as recently as 2005. Massive deforestation of the rainforest has occurred in the years immediately preceding that date in order to grow products such as palm, whose by-products are being used by co-firers, which is therefore contributing to the incentive to destroy the forest. The excuse that palm oil is the principal product and that the use of the by-product therefore does not contribute to the deforestation is facile, as should be apparent to anyone who has even a glancing familiarity with the notion of marginal economics.

In practice, it is not so much the value that is placed on the products grown in deforested regions that is the problem, but the lack of value attributed to the forests. This goes to a deeper problem with the Kyoto mechanisms (and associated schemes such as EU-ETS). It is unlikely that detailed provisions in the RO can address the fundamental flaws in our international carbon-pricing mechanisms.

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

Freezing ROCs that have been issued can destabilise the market. But Ofgem must have sanctions with teeth if the sustainability requirements are to be enforced. As the freezing of ROCs would not adversely affect other generators (it might improve their position), it is the lesser of two evils.

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?

Deeming a low proportion of biomass content for waste-combustion processes (as proposed) is appropriate. Generators will have the option and incentive to demonstrate higher proportions where warranted and feasible.

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?

Yes. The Government's aspirations for recycling are irrational, distortionary, and often contradictory to other objectives, but if those aspirations are a given, then some competing incentive for energy-recovery is a welcome mitigating factor.

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?

Any removal of arbitrary barriers is probably an improvement. It is welcome to discover one or two examples of simplification towards the end of a document that is otherwise proposing to complicate and confuse a mechanism that is already too complex and narrow.