

DECC Consultation
3 Whitehall Place
London
SW1A 2AW

10 March 2011

Dear Sirs

ELECTRICITY MARKET REFORM

Please find attached SRG Renewables Limited response to the Electricity Market Reform consultation. SRG Renewables Limited is part of Scottish Resources Group.

In addition to narrative comments, this response includes responses to many of the specific questions posed within the consultation.

Yours faithfully



SRG Renewables Limited: Electricity Market Reform Consultation Response

PART A. General Comments.

Introduction.

Scottish Resources Group (SRG) the largest surface miner and the second largest producer of coal (underground and surface mined) in the UK, employs over 1000 personnel, mainly in relatively deprived rural areas where few other job opportunities exist, and where the substantial wage levels associated with the skills, make substantial contributions to both local community and the Exchequer. SRG Renewables Limited, part of SRG is responsible for developing a portfolio of Renewable Energy projects across a land portfolio extending to 25,000 acres of former Surface Mining sites.

SRG is a member of The Confederation of UK Coal Producers (CoalPro) and supports the separate submissions made in relation to this consultation by Coalpro and by Scottish Coal. Furthermore, as an organisation with aspirations to develop Renewable Energy projects, SRG is also a member of Scottish Renewables Forum, and as such supports much of the content in the Scottish Renewables response to this Consultation.

SRG Renewables (SRGR) aims to make a significant contribution to the UK's efforts in tackling climate change and meeting renewable energy and greenhouse gas emission reduction targets, but in a measured and planned way that does not compromise either the sustainability of our wider business organisation or the security of energy supply across the UK. The fact that Coal is a source of safe and reliable energy, available in bulk when needed and reasonably immune from outside influences, and a fuel source that should have a role to play in the future UK energy mix is an important consideration, when making significant investment decisions in more intermittent renewable energy technologies.

In part A of our response, we have concentrated on general comments which we believe are vitally important if the UK is to maintain a safe, secure, reliable and diverse portfolio of fuels to ensure that its electricity supplies are consistently available and reasonably immune from interruption (e.g. weather variation and political intervention on piped gas supplies). Answers to the individual questions in the consultation document are set out later in this response.

Importance of Coal.

Whilst this Electricity Market Reform consultation is about creating an environment to promote investment in low carbon technologies, it is nevertheless a fact that despite all of the recent successes in developing renewable technologies, particularly Onshore Wind, in 2009, 49 million tonnes of coal were used to generate electricity for the Nation's needs and in 2010, 45 million tonnes were consumed to the end of November 2010 i.e. still about 49 or 50mt for the full year. Consistently throughout the winter months, coal is responsible for between 40% and 50% of the UK's electricity needs. By way of example, at the time of writing (2nd March) **45.0%** of UK electricity is being generated from coal and 1.8% from wind.

Whilst we recognise and accept that Coal used for electricity generation makes a significant contribution to the UK's CO₂ emissions. it is our belief that coal **must** continue to be part of a

balanced portfolio of fuels used for electricity generation, particularly with regard to base load electricity, where relying exclusively on gas as the single hydrocarbon choice is both inappropriate and high risk.

Importance of Indigenous Coal Production

Indigenous coal production is vital for security and stability of supply and is essential to ensuring that the Nation not only has a reliable source of heat and power but is reasonably well insured against the risks of disruption. The ability to reliably generate electricity, free from threat of interruption from industrial action, political intervention, transport breaks, terrorism, and adverse weather conditions is an essential element for economic and social stability.

Coal extraction in the UK has increased by some 8% over the last three years with a commensurate increase in employment and investment, often in otherwise deprived areas, at a time when most other industries have shed jobs and slashed investment.

Effect of EMR on Coal Production

The introduction of carbon-price support, technology weighted Feed in Tariffs and Emission Performance Standards weighted towards gas at the expense of coal will have a major effect and is likely to lead to premature closures, loss of jobs and loss of other economic benefits. UK produced coal will ultimately be replaced by imported gas – if it is available, and is also likely to lead to an increase in coal imports as investment will not be available to indigenous producers with a consequent effect on those businesses and the jobs within.

Security of Supply Risks

Currently the UK has an energy mix that allows no fuel to hold a monopoly position on the generation of electricity. The position on coal is dictated by need and by the closure of power plants resulting from the LCPD and the ratification of the IED.

Investment in new coal fired generation and low carbon technologies will be driven by electricity generators having certainty of return on investment made. The measures set out in the EMR clearly discriminate against coal and the generation of electricity from coal. The switch away from coal, which is currently taking place via the LCPD will be accelerated by the carbon price floor and other mechanisms set out in the EMR.

The acceleration away from coal will dramatically increase price risk across the electricity generation sector, particularly when linked to the availability of imported gas as the main alternative fuel source. This will expose the market to the price of gas coming from long distance suppliers (including the politically unstable Arab and former Soviet countries) who also have the rest of an energy hungry Europe competing for vital supplies. This will clearly increase the risks on 'security of supply'.

Effect on Investment in Fossil Fuel Generation

These proposals, as drafted, will initiate a renewed dash for unabated gas. This may result in early carbon reductions but will not lead to a decarbonised electricity supply. On the contrary, it will lead to long-term carbon lock-in with a large volume of unabated gas-fired plant being available in 2030 and for many years beyond.

These measures will be a major disincentive to investment in existing coal-fired plant to meet the requirements of the Industrial Emissions Directive (IED). This plant is likely either to have closed by the early 2020s or be operating on very low load factors. This will exacerbate the risks of being dependent on intermittent renewable and imported gas for base load electricity generation at a time when electricity generation from many renewable sources is not yet commercially viable.

Decarbonisation

The policy objective of decarbonising of the electricity industry and giving certainty in electricity price being generated via renewable sources is recognised. However, whilst increasing renewable electricity (mainly wind) production brings clear benefits in carbon reduction, this can only be secured by maintaining embedded power plants which are immune from the factors which restrict renewable output.

Thermal generation is, and will continue to be, essential, and the carbon issue should be managed by clean burn technologies and CCS (on all fuels), which will allow a diverse range of fuels to be used and minimise the security and political risks associated with concentration on a single fuel such as imported gas, whilst renewable generation from infant technologies struggles to fill the gap.

Effect on CCS Demonstration Programme

Carbon-price support and other EMR measures will act as a major disincentive to the participation of coal-fired plant in the CCS demonstration programme. Relief from CCL in respect of carbon abated at such plants (and any subsequent CCS plants) is essential. However, continuing to charge CCL on the unabated proportion of such plants will be a major disincentive for the participation of coal-fired plant in the demonstration programme. The lowest cost option for a generator will always be to construct unabated gas-fired plant. The proposed removal of the supplier obligation to source a specific and increasing proportion of their electricity from renewable sources will make it even easier for them to make decisions to adopt unabated gas as their choice of fuel.

Imports of Electricity?

The closure of coal fired generation as a result of the Generators not being encouraged to invest in new technologies to meet IED limits will place huge demands on interconnector capacity, which is currently not available.

As a hypothetical example, if Longannet closes in say 2021, the only real source of power to Scotland on a calm day will be via the N-S interconnector. It is understood that major upgrading would be required at a cost which would not be affordable for the private sector and, it must be borne in mind that it took in excess of 10 years to secure planning approval for the Beaulieu to Denny transmission upgrade.

Interconnectors are likely to be used more at peak periods, when coal-fired generation, in the UK or Europe, is likely to be providing marginal supply. Imported electricity, including that generated from coal, will therefore replace electricity generated from UK coal production. This represents a perverse effect. Imports of electricity would effectively be subsidised.

Existing Risks to Generation Capacity.

The EU ETS allowances for fossil fuel generation are to be removed by 2013 and amount to £1.8bn or 30mt of coal. This will increase costs for generators who will close their opted-out coal stations well before the end of 2015 – with or without using their allowable hours. The 8GW of capacity forecast by the Government to be lost by the end of 2015 could well be lost by the end of 2012 with a consequent effect on capacity and security of supply.

The IED requires declarations by the end of 2013 and this could accelerate the Generators' decisions to close coal fired plant. There are significant risks to the availability of energy for the consumer and the security of supply. It is suggested that the Government may not have adequately factored in the criticality of the situation and the major effects which will result from earlier closure of coal fired plant. (Such closures could be accelerated by both existing measures and those in the EMR.)

Undue Complexity.

EUETS, Climate Change Levy and CRC all inter-relate in the most complex of ways and effectively constitute 3 overlapping taxes. They are difficult to separate and understand, difficult to administer and will encourage the exploitation of loopholes by the minority. The tax and administrative burden on business and jobs will be substantial. Every effort should be made to simplify the whole process and effects.

PART B. Specific EMR Comments.

Introduction.

SRG Renewables recognises the need for reform of the electricity market if the necessary investment is to be made in Renewable Energy technologies to achieve near zero carbon electricity generation by the early 2030s whilst ensuring security of supply and affordability.

Investment in Renewable Energy technologies and the deployment of clean coal with CCS within the UK is essential to ensure security and diversity of energy supply, to maximise the use of economically advantageous indigenous resources and to reduce the risks of over-dependence on imported gas.

These objectives will only be achieved if:

- Investment in renewables remains at least as attractive as at present
- CCS is successfully demonstrated as early as possible and then widely deployed in the UK, thus ensuring that the infrastructure and skills in coal production and coal-fired generation are preserved at adequate scale

Investment in CCS will support **renewable energy technology** development by ensuring that base load energy is readily available to offset the uncertainties of intermittency.

Key points on the Electricity Market Reform.

Carbon Price Support: The proposals will have a negative impact on electricity generation from coal, will lead to major consequences for the coal industry and will reduce investment in CCS unless greater clarity is provided. Redpoint's modelling has non-CCS coal capacity reducing to 18 GW in 2020 and 5 GW in 2030. However the reduction is likely to be even faster – currently only one power plant has committed to Selective Catalytic Reduction (SCR).

It is unclear in the consultation whether processes that reduce Carbon Dioxide emissions due to CCS will be exempt from the new CCL. There is a suggestion that this does not need to be addressed until after the Demonstrations are up and running. If "Carbon Price Support" is a tax on emissions of CO₂, not a tax on using fossil fuel, then it should be levied only on emissions. Potential investors in CCS projects need clarity *now* when early stage projects are being formulated.

Proposal for Feed in Tariff (FIT): SRG Renewables is supportive of a Feed-in tariff for all low carbon electricity generation based on a contract for difference with the wholesale electricity price, if necessary premiums can be added for specific technologies or characteristics e.g. flexible low carbon generation (including CCS) or new, more expensive higher risk technologies such as offshore wind, wave and tidal.

We can see no reason for carbon price support in addition to Feed-in Tariffs (FITs) for low carbon technologies. It is the FITs that provide both the price and the certainty to enable these technologies to develop. Carbon price support adds nothing to this.

Emission Performance Standard: The current proposals for an Emissions Performance Standard (EPS) has a negative focus on coal but not gas, and therefore fails to send the correct signals in the direction of reducing carbon emissions from both coal and gas fired power stations. The combination of the EPS levels and the policy on grandfathering at the point of consent appears to weaken the intent of the current government policy of requiring CCGTs to be designed to be CCR.

SRG Renewables is not convinced that the proposal for an Emissions Performance Standard (EPS) as set out in the consultation document is appropriate. However, an EPS proposal would have some merit if it contained a strong signal that it were to be applied at a reduced rate of 100g CO₂/kWh by, say, 2025 to all new and carbon capture ready (CCR) fossil fuel plant once carbon capture and storage (CCS) is technically proven and commercially available.

An EPS that does not give a clear signal that CCS will be required to be fitted to new and CCR gas plant at some time in the 2020s also acts as a driver for the construction of unabated gas plant.

Carbon price support: This will do nothing for the development of low carbon technology that an appropriate FIT alone, would not do. It will, however, drive gas-fired generation at the expense of coal-fired generation. Whilst this may result in short-term carbon reductions it will result in long-term carbon lock-in at unabated gas plant which will make the achievement of longer term reductions in carbon emissions much more difficult to achieve.

Capacity Payments: Capacity payments will be needed for some types of capacity shortfall which may require different solutions.

1. The capacity shortage that could occur at the relatively short teatime peak of demand. Such shortage would be for just a few hours, and a few GW maximum.
 - a. *Solutions could be more interconnection, pumped storage, demand side reduction, OCGT.*
2. The capacity shortage that could occur due to the difference in demand between day and night in winter lasting, each day for about eight hours and measured around 20 GW.
 - a. *Currently this capacity is provided by older less efficient coal power plant and gas CCTGs, running at modest load factors (30- 35%), which are acceptable commercially because the capital investments in these plants have been written off. It is technically feasible for coal with CCS to provide flexible, low carbon capacity but this would require capacity payments.*
3. The capacity shortage that could occur at periods of low wind across the whole generation system, often lasting several days, and up to 25 GW if wind targets are met.
 - a. *It is feasible for coal with CCS to provide this backup, but again there would need to be capacity payments to compensate for the low load factors.*

Capacity payments may provide an incentive for some existing coal-fired plant to invest to meet the requirements of the Industrial Emissions Directive (IED) and hence continue beyond 2023. However, early investment decisions are required and the availability of capacity payments must be signalled sufficiently early (i.e. a decade in advance) if those decisions are to be influenced

SRG Renewables proposals:

SRG Renewables respectfully suggests the following combination of EMR policies to avoid premature closure of existing thermal power plants before clean CCS plants are built and, to avoid investment being diverted from low carbon generation (nuclear, renewables and Clean Coal/CCS) to unabated gas:

- **Carbon floor price:** adopt Scenario 1 with lower initial carbon price target (£20/t CO₂ in 2020) but retain £70/t for 2030 and confirm CCS exempt from the fossil fuel levy
- **Emission Performance Standard (EPS):** establish an EPS for 2025 that will require CCS on gas as well as coal. This could be to reduce to 100g CO₂/kWh for all new and CCR plant by 2025 once CCS has been technically proven and is commercially available.
- **Feed-In Tariffs:** confirm that FITs will apply for early CCS projects (coal and gas)
- **Capacity payments:** offer capacity payments for low carbon, flexible power plant (coal and gas) with CCS to compensate for less than optimum load factors. Capacity payments to be signalled sufficiently early to enable investment decisions to be made to meet the requirements of the IED.

In addition:

- The package should not accelerate the early closure of coal stations as this will seriously exacerbate the existing security of supply risks.
- Funding arrangements for CCS Demonstration projects should be clarified quickly and not delayed until the Electricity market reforms are implemented. It is technically feasible for

coal with CCS to provide flexible, low carbon capacity to back up gaps in wind generation, but there would need to be capacity payments to compensate for the low load factors.

Role of Coal and Impact on UK Coal Industry.

UK coal production is a growth industry and there is potential for output to be increased further and, with further investment, to be maintained at a level of some 20mtpa throughout the 2020s. Investment decisions to maintain output are required at all of the UK's surface and underground mines in the next few years, in some case imminently.

SRG Renewables is concerned that the EMR package will result in a market that is insufficient to support indigenous coal production of 20mtpa, and is in any event uncertain. Against that background, coal producers will find it extremely difficult to take the investment decisions required to increase and maintain output. The package as it stands therefore risks this essential investment in existing and new mines, investment that is essential if security of supply is to be managed whilst infant renewable technologies are commercialised. SRG Renewables as part of the wider Scottish Resources Group, may be starved of investment funds for Renewable projects, if funds currently identified for Renewables, needs to be diverted to maintain the Coal business in an ever more challenging market.

SRG Renewables is extremely concerned that the preferred package will result in a very low level of coal-fired generating capacity in the mid 2020s and a market for coal that will not be sufficient to sustain potential UK coal production at that time. As a result, there is a real risk that there may be a massive overdependence on gas in the mid 2020s. This poses severe security of supply and price risks and SRG Renewables urges the Government to carefully consider how this can be avoided and ensure that adequate and reliable generating capacity is maintained with the consequent effect on the skilled jobs within the coal industry.

PART C. Response to 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. We believe that the EU ETS and IED is likely to accelerate the closure of at least 8GW of coal plant to the end of 2012 – well before the Govt's forecast of 2015 with a direct effect on production capacity and security of supply. We do not believe that the Govt has adequately factored in these risks to an already marginal situation. The early closure of this plant will encourage greater reliance on electricity generation from gas that has to be imported at a time when generation from renewable sources is not fully developed.

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)?**

SRG Renewables 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 not only provide a benefit for Renewable technologies, including Biomass, but also coal or gas with CCS.

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

The Government's first preference for the FIT with a CfD may theoretically appear feasible, however, because it would require a number of fundamental pre-conditions that currently do not exist to be in place, SRG Renewables suggests that there should be some linkage to fossil fuel prices. If there is no linkage to fossil fuel prices, a Premium FIT would be the preferable option.

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?**

SRG Renewables is concerned that removing the electricity price risk from generators would remove genuine market signals for investment.

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?**

SRG believes that the market should be left to make its own investment decisions based on the environment in which it is operating.

- 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?**

SRG Renewables does not agree – there are inherent risks and uncertainties in an auction system and their impact on financing can be unpredictable.

- 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?**

This depends on whether there is a relationship between the FIT and fossil fuel prices. 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 with less exposure on the other, must be recognised and taken into account in the FIT design if investment is to be bankable.

- 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?**

SRG Renewables is concerned that the different FiT models will significantly influence on new entrants and new technologies.

- 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?**

SRG Renewables is concerned that any future mechanism will not be as effective as the current mechanism and will therefore harm investment in Renewable technologies.

- 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. SRG Renewables is concerned that EPS will dis-incentivise the construction of new fossil fuel plant with CCS; it is more likely to incentivise the alternative of unabated gas and just produce more carbon from unabated gas.

There must be a much clearer signal, than that contained in the EMR package, 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 because of this may harm investment in Low Carbon technologies, not promote it.

- 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. SRG 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 SRG expects to have been accomplished by 2020, an EPS of 100g CO₂/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 CO₂/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 CO₂/kWh (or 150g CO₂/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 not accepted. Investors will know 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 NOx 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 CO₂/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 CO₂/kWh (150g CO₂/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 CO₂/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?

SRG Renewables has no strong feelings 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 increase substantially as the amount of wind generation capacity increases. Such conditions occur regularly every winter and can last for a considerable period.

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 of covering for output shortfalls elsewhere and ensuring that power remains available at all times. This also ensures political stability which is rapidly affected by even minor power shortfalls. 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.

SRG expects coal-fired CCS plant to be able to fulfil this role for capacity shortfalls in categories (i) and (ii) above but, in view of the high level of investment required, capacity payments will be required as 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.

SRG understands that there are precedents for such long-term signalling. For example, National Grid has 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 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.

- 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?**

SRG 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.

SRG 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. SRG Renewables can see no need for carbon price support in addition to appropriate FITs. FITs should provide both the price and the certainty for low-carbon generation. If designed correctly, Carbon price support should not be required.

Carbon price support is more likely to 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.

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 are necessary for all of the UK's mines on a regular basis if their production capacities are to be maintained. Against the market background, these investment decisions will be challenging for both surface and underground mine operators. SRG 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?

SRG 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.

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?

SRG 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 follows:-

- (i) Carbon price support which should avoid, 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. SRG therefore supports Scenario1.
- (ii) An EPS that reduces the 100g CO₂/kWh by 2025 for all new and CCR plant (150g CO₂/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?

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

SRG urges the Government to carefully consider how the package will interact 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.

SRG wishes to re-emphasise the risk to investment in UK coal 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?

SRG Renewables has significant concerns over the ability for auctions to set sustainable support levels for renewable technologies at different stages of maturity, and although not opposed in principle to FIT auctions, 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.

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

SRG Renewables considers this to be extremely unlikely

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

SRG 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?**

SRG Renewables believes that despite the reservations stated previously, that this proposal may have some merit.

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

There could be individual project negotiations, particularly for projects in the early stages of the development of a technology.

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

Prices may need to be set for individual projects and/or technologies.

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

No - Not in the early stages of the development of a technology (e.g. the CCS demonstration programme). 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. SRG 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?**

SRG 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?**

SRG 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, SRG cannot see any commercial argument for investing in a CCS demonstration plant (even if the CCS 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?**

SRG Renewables is concerned inappropriate transition arrangements will delay and in some cases remove potential investment in Renewable technologies.

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.**

SRG Renewables has a concern that both options will have an impact on potential investment in the sector.

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?**

SRG 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**

SRG Renewables has no preference at this time.