

Your ref: ISBN: 9780101798327

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10th March 2011

Atkins Response to DECC consultation on Electricity Market Reform

Dear Sir/ Madam,

Please find below our response to the Electricity Market Reform Consultation Document.

Yours faithfully,

[Redacted Signature]

[Redacted Name]

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CURRENT MARKET ARRANGEMENTS

1. Do you agree with the Government's assessment of the ability of the current market to support the investment in low-carbon generation needed to meet environmental targets?

We believe that this section provides a good assessment of the reasons why the current market is not sufficient to support the level of investment in low-carbon generation required to meet environmental targets. We would add that some further work or analysis might be required to understand better the level of Expected Energy Unserved (EEU). In particular, the estimated range of EEU is stated to be 0.5-4GWh per year but could be up to 8GWh per year. Insufficient energy can have a significant impact on businesses and the potential for power shortages can also lead to higher investment in additional equipment, again causing a penalty for businesses. The report states that it is expected that this level of EEU could be mitigated through voltage reduction rather than power cuts but there is no detail on how this could be managed or potential impacts. Potential demand side management measures should be considered to achieve this reduction.

2. Do you agree with the Government's assessment of the future risks to the UK's

We agree with the Government's assessment of the future risks to the UK's security of electricity supplies. As fossil fuel reserves become scarce, expensive and controlled by unstable countries and regimes, more diverse sources of energy such as wind are a huge opportunity for Europe to maintain security of supply from energy that can be generated from its own resources. Whilst significant interconnection of European countries is in a relatively early stage, the number of global interconnectors is increasing and technology is developing that will enable more efficient and cost effective interconnection. In addition to diversifying wind resources, there is the potential to diversify other resources such as hydro resources of Northern Europe and solar resources of Southern Europe and North Africa. There are also opportunities for storage and demand response which so far have been slow in being achieved, but this has partly been due to current electricity market incentives. This consultation document aims to address these shortcomings and this is a positive step forward.

OPTIONS FOR DECARBONISATION

Carbon Price Support

This is the subject of a separate HM Treasury / HMRC consultation. Readers of this consultation with specific comments on the carbon price support mechanism should cover these in a separate submission to the HM Treasury / HMRC consultation, which can be found at http://www.hm-treasury.gov.uk/consult_index.htm

FEED-IN TARIFFS

3. Do you agree with the Government's assessment of the pros and cons of each of the models of feed-in tariff (FIT)?

We broadly agree with the Government's assessment of the pros and cons of each of the models of feed-in tariff (FIT), in particular that the Fixed FIT and FIT with CfD would provide the greatest certainty for developers. We also understand that the FIT with CfD has an advantage over the Fixed FIT in that generators are exposed to some extent to electricity price and hence have an incentive to make efficient operational decisions. Clarity is key for the market to understand the principles and develop power projects.

4. Do you agree with the Government's preferred policy of introducing a contract for difference based feed-in tariff (FIT with CfD)?

We agree that the FIT with CfD seems to represent the best compromise between providing certainty to generators and operating an efficient market. However, we do not necessarily agree that if the FIT with CfD is too difficult to implement, that the second choice should be the Premium FIT. We believe that the Fixed FIT should be given further consideration in the event that the FIT with CfD is too difficult to implement, due to the great benefits of giving certainty to generators.

In addition to the type of FIT, the level of FIT is extremely important and the government should aim to set the level sufficiently to attract the level of investment required to meet renewables targets and to ensure that the UK is a favourable place for investment compared with other countries.

It is particularly important that the FIT should be guaranteed for a sufficient number of years to provide a stable environment for investment. We have recently been involved with the Blyth Offshore Demonstrator project, and a significant issue when putting together the business plan for the project was that the number of ROCs over the lifetime of the project was uncertain. The number of ROCs has a huge impact on the revenue that can be generated from the project and hence the project's viability. This in turn had an impact on achieving financing for the project. In addition, some PPA providers were not willing to offer a PPA for offshore wind in the current climate – i.e. until the electricity market reform had taken place.

5. What do you see as the advantages and disadvantages of transferring different risks from the generator or the supplier to the Government? In particular, what are the implications of removing the (long-term) electricity price risk from generators under the CfD model?

We believe that the incentives should be benchmarked against those used in other countries, and this seems to have been done by comparisons with countries such as Germany, Spain, Netherlands and Denmark. We believe that from the generators' perspective, either the FIT with CfD or Fixed FIT would be favourable compared with the current ROC system, particularly if the reward was similar to the current level of ROC incentive. However, the government should also ensure that whichever scheme is chosen would be in existence for a significant number of years in order to provide security for investors (as discussed above). The FIT with CfD and Fixed FIT both have the advantage that they offer a stable reward for generators. Other issues such as planning risk, consenting risk and capital cost variability already cause risk and uncertainty for investors, so any measures that can help to reduce risk and increase certainty will help to attract finance at a reasonable cost.

6. What are the efficient operational decisions that the price signal incentivises? How important are these for the market to function properly? How would they be affected by the proposed policy?

Not answered.

7. Do you agree with the Government's assessment of the impact of the different models of FITs on the cost of capital for low-carbon generators?

Yes, we agree that the Fixed FIT and the FIT with CfD would have the most positive impact on the cost of capital for low-carbon generators so long as they can be guaranteed into the long term (i.e. that there is no risk of another change to the electricity market structure a few years in the future). For example, in offshore wind development there are a number of risks and uncertainties which include the capital costs of development and generated revenues. The more risks/ uncertainties associated with the project, the higher the cost of capital. Therefore if one of these uncertainties can be reduced, i.e. by the Fixed FIT or the FIT with CfD that will provide greater revenue certainty, then this should help to reduce the cost of capital.

8. What impact do you think the different models of FITs will have on the availability of finance for low-carbon electricity generation investments from both new investors and existing the investor base?

As outlined above, the Fixed FIT and the FIT with CfD (so long as they are set at a suitable level) will both give more certainty in terms of achieving revenue from generation. However, the government should also ensure that the new regime is fixed for a number of years, because the potential for change also leads to uncertainty. Whilst generators will still face risks in terms of costs and developments, more revenue security will reduce total risk and should help to increase the availability of finance (potentially at a lower cost) for low carbon generators. .

Recently, developers have been uncertain as to whether the level of support of 2 ROCs would continue for offshore wind projects or whether this might be lowered to 1 ROC or a less favourable incentive. This has caused a significant amount of uncertainty, and this uncertainty should be avoided with any new change in policy as it can lead to investments being delayed. Stability and price certainty is key to speed up renewable projects.

9. What impact do you think the different models of FITs will have on different types of generators (e.g. vertically integrated utilities, existing independent gas, wind or biomass generators and new entrant generators)? How would the different models impact on contract negotiations/relationships with electricity suppliers?

In the current environment, as described above, some PPA providers will not provide a PPA for offshore wind due to the uncertainty with regard to the ROC regime. Therefore, if the incentive regime is stable and of a suitably attractive level, then more PPA providers will offer PPAs and the market will be more competitive. In addition, the PPA terms are likely to be more favourable if generation revenue is more secure (i.e. if the Fixed FIT model or the FIT with CfD model is used). As the premium FIT is similar to the ROC, if this is selected PPA terms are likely to be similar.

10. How important do you think greater liquidity in the wholesale market is to the effective operation of the FIT with CfD model? What reference price or index should be used?

Not answered.

11. Should the FIT be paid on availability or output?

There are advantages and disadvantages of both options. Payment of the FIT on availability transfers the renewable resource risk from the generators to the electricity customers, and may therefore help to encourage investment and new developments. However, a disadvantage of payment of FIT on availability rather than on output could be that the generator may not be incentivised to build a reliable electrical distribution system/ select reliable generators.

Emissions Performance Standards

Questions 12-16 are answered together:

12. Do you agree with the Government's assessment of the impact of an emission performance standard on the decarbonisation of the electricity sector and on security of supply risk?

13. Which option do you consider most appropriate for the level of the EPS? What considerations should the Government take into account in designing derogations for projects forming part of the UK or EU demonstration programme?

14. Do you agree that the EPS should be aimed at new plant, and 'grandfathered' at the point of consent? How should the Government determine the economic life of a power station for the purposes of grandfathering?

15. Do you agree that the EPS should be extended to cover existing plant in the event they undergo significant life extensions or upgrades? How could the Government implement such an approach in practice?

16. Do you agree with the proposed review of the EPS, incorporated into the progress reports required under the Energy Act 2010?

The EPS appears to be a good way to encourage a reduction of reliance on old coal fired plants and increase our reliance on low carbon generation, which is technically ready but requires some effort to be more widely developed. In addition, whilst CCS still appears to be some way off (with demonstration projects just commencing), the EPS may lead to more rapid development of CCS in order to avoid the decommissioning of old coal fired power stations. This would be a positive outcome and help to meet the climate change targets.

17. How should biomass be treated for the purposes of meeting the EPS? What additional considerations should the Government take into account?

Not answered.

18. Do you agree the principle of exceptions to the EPS in the event of long-term or short-term energy shortfalls?

It should be ensured that exceptions to the EPS in the event of short term energy shortfalls do not discourage the development and implementation of other measures to reduce short term energy shortfalls such as demand side management and storage. In particular, whilst only hydro bulk storage is currently available, short term storage particularly in the form of batteries is available now and a number of successful demonstration projects have been implemented in the UK.

OPTIONS FOR MARKET EFFICIENCY AND SECURITY OF SUPPLY

19. Do you agree with our assessment of the pros and cons of introducing a capacity mechanism?

We agree that the capacity mechanism would seem to provide a greater degree of certainty for investors in flexible generation, which should increase the availability of finance and reduce investment cost, and hence should be encouraged. However, as pointed out in the document, wind generation is inherently more exposed to being out of balance, and hence it should be ensured that wind generation is not materially affected by the capacity payment. The document contains a small section regarding potential actions to manage intermittent renewables but also suggests a “wait and see” approach. It is suggested that further research work should be carried out in this area.

The capacity payment seems to be a positive step to encouraging demand side management, storage and interconnection. The current system does not encourage these measures and as such technologies such as storage have only been implemented as demonstration projects, with neither generators nor network operators being incentivised to utilise them.

20. Do you agree with the Government’s preferred policy of introducing a capacity mechanism in addition to the improvements to the current market?

We agree that the capacity payment appears to be a sensible mechanism in addition to the other improvements; however the different suggested improvements will interact and their potential overall effect should be understood. For example, it should be ensured that the potentially negative effect of the capacity payment on wind generation does not balance out the advantages of the FIT proposals, by developers potentially choosing to construct flexible plant such as CCGTs/ OCGTs rather than more intermittent plant such as wind.

21. What do you think the impacts of introducing a targeted capacity mechanism will be on prices in the wholesale electricity market?

It should be ensured that the capacity mechanism and payments should also be sufficient to encourage measures such as demand side management and storage. IT will raise the price but will change the delivery mix away from Gas and Coal.

22. Do you agree with Government’s preference for the design of a capacity mechanism:

- a central body holding the responsibility;
- volume based, not price based; and
- a targeted mechanism, rather than market-wide.

The danger in applying capacity payments to all new flexible plant might be to disproportionately encourage CCGTs and OCGTs over other forms of generation. CCGTs and OCGTs are already attractive as generation forms, and this could increase the risk of over-reliance on foreign gas supplies and encouraging gas generation over and above renewable and nuclear generation.

23. What do you think the impact of introducing a capacity mechanism would be on incentives to invest in demand-side response, storage, interconnection and energy efficiency? Will the preferred package of options allow these technologies to play more of a role?

We believe that storage and demand side management in particular have been slow to be implemented due to the lack of incentives in the current regime. Trial projects have shown that all three measures can be beneficial but to date network operators and generators have had little incentive to utilise them and this has hindered their development. The capacity payment appears to address this and has had a positive impact in other markets. We feel that this is an excellent opportunity to finally try to develop some of these additional measures that could lead more quickly and efficiently to a de-carbonised system.

24. Which of the two models of targeted capacity mechanism would you prefer to see implemented:

- **Last-resort dispatch; or**
- **Economic dispatch.**

If economic dispatch is selected, it should be ensured that gas generation is not selected first at the expense of low carbon generation due to cost effectiveness. Potentially a selection order could be established for example, Nuclear, Offshore Wind should be made must run.

25. Do you think there should be a locational element to capacity pricing?

A locational element may also lead to greatly increased complexity. For example, in the US different markets have separate capacity auctions, but these are on a state-by-state basis. The market size of a single US state may be comparable to the market size of the UK. However, if the issue of complexity can be addressed then location pricing will achieve benefits.

ANALYSIS OF PACKAGES

26. Do you agree with the Government's preferred package of options (carbon price support, feed-in tariff (CfD or premium), emission performance standard, peak capacity tender)? Why?

We believe that the Government's preferred package of options appears to address the issues currently faced by the UK electricity market, although it should be ensured that the measures will work together successfully and will not produce undesirable outcomes. In addition, as previously stated we believe that a CfD FIT would be preferable to a Premium FIT and that the government should consider the Fixed FIT as an alternative if the CfD FIT is too complicated to implement. We believe that the emission performance standard is a positive step forward to start to reduce our reliance on coal-fired plant.

27. What are your views on the alternative package that Government has described?

Not answered.

28. Will the proposed package of options have wider impacts on the electricity system that have not been identified in this document, for example on electricity networks?

We feel that if demand response measures, storage and interconnections are incentivised by this package then there will be a significant impact on the networks. However, significant research work (and recently trials) has been carried out in these areas, and in our opinion we are ready to start to innovate. It has been frustrating over the last few years that although there have been many plans for smart grids, smart meters, storage etc there have been few implementations due mainly to lack of incentive, and if this package can alleviate this issue then it will be a positive step. In summary, the proposed package should have a positive impact on the investment in, and development of the electricity networks.

29. How do you see the different elements of the preferred package interacting? Are these interactions different for other packages?

Not answered.

Implementation Issues

30. What do you think are the main implementation risks for the Government's preferred package? Are these risks different for the other packages being considered?

We are currently seeing a hiatus in industry activity due to uncertainty and it is therefore important that we have certainty as soon as possible. We also believe that it is important to grandfather some of the incentives, such as the current ROC regime, for generators that are currently in stages of development, but that these generators should be given the option to choose between the existing and the new regime. For those projects in development, business plans will have been built on the current regime, and making a change would cause a great deal of upheaval and uncertainty, may put finance that has already been obtained at risk and may delay projects.

In addition, whilst these proposals outline the type of incentives, the levels have not been set and these levels should be sufficient to encourage investment in the UK. Therefore, one implementation risk is that the levels of incentives (e.g. value of the FIT) are not suitably attractive to encourage sufficient investment to meet the renewable targets.

The risk if the Premium FIT is implemented is clearly that sufficient revenue certainty is not provided for investors and that similar issues are experienced as for the current ROC regime.

31. Do you have views on the role that auctions or tenders can play in setting the price for a feed-in tariff, compared to administratively determined support levels?

- a) Can auctions or tenders deliver competitive market prices that appropriately reflect the risks and uncertainties of new or emerging technologies?
- b) Should auctions, tenders or the administrative approach to setting levels be technology neutral or technology specific?
- c) How should the different costs of each technology be reflected? Should there be a single contract for difference on the electricity price for all low-carbon and a series of technology different premiums on top?
- d) Are there other models government should consider?
- e) Should prices be set for individual projects or for technologies?
- f) Do you think there is sufficient competition amongst potential developers / sites to run effective auctions?

g) Could an auction contribute to preventing the feed-in tariff policy from incentivising an unsustainable level of deployment of any one particular technology? Are there other ways to mitigate against this risk?

We believe that using auctions to set the FIT could present a large risk to technologies that the UK wishes to encourage, such as offshore wind. The cheaper options such as onshore wind and biomass will be encouraged to come first, but equally the UK's planning policy does not encourage onshore wind. Whilst offshore wind is still expensive, costs should decrease as the number of projects increases and issues are resolved. By using a FIT auction, offshore wind might not have the opportunity to develop. As offshore wind is a huge opportunity for the UK economy and its engineering and manufacturing industry, the government should ensure that it is encouraged and not hindered.

32. What changes do you think would be necessary to the institutional arrangements in the electricity sector to support these market reforms?

Not answered

33. Do you have view on how market distortion and any other unintended consequences of a FIT or a targeted capacity mechanism can be minimised?

Not answered

34. Do you agree with the Government's assessment of the risks of delays to planned investments while the preferred package is implemented?

We believe that it is essential that certainty should be achieved as soon as possible in order to avoid project delays, and that the new measures should be clearly communicated and explained to the market. As has already been stated, in our experience of offshore wind it is already difficult to attract project finance and arrange a PPA in an uncertain market.

35. Do you agree with the principles underpinning the transition of the Renewables Obligation into the new arrangements? Are there other strategies which you think could be used to avoid delays to planned investments?

We agree that the Fixed FIT or the FIT with CfD appear to be good alternatives to the ROC, so long as the level is set sufficiently high to encourage investment. However, the Premium FIT would seem from the generators' perspective to be a similar tool to the ROC and have similar issues.

In terms of avoiding delays to planned investments, again it is essential that clarity is provide as soon as possible on the new arrangements and that the old arrangements are grandfathered sufficiently such that projects already in development can continue using their current business plans. If business plans need to be revised and project financiers made aware of the revisions and the potential implications then this could cause delays to projects already in development.

One very significant current issue with offshore wind development is the difficulty in obtaining project finance due to the perceived high project risks. Many developers are therefore carrying out project finance off balance sheet. Clearly by increasing revenue certainty (using the Fixed FIT or CfD FIT) the revenue risk is reduced, but other risks related to consent, capital costs, operation etc still exist. In order to further encourage offshore wind development, the government could consider measures to encourage project finance for offshore wind.

36. We propose that accreditation under the RO would remain open until 31 March 2017. The Government's ambition to introduce the new feed-in tariff for lowcarbon in 2013/14 (subject to Parliamentary time). Which of these options do you favour:

- a) All new renewable electricity capacity accrediting before 1 April 2017 accredits under the RO;**
- b) All new renewable electricity capacity accrediting after the introduction of the low-carbon support mechanism but before 1 April 2017 should have a choice between accrediting under the RO or the new mechanism.**

We believe that option b) is the most favourable, i.e. that there should be a choice between the RO and the new mechanism. This will enable generators to follow existing business plans if necessary, but will also enable them to be on a level playing field with new developments if the new mechanism is more favourable for their project.

37. Some technologies are not currently grandfathered under the RO. If the Government chooses not to grandfather some or all of these technologies, should we:

- a) Carry out scheduled banding reviews (either separately or as part of the tariff setting for the new scheme)? How frequently should these be carried out?**
- b) Carry out an "early review" if evidence is provided of significant change in costs or other criteria as in legislation?**
- c) Should we move them out of the "vintaged" RO and into the new scheme, removing the potential need for scheduled banding reviews under the RO?**

Scheduled banding reviews would appear to increase the uncertainty for developers. In order for business plans to be robust, developers need to have certainty for a number of years. Each scheduled review date would lead to further uncertainty. We would strongly favour grandfathering, but if grandfathering is not available, then option c) would appear to be the most favourable, so long as the new scheme can be guaranteed for a number of years so that business plans can be revised and can be robust.

38. Which option for calculating the Obligation post 2017 do you favour?

- a) Continue using both target and headroom**
- b) Use Calculation B (Headroom) only from 2017**
- c) Fix the price of a ROC for existing and new generation**

Not answered

