

Project Discovery: Options for delivering secure and sustainable energy supplies

UK COAL Mining (UKC) welcomes the opportunity to respond to the second Project Discovery Ofgem consultation document. UKC is Britain's biggest producer of coal, supplying around 5% of the country's energy needs for electricity generation. The Group has four deep mines located in Central and Northern England with substantial reserves and employs around 3,000 people. Around 95% of the Group's 7Mt / year production supplies the electricity generation market and as such we are heavily influenced by policy objectives affecting this sector.

Answers to the specific questions contained within the consultation document are outlined below:

CHAPTER: Three

Question 1: *Do you agree with our assessment of the current arrangements?*

Yes, the existing market structure will not deliver a low cost, low carbon and secure electricity supply required by the UK over the next couple of decades.

Question 2: *Are there other aspects of the current arrangements which could have a negative impact on secure and sustainable energy supplies, or costs to customers?*

The current Government policy on carbon capture and storage (CCS) gives a strong signal to build unabated gas. This requires carbon abatement on coal from day one but allows gas CCGTs to be built carbon capture ready with no obligation to future abatement.

In these circumstances, investors will clearly fund new unabated gas plant in preference to any CCS equipped coal-fired plant which is not the recipient of public funding. As a consequence of this policy, it is highly probable that only four new coal-fired plants will be constructed to replace the existing 28GW of coal-fired plant currently on the system and likely to close as a result of the Industrial Emissions Directive (IED). Coal-fired generation will therefore fall dramatically and the UK will become highly dependent on gas, particularly on a cold, still winter's day. As a consequence a secure, diverse, moderately priced electricity generation portfolio will be replaced by one subject to serious security of supply and price risks.

This overdependence on unabated gas plant will also lead to much higher carbon emissions than would otherwise be the case as carbon is locked in over the next 20 years. The amount of new unabated gas plant recently completed and presently under construction means that the target of a largely decarbonised electricity generation system by 2030 is already unattainable.

The UK is uniquely placed in Europe, because of abundant geological storage in the North Sea, to develop a strong CCS industry which would benefit the UK economy. CCS is an important part of the global greenhouse gas (GHG) mitigation portfolio. IEA analysis¹ suggests that without CCS, overall costs to reduce emissions to 2005 levels by 2050, necessary to avoid dangerous climate change, could increase by 70%.

¹International Energy Agency: Technology Roadmap – Carbon capture and storage

This further strengthens the need for CCS to have a much higher priority within the UK's energy mix.

Question 3: *Do you agree that the five issues we have highlighted are the most important?*

Yes. The five points highlighted sums up the main issues.

The existing market structure does not give long term investment signals, nor will it lead to the optimum low cost carbon solution. There is no doubt that the future heavy reliance on intermittent wind will lead to more volatile electricity prices.

Question 4: *Do you have any comments on our description of what might happen if no changes are made to the current arrangements?*

It also needs to be recognised that coal will play a far smaller role in the UK energy mix and its advantages in terms of diversity, flexibility and security will be lost.

Coal generation will be forced off the system under the Large Combustion Plant Directive and Industrial Emissions Directive. Apart from the four publically funded CCS projects there would no further coal build. This is due to:

- Generators following larger incentives under the renewables obligation. The two ROCs on offer for offshore wind is over double what is needed to kick start coal CCS.
- Faced with the decision to replace retiring coal plant, generators will defer investment until the last possible moment in order to defer investment risk. This will inevitably lead to them building unabated gas CCGTs as they have the shortest build time and lowest capital cost.

The future heavy reliance on intermittent wind will lead to more volatile electricity prices and more complex despatch arrangements. It will also require investment in fossil fuel plant as back up, which will need to obtain a return on just a few hundred hours running per year. Investors currently have no certainty that such a return would be forthcoming.

CHAPTER: Four

Question 5: *Do you believe that our policy packages cover a sufficient range of possible policy measures?*

Work needs to be undertaken to find the optimum mix of generation which will deliver our low carbon goals at the minimum cost to the consumer, whilst maintaining a diverse and secure energy mix.

Providing carbon reduction targets are achieved it should be irrelevant what technology is deployed. Therefore to keep costs down to the consumer an optimum low cost / diverse technology mix should be proposed as an alternative measure.

Question 6: *Do you have suggestions for variants to these policy packages?*

Not in addition to those listed in Figure 7.

Question 7: *What other policy measures do you believe should be considered, and why?*

Replacement of the Renewables Obligation (RO) by a Low Carbon Obligation, open to all technologies. This would deliver the lowest cost low carbon electricity to the consumer whilst meeting the UK's low carbon electricity targets.

CHAPTER: Five

Question 8: *Do you agree with the assessment criteria that we have used to evaluate the policy packages?*

In addition the carbon footprint of the fuel should be recognised, for example the additional energy associated with the LNG process (power train, regasification, compression etc). When this is taken into account it effectively doubles the emission value of pipeline gas used within the EUETS.

Question 9: *Do you have any comments on our initial assessment of each of the packages?*

Targeted Reforms

Providing a minimum carbon price could give investors some confidence of a financial return in the short – medium term, but would this be long enough for large investments such as nuclear which may need 25 years to make a return. As the UK's electricity mix becomes decarbonised, which the Committee for Climate Change (CCC) recommend by 2030, will carbon pricing continue exist?

Moreover the pricing proposals suggested would not take away all the financing challenges. The additional certainty about the carbon price element of the electricity price is likely be masked by uncertainties in other factors driving the electricity price, principally the gas price. Therefore, while greater certainty over future carbon prices could be an important part of a complete package of policy interventions, on its own it is unlikely to be sufficient to support the levels of new low-carbon generation demanded by the Government's policy objectives.

Enhanced Obligations

Gas stations regardless of what package is chosen should have a statutory obligation to be able to generate using distillate. This will give some flexibility and allow continued generation in periods of gas shortages, such as experienced in the UK at the start of 2010.

Renewable Tenders

Setting up multiple tenders to take account of different types of technologies will not deliver the minimum cost option to the consumer. Also who would determine the capacity amount within each renewable band?

Capacity Tenders

As above setting up multiple tenders will not deliver the minimum cost to the consumer. All technologies should bid into a low carbon obligation with payment made on either actual generation or carbon sequestered. It can be then left to the market how they best feel able to fulfil and deliver the low carbon requirement.

Capacity Tenders would also provide the necessary investor confidence and give access to project finance, so important for encouraging new entrants into the market.

Central Energy Buyer

Whilst it does remain a risk that any central forecast of the market may turn out to be incorrect under certain scenarios (central buyer / capacity tender), it has to be remembered that the market is also not infallible. The for dash for gas in the 1990's subsequently saw many industry players withdrawing from the market leaving distressed assets.

The market is currently not delivering the required investment and many European models have a more centralised influence with government having a higher profile role.

Question 10: Do you agree with our summary of the key benefits and key risks of each policy package?

In principle yes, but it needs to be stressed that all the policy packages outlined will result in a higher dependence on imported gas to provide backup generation for intermittent renewables. Unless more coal can remain on the system this will place further pressure on our energy security.

Question 11: Do you have a view on which package is preferable, or alternative policy measures or packages that you would advocate? We are particularly interested any analysis you may have to support your views.

The introduction of a policy based around the Capacity Tenders package with the introduction of a low carbon obligation to replace the existing incentives such as the RO and CCS levy. This would give investors the required confidence, give access to project finance, deliver carbon reductions and produce the lowest cost option to the consumer.

Government figures indicate that the growth of renewables (in particularly wind) in the electricity mix will add 15% to consumer bills in 2020². McKinsey³ have published costs of CCS which come out substantially less than the two ROCs on currently on offer to support offshore wind development, as shown in the table below.

² The UK Renewable Energy Strategy – July 2009

³ McKinsey & Company - Carbon Capture and Storage: Assessing the Economics

	€/t CO2 abated
CCS initial demonstration	60 - 80
CCS early commercial	30 - 50
CCS commercial	30 - 45
Offshore wind (support via 2 ROCs)	190

Source McKinsey / UK COAL

CHAPTER: Six

Question 12: *Do you agree with our assessment of the timing for important investment decisions?*

It is by no means certain that the IED Council Position will be agreed by the European Parliament. Amendments proposed by the rapporteur have removed all the flexibility mechanisms which are vital to the phasing of coal burn out to 2023. If these are not reinstated or end up being substantially watered down, then the UK will be facing an acute power shortage from 2016 and work needs to start now.

Assuming that the existing Council IED Position remains then the lead times look about right, although could be speeded up in the case of CCS if more urgency was placed to kick start the commercial demonstration schemes.

Decisions by which how operators will meet obligations under the IED (or opt out via an 20,000 hour derogation) will have to be made by 31st December 2013. The issue is whether any investment will be made in NOx abatement technologies with the uncertainty over carbon abatement requirements.

Plant opted out under the IED can continue to generate until 2023 and so is likely to continue beyond the timeline and provide some capacity security.

Question 13: *Do you believe that early actions should be considered?*

Action to promote CCS should be speeded up within the UK. The Chancellor announced support for the first commercial demonstration project via a competition in the 2007 budget. Three years later we still have not announced the winner or even a timetable for a decision. It is vital that if the UK wants a diverse and secure energy mix that coal is included otherwise the result will be a further significant investment in gas generation.

As stated above there should be a contingency should the existing IED Council position unravel.

Question 14: *Do you think that the issues are such that policy measures should be considered as a package or should they be considered on a case by case basis?*

Measures should be considered as a total package within the objectives of an energy policy. The UK's current approach has been shaped by individual initiatives introduced over a period of time and we now need a coordinated approach to deliver secure, low cost and low carbon electricity.