

EMR Consultation  
Department of Energy & Climate Change  
3 Whitehall Place  
London  
SW1A 2AW

04 March 2011

Dear Sirs

### **Electricity Market Reform Consultation**

Thank you for the invitation to respond to the above consultation. Good Energy is the UK's only dedicated 100% renewable electricity supplier. We supply around 27,000 customers and source the majority of our energy from a community of almost 2,000 small-scale independent renewable generators, as well as from our own recently redeveloped wind farm in Delabole, Cornwall.

Good Energy welcomes the political emphasis on the Electricity Market Reform (EMR) project and its potential to provide the most radical reform of the electricity market for 25 years. We believe that this reform is absolutely vital if the UK is committed to achieving its renewable energy and emissions reduction targets.

### Executive Summary

We are supportive of the Government's desire to decarbonise the electricity industry, especially as this is a prerequisite of decarbonising the heat and transport sector, and welcome this consultation. However, we believe that the 'one size fits all' approach adopted in the consultation won't work and that the proposals are focused on a centralised solution using large scale Nuclear and CCS technology, and then tries to apply the same solution for smaller sites without consideration of the different environment in which they are funded and operated.

### FIT Support

We believe that decentralised generation has a significant role to play, and this needs to be supported via the appropriate FIT mechanism. A Fixed FIT would work best to support small scale systems up to 4kW, and from 4kW to 20MW a premium FIT is the better support mechanism as outlined. This would be in line with the Government's stated ambition to encourage more community schemes, and help businesses who invest in onsite supply, but do not want to become energy market players.

<u>Generator size</u>	<u>Scheme</u>
Micro (< 4 KW)	Fixed FIT
Small (4KW - 20MW)	Premium FIT
Medium (20MW - 50MW)	RO, moving to FIT with CFD
Large (> 50MW)	FIT with CFD

Above 20MW there should be a two phased approach with sites below 50MW remaining on the RO until the FIT with CFD is proven for sites above 50MW. Once FIT with CFD is settled in, then the level at which the FIT with CFD can be lowered and the RO vintaged. Our experience of the electricity market and the introduction of new mechanism, is that there are always unintended consequences, so we propose a time

lag for the FIT with CFD for the smaller sites as the risk will be that those sites just won't get built until the risks related to the mechanism is minimised.

#### Carbon Price Support

We are supportive of proposal for carbon price support, but recognise that this is a 'stick' to deter investment in high carbon generation, and other measures are still required in addition to encourage investment from the non-utility sectors into low carbon generation and into demand side technologies including storage.

#### Capacity Mechanism & Demand Reduction

We are very concerned that the proposals for a capacity mechanism is still focused on delivering sufficient capacity to meet the demand peak, rather than developing an availability mechanism which ensures that there is sufficient available capacity (supply or demand response) at other times caused by the future energy mix of increasing inflexible and intermittent generation.

Although mentioned as being part of the Government's ambition, there is very little practical support for developing wide spread demand side response or storage. This is because FIT with CFD is too complex, and the capacity mechanism will not work for any technology where availability is likely to vary as it is focused on dispatchable plant with fixed capacity available at all times.

We also believe that DNO's have role to play in balancing their own GSP group as far as practicable, thus reducing losses and encouraging greater demand side response and investment in smart grid. There is nothing in this consultation covering this point and we would like to see this worked on; this is an urgent issue and needs focus.

In conclusion, we support the Government's ambition, but feel that the proposals based on a one size fits all approach is too simplistic and different mechanisms are required for different sizes of generation. We also believe that a real strategy for decentralised generation, DSR and storage is required to meet the aims of decarbonisation rather than attempts to shoehorn them in around the edges, as appears to be the case here.

#### Consultation Questions

##### **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?**

The Government's assessment that the current energy participants are unable to finance the scale of change required is correct. This will therefore require additional investment capital to be sourced from other parties. Interestingly, most of the documented reasons for insufficient investment signals are related to the operation of the balancing market to which we would add the following points:

- Market illiquidity means there is no effective, transparent wholesale market price, especially in a long term forward curve.
- The short term marginal price is linked as stated to gas or coal. As the market decarbonises, then the marginal price may be set by non-flexible or intermittent generation. Therefore any solution would need to be tested against that scenario
- For pricing signals to be effective, they need to be known before purchase. The current cash out arrangements only provide prices after the event. As the market has no real long term view as to whether participants are long or short, then predicting cash out prices is more art

than science. This is particularly pertinent to demand side response, where several hours notice may be required for a response to be put in place.

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

Not entirely. The EEU calculation works on a methodology that assumes built capacity is therefore available. With significant intermittent generation, built capacity does not necessarily correlate to available capacity. Equally, increasing inflexible plant such as nuclear within the generation mix means that capacity is not available at short notice. This means that both storage and DSR must play an increasing important role in minimising generation related EEU.

Interconnection will have a role to play, especially in the development of a supergrid. Interconnection is not just about being able to source additional electricity at times of constraints, but also an opportunity to export when the UK has a surplus, and thus creates additional markets for energy which will also encourage investment.

The report highlights the need to support more demand side response, which will enhance security of supply, but there are no substantial proposals to encourage this within the document

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

Firstly, we disagree with the statement that under the RO an investor will not be sure of the number of ROCs they will receive until their installation is built and commissioned. The RO review process sets the banding for 5 years and therefore an investor is fully aware of the number of ROCs they will be allocated. What is the issue with ROCs is that generally, because the larger suppliers are the purchasers, they take around 8% of the value out of the ROC for providing a long term bankable loan for the generator. Under the FIT mechanism, 100% of the value passes onto the generator, as the government is underwriting its value not the supply companies.

The current FIT in operation in the < 5MW market is in effect a Premium FIT where the generator is assured an income on total generation, and is then paid market price for export (which, for larger sites, generation = export). This is generally understood and has led to significant investment interest in renewable generation because it offers a reasonable return combined with simplicity, although the recent decision to implement an early review of FIT shows that policy risk is arguably higher than has been seen with the RO.

A Fixed FIT, whilst providing certainty of price, is insupportable in the longer term for significant generation as it may skew the market. It will work successfully for micro-generation (typically <4kW), and will also encourage on-site energy efficiency and as households realise that the maximum benefit is derived from onsite usage (we are waiting on the results of research being carried out at Oxford and Exeter University on the specific values). In the longer term, combined with smart metering, it could create a market for DSR as micro-generators can be optimised to switch from onsite use to exporting via dynamic price signals.

The FIT with CFD provides security of price, but is extremely complex and needs careful hands on management. This means that it is only really suited to major market players making significant investments. Probably multi-national utilities working in conjunction with merchant banks will be able to manage this type of risk. It would seem that if this is created effectively to allow new participants to invest, then it could create better liquidity in the market place due to more market entrants.

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

No, not as a one size fits all. As we laid out in the executive summary we believe:

Below 4 kW should be a Fixed FIT

4kW to 20 MW should be a Premium FIT

20-50 MW should be a ROC transiting to a FIT with CFD 18 months after the FIT with CFD is introduced for the 50MW+

50MW + should be FIT with CFD but not with an auction; that will favour companies with existing plant, and be difficult to finance.

On the FIT with CFD we think the following issues need to be considered.

- i) The FIT with CFD may work for larger generators connected to the transmission network as they are likely to have the resources to manage the complexity of the contract. However, for decentralised generation, the complexity of the FIT CFD will make transaction costs too high.
- ii) There is currently no such thing as a 'market price'. There is dual price cash out arrangements. A marginal price based on limited trades, and then an average of contractual prices, which is completely opaque to the market. The FIT with CFD can only work effectively if the market price is more transparent.
- iii) The FIT with CFD could create unintended consequences around times of contracting, as the price set and paid by the Government will depend on the market wholesale price, and companies who control marginal plant may be able to shift prices at contracting time. Due to the lack of transparency in the market this will be difficult to see and to police.
- iv) There appears to be an assumption that the market price will always be set by fossil fuelled generation. However, this assumption may be incorrect and it may be that the market price is set by generation supported by the FIT with CFD. This scenario needs to be modelled to ensure it does not create unexpected outcomes.

**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?**

The FIT with CFD will ensure that investors are able to factor away some of the price risk, but the mechanism does not remove the long term price risk as the generator could end up with a lower income if its PPA with a supplier is less than the market price.

For these reasons it will be difficult for parties to sign long term PPA as they will want to ensure that the differential between the purchase price and market price does not become an additional risk. This may be possible for larger generators or portfolio generators who can invest time negotiating short term PPAs, but will hinder smaller generators and smaller suppliers. This is the reverse of the way long term debt financing works, which prefer long term PPAs on which they can model their returns.

**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?**

There are two key decisions that a price signal incentivises. Firstly, a long term price signal will allow decisions on whether investment is made in generation. The key factors are the predicted price, and the certainty of that price. For example, to some investors the prospect of a small reward, but with a high degree of certainty is preferable to the prospect of a potential high reward, but with a high degree of risk. The former generally requires a rate of return around 12%, but the latter case requires a figure closer to 30%, making most projects unsupportable.

In the short term, pricing will allow operators to decide whether to run their generation or not. Key to this is the ability to make a margin. Under the current trading arrangements, most generation is contracted to a supply counter party, and thus volatility of market price is less of an issue. However, under the FIT with CFD, then the price the generator may receive is linked to the market price, thus exposing those generators to that volatility. The proposed policy therefore removes the long term risk, but accentuates the short term risk which will benefit larger parties over smaller ones, who will have the resources to mitigate the risk.

**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?**

No. The costs of capital assumptions are wrong when applied to small and medium sized projects as they increase the risk. It is commonly recognised that the current incumbents are unlikely to be able to provide the required funds, and thus new finance is required. At the smaller end of the market, this capital is likely to come from sources which require a greater return than what corporate funding would require. We are concerned that the Government's focus on this is about larger investments and is not recognising the requirements of medium sized investment that is typical of decentralised generation.

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

In order to attract new investors, the proposals put forward will have to compete for limited funds in the global investment market. This means that the proposals should deliver attractive returns, with limited risk, including that caused by perceived political intervention. As we have already seen in the solar market, the rewards available to 5MW solar generation through a Fixed FIT were sufficient to attract some private equity and funds that receive tax benefit (e.g. EIS and VCT) for encouraging UK based assets, but have been curtailed by political intervention which has led to withdrawal of funds. For new investors, political certainty is probably as important as financial certainty.

The Fixed FIT offers certainty of return to all investors. Assuming the rates are sufficient to attract investment, the investors are then driven to efficiencies to maximise the margin on operation such as in the <4kW market by maximising onsite usage. The cost of this does fall upon the Government (or like the current FIT recycled equitably across the energy suppliers). However, a Fixed FIT requires less investment as it provides certainty of return.

The Premium FIT is more market based and is best suited for non-corporate investment which requires simplicity of support whilst encouraging operators to make commercial decisions to make a reasonable return. Key to this the ability to secure funding through a long term PPA with a supplier.

The FIT with CFD is quite complex and is probably the one that has the most risk of failing to deliver sufficient reward because of its link to an undefined market price. However, larger investment could mitigate this risk by using complex financial spread, but it is unlikely to appeal to smaller investors due to the high risk and complexity.

**9. What impact do you think the different models of FITs will have on different types of generators (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?**

	<b>Fixed FIT</b>	<b>Premium FIT</b>	<b>FIT with CFD</b>
<b>Vertically integrated Utility</b>	Works for encouraging customers to develop microgeneration	Support for generation funded from own resources	Leverage of bank funded generation
<b>Wind Generation</b>	Support micro generation	Support for decentralised onshore wind development	Support for major offshore development
<b>Biomass Generation</b>	None	Support for sites where export is a by product of onsite usage	Support for retro fit of existing coal fired stations
<b>Tidal Generation</b>	None	Possible small scale opportunity	Support for Tidal barrage such as Severn or Mersey
<b>New entrant Generators</b>	Best suited for householders investing in micro-generation	Support for onsite generation and decentralised generation	Encourage multi-national utilities to enter UK market
<b>New entrant Suppliers</b>	As with current FIT, option to opt out means less complexity than ROCs	New embedded generation will create hedge against wholesale market reducing risk	Will encourage large scale generation which has to be traded on the market, rather than sold completely in PPA

The different FIT models work differently for different market players. For customer engagement the Fixed FIT works best as it is the most straightforward. As with the existing FIT, the costs of this could be spread equitably via levelisation and new entrant suppliers can avoid offering the service until of sufficient size. It certainty should reduce the costs of finance.

The Premium FIT works best for new independent generation, which is likely to either businesses investing outside their principle business activity, or community groups. Neither of these are likely to have the balance sheet to go it alone in investment and will be looking to funding from traditional banking sources, backed with a business plan showing expected returns from a long term PPA with a supplier. Currently banks are willing to lend around 90% of expected FIT income. For new entrant

supplier, signing PPAs with embedded generation could provide a hedge against wholesale market price volatility.

FIT with CFD will support not only existing players in large scale generation, but encourage new market entry by globally active utilities, as long as this is not done in conjunction with auctions. This will weaken the vertically integrated nature of the market by providing large quantities of electricity into the wholesale market, thus improving liquidity.

**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?**

Critical. The FIT with CFD model will only work if the market price is based on all trades, and for those trades to be competitive. If all trades were recorded, included those between different parts of a vertically integrated utility, then transparency will allow a market price to be robust.

For FIT with CFD to work most effectively, then generation and retail businesses need to have the same level of management separation as currently exists between supply and distribution; thus encouraging both parts to act competitively.

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

Output. Availability would mean that Generators would consider switching sites off, and since most of the technologies under FIT are either variable or non-flexible plant, it would be better to use output, and reward availability separately.

**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 the security of the supply risk?**

We believe that the EPS at either of the levels proposed will have little impact on either the decarbonisation of the electricity sector or security of supply. Greater impact on both will come from other measures such as the carbon price support and the current EU LCPD on existing plant.

**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?**

Neither level will make any significant impact. What would be more effective would be to announce the decreasing levels between now and 2030, when the level should be zero, so that investors know what the level will be and when.

**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?**

Although grandfathering will reduce the speed of decarbonisation, the principle of grandfathering is important for investor confidence; as such, we are supportive. That is why the level needs to be set lower than that proposed. The plant should be grandfathered at the point of commissioning, not consent as is the case under the RO and existing FIT. By grandfathering at commissioning, it will encourage developers to take actions to reduce emissions through the build, and discourage speculative consents being sought which are then held for several years before being built.

The economic life should be defined at the outset, and any extension would need to meet the EPS limit of the date in question. Otherwise operators may prefer to extend plant life rather than replace plant thus reducing the pace of decarbonisation.

**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. See above.

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

We have no view on this.

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

Biomass should remain exempt from the EPS at the moment to avoid additional bureaucracy, although other measures to ensure the sustainability of biomass should be in place. As the EPS becomes closer to zero, then a way of measuring the net carbon output will need to be devised.

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

Short term exceptions should be permitted to cover extreme or unforeseen situations. However, long term exceptions should require legislative approval from parliament otherwise it creates a "get out of gaol free" card, thus sending the wrong message to investors and industry.

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

To date capacity mechanisms have been developed around ensuring security of supply to meet system peak demand using dispatchable plant. This means that, as a rule of thumb, having capacity equated to availability subject to price. As we go forward, then the intermittent nature of some renewables, and the inflexibility of nuclear, means that the link between capacity and availability is broken. In addition, a more significant amount of generation (and DSR) will be embedded within the Distribution Networks, and not dispatchable by the transmission system operator. This means that any capacity mechanism must focus on the demand supply margin, not just the demand peak. It is quite likely that as we decarbonise that insufficient margins on supply will occur at time away from maximum demand. The analysis in this consultation does not appear to have totally grasped this fact.

Any capacity mechanism needs be flexible enough to encourage supply and demand (including storage) capacity which is intermittent to bid in and out depending on their position at a particular point in time including sites embedded within a Distribution Network. Long term capacity contracts which assume 24/7 availability are not a sensible way forward. This is already witnessed on the demand side where industrial customers may be more willing to have DSR contracts if they had more control to opt in or out depending on circumstances (e.g. allowing manufacturing flexibility to be unavailable if they have orders on tight deadlines to fulfil).



**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, as we go forward, it is likely that to ensure security of supply a higher level of capacity from supply and demand reduction is likely to be required, due to the variable availability of the capacity. Therefore an availability (as opposed to a capacity) mechanism is required in addition to the other proposed changes to the current market.

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

If the Government proceeds with a FIT policy to encourage new generation then the impact on wholesale prices of both FIT and a capacity mechanism together must be considered. There appears to be an assumption in the analysis that generation supported by FIT will not be part of the capacity mechanism which is unlikely to be true.

As the analysis is based on maintaining a 5GW capacity (as opposed to availability) margin over peak demand, then we believe the impact will be small, although this approach is fundamentally flawed.

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

- A central body holding responsibility;
- Volume based, not priced based; and
- A targeted mechanism, rather than market wide.

As stated, we believe that an availability mechanism is required rather than a capacity mechanism.

Any mechanism should have a central body holding responsibility, but not necessarily control. For example, we believe that DNOs have a role to play in balancing their distribution network (see Q25 for detail) possibly acting as or with DSR aggregators, but with NGC maintaining a strategic role.

The mechanism should ensure availability volume, with a dynamic market price. We would expect that where the margin is comfortable then the market price would be zero, but increase significantly as the margin is squeezed.

In order to ensure maximum participation in declaring availability the mechanism will need to be market wide, allowing plant, DSR and storage to declare their availability to match their circumstances, possibly in tranches depending on the price.

**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 are pleased that the Government recognises that DSR and storage have a significant role to play in security of supply. However, as the mechanism stands it is too inflexible as it requires long term commitments to provide capacity, which, by its very nature, is intermittent. For example, aggregated DSR response availability will vary depending on time of day, and storage will have a finite availability, and will become unavailable until recharged.

A measure of success for any mechanism will be if it offers opportunities for DSR aggregators to enter the market rather than relying on large I&C sites with interruptible supply contracts. It needs to also

consider the role of DNOs and suppliers within the mechanism as to date capacity mechanisms have been focused on generators alone.

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

- Last resort dispatch; or
- Economic dispatch

We do not believe that a targeted capacity mechanism will work in the future, but if one is introduced then it should be based on economic dispatch.

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

We believe that a more locational approach to security of supply is required, especially as we need to include more embedded generation and demand side response. One approach would be to encourage DNO's in conjunction with suppliers to balance each distribution network as far as possible. This would maximise generation/DSR closes to where it is needed with the Transmission network managing the imbalance between DNO and dispatching centrally controlled plant or interconnector capacity as required.

Suppliers could be incentivised by structuring transmission charges to encourage them to balance within the GSP group, something current transmission charges do not do, with DNOs managing physical imbalances with DSR, storage and embedded generation. Alternatively, DNOs could pay imbalance charges to NGC, and they would distribute those charges to suppliers based on their imbalance within the GSP group.

**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?**

No. We are supportive of the Carbon Price support mechanism, subject to comments made in our response to that consultation. However, we believe that a FIT with CFD will not work (based on the detail available) for smaller generators as it is too complex.

If implemented, it should be restricted to sites above 50MW in the first instance, and then lowered to 20MW, and the RO vintaged. Below 20MW, should be supported with a premium FIT, except for microgeneration (<4kW) which should have a Fixed FIT.

<u>Generator size</u>	<u>Scheme</u>
Micro (< 4 KW)	Fixed FIT
Small (4KW - 20MW)	Premium FIT
Medium (20MW - 50MW)	RO, moving to FIT with CFD
Large (> 50MW)	FIT with CFD

We believe the EPS will have marginal impact so are ambivalent about its inclusion.

We are seriously concerned about the capacity mechanism proposals as they are focused on securing capacity at peak times rather than ensuring a demand supply margin at all times. We believe an availability mechanism is required, but this area needs to be revisited as they are based on incorrect assumptions, principally that capacity equates to availability.

Our preferred package would be CPS+ all three FIT proposals dependant on size+ROCS for 20-50MW sites for an extra 18-24 months+ An availability mechanism as opposed to a capacity mechanism.

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

As mentioned above, we think each of the FIT mechanisms works for different size of generator. The one size fits all approach will only support one aspect of the market, whereas to fully decarbonise the UK energy market requires action at all levels.

**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 believe that the proposals do not take into account the impact on distributed generation, and the role of small scale demand side response. We also believe that if implemented, generator behaviour will change thus making some of the assumptions invalid. This is especially true for FIT with CFD to work as the market mechanisms will need to change to improve market liquidity.

The decarbonisation of heat and transport is unlikely to be smooth and localised constraints are likely to become more of an issue. Ensuring security of supply through the EMR will count for little if it cannot deliver due to constraints on the last mile. An active DNO system operator is an essential requirement.

We are also concerned that there are no real proposals to support DSR and storage.

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

The CPS and EPS are both 'sticks' to deter high carbon generation. In a global financial market, it does not necessarily follow that money that would have been invested in high carbon generation in the UK will be diverted into low carbon generation in the UK. It could be diverted into water infrastructure in the Far East for example.

The main elements of the package to encourage low carbon investment are the FIT and the Capacity mechanism. Both of which lack sufficient detail at present to make a considered judgement on their likely impact on each other, the trading arrangements and competition in general.

**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? Are these risks different for the other packages being considered?**

The main implementation risk is that the proposed package only credible for large scale generation and will not encourage investment in plant embedded in the distribution network or any DSR or storage. The nature of renewables means that they are scalable downwards in a way that traditional fossil fuelled plant is not. Reliance on a few large remote generation stations is not an option.

The consultation makes the point that any solution must allow investors to make a return on their investment without over-rewarding. The concept of over-rewarding must be taken in the context of other global investment opportunities and the opportunity cost of investing in the UK. The investment required must be won in competition with other investment opportunities. Existing energy companies cannot afford the total investment required on their own.

Any investment is a long term commitment, it is therefore important that predictability over the lifetime of the investment is covered. The Government's commitment to "grandfathering" is helpful, but other measures are needed such as a clear projection of the CPS and EPS to 2030.

**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?**

We believe that an auction will be a barrier to entry for a new investor. For an auction or tenders to be effective their needs to be several interested parties counter bidding for a limited availability. Auctions do not work when there is insufficient interest in what is being auctioned, or one party is interested and knows it is the only interested party, which could be the case in the UK energy market. It is likely in the current market that insufficient competition will require an administratively determined support mechanism. An auction will also bring greater uncertainty.

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

This depends on the level of certainty that is required in the bidding process. The issue of planning is a good example. If the auction takes place before planning approval, then there is a risk of the project not being completed. If the auction takes place after planning, then any losing party runs the risk that expenditure to get planning is lost because they don't get a contract in the auction

As a finance director of a business looking at these risks, the returns need to be very high to cover the risk of investing up front in planning, connection agreements and construction negotiations (roughly 10% of the current cost on onshore wind) before you have a contract for offtake. The issue with an auction is that until you have done all this work, you do not know what your final costs will be. Therefore if you bid before you do it you will be including a contingency premium, and if you have to bid afterwards you may not make the investment as the risks losing your upfront investment are too high.

As a good example, at what point would an auction take place to construct the Severn barrage? It is unlikely that anyone would invest in a full engineering survey before consent, so costs would be difficult to establish to a level required to bid. If the auction is after consent, then who will seek consent and pay to get through planning?

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

If you were considering this as a theoretic economist you would view that it should be technology neutral. However, that assumes you have perfect information about all future prices on technology and that the market is pricing future scarcity of resource e.g. nuclear fuel, correctly. We believe it is beneficial for the UK to have a diverse fuel mix from a risk management sense, and at the current time different technologies are at different levels of maturity. This means it is in the interest of the UK for them to be technology specific. Although it is possible for other specifications to dictate the entry, for example by location, capacity size (min or max) or a mixture of technology neutral and technology specific auctions or tenders.

Using the Severn barrage again; the feasibility study looked at several options. Would it be possible to devise an auction based on several very different proposals in terms of size and environmental impact that were put forward?

The long term aim should be that all technologies are supported by a future carbon market that is liquid and transparent, but for now we don't have that and this low risk approach is the best way forward.

- **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?**

The contract for difference would be standard across all technologies so that it was well understood and become an industry standard contract.

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

Negotiation with industry on the price.

In the example of the Severn barrage, the Government could pick its preferred model and then seek bids to build and operate the barrage.

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

Individual projects. As non technology variables such as location, size and access to finance will affect the costs.

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

No. Especially for larger projects. Realistically, how many bidders would there be for a Severn barrage?

- **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 ways to mitigate against that risk?**

Yes, but they also run the risk of curtailing a level of deployment which is not taken up by another technology.

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

If the FIT and capacity mechanism is taken forward then a central agency is required to balance the FIT. We believe that this agency should be someone other than the regulator, who will regulate its activities, but not be responsible for its operation. It would be preferable if the operation was put out to tender.

We also believe that there may be institutional changes required to improve market liquidity.

### **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 minimised?**

There are always likely to be unintended consequences when making changes to market operations. Rectification of some of these issues will have the full support of the market, but others may impact business decisions and be seen as investors as a wider ranging lack of long term certainty.

Although it could delay decarbonisation it makes sense to introduce each aspect of the package separately, starting with the Carbon Support price. The introduction of the FIT with CFD in whatever form it takes will be dependant on changes required to improve market liquidity, but other forms of FIT for other sizes of technology could be introduced earlier. However, it may be that once the CSP and

market liquidity changes have been implemented, then a clearer idea of how the FIT with CFD could be optimally structured, then after 18-24 months reduce the FIT with CFD to 20 MW replacing ROCs.

The EPS could be put in place early, as it should be a long term downward pressure on emissions. The capacity mechanism is, we believe, unfit for purpose and an availability mechanism needs to be developed that works with other aspects of the market reform.

Introducing the packages separately could delay the starting speed of decarbonisation, but are more likely to ensure a successful outcome in the long run as other packages can be assessed, and if necessary amended before introduction to cover any unintended consequences of previous packages.

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

For larger developments, the time frames required to take project forward means that implementation is less of an issue than a clear, detailed direction of travel is made. If a clear picture of the new support mechanism was available in 2013, then it would likely be 2015 before any proposals were sufficiently ready to apply for accreditation.

For smaller sites, we believe that there could be a rush to get sites accredited under the RO to avoid the complexity of the Fit with CFD. So as stated previously we believe the RO should remain for larger distributed generation sites up to 50MW and a premium FIT introduced for sites below 20MW.

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

As we have stated, we believe the RO should be maintained for larger distributed generation until the FIT with CFD is bedded in for 50MW+ sites. A clear statement to this effect would allow investment at this level to proceed unaffected.

If the transition is to take place then protecting existing sites by grandfathering is of critical importance.

**36. We propose that accreditation under the RO would remain open until 31 March 2017. The Government's ambition is to introduce the new FIT 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.

We support the principle of a dual option policy as currently exists for sites over 50kW but below 5MW who can opt for FIT or RO. However, consideration needs to be given to the fact that the RO accreditation takes place at commissioning, whereas the new support mechanism is proposing to accredit much earlier in the process. Therefore we think that the process of the FIT with CFD should be rethought for the pricing and an auction approach should be avoided if possible.

**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 the 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?,

Under our proposals to continue with the RO, then the banding reviews would continue to take place, and as such the current policy could continue. What we do believe is the RO banding review should consider size as well as technology as under the FIT regime.

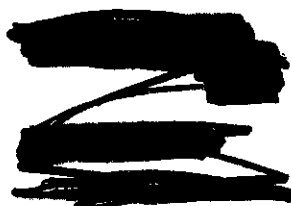
**38. Which option for calculating the Obligation post 2017 do you favour?**

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

Under our proposals, then the RO would continue for larger decentralised generation, with the headroom adjusted as now taking into account both new sites and sites leaving the RO. If the RO is to be vintaged as proposed, then support for a fixed price ROC would depend on how this was calculated. Of Our preference would be for it to remain market based with the headroom and target continued as now. (I think the headroom would be good on this, but be mindful that the large suppliers take around 5% out of the market)

I hope you find this response useful. If you have any questions, please do not hesitate to contact me.

Kind regards,

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