

## **RESPONSE TO EMR CONSULTATION – INDIVIDUAL QUESTIONS**

### **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?**

Yes.

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

No. There are a number of areas where CoalPro believes the Government's assessment of future risks is too optimistic.

First, with respect to existing plant, the need to purchase carbon allowances under the EU ETS from 2013 may result in plant opted out under the LCPD closing prematurely and not operating for the full 20,000 hours.

Second, CoalPro believes that the Government's interpretation of the flexibility available under the IED may be subject to challenge. If so, a significant level of plant capacity may close earlier than anticipated.

CoalPro considers that the EMR package exacerbates the risks of premature plant closures with earlier security of supply risks than anticipated. It is imperative that the transition from old plant to new plant is carefully managed and that the closure of existing coal-fired capacity does not take place too quickly.

The risks to UK coal production are set out elsewhere in this response but if there is perceived to be a risk that the market for coal in the mid 2020s may be inadequate to support an output of 20 mtpa, then investment in coal production will be stifled and output will fall. This will be replaced by imported gas or imported coal with an overall increase in security of supply risks.

### **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) ?**

CoalPro considers the assessment between a CfD FIT and a premium FIT to be very finely balanced. It may be necessary to consider a linkage to fuel prices for low carbon fossil fuel (i.e. CCS) and biomass generation, the competition for which would be unabated gas-fired plant. Gas-fired generation (plus the carbon price) sets the wholesale electricity price. As a result, the FIT must be designed to provide a benefit for coal or gas with CCS

and biomass vis-à-vis unabated gas which is maintained in the light of changing coal and gas prices.

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

Yes, provided there is some linkage to fossil fuel prices. If not, a Premium FIT is preferable.

- 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?**

CoalPro has no comment.

- 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.**

CoalPro has no comment.

- 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?**

CoalPro has no comment.

- 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?**

This depends on the relationship between the FIT and fossil fuel prices (see Q.3 above) The difference between low carbon coal or gas generation with CCS and biomass generation on the one hand, which are exposed to fuel prices, and other forms of low carbon generation without such exposure on the other, which are not exposed to fuel prices, must be recognised and taken into account in the FIT design if investment is to be bankable. Setting the level of FITs appears to take no account of the investment cost of the various low carbon options. The interaction between the support level and the investment cost will be fundamental. The cost of capital is only one component of this and is unlikely to be the most important component.

- 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?**

CoalPro has no comment.

- 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?**

CoalPro has no comment.

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

Output. Availability issues should be addressed via the capacity payment mechanism.

#### 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?**

No. The proposal as it stands merely restates existing government policy in another way. As such, it will not incentivise the construction of new fossil fuel plant with CCS; it will merely disincentivise the construction of new coal-fired plant compared to the alternative of unabated gas. A single, non fuel-specific EPS will always disadvantage coal-fired generation and, as such, will reduce diversity and hence security of supply.

In any event, there must be a much clearer signal than that contained in the EMR package as it stands that the EPS will be lowered at some point such that new gas-fired plant will need to be equipped with CCS.

Clarification is also required on how the proposed EMS relates to the funding rules for CCS demonstrations and exemption from carbon price support for the carbon abated.

Overall, the EPS as proposed gives a free ride to new unabated gas-fired plant and discriminates against new coal-fired plant. In addition to carbon price support, this represents a major incentive to switch from coal to gas-fired plant when considering new investment. As such, it will reduce diversity and hence security of supply. Moreover, whilst it may achieve earlier reductions in carbon emissions, it will result in long-term carbon lock-in because of the large amount of unabated gas plant that it will incentivise. As a consequence, longer term carbon reductions will not be achieved and 2050 targets will not be met.

- 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, except in the short term. CoalPro is not opposed to the lower EPS option provided there is an exemption for the CCS demonstration programme. However, once CCS is technically proven and commercially available, which

CoalPro expects to have been accomplished by 2020, an EPS of 100g CO<sub>2</sub>/kWh should be introduced no later than 2025 and the EMR package should give a clear signal to this effect. It may be appropriate to have a slightly higher longer term EPS, say 150g CO<sub>2</sub>/kWh, for CCS demonstration plants to recognise that they are 'first of a kind' and may not apply what eventually is proven to be the most efficient and effective technology.

**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?**

No. Grandfathering should only apply to old plant not required to be constructed Carbon Capture Ready. All plant, including existing plant and plant now under construction that is, or was, required at the point of consent to be built CCR should have to apply the lower EPS level of 100g CO<sub>2</sub>/kWh (or 150g CO<sub>2</sub>/kWh for CCS demonstrators) from c2025 once CCS is technically proven and commercially available. The argument that this would be a disincentive to new build is nonsense. New investors should know, and existing investors should have known that, by definition, plant built with the requirement to be CCR would be, or will be, expected to fit, or retrofit, CCS at some point in time.

**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?**

Only after the CCS Review shows that CCS is technically proven and commercially available. In any event, the EPS should apply only to upgrades. It would be wholly unreasonable to require an existing plant to comply with an EPS in the event that it chooses, for example, to invest in NO<sub>x</sub> abatement to meet the requirements of the IED and hence extend its life beyond what it would otherwise have been. If there is no such exemption for life extensions in such circumstances, there will be no investment to meet the IED requirements and virtually the whole of the existing fleet of coal-fired plant will close.

The policy of both the previous and present governments completely ignores the higher efficiency route to lower carbon emissions that is being followed virtually everywhere else in the world. Allowing higher efficiency upgrades without the need to comply with the EPS initially at existing plant will (i) lower carbon emissions in the short term and (ii) facilitate later CCS retrofit because of the energy penalty associated with CCS. The backstop would be the requirement to comply with an EPS of 100g CO<sub>2</sub>/kWh once CCS has been proved to be technically proven and commercially available.

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

Yes, but there should be a much clearer signal that plant will be expected to comply with an EPS of 100g CO<sub>2</sub>/kWh (150g CO<sub>2</sub>/kWh for CCS demonstration plant) from, say, 2025. This should apply not only to new plant but to all plant required to be CCR at the point of consent. Only by applying this requirement can long-term carbon lock-in associated with a large amount of unabated gas plant be avoided.

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

Bearing in mind that burning biomass in coal-fired power plant represents by far the most cost-effective and by far the largest opportunity for biomass generation, the same EPS rules should apply to biomass as to coal-fired plant, including a requirement to meet an EPS of 100g CO<sub>2</sub>/kWh from 2025.

The Government should, however, set up a mechanism to certify biomass sources to ensure that they are genuinely low carbon on the one hand and do not have adverse consequences, e.g. on food production, on the other.

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

Yes, although this provision should apply only in the short to medium term. In the longer term, beyond 2030, CCS can be expected to be near universal and there should be no ongoing need for such a provision.

**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?**

CoalPro can see no disadvantage to introducing a capacity mechanism.

With respect to the advantages, it is necessary to consider three types of capacity shortfall :-

- (i) At periods of peak demand, for a few hours and for a few GW.
- (ii) A shortfall that could exist between day and night in winter lasting for up to 12 hours a day and amounting to 10-15 GW.
- (iii) The capacity shortfall that will undoubtedly occur from time to time when climatic conditions result in minimal wind generation across the whole country. This problem will get greater and greater as the amount of wind generation capacity increases. Such conditions occur at least once every winter and in some winters last for several days.

Different solutions, or different mixes of solutions, may be necessary for the different types of capacity shortfall.

It should be recognised that the existing fleet of coal-fired power plant does an excellent job at present of covering for output shortfalls elsewhere. Within the EMR package as a whole, including the impact of carbon price support, care should be taken to ensure that a reasonable amount of such plant continues to have sufficient incentive to invest to meet the requirements of the IED and thus be able to continue to provide this essential role, albeit gradually diminishing, throughout the 2020s when the problems associated with the intermittency and unreliability of wind generation, and the inflexibility of nuclear generation will be increasing. Capacity payments represent an ideal mechanism to provide this incentive but must be signalled sufficiently early to incentivise the necessary investment decisions which will need to be taken well before the end of the present decade.

CoalPro also expects coal-fired CCS plant to be able to fulfil this role for capacity shortfalls in categories (ii) and (iii) above but, in view of the high level of investment required, capacity payments will be required to recognise that such plant may be operating on load factors that are less than optimum.

For capacity shortfalls in category (i), either new peaking plant, or older existing plant operating on low load factors can meet the requirement. Total costs will be lower if existing plant continues in operation, thus avoiding the investment cost of constructing new peaking plant.

It is imperative that the availability and level of capacity payments is signalled well in advance, i.e. ten years or more. Much existing plant will need to take investment decisions in the near future if it is to meet the requirements of the IED. Capacity payments will provide a stream of revenue that will help to justify that investment for a reasonable amount of such plant, but will be of no use if it is not known that they will be available at the time the investment decision has to be made. The analysis in the EMR consultation document points to 3GW of plant “that would otherwise have closed” attracting capacity payments in the mid-2020s. It is not much use, for example, offering a capacity payment in 2024 for 2025-2026 if the plant has closed in 2023.

CoalPro understands that there are precedents for such long-term signalling. For example, National Grid have recently contracted for 800 MW of short-term reserve up to ten years in advance.

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

Minimal. The wholesale price at the margin will continue to be determined by fossil fuel plant based on fuel prices plus the carbon price.

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

- **a central body holding the responsibility;**

Yes

- **volume based, not price based; and**

Yes. This would seem to be essential to ensure a guaranteed margin.

- **a targeted mechanism, rather than market wide.**

Yes, and targeted on those forms of generation that can meet the need. There can be no argument, for example, that intermittent and unreliable wind generation, or inflexible nuclear generation, should not attract capacity payments. However, within the identified forms of generation, the capacity payments should be market wide.

**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?**

CoalPro has no comment.

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

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

CoalPro has no comment.

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

Yes, if there is an identified need but any additional payment for a particular zone should not exceed the value of transmission losses associated with supplying from other zones.

**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?**

No. CoalPro can see no need for carbon price support in addition to FITs. It is FITs that will provide both the price and the certainty for low-carbon generation. Carbon price support cannot add to this.

Moreover, carbon price support will incentivise switching from coal to gas with all the security of supply and price risks that will entail. Whilst this may result in earlier carbon reductions, it will lock in carbon emissions in the longer term because of the amount of unabated gas plant that will be constructed as a result. This will make it more difficult to meet longer-term carbon reduction ambitions.

Carbon price support will result in a windfall gain for existing nuclear power stations. This is wholly unjustifiable. There also needs to be clarification of the mechanism whereby carbon price support increases the overall carbon price in conjunction with the EU ETS price. CoalPro considers there is great potential here for confusion and unintentional consequences.

One further consequence of carbon price support is that it will drive the overall market for coal in the mid 2020s to quite low, and in any event uncertain levels. Investment decisions to extend the lives of all of the UK's deep mines will need to be taken in the next two to three years if their lives are to be extended. Against such a market background, these investment decisions will be challenging. In the absence of investment, the UK's deep mines will inevitably close prematurely. CoalPro urges the Government to carefully consider the EMR package in general, and carbon price support in particular, to ensure that investment decisions can be taken with confidence and this wholly unnecessary outcome avoided.

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

CoalPro can see no reason for the inclusion of both FITs and carbon price support. The EPS is wholly redundant unless it signals that it will be reduced to require new and CCR gas capacity to fit or retrofit CCS, as well as new coal-fired capacity, once CCS has been technically proven and is commercially available. Also, carbon price support will result in a wholly unjustifiable windfall gain for existing nuclear stations.

**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?**

CoalPro has no comment.

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

If the Government considers that the reform package has to include carbon price support, then the preferred package is as follow :-

- (i) carbon price support which avoids as far as possible enforcing a switch from coal to gas that damages diversity and security of supply, risks



high and volatile prices, and threatens the survival of the UK's deep mining capacity. CoalPro therefore supports Scenario1.

- (ii) An EPS that reduces the 100g CO<sub>2</sub>/kWh by 2025 for all new and CCR plant (150g CO<sub>2</sub>/kWh for CCS demonstration plants) once CCS has been technically proven and is commercially available. Without such a reduction, the EPS is redundant.
- (iii) Capacity payments targeted to plant that can provide what is required, but is market wide within such categories, and signalled sufficiently early to enable investment decisions to be made to meet the requirements of the IED.
- (iv) Feed-in tariffs to encourage CCS for both coal and gas, as well as other low carbon generation, with the level determined to cover costs and provide a reasonable return on investment. The FIT may be appropriately lower for CCS demonstration plants subject to separate funding arrangements.

### **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?**

CoalPro considers that the main risk arises from the complexity of the package with a high potential for unexpected interactions and unintended consequences. In particular, CoalPro is concerned that, at peak periods on cold, still winter days, there may be a massive overdependence on gas in the mid 2020s. Moreover, this gas plant will be unabated and result in long-term carbon lock-in making the achievement of longer term emissions reductions more difficult.

CoalPro urges the Government to carefully consider how the package will interact with the EU ETS and with the impact of the Industrial Emissions Directive and any potential related revisions to the National Emissions Ceilings Directive and the Best Available Technology Reference Documents for Large Combustion Plant. Given these complex interactions, it would be all too easy to lose existing capacity inadvertently too quickly as operators take the low risk option and close plant. In particular, the need to purchase allowances under the EU ETS from 2013 may result in plant opted-out under the LCPD closing prematurely.

In particular CoalPro wishes to re-emphasise the risk to investment in deep mined capacity and the potential for premature closures.

**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?**

CoalPro is not opposed in principle to FIT auctions but considers that they will be extremely difficult to design against a background of constantly developing and improving technology. Different projects will not reach given stages of development simultaneously with the potential for auctions to result in large-scale inefficiencies. Certainly in the initial states, FITs need to be administratively determined. Auctions might be introduced from, say, the mid 2020s as new technologies mature.

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

CoalPro considers this to be unlikely

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

CoalPro cannot see how these can be anything other than technology specific, certainly for FITs. Technological neutrality might be considered for capacity payments. It is also important to ensure that a mix of technologies emerges and that an over-dependence on any one technology, or group of technologies, does not arise.

- **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?**

CoalPro considers this proposal has merit.

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

As with the CCS demonstration project, there could be individual project negotiation, at least for larger projects and in the early stages of the development of a technology.

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

For early, large projects (e.g. early CCS projects), prices may need to be set for individual projects. As technologies mature, technology based projects may then become appropriate.

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

Not in the early stages of the development of a technology (e.g. the CCS demonstration programme). Also, locational and other elements may be significant (e.g. length and size of CCS pipelines, ‘first mover’ issues).

- **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?**

No. On the contrary, CoalPro considers that an auction process is more likely to incentivise particular technologies.

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

CoalPro has no comment.

- 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?**

CoalPro has no comment.

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

It is imperative that the CCS demonstration is not delayed. To this end, there needs to be immediate clarification that carbon abated from CCS plants WILL receive relief from carbon price support and that some relief applies to the unabated proportions of such plant. With respect to the latter, CoalPro cannot see any commercial argument for investing in a CCS demonstration plant (even if the CCS element is fully funded) as opposed to an unabated gas plant.

- 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?**

CoalPro has no comment.

- 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 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.**

CoalPro has no comment.

**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?**

CoalPro has no comment.

**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**

CoalPro has no comment.