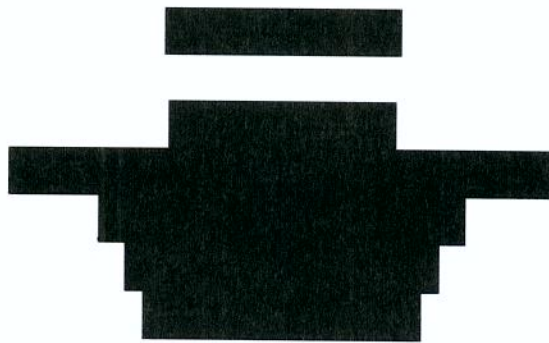




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**Energy Curtailment Specialists Inc. Response to DECC  
Electricity Market Reform Consultation Document**



## **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?**

Decarbonisation of the electricity sector by the 2030s will require strong action in the next 2-5 years. Market rules promoting a curb to peak demand growth will send important signals on the amount of new generation that will be required over the next 20 years. The current electricity market in the UK does not sufficiently promote clean generation, nor demand reduction. However, many of the ideas contained in the Consultation Document will allow the 2050 targets to be met, if implemented appropriately.

### **2. Do you agree with the Government's assessment of the future risks to the UK's security of electricity supplies?**

While the current capacity margin in the UK is certainly sufficient, a long-term view must be taken in regards to security of electricity supply. Diversity in supply technology is essential in a decarbonised electricity market. Interconnection is vital to an island market, but is also an expensive option for securing supply. Storage is an unsure technology to rely upon at this point. With more funding and time, storage technology should improve, and will be vital for a decarbonised (intermittent) generation mix. Demand side response is a developed mechanism that comes at a lower cost than new generation or interconnection. Demand side response can be targeted locally, thus reducing the risk of localized supply shortages.

## **Options for Decarbonisation**

### **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)?**

Yes, we agree with the assessment of the FIT models. The RAB model is anti-competition and as such, we are pleased that it is not favored by the Government.

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

The Consultation Document notes the relative ease of introducing a premium FIT, as it most closely resembles the Renewables Obligation currently in place. However, the FIT with CfD provides a level of cost-effectiveness that is unlikely to be reached with a premium FIT. As the Government seeks to most efficiently and effectively decarbonise the electricity sector (while maintaining security of supply), the FIT with CfD makes the



most sense. Forgoing savings and other benefits for the sake of ease should not be the aim of market reform.

**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 CfD model?**

The major advantage is in transferring financing risks to the Government, either through sovereign finance or having Government-backed debt financing. The consultation is correct in describing the competition for available capital through conventional channels. However, the “FIT with CfD” model should be preserved; otherwise, there is limited incentive to build economic renewable facilities. In addition, there could be the “boom-and-bust” phenomenon occurring in Spain and other places that had fixed FITs with little connection to market signals.

**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?**

The price signal incentivises both investment and operational behavior. That is, the price signal indicates the quantity and location of the capacity needed and the number of operating hours above which the unit operator can earn an above-benchmark profit. The FIT with CfD model would be improvements to this price signal.

**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, and the premium FIT will provide the lowest cost of capital as a result. As a premium FIT will result in a less diverse generation base, combined with a lower cost of capital, the premium FIT model provides serious doubts as to whether there will be any incentive to build developing technologies.

**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 the existing investor base?**

All of the FITs will provide for greater availability of finance. The premium FIT will lead investors to invest in a few cheaper generation technologies. A CfD FIT will most likely lead investors to a wide range of generation technologies, with government having an ability to establish preferences.

**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?**

The fixed FITs, if set intentionally higher than a normative benchmark to encourage renewables, may help or hinder independent gas and new gas-fired entrant generators, depending upon how much these competing gas units will be needed to deal with renewables' intermittency. The fixed FITs would also likely result in extended contract negotiations with vertically integrated utilities that will have to pay the higher FIT and may only recover those payments in rates later – (possibly only through a rate case approval.). Other models might not accelerate renewables growth like a high fixed FIT (and therefore run the risk of not reaching Government targets), but do not suffer from the drawbacks above.

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

Greater liquidity is critical for any market-linked pricing mechanism. For this reason, the FIT with CfD model should work in parallel with other efforts by DECC and Ofgem to increase market liquidity. The reference price or index should be whatever price is used in a financially binding auction (e.g. if that auction is the day-ahead market, then the day-ahead clearing price should be the reference price).

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

On output, provided that the Government's goal is meeting decarbonisation targets through using renewables to displace fossil-based generation, not just meeting a target for available renewable capacity.

Emissions Performance Standards

**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?**

An emission performance standard will certainly contribute greatly to the decarbonisation of the electricity sector, going forward with all new generation built. When combined with the other mechanisms the Government is looking at in its proposed packages, there should not be any risk to security of supply. There is significant reserve margin at this point, and going forward, the FITs will contribute to less carbon intensive generation being built to meet increasing demand needs. With an appropriate market-wide capacity mechanism, demand side response and storage will be able to significantly enhance the security of electricity supplies. The effects of an EPS on security of supply will be mitigated with an appropriately designed package, while continuing to provide the benefit of decarbonised electricity generation.



**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?**

Yes, the EPS should be aimed at new plant, allowing grandfathering from the point of consent. We have no comment on the determination of economic life.

**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?**

Yes, the same EPS should apply to all years and/or capacity not grandfathered in.

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

Yes, the progress reports will be useful in analyzing the impact of the EPS. However, it is vital for investors to have certainty in what the EPS will be, and any change proposals initiated by these progress reports should not negatively effect those that already have invested under the previous EPS.

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

The Government should account for scale differences among biomass facilities, and the fact that some facilities operate as cogeneration plants whose output is non-dispatchable.

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

Yes. Supply security is still the top priority, at least until demand response is sufficiently developed for markets to elicit preferences accurately for supply interruptions.

#### **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?**

Yes.

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

Yes.

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

This will probably move prices above their optimal levels, unless there is substantial market monitoring. There are strong incentives to withhold capacity and create a shortfall used as the basis for the targeted capacity mechanism. A market-wide capacity mechanism recognizing locational constraints would be a better option.

**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 targeted capacity mechanism is intended to compensate only those generators needed to make up an anticipated shortfall in the capacity margin. This assumes that this means that the "central body" will: (a) determine the adequacy requirement (e.g. via 1-day-in-10-year criterion); (b) add up the claimed capabilities of the existing units; and (c) subtract (b) from (a) to determine the shortfall. This would mean that only the "shortfall resources" can participate in the tender and be compensated through the capacity mechanism. Would this mean that the non-shortfall units comprising (b) can only receive revenues from the "energy-only" and uplift payments? It must be asked whether non-shortfall units will still be able to recover their capacity costs in the energy-only market.

If I were a generator, I would be looking at this targeted capacity mechanism as an opportunity to play with my claimed capabilities to make myself an existing resource or a shortfall resource. I might be better off withholding my claimed capability and offering that withheld capacity in the shortfall tender. A more innocuous example of this behavior occurred in New England, where some generators saw that the revenues available from being classified as Reliability Must-Run units were higher than the projected amounts available through the markets. The ISO had a vigilant Market Monitoring group and proof requirements justifying RMR status that prevented large-scale abuse. This safeguard must be in place to even begin to consider this system.

ECS strongly recommends that DECC ditches the targeted capacity mechanism, and adopts a market-wide capacity mechanism with co-optimized energy and reserves for all resources. As bringing DR is an expressed desire of DECC, a market-wide capacity mechanism is the best, and perhaps only, way to make this happen.



**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?**

A capacity mechanism is extremely likely to bring robust demand-side response into the market. However, a market-wide capacity mechanism must be used, in order to eliminate generators gaming the system. DR providers are not likely to invest heavily in a system with an unfriendly targeted capacity mechanism. These same concerns exist for storage, and to a lesser degree, for interconnection as well.

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

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

If the targeted capacity mechanism is adopted, then Economic Dispatch is preferred. In addition, the “market distortion” described in Paragraph 53 needs to be explained much more fully.

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

When there is a substantial locational constraint in the system, the locational element allows for pricing to reflect true cost differences in providing capacity to various locales. For example, New York, New England, PJM, and Ontario all utilize locational pricing in their capacity mechanisms. It is simply more expensive to build generation (or greater transmission capacity) in New York City than it is in rural Upstate New York. As a result, a higher capacity price is needed to signal investors to provide the much needed capacity in New York City. Locational capacity pricing will send the signals to all market players in the UK to invest in capacity where it is appropriate.

#### **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?**

Regardless of which feed-in tariff (CfD or Premium) is chosen, this package will be a significant improvement over the current market conditions. Carbon price support and EPS will initiate a move towards lower emitting generation. Security of supply will be helped by the carbon price support interacting with the capacity mechanism. With an appropriately designed market-wide capacity mechanism, demand side response will increase greatly, storage technology investment will increase, and security of supply will be further enhanced at a low cost.

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

The alternative package is also an attractive improvement over current market conditions. The same benefits from the carbon price support, EPS, and capacity mechanism should be maintained. It is slightly inferior to the preferred package due to the higher cost to implement. A less diverse generation mix is also likely with premium payments, slightly increasing the risk to security of supply.

**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?**

The proposed package of options would have an impact on transmission and distribution planning, introducing long-term and short-term market signals in planning – especially if FIT with CfD is adopted.

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

The interaction among the different elements may be more stable but less efficient, as one moves from a market-based model with a market-wide capacity market to fixed FITs and artificially separated capacity markets.

**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?**

In regards the targeted capacity mechanism, we have already discussed the concern over gaming the system. There does not seem to be a central body in place that would be able to strictly monitor system abuse by generators, and creation of one from scratch would be both cost and time intensive. Any package considering a targeted capacity mechanism will face this same issue.

**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?**

- **Can auctions or tenders deliver competitive market prices that appropriately reflect the risks and uncertainties of new or emerging technologies?**

Yes, when designed properly and starting with sufficient number of players to provide liquidity/price discovery. There is a lot of experience on which to draw from workably competitive auction markets in the US.



- **Should auctions, tenders or the administrative approach to setting levels be technology neutral or technology specific?**

Technology neutral, unless government policy mandates development of specific technologies. The rules framework for the auction/tender or for administrative determination should be technology-neutral, regardless.

- **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?**

Yes.

- **Are there other models government should consider?**

No; this set of models is sufficient.

- **Should prices be set for individual projects or for technologies?**

Technologies.

- **Do you think there is sufficient competition amongst potential developers/sites to run effective auctions?**
- **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?**

Yes. Another, less-preferred method is to set annual caps for a defined period, to signal what society determines to be unsustainable levels. However, this method risks underestimating what the sustainable level actually is, and should not be used for more than a few annual caps.

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

Specifically noting the plan to institute a targeted capacity mechanism, a large scale monitoring agency would need to be developed. This agency must have the ability to closely monitor generators and their declared availability. Any deficiencies by this agency would lead to widespread gaming of the market, and contributing to security of supply risk. This need is mitigated by a more appropriate market-wide capacity mechanism.

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

A market-wide capacity mechanism greatly reduces the opportunity for market manipulation.

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

Yes.

**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?**

Yes, we agree. In addition, if there continues to be no demand curve for capacity, capacity markets will likely be "bipolar" as described in Paragraph 40. Such volatility will likely result in risk premia higher than initially assumed and will create delays in planned investments. Therefore, either a demand curve model should be adopted to provide some price certainty, or the Government should factor in some risk premium mitigation (e.g., government backing, incentives for private equity finance, etc.)

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

- All new renewable electricity capacity accrediting before 1 April 2017 accredits under the RO;
- 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.

All new units before 1 April 2017 accredit under the RO.

**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:**

- 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?
- Carry out an "early review" if evidence is provided of significant change in costs or other criteria as in legislation?
- 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?



Move the technologies into the new scheme.

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

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

Prefer the “Fixed ROC”, since it starts all capacity resources on a level playing field, but provided there are market protections if a delivery agent other than Ofgem is selected to buy the ROCs.

