

Reform of the Renewables Obligation (Preliminary Consultation) Joint response by BWEA and REA

Executive summary

We applaud Government's intention to increase the volume and diversity of renewable electricity delivered to the UK grid.

Our preference would be to promote diversity through mechanisms outside the RO, but we recognise Government's strong desire to provide this benefit through reforming the system. Our response to this consultation thus attempts to work with the proposals in order to secure the maximum delivery, despite some substantive reservations about the reforms as described in the consultation document.

A banded obligation would in principle deliver greater diversity, but it is unrealistic to expect the reforms as proposed to deliver the much larger quantities of renewable power sought by Government.

We believe that removing the aim of 'net neutrality', and keeping the link between buy-out price and RPI in place beyond 2015, are essential steps towards the reforms providing a platform for strong growth.

Beyond these two major changes, the banding route requires careful setting of key parameters, the exact level of which can only be established once the structure of the RO mechanism is confirmed:

- Onshore wind must receive a multiple which allows the resource to be sensibly maximised, minimising disruption and maintaining investor confidence. Our assessment indicates that this requires onshore wind to remain at 1ROC/MWh;
- Offshore wind needs a multiple that provides early and appropriate support for schemes, allowing them to realise their potential to deliver substantial volumes of renewable energy;
- Emerging technologies must have a high multiple, plus additional support from outside the RO to reduce the risks associated with establishing early projects;
- Mature technologies should have lower multiples, reflecting their costs and risk.

Extreme care must be taken to ensure that investor confidence is maintained for existing technologies. Early clarification of the framework for offshore

wind is required to ensure timely delivery of this substantial resource. Both are required if Government objectives for energy are to be met. If the UK is to capitalise on its early lead in marine technologies, then early implementation of a long-term financial framework is also required.

Also key to maintaining investor confidence in the near term are appropriate grandfathering arrangements. We welcome Government's recognition that private sector entrepreneurs must not be penalised for taking the risk of entry, particularly into the onshore wind market. Were Government to take our advice and keep onshore wind at 1ROC/MWh, then many of these issues do not arise. However, were there to be any removal of value from onshore, Government must put in place arrangements that allow those projects currently under way to be grandfathered.

While appropriate financial support is vital to support investment, particularly for offshore wind, just as important for delivery of renewables in the short term is tackling planning and grid access barriers. These are severely restricting deployment of projects and thus the effectiveness of the RO, regardless of any reform to that system.

The Associations and their fitness to respond to this consultation

The British Wind Energy Association has 482 members, active in the areas of wind, wave and tidal stream power generation, of which 320 are corporate entities.

The Renewable Energy Association has almost 500 members, active across the full range of renewable energy technologies and applications, of which 458 are corporate entities.

The two associations represent the vast majority of companies affected by the RO reform proposals. We have carried out an extensive process of member engagement to create this submission. We believe it reflects the balance of opinion in our memberships, and that Government should pay close attention to our recommendations as a result.

Introduction

The Renewables Obligation has been instrumental in driving a new electricity generation sector in the UK, and has brought in many new players to the market. It must be considered a success: the plain fact is that factors outside of the RO have limited the amount of capacity built to meet the Obligation, most notably planning delays and difficulties in connecting to the grid. We welcome Government commitments to make steps forward in these areas, both on- and offshore: we would have hoped for material progress earlier so that the RO's success would have been more obvious and the perceived need for reform would have been less.

Despite these issues, in the wind sector, the RO has driven capacity up to 2,000MW – the UK is only the sixth country in the world to reach this milestone. A further 700MW are already under construction, while nearly 1,500MW of onshore projects and now over 2,000MW of offshore projects have consent. However, there are 7,800MW of onshore wind and 3,000MW of offshore wind in the planning system, 10,800MW in total, enough to provide nearly 10% of the UK's power. The RO has clearly created an appetite for investment in wind energy which is being thwarted by an inability to get timely decisions from the planning system. There has been much less capacity addition or activity, however, in other sectors. Co-firing has generally fulfilled its capped quota and whilst landfill gas has continued to expand, but little unexploited resource remains. Other capacity additions have generally been grant-funded.

If this welcome increase in development activity over the four years since the introduction of the RO is to be converted into built projects, then the twin barriers of planning and grid must be effectively tackled. Without such action, no amount of reform to the RO will enable Government renewable energy targets to be met. Consequently, we look forward to the speedy implementation of the Barker Review's relevant recommendations, as well as benefits from the provisions on spatial planning and consenting in the proposed Marine Bill. We also look forward to timely action to provide the necessary grid infrastructure and access arrangements for projects both on- and offshore. These must be a high priority for Government.

Near-market and emerging technologies in the RO

While addressing grid and planning are vital, they will not bring forward those technologies which the RO does not sufficiently support. These technologies, most notably offshore wind but also including a number of biomass sources, will be required in large quantities if renewable targets beyond 2010 are to be met. There are also technologies currently emerging from research and development which can be significant contributors later on, so long as they are nurtured carefully now: the marine renewable resources of wave and tidal stream are the most obvious here. It is particularly important to provide market pull to these technologies as they have the best potential to create thriving industries in the UK.

For near-market technologies, the RO is problematic: these technologies are by definition higher cost and higher risk than those already working in the system, and thus are most vulnerable to the vagaries of ROC price volatility. The offshore wind sector has had difficulty in getting established in this commercial environment. However, this is not an argument for reform of the RO: rather, it is an argument for additional resource to be provided outside of the RO to overcome the barriers to RO entry.

While near-market technologies such as offshore wind can live within the RO with some extra help, the RO was never intended to provide a solution for the emerging technologies further from market entry. Mechanisms are required for these technologies that create market pull without adding market risk to the already high technology risk inherent in their development. Targeted support in the form of capital grants and fixed revenues is preferable: obvious sources for such support are the recently-announced Environmental Transformation Fund and the money being extracted by Treasury from the Non-Fossil Purchasing Agency's surplus funds. We would like to see funds from these sources used to deliver diversity objectives, in preference to banding the RO, or if banding is to be implemented, used to supplement support from a banded RO. While not ideal, such an arrangement could succeed in providing the required follow-on support from the Marine Renewables Deployment Fund and the Scottish Marine Supplier Obligation.

Government's proposals for reform of the RO

The move to banding

Banding the obligation is a significant change in Government policy for renewables. The objectives of the change and the reasoning behind it are not explicitly articulated in the consultation document, nor is there any accompanying analysis which supports the view that the proposals can work. If the main objectives are to bring forward a more diverse set of technologies and secure 20% of the UK's power from renewables, Government must recognise that it cannot achieve both whilst keeping the cost to consumers the same.

If Government also has the objective of managing perceptions of 'excessive' profits earned by some generators, then it should pay much more attention to the non-economic factors of planning and grid that are limiting delivery and thus resulting in high recycle payments.

Insufficient funding

The reform proposals aim to convert a mechanism designed to achieve 15% renewables, taking the cheapest first, with a mechanism aiming to deliver 20% of a more diverse portfolio, including more expensive technologies, without any additional funding. It is hard to believe that 'deadweight' in the system is anywhere near large enough to be redistributed in a fashion that allows such growth.

The Government proposals are thus contrary to the findings of the Stern Review. This study makes a compelling case for strong and urgent action on climate change, including resources for the deployment of low-carbon technologies. The RO provides considerable resources for the renewable energy sector, but not enough to reach 20% renewables by 2020.

Other sources of funding outwith the RO should be considered, such as socialisation of the costs of developing an offshore transmission grid (perhaps in the form of a cap on transmission charges, as is the case for generators on the western and northern isles of Scotland), and accessing the Environmental Transformation Fund for the development of emerging technologies.

Removal of RPI

We are not in favour of the proposal to break the link between the buy-out price and RPI beyond 2015. By 2027, with inflation at 2%, the value of avoided buy out reduces by over 20%.

Implementing this measure impacts upon existing projects through reducing the value of the ROC, thus violating the grandfathering principle in its widest sense. It also reduces the value of the RO to new projects, where, particularly for onshore wind, there is considerable reason to believe that this value must be preserved to ensure continued levels of project development activity. The later a project is built, the more effect the buy-out price freeze in 2015 has: this will impact upon the growth of offshore wind expected post-2010, and even more on the subsequent major expansion of wave and tidal stream generation after 2015. Modelling work undertaken in the process of developing this response suggests that removal of the linkage is equivalent to around 0.1 of a ROC for projects built around 2010; the impact will be larger for later projects.

Even if this is compensated for by a higher level of ROC multiple, it still results in additional risk, which will be compensated for in less favourable Power Purchase Agreements available from suppliers. In addition, breaking the link will affect financing, in that the buy-out price is generally the only 'bankable' part of RO income, with the recycle value largely discounted by banks. If the value of the buy-out price is eroded, this will reduce the amount that banks will lend to projects, and thus reduce returns on equity. This will make renewables a less attractive investment.

If the linkage is removed and the headroom mechanism does not increase the Obligation level, then money will have been removed from the RO mechanism in real terms. Likewise, if inflation beyond 2015 is lower than the anticipated 2%, then removing the linkage could mean that the overall cost to consumers is increased.

Net-neutrality

Apart from the issue of expecting the money in the RO system to stretch to 20%, the other main concept that we find problematic is the proposal for 'net neutral' banding. This 'robbing Peter to pay Paul' approach can only work if sufficient ROCs can be taken away from cheaper sources – notably co firing and onshore wind – to incentivise the more expensive technologies. We cannot see how this equation can be made to balance without reducing overall delivery: the amount that would have to be taken from the cheaper technologies in order to fund the more expensive ones adequately would make the former uneconomic. Government must therefore choose between net neutrality and maximum delivery.

To elaborate, the 'spare' resource available from co-firing is highly uncertain. There is considerable debate about the multiple that would be required to bring forward significant co-firing volumes, with figures of 0.6 or 0.7 ROC/MWh being discussed. Such a high multiple would severely limit the 'extra' available for the higher-cost resources. It will also be very difficult to predict how much co-firing there will be in any year, owing to the influence of factors outside the RO on the quantity brought forward. The differential between coal and gas prices, and the value of carbon on the EU ETS, will dictate how coal plant will be operated, and thus how many co-fired ROCs there will be in the system. This would make any balancing of MWh and ROCs very difficult, even over multi-year periods.

We also cannot see leeway for a significant number of ROCs to be found through banding down onshore wind. Indeed, we believe that onshore wind should not be banded down at all:

- Most of the best sites have been used, or are already in the planning system and thus would likely be grandfathered;
- Wind turbine costs have increased, by as much as 10% in each of the last two years;
- 1ROC/MWh does not grandfather the value in projects in any case;
- Many projects have already invested significant capital costs, but will be delayed in commissioning until after banding is introduced, due to the grid queue and planning. The issue of grandfathering point is extremely sensitive for such projects, and the problem goes away to a large extent if there is a commitment to remain at 1ROC/MWh after banding is introduced.

Banding down onshore wind will result in significant quantities of projects being rendered uneconomic and thus limiting build after its introduction. Indeed, even the threat of banding down may reduce build, as developers decide not to invest in preparing new projects in the face of uncertainty that they will be economic. In addition, banding down would cause an administrative logjam, as developers attempt to get their projects consented and built ahead of the grandfathering point. Only a small amount of 'spare' ROCs would be forthcoming from new projects: most onshore wind capacity would be grandfathered at 1ROC/MWh.

Put together, it becomes clear that, for any feasible mix of renewable generation in 2020, net neutrality is not realistic. This is illustrated by the mixes shown below, which may be regarded as the possible extremes of delivery in 2020. In all cases the number of ROCs exceeds the number of MWh, by a margin of 10-35%. At the start of the banding era there should be a period when the number of MWh exceeds the number of ROCs in circulation, because co-firing will be banded down without grandfathering, and it will take time for banded-up capacity to come forward. However, this will not last more than a few years, and for the majority of the remaining life of the RO the system would have to be 'ROC-rich'. Therefore, even a proposal to aim for net neutrality over the life of the RO is likely to be problematic.

Illustrative proportions of technologies for 20% renewable power in 2020

	Medium wind, no marine, high biomass	High wind and marine, v. low biomass	Low wind high marine and biomass	Medium wind, biomass and marine
Onshore wind	31	38	25	32
Offshore wind	35	48	31	32
Marine	0	5	4	7
Biomass	17	2	20	6
Co firing	8	0	10	8
E. crop co-firing	2	0	2	8
Solar	0	0	0	0
Landfill gas	3	4	4	3
Hydro	3	3	3	4
	100	100	100	100
ROC ratio if ROC values as in (a)	1.10	1.20	1.13	1.12
ROC ratio if ROC values as in (b)	1.19	1.35	1.26	1.24

	ROC values (a)	ROC values (b)
Onshore wind	1.00	1.00
Offshore wind	1.30	1.50
Marine	2.00	3.00
Biomass	1.30	1.50
Co firing	0.40	0.30
Energy crop co firing	0.75	0.60
Solar	2.00	2.00
Landfill gas	1.00	1.00
Hydro	1.00	1.00
	1.00	1.00

NB The values used here are used merely to illustrate this 'thought experiment', and in no way represent the Associations' opinions as to the exact values that should be used if banding is introduced.

The longer term

We would like to see Government begin to address what will happen to the RO beyond 2027. There needs to be recognition that additional resource must come from somewhere if the 2020 ambitions are to be realised. It is hard to see significant investment being made after about 2015, given the RO's demise in 2027: the period of support will be too short, unless carbon prices can be guaranteed to be considerably higher than currently foreseen under the EU ETS. Without a commitment to extending the RO in some way beyond 2027, the promise to increase the Obligation to 20% on a guaranteed headroom basis rings rather hollow.

International competitiveness

One factor that should not be overlooked in this consultation is the effect that uncertainty in the UK support mechanism has on this country's standing on world markets. The market for wind generating equipment is a global one, as is the market for finance of renewable generation projects. With the UK Government proposing to make an already complex support system even more complicated, alongside continuing difficulties in gaining consents and grid connections, turbine manufacturers and bankers will increasingly look to other countries to do business in.

Whilst the UK is currently one of the leading markets for wind power, it still represents only 5% of the global market, and other countries are coming forward at a swift pace. Alongside the resurgence of the US market, China is rapidly becoming a major player alongside the maturing markets of Germany and Spain. Many other countries have recognised the benefits of wind power and are establishing support mechanisms to provide market pull for this and other renewable energy sources, Canada, France and Italy being notable examples. Global demand for wind turbines is thus likely to exceed supply for some years ahead. If manufacturers find it easier and more profitable to do business in markets other than the UK, then British developers will struggle to obtain the turbines they want at prices they can afford. Government must consider how the RO, combined with the issues with grid and planning, affects the UK's standing with international renewable industry players.

The UK's relative position for renewable investment is tracked by Ernst & Young in its Renewable Energy Country Attractiveness Indices. While the publication of the Energy Review boosted the UK's position in this ranking, it had been slipping before that because of concerns about grid and planning, alongside perceived vulnerability of the RO to change. The boost may prove to be short-lived if Energy Review initiatives on planning take a long time to implement, and if Ofgem proves obstructive over grid access reforms.

The finance sector is sceptical regarding the RO reform package. The non-economic factors restricting deal flow are limiting the attractiveness of the UK as a place to devote resources, and the complexity of the RO makes it harder to pass deals through credit committees at banks. Adding further layers of complexity to the RO cannot help this position.

Q1-3 Is Banding the best option?

In the light of the comments above, there remains a very strong case for avoiding major changes to the RO. If all the potential pitfalls are avoided, there is a chance that the proposed changes will deliver the objectives, albeit at either greater cost (if a 20% target is to be achieved), or at lower delivery, if keeping within current costs.

However, changes of this magnitude may prejudice investor confidence, and some aspects of the proposals, if not corrected (see detailed responses below), could leave the Obligation in a worse position than it is now. Overall, the risk to reward ratio looks poor.

On balance, we still believe that Government should look again at options for bringing forward diversity in mechanisms outside, but compatible with, the RO. A number of measures have been suggested that would fulfil this role, such as grant support, enhanced capital allowances, another NFFO round, REA's pre-ROCs, npower's Government-backed ROC contracts or the Carbon Trust's fixed premium. The main issue with them all has been the refusal of Treasury to countenance additional funding of renewables outside of the RO. With such a commitment, perhaps using the Environmental Transformation Fund or surplus Fossil Fuel Levy funds, then we believe that an alternative to banding could be found, which could have achieved the objectives, possibly with less disruption to the RO.

Therefore, only if the objective is to deliver targeted support at a range of renewable technologies, *and to do it through the RO rather than by other means*, is the multiple ROC approach better than the options in the consultation document. Of the other suggestions put forward:

- Separate obligations would require Government to decide how much of each technology/resource is required, in each obligation period, from now until the end of the obligation. Not only would this be impossible to get right, it would require Government to engage in an activity that is far better left to the market.
- The "Shell proposal", of capping ROC prices at different levels for different technologies, would severely undermine investor confidence and would be totally incompatible with the concept of grandfathering in its broader sense (i.e. not undermining previous investments).

The remainder of this response must be seen in the context of working with Government, within the limitations set out above.

Q4 & 5 Key principles

We agree that **Grandfathering** should be a key principle – but note it means more than simply keeping 1ROC/MWh for existing projects. Previous investments were made on the basis of ROC values which had an appreciable recycle component and where the buy-out was index-linked. Post 2015, when index linkage ends, and when fixed headroom comes into operation,

the value of a ROC will be significantly lower, comprising of little above the avoided buy-out costs. Furthermore it will depreciate over time due to the removal of index linkage.

Other key principles in addition to **transparency** and **reliability** should be:

Sufficiency – A banded RO should aim to deliver revenue streams that are at a level sufficient to bring forward investment in enough renewables capacity to deliver Government’s 20% aspiration.

Objectivity – The setting and reviewing of the bands should be carried out by an independent body, on the basis of clear criteria. The process should be as objective as possible and free of political interference and lobbying from those with vested interests. The proper channel for influencing the outcome of this decision making process should be through government setting the criteria (after consultation) and industry providing evidence in the form requested by the independent body.

Q6 & 7 How a banded RO might work in practice and maintaining a broad balance between banding up and banding down

The key principles outlined above should take precedence over the aspiration to be net neutral. As explained in the introduction, net neutrality is not consistent with delivery of the larger amounts of renewable generation Government desires.

Whilst we accept that Government will need to periodically review the overall affordability of the mechanism, striving for net-neutrality carries two major risks.

First, it may result in a tendency to “micro-manage”, through frequent alterations and adjustment of the multiples, which would increase complexity and deter investment. Secondly, achieving net neutrality could mean income levels are insufficient across the board, the banded obligation will be undermined from the start, and will not only fail to deliver new technologies, but will make the existing ones less economic.

Q8 Do you agree with the proposals to set bands by technology?

Two general approaches to the setting of bands emerged during our discussions. The first is to have a band for each technology, with a ROC multiple or fraction appropriate to its economics, and Government’s aspirations for the contribution that a particular technology might make. The second sets a more limited number of bands and places technologies within them, thus grouping technologies and giving them the same ROC multiple/fraction.

Whilst the advantage of having one band per technology is that it gives Government the ability to fine tune support levels to the requirements of

different technologies, the majority of members have expressed a preference for the second approach.

The advantages of setting bands into which technologies are fitted are:

- it results in a smaller number of bands, which helps reduce complexity;
- it is more in keeping with the market-based philosophy of the RO, and requires less intervention and decision making from Government;
- it is more transparent. Technologies will have a forward view of what possible ROC multiples/fractions they may earn, with the knowledge that they would move to that band only when their economics justified it, and not before.

Under the option favored by the majority of our members, several different technologies would be represented in each band and it should be possible to move individual technologies (or possibly sub-classes) between bands. In other words the grouping of technologies within bands may change over time. The multiples assigned to each band would be set at the start of the system and should not be subject to change.

Detailed numerical analysis is needed to define the precise ROC multiples applicable to each band and the split of technologies, and this will be the subject of a later consultation. *Therefore, at this stage, we have suggested bands which merely illustrate this proposal, we have not accounted for all technologies, nor given illustrative levels of ROCs/MWh.*

Although there is a case for several development bands at different multiple levels to suit technologies at various stages of commercialisation, we believe it is simpler to set a single band in which all emerging technologies can prove their credentials. This will clearly leave a need for additional grant and revenue support mechanisms outside the RO. If this is not available, and additional support can only come through the RO, then clearly a higher ROC multiple would be required.

Band	Purpose	Sample technology	Indicative ROC multiple
"Emerging technology"	To incentivise promising early stage technologies	Marine renewables	>>1
"Near commercial"	To provide interim increased revenue for emerging technologies	Offshore wind, biomass	>1
Reference band	For the main developed renewable technologies	Onshore wind	1
"Commercially mature"	Mature technologies that no longer need full support	Landfill gas	<1
Co-firing	To cater for established technologies able to contribute significantly to emission reductions and energy security	Co-firing of non-energy crop biomass	<<1

There may even be merit in having a “zero” band (earning no ROCs/MWh) to accommodate renewables that are not currently eligible for the RO. This would bring the RO into line with the European definition of renewable energy, making it easier to quantify progress against our target under the EU Directive.

Clearly all technologies currently eligible for the Renewables Obligation would have to be accommodated somewhere within this banding option. It is worth noting that the Obligation is currently drafted by exclusion, and that the process of banding the RO would require more attention to classifying technologies.

The list below gives all technology (classifications) we are aware of. This suggests that if the banding-by-technology route were chosen, then perhaps 16 bands would be required.

- Anaerobic digestion
- Co-firing of energy crops
- Co-firing of non-energy crop biomass
- Dedicated biomass
- Geo-pressure*
- Hydro (large, new)
- Hydro (small)
- Landfill gas
- Offshore wind
- Onshore wind
- Pyrolysis/gasification of waste
- Sewage gas
- Solar PV
- Tidal barrage
- Tidal current
- Wave energy

* Although no ROCs have yet been earned by this technology, a site has been pre-accredited, suggesting that it needs to be accommodated somewhere if banding is implemented.

Q9 How many bands should there be in a banded Obligation?

The option favoured by the majority of members suggests that 5, possibly 6 bands would be necessary. A banding-by-technology approach, however, would require at least 16 bands.

Q10 Should bands also be set to cover subsets of technologies?

As described above, we do not believe banding should be implemented by technology. Nevertheless, all technologies will need to be classified (in order to be placed into the appropriate band).

We do not believe there should be sub-divisions within technology classifications. Some parties propose that certain technologies should be subdivided according to project size, the resource level (as a proxy for the profitability of the project) or the ownership of the project. Most suggestions have been for the subdivision of the onshore wind band. However, there is no reason why, if it is applicable to one technology, it should not apply elsewhere. ***We believe this would be undesirable, because of the level of complexity and the possibilities for gaming (and resulting diversion of management time).***

Sub-classification by device or project capacity

We do not recommend that electricity from micro-generators should be classified separately, but that projects receive the multiple appropriate for their technology classification, regardless of size. The definition of micro within the order is relatively large (50kW) and was set for the purpose of allowing annual rather than monthly ROC claims. It encompasses projects far larger than household applications. We do not suggest all projects under 50kW are in the same band, as this would be too blunt. Nor do we support sub-dividing each technology classification listed in our answer to Q8. Our views on the RO as a measure for stimulating the deployment of micro generation are expanded upon in our response to the statutory consultation.

Although the economics of projects above 50kW will be affected by size, we do not believe it would be appropriate to compensate for this by seeking to sub-classify technologies by size. There would also be some difficulty for many technologies in deriving a wholly robust definition of what the project capacity is. Clearly there is significant scope for gaming, with larger projects being split into smaller units in order to qualify as small projects. Other options that may be less open to gaming include defining projects by the voltage at which they connect to the network – for instance, wind projects connecting at 11kV or less might receive preferential treatment.

Despite the difficulties in distinguishing between projects on the basis of their size, there is still a strong argument for protecting small wind projects and/or projects being developed by small independents or community groups. If Government decides to retain onshore wind at 1ROC/MWh, as we recommend, then there is no need to institute a differential for these projects. If Government ever proposes banding down onshore wind, however, it should consult on a scheme to ensure new small projects see no reduction in income. We would prefer such a scheme to be additional to the RO, perhaps targeted at community schemes only, but would consider a proposal to differentiate ROC income so long as concerns over gaming can be overcome.

As stated in the introduction, we are firmly of the opinion that onshore wind should stay at 1ROC/MWh. However, we also recognise the criticisms from some quarters about excessive profits from the best-located projects. It should be noted that other factors can militate against the profitability of very high wind speed sites, such as higher construction, use of system and maintenance costs. As banding down onshore wind, to accommodate these

criticisms, would severely impinge on the rest of the industry, particularly lower wind speed, smaller and community owned projects, we suggest an alternative is considered.

NB This suggestion is only made in the context of it being an alternative to banding down – we believe the capping approach described below sends perverse signals and complicates the obligation, and so **do not recommend it in anything other than the context of avoiding banding down.**

Options for capping include a simple formula of limiting ROC earning to the first 2,750MWh/MW generated. There could be scope for some gaming in relation to rated capacity, which could be avoided by a more sophisticated approach, using a formula based on rotor-swept area. A cap of 2,750MWh/MW would impact on projects whose load factors exceeded 31%.

Q11 Views are invited on the best approach to setting bands. Do you support the principles outlined?

We welcome DTI's key principles as set out in para 2.28 of the consultation, with the proviso on 'net neutrality' as set out above. We believe that an arms-length commission or other such semi-independent body would be best to accept and review evidence on required revenue for each technology type, and the overall supply of ROCs in the market. We believe this body would have to be a standing committee. The Carbon Committee, proposed in the climate change bill, could be a possibility.

Whatever group is tasked with setting bands and assigning technologies to them, it will need clear criteria set in advance. In particular, the rate of return that is allowed will be a key factor: it should be set at a level that makes investment attractive compared to other possible investments, and which is commensurate with the risks inherent in the RO.

The approach to band setting should be subject to full consultation, as should the economic data and assumptions behind any proposed band change. In the meantime, we suggest that the following factors should be taken into account.

Factors	Notes
Generation costs – Full evaluation of capital costs, balance of plant, operational and maintenance	Projections should not build in anticipation of reducing prices, as these might not materialise. For example taking wind energy – turbine prices, business rates, and use of system charges have increased,
Availability of resource	For most renewables (as with conventional energy sources) costs tend to go up as the resource becomes scarcer.
Global market conditions for renewable generating equipment	
Fuel availability and cost, including interactions with other markets	For biomass technologies.
Project development costs	Including allowance for developers' spending on projects that fail to secure consent.
Development of future power and carbon prices	

Q12 What should be the approach for emerging technologies? Do you support the idea of limiting higher levels of support for emerging technologies to a given level of installed capacity with reductions as capacity increases?

Reviews of support levels should not be based on the installed capacity, but rather there should be a periodic review: see answers to questions 14 & 15. Even in this case, emerging technologies should not be wholly dependent on ROC income for support: this would compound ROC price risk with the technical risks inherent in new technology development. A supplementary scheme, perhaps of capital grants, additional revenue support, or a mix of the two, should be put in place alongside multiple ROCs for new technologies.

Analysis by a working group of marine players indicates a solution for wave and tidal, under an RO banded on the basis of technology. If, during an initial four-year period where wave and tidal projects are set a multiple of 3ROC/MWh, additional support of about £100m could bring forward about 120MW of capacity. Assuming cost reductions are achieved as expected, then the multiple would be reduced for future periods, perhaps in steps of 0.5ROC/MWh, though additional support would continue to be required until the latter half of next decade.

With our favoured means of banding, the only way the amount of ROCs/MWh would be reduced is if an emerging technology had developed sufficiently to

be moved into the 'near commercial' band. Clearly, if bands are market-relative, the approach above would have to be modified: if the long-term 'emerging' multiple were set at 2ROCs/MWh, then the additional support required would have to rise accordingly. Also, there would have to be transitional support when technologies move from the 'emerging' to the 'near commercial' band. However, the general principle of 'ROCs-plus' applies.

Q13 Interim process for setting bands

It is essential that DTI indicates initial bands ahead of the passage of primary legislation implementing the new system. This will give assurance and provide visibility to developers on the income they can expect from the new system in its initial years of operation.

Q14 & 15 Frequency of band changes

Since decisions to change bands will hugely affect developers' business, it is important that such decisions are based on clear and widely agreed criteria. These criteria should be subject to consultation, but we suggest the following basic principles should be adhered to:

- **Marked progress** towards 20% target. As discussed earlier, it is essential that grid and planning should be addressed first and foremost, so that these do not continue to act as barriers to deployment. The aim should be that progress towards 20% should be either linear, or biased towards earlier delivery.
- **Cost benefit analysis.** Unless there is a strong case to move a technology into a lower band the change should not be made. The disruption inevitably involved in a downward move is discussed in the section on grandfathering. A cost benefit analysis should demonstrate a clear case that the amount of "over-reward" likely from continuing support at the multiple in force justifies this disruption. Clearly the technology would also have to be capable of deployment at the support level within the new band. The potential impact on investor confidence should be taken into account.
- **Continuity.** If no change is envisaged, industry should be notified as early as possible, in order to minimise any hiatus in deployment activity. If an increase in banding is anticipated, the same transitional arrangements described in 2.41& 2.42 of the consultation document should apply.
- **Grandfathering.** Once commissioned, no project (with the exception of co-firing at the outset of banding) should ever have its ROC multiple/fraction reduced.

As a general principle, we believe there should be as little change as possible. We do not believe that banding down should be an anticipated

regular occurrence. At the same time, we understand Government's need to keep the placing of technologies within the bands under review. We therefore suggest that after any review, the assessment should not be revisited within a minimum period of 4 years, and preferably much longer.

The notification period for any change should also be made well in advance. If the cut-off date for grandfathering is based on date of commissioning, the notification period must be longer than if based on planning.

Grandfathering

Grandfathering in the context of this consultation has been taken to mean "any projects that become operational prior to the introduction of a banded obligation will remain entitled, at a minimum, to 1 ROC for each MWh of electricity that they generate". In the Energy Review, grandfathering is taken to mean "preserving investor confidence by applying changes only to new projects".

Grandfathering in its wider sense, however, means protecting previous investments by leaving projects in a similar financial position to that which they were in prior to the rules having changed. Removal of index-linkage of the buy-out undermines the value of previous investments, even as they continue to earn 1ROC/MWh.

We also acknowledge that grandfathering in its wider sense is impossible in the context of a market based policy, where investors would have had different views of ROC prices going forward, and of political risk of future rule changes. As discussed earlier, we do not agree that index linkage should be removed and think this is particularly damaging to the principles of grandfathering, and also for the prospects for bringing investment into the RO.

Q16 Do you agree that projects should be guaranteed that their band would not be reduced, once operational?

Yes: we agree that projects, once operational, should never have their ROC multiple level reduced. Although the document remains silent on NFFO projects, once any project's NFFO/SRO contract terminates, we suggest it should be grandfathered according to the date it was commissioned, not when the NFFO contract ended. Therefore all ex-NFFO and SRO projects would be placed in the 'reference' band and earn 1 ROC/MWh.

Q17 Is the point of first supply of electricity the most appropriate for grandfathering? Is there any other legally robust point that would be better?

Q18 Are there any other ways in which we could protect investments?

One of the most problematic aspects of a banded obligation will be the period in the run up to point at which a technology stands to move down a band and earn a lower multiple of ROCs/MWh. Some of the problems are illustrated below. Given the scale of damage this could do to investor confidence, and the impact on planning authorities (should a planning-related date be chosen) we believe that banding down should only be undertaken when the case for it is overwhelming.

We believe that the cut-off date should be:

- **robust and legally defensible;**
- **transparent:** The list of approved projects would have to be put in the public domain, to enable the market to have access to it;
- one which creates the **least incentive to game** (although pressure to get in under the wire will be inevitable with any approach);
- take into account the fact that many projects are held back by grid delays.

It is worth pointing out that, whichever cut-off point is chosen, tensions will be high as that cut-off approaches, with consequent pressure on the planning system or other bodies which have a bearing on the ability of the developer to get the project in under the wire.

The simplest criterion for fixing a project's multiple is the date of first generation: certainly it is robust, legally defensible, transparent and compatible with the definitions and drafting of the RO. However, there may still be opportunities for gaming through, for example, part-commissioning of a project e.g. erecting a very small wind turbine at a site well in advance of full commissioning. Landfill gas projects would normally be developed on a modular basis, with capacity additions made as the gas yield ramps up, and then dropping back as it declines. The grandfathering point here should be the point of first commissioning.

One major difficulty with this criterion is that projects dependent on bank financing will find it increasingly hard to secure loans as the 'drop dead' date approaches: if there is a risk that a project delay will push a development into a lower multiple, then banks will be increasingly reluctant to lend.

There are two ways of mitigating this problem: signalling changes in banding levels sufficiently far in advance, or setting a grandfathering point in the project cycle ahead of the investment decision for a project, which would be financial close for a bank-financed development, or board sanction for a balance-sheet funded project. The latter would point to a planning-related date, such as Section 75/106 for onshore wind projects.

If a planning-based date is chosen, however, account has to be taken of differences in planning requirements for different projects. Some projects may not need to obtain planning permission in any form (for example micro generation, small hydro, some landfill gas), and other criteria than S75/106 would be required for offshore projects. Clearly all variations would have to be catered for in the legislation.

In addition, a planning-related criterion may place pressure on the planning system: there may be a flurry of more speculative planning applications made as the chosen date approaches, also planning committees will face pro- and anti-project lobbying around a large number of developments seeking to get in under the wire. This is likely to be more acute than if commissioning date was used as the grandfathering point. However, set against this will be the fact that changes to ROC multiples will have been signalled in advance, reforms to the planning system will have been brought forward by Government and planning authorities will have had increasing experience with renewable projects.

This will become a major issue if Government sets the band for onshore wind at less than 1ROC/MWh from the onset of banding. A transition regime would need to be implemented, to cater for the 16GW of capacity held up in the grid queue.

We believe that grandfathering point based on commissioning would be acceptable if band reductions are signalled at least 3 years in advance of any change, and provided a transition regime is implemented if, against our recommendations, onshore wind is banded down from the outset. Were a notice period of less than three years to be proposed, then a grandfathering point based on award of planning permission should be adopted.

For the period of transition into banding, we would strongly welcome an early commitment that enables onshore wind developers who have put projects into the planning system, and/or have a grid connection agreement, to proceed in the reasonable expectation that their projects will be grandfathered. Our preference is for onshore wind to remain at 1ROC/MWh indefinitely, and early commitment to this would avoid doubt. However, at a minimum, Government should state as early as possible that any project that has a signed grid connection agreement and has a resolution to consent from the relevant determining authority by 31 March 2010 is eligible for grandfathering rights, but can only benefit from those rights if the project is operational by 31 March 2013.

Q19 Do you agree that co-fired plant should not be grandfathered?

We agree that co-fired plant should not be grandfathered, but should move immediately to the ROC fraction introduced in 2009(10). We agree that under a banded RO, co-firing of biomass may not require full ROC support and so will not be entitled to be grandfathered at 1ROC/MWh, if banding is introduced.

However, if the ROC fraction is set too low, then there is a strong possibility that co-firing of biomass will be curtailed. This will have a negative impact on the Government's targets for renewable energy and other carbon reduction strategies.

Q20 & 21 Transitional arrangements

We agree with the transitional arrangements suggested in paragraph 2.42 (i.e. banding up). This principle should also apply if multiples are ever increased *after* a banded obligation is in operation – see question 14 & 15 above.

Q22 & 23 Guaranteed Headroom

We welcome Government's intention to set Obligation levels beyond 2015 on a guaranteed headroom basis, as this will increase price certainty in the market.

We suggest that the level of headroom is set on the basis of an additional percentage of the expected ROC production. We suggest this should be the forecast ROC production, plus an additional 10%.

If electricity supply increases at 1%/year, an obligation level of 15.4% in 2015-16 would be equivalent to 57.5TWh (under a 1ROC=1MWh/net neutral scenario). A 1% increase in the obligation would be equivalent to 3.75TWh, i.e. a 6.5% increase in the volume of ROCs required. We believe that headroom should be set higher than this, at 10%, to account for natural variation in levels of output of wind energy and hydro. Furthermore, the Obligation should be set on the basis of a ROC forecast, since the mix is likely to be ROC rich, rather than net neutral.

This proposal is different from that put forward in the consultation document, which proposes to set target levels beyond 2015 on the basis of a forecast of MWh generated, converted to a ROC Obligation on the basis of 1MWh=1ROC, and then increasing it by 1%. We find this to be extremely problematic. Under a ROC-rich balance, which we regard as inevitable, the resulting headroom would be reduced or indeed used up completely. This is against the purpose of headroom.

We would not want the relevant statutory instruments to have to be changed each year, in order to set the obligation levels for the RO and ROS. We suggest that the target be announced by Ofgem, in a similar manner to the way in which it announces each year's buy-out price. The legislation describes how the buy-out price is to be adjusted for inflation, and Ofgem publishes the new price on its website.

The method by which the obligation is to be set should be stated in legislation. The final ROC forecast should be provided on 1 January for the RO period starting on 1 April, to allow power suppliers to plan their pricing

strategies for the year ahead, with an initial estimate provided on the previous 1 April. Government should also consider ways to improve forward visibility of Obligation levels, perhaps by providing a forecast analogous to National Grid's Seven Year Statement.

We suggest the following method for forecasting ROC generation:

ROC production from accredited generating stations should be calculated on the basis of rated capacity, multiplied by 8,760 (hours in year), multiplied by the relevant load factor, multiplied by the relevant ROC band.

For projects starting production within the RO period, there will need to be some method for forecasting their contribution to ROC generation. This could be by requiring developers to provide Ofgem with a predicted start date for generation, plus an estimate of MWh they will produce in that period, when they apply for accreditation under the RO, or perhaps assuming projects will come on stream 18 months after they gain planning permission or from grid connection date, whichever is the later.

Q24-30 Ski Slope solution

While we welcome initiatives to reduce the risk of ROC price crash, the move to fixed headroom and suppliers' ability to bank 25% of their ROCs makes a ski slope unnecessary in the short to medium term. Longer term, as the supply of renewables approaches targets, a disincentive to achieve those targets may be created without a ski slope or other risk mitigation mechanism. If developers, banks and providers of PPAs believe there is a real possibility of oversupply of ROCs, causing a ROC value meltdown, new additions will rapidly decline. We recommend that Government should not take action at this time, but anticipate the need for future action by passing enabling legislation which comes into effect when the level of achievement begins to approach fulfilment. It is important to note that while it is important to mitigate the possibility of a ROC price meltdown, the solution should not merely be to pass additional ROC costs through supply companies to end user customers.

For the near term it is important to emphasise a caveat – as discussed earlier targets must be set on the basis of numbers of ROCs required. At the moment the consultation document suggests that targets are to be set in MWhs and compliance in ROCs. If the system is very ROC-rich, then full compliance could occur even though the amount of renewable electricity generation is short of the MWh target.

Q31 Do you agree that co-firing should be considered a long-term part of our renewable energy and carbon abatement strategies?

Across the industry a wide range of views is held on the desirability of a long-term role for biomass co-firing. It is clear that whilst initially envisaged as a relatively short-term measure aimed at boosting the biomass supply chain, in particular energy crops, the rate of contracting for the growing of these crops has not developed to the extent envisaged. This is in large part due to the continual uncertainty surrounding co-firing, which has made it difficult for both co-firers and fuel suppliers to enter into contracts.

To briefly summarise:

- in 2004, the onset of the energy crop requirement was moved from 2006, to 2009;
- tighter caps (on the extent to which suppliers can fulfil their Obligations with co-firing ROCs).

Further changes are likely to be introduced in April 2007:

- the energy crop requirement may have its status changed from being mandatory to voluntary;
- the definition of energy crops may be changed to more easily accommodate perennial crops, but not rule out annual crops.

In the context of energy crops, therefore, the rules have undergone changes before industry and Ofgem have even had the experience of working with them.

Changes outside the RO also have a bearing on the decision to co-fire and fuel availability, e.g.:

- the imminent introduction of a Renewable Transport Fuel Obligation;
- the price of carbon;
- other regulatory aspects such as interaction with the Large Combustion Plant Directive (LCPD).

Clearly the environmental imperative has taken on greater significance in the years since the RO was first devised – and it becomes increasingly difficult to justify constraining a contribution from this sector, particularly as it can rapidly deliver significant quantities of cost-effective renewable electricity generation and CO₂ emissions savings. However, Government must fully understand the potential for the technology and the impact of removing restrictions, as this has the potential to undermine the operation of the RO for all market players: since Government's intention is that including co-firing in a banding regime should not have a significant negative impact on the development of other renewable technologies, this understanding is vital.

It is also worth considering that co-firing can take other forms than simply biomass co-firing at coal fired power stations – a large number of which are due to close as a consequence of the LCPD. For example, biogas or biomass-derived syngas can be co-fired with natural gas.

Q32 Do you agree with this approach of uncapping co-firing and reducing its support through banding?

NB it is important to distinguish between co-firing of energy crops and co-firing of other forms of biomass. We argue later in this response (Q36) that there should be different support levels afforded to the two categories. Also following the statutory consultation, it is likely that energy crop co-firing will not be capped from 2007. Hence the response to this question covers non-energy crop co-firing.

This proposal will result in the level of non-energy crop co-firing being controlled by price, rather than by volume (i.e. via capping). Therefore the volumes likely to be forthcoming are uncertain. This is a particularly important in the period running up to the introduction of fixed headroom. Once fixed headroom is introduced ROC prices should become more stable, although the unpredictability of co-fired ROCs on a short term basis will always be an issue.

Predicting potential volumes of co-firing is highly problematic. On a short-term basis, individual operators can vary the amount of biomass fired on a month-by-month basis. In total it is difficult to predict how much co-firing may be undertaken at any particular price. Not only will each operating plant will have very different economics but the interaction of other factors listed in response to Q31 also come into play. This consultation is not seeking views on the level of ROC fractions or multiples, and therefore we are not commenting on this. This work will have to be undertaken with a great deal of vigour.

Again, whilst the short-term unpredictability of co-fired ROCs on the market has always been an issue; in the past the capping has always given certainty over the potential maximum volume. Under this proposal that will no longer be the case.

Given that the volumes are very unpredictable and are also subject to a range of interacting factors outside the RO, this suggests that retaining some degree of control over the volume of co-fired ROCs at least in the medium term is desirable.

We believe there should be further consultation on how to achieve the objective of greater stability. Options that have been suggested include:

- Retaining volume caps on co-firing;
- Amending the co-firing cap methodology;
- Annually reviewing the co-firing ROC fraction – in contrast to the other bands, which have fixed ROC fractions or multiples;
- Indexing the co-firing ROC fraction to carbon prices.

These options have not been debated within the industry, and this response makes no recommendation as to which, if any, would be appropriate. We suggest, however, that this issue should be further consulted upon.

Q33 Are there likely to be any significant negative consequences?

Aside from the general damage to investor confidence that could be a consequence of banding the obligation, within which non energy crop co-firing is the most unpredictable element, there is also a risk of negative consequences on the development of the biomass heat sector, if banding is set at an inappropriately high level. At present wood pellets are worth more to co-firers than they are to potential heat customers. The Themba study showed that 10% of the biomass co-fired in 2005 was wood pellet. Clearly such market distortion is undesirable.

Q34 Views are invited on the reports on the sustainability and economics of co-firing that are being published alongside this consultation document.

We are aware of criticisms of the Themba work, relating to the inclusion of methane emissions from alternative disposal routes. We believe this can over-estimate the GHG reductions accounted for by biomass co-firing. However, it is important to recognise that all forms of biomass co-firing release less CO₂ into the atmosphere than coal.

Q35 Views are invited on options for addressing any remaining barriers in the Obligation to the burning of wastes.

We believe the waste-neutral proposal considered in the 2005-6 consultation should be implemented. At present if biomass with more than 10% fossil fuel contamination is used at a qualifying generating station, it makes that station ineligible for ROCs for the whole month. Therefore, for example, if a WID compliant biomass power station also burned some SRF (solid recovered fuel) along with biomass, it would lose all the ROCs it could have earned for the biomass that month. It is not logical that ROCs can be earned for biomass burned with coal, but not for biomass burned with waste (even though that waste might be over 50% biomass itself).

Even with the change proposed in the statutory consultation (Q61) we still believe that there is no logic in preventing other fuels that do not qualify for ROCs being used at the same time as qualifying biomass. Such fuel would not earn ROCs itself, but should not disqualify the plant from earning ROCs on the eligible biomass.

At present the wording in the legislation has the unintended effect of acting as a barrier to generating stations using ROC-eligible wastes. The definition of biomass refers to the need for the energy content to be *measured*. The fuel measuring and sampling guidance Ofgem has prepared with reference to the legislation acts as a barrier to some projects claiming ROCs for ROC-eligible wastes, as it is simply not feasible.

“Mixed waste” (i.e. biomass which has more than 10% fossil fuel contamination) qualifies for ROCs if gasification or pyrolysis technology is used, or if it is burned in a CHP EfW station. However, no station has succeeded in coming up with a means of determining the biomass content of the fuel, that is satisfactory to Ofgem.

It may be that the legislation has to be changed so that Ofgem can accept other approaches to *accurately* determining the biomass content of fuels. The REA is working with a number of biomass generators on this issue, and will be pleased to feed in suggestions as part of this process.

Q36 Do you agree with the approach of putting the co-firing of energy crops in a higher band than other forms of co-firing? Is there an alternative way to continue to support energy crops?

Given that there has always been distinction between energy crops and other biomass in the past, firstly in the form of an *energy crop requirement*, and as proposed in the statutory consultation the provision of ordinary rather than co-fired ROCs for energy crops, it would be logical to anticipate that there will be a higher band for energy crop co-firing than for co-firing other forms of biomass.

It has been argued that the encouragement of energy crop production should be channelled through agricultural rather than renewable policy. This has been the case to date, with the provision of establishment grants – but these are not long-term, unlike the renewables obligation, and they are prone to their own uncertainties, as witnessed recently with the problem with the coverage of miscanthus planting grants under the English Rural Development Programme.

Q37 & 38 Sustainability and accreditation of biomass

Industry is eager to ensure that all biomass used in power generation is sourced from sustainable resources and is currently preparing a programme to develop an accreditation scheme for biomass which is combusted, with an initial focus on biomass use in co-firing. This initiative is being led by the REA and has received support from the major generators, energy crop supply companies, co-product producers and traders and other interested stakeholders. It is envisaged that the scope of the scheme will cover the carbon-saving impact of various biomass supply chains and a broad range of other sustainability issues. It has been indicated by DEFRA that Government would welcome involvement in this development. The scheme will be developed to comply with the requirements of ISO 65 EN 45011 to ensure international compatibility.

Q41 & 42 Funding the administration of the RO

We are not in favour of this proposal. The RO is a supplier obligation, and in our view it is appropriate that licence fees should fund it, as they currently do, i.e. through Ofgem's general costs. We believe further thought should be given to how Ofgem's costs can be reduced, through more efficient administrative arrangements.

It is important to note that funding RO administration from the buyout fund will not work if there is no buy-out fund (i.e. if the obligation is met). Given the importance of the RO to Government energy and climate change objectives, we feel that the funding of this system should come from an assured source, and the buyout fund does not meet this objective.