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Carbon Capture and Storage Consultation

Katherine Mansfield
2/N2
HM Treasury
London
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Dear Ms Mansfield

Carbon capture and storage: A consultation on barriers to commercial deployment

The Confederation of UK Coal Producers (CoalPro) represents member companies who produce over 90% of UK coal output. CoalPro believes in a balanced energy policy and is not opposed to the development of any form of energy. CoalPro is pro coal.

CoalPro believes there is great potential for the deployment of carbon capture and storage (CCS) to enable global and UK reserves of fossil fuel to be utilised whilst minimising emissions of carbon dioxide. In particular CCS would permit the consumption of the world's ample reserves of low-cost coal with relatively low environmental impact.

CoalPro recognises that there are barriers to the deployment of CCS and welcomes the opportunity of being able to respond to this consultation. CoalPro is not competent to comment on many of the technical issues raised by the consultation but would wish to raise certain other issues which may impede the deployment of CCS in relation to the consumption of coal. This response therefore takes the form of some general remarks followed by comments on those particular questions raised by the consultation which CoalPro is competent to address.

CCS can be most suitably deployed to address emissions from large point sources, such as power stations and oil refineries. It is equally clear that CCS will be more expensive than conventional forms of, for example, electricity generation because of both the additional investment required and the associated energy penalty. It is a prerequisite, therefore, that there is a move to higher efficiency electricity generation. CoalPro considers it essential that this issue is considered in conjunction with the barriers to CCS deployment.

At present, the existing UK coal-fired power stations are relatively old and operate at average efficiencies of about 36%. The more modern gas-fired power stations operate at efficiencies of over 50%. Without a move, first, to higher efficiency coal-fired technology, it may be that CCS will only be deployed to gas-fired plant. There is a real risk, therefore, that overcoming the barriers to the deployment of CCS when considered on their own may result in the technology not being applied at coal-fired power stations. The opportunity of minimising emissions from the consumption of coal may thus not be addressed.

CoalPro believes that this problem is compounded by some existing and proposed aspects of the regulatory framework. The EUETS, for example, is a blunt instrument. UK coal-fired generation is severely disadvantaged because of the lower efficiency of the existing plant compared with CCGTs and because coal has a higher carbon content than gas.

Because of the differential between coal and gas prices, investment in higher efficiency coal-fired plant is now close to being an economic proposition as evidenced by the number of proposals now being investigated. However, the Government's proposals in their consultation on the UK's draft National Allocation Plan for Phase II of the EUETS will severely impede such investment. These proposals for the ESI Sector are fuel, technology and load factor specific for existing plant. However, for new entrants, standard CCGT factors are proposed for all plant. There is a real risk that this will prevent investment in new, higher efficiency coal-fired plant, a pre-requisite for investment in CCS.

Also, at present, CCS does not qualify under the EUETS as carbon abatement, as pointed out at para 1.51 of the CCS consultation. If this is satisfactorily addressed, then in the longer run, deployment of CCS at new, higher efficiency coal-fired power stations will result in low net carbon emissions and the disadvantage to coal will be removed. In the short run, however, it may be necessary to, first, construct new, higher-efficiency, "carbon capture ready" plant with CCS being deployed later when the other technical and commercial barriers have been resolved. In the meantime, new coal-fired plant will be disadvantaged compared to CCGTs.

A combination of these issues may well result in the eventual deployment of CCS, but only at gas-fired power stations. If the advantages of a significant coal component in the generating mix are to be retained, it is important to recognise the need to invest in higher-efficiency coal plant first, and to ensure that other regulatory developments do not impede this.

CoalPro therefore urges the Government to consider the barriers to investment in higher-efficiency coal plant along with their consideration of the barriers to CCS deployment to ensure that the former, and hence the latter, is not impeded.

CoalPro's comments, where appropriate, on the individual questions raised by the CCS consultation are addressed below:-

Para 1.32 CoalPro cannot comment in detail but understands that CCS will deliver about an 85% reduction in emissions. Co-firing of coal with biomass, an option not readily applicable with gas, could increase this to close to 100%. Biomass is regarded as carbon-neutral at present, but if the CO₂ emissions from its combustion can be captured and stored, it will effectively become a carbon negative option. Coal with biomass and CCS can thus become a near zero CO₂ option and is thus comparable with nuclear and renewables.

Para 1.34 CoalPro understands that technology can be developed to apply carbon capture at new coal-fired power stations at both the pre-combustion (at

IGCC stations) and post-combustion (at stations equipped with supercritical boilers) stages. It can therefore be retrofitted in conjunction with the retrofit of supercritical boilers at existing stations. There is clear linkage here between investment in higher-efficiency coal-fired plant and CCS deployment (see above).

Para 1.35 CoalPro is not competent to comment.

Para 1.41 As noted above, the existing and proposed EUETS regulatory framework may impede investment in higher efficiency coal-fired plant and hence in the deployment of CCS from coal.

It will be a necessary, but may not be a sufficient, pre-requisite for CCS deployment that CCS be included in the EUETS. In the meantime, the UK's present proposals for new entrants in Phase II must be changed if investment in CCS from coal is not to be impeded

A further essential change to the EUETS is to make available long-term carbon allowances (i.e. beyond Phase II). CoalPro understands that in Germany, allowances have been made available for up to 18 years and that this has brought forward significant investment in new coal-fired plant. Phase II of the EUETS will extend only until 2012 and a longer-term approach to carbon allowances in the UK is urgently required if investment in new generating capacity is to come forward.

CoalPro recognises the long-term liability issues and believes that there may be no alternative to Government standing as an ultimate guarantor. Short-term liability issues should be borne by the commercial players involved.

CoalPro is not aware that there is great public concern about CCS and believes that, generally, the public is likely to be receptive.

Para 1.48 It is clear that CCS, like most low-carbon technologies, is not commercially viable under the present regulatory framework. CoalPro does not see that changes in the relative prices of coal and gas will make CCS on its own either more costly or less profitable, but long-term price movements are likely to move in favour of coal and costs and profitability of CCS from coal would improve relative to gas. This is yet another reason why it is important to ensure that investment in new coal-fired plant is not impeded (see above).

In this context, CoalPro recognises that the footnote to Table 1 qualifies the cost comparisons but would urge HM Treasury in their analysis work to take into account an alternative scenario based on the present differential between gas and coal prices being maintained.

Para 1.54 At a minimum, the following changes are needed to the existing regulatory framework:-

(i) Inclusion of CCS in the EUETS.

- (ii) The award of long-term carbon allowances well beyond Phase II of the EUETS, perhaps associated with carbon contracts.
- (iii) Avoidance of impediments under the EUETS to investment in higher-efficiency coal-fired plant (see above).

On their own, these are necessary but are unlikely to be sufficient. CoalPro believes that some form of more direct assistance (subsidies, fiscal incentives or an obligation scheme) will be necessary at least to ensure initial, commercial-scale demonstration plants are constructed. If this approach is adopted, CoalPro urges the Government to ensure that such demonstration plants cover a mix of fuels and technologies.

A further useful preparatory measure might be to introduce a requirement in the consent process for all new fossil-fuel generating plant that such plants must be “carbon capture ready”. This need not be an excessively onerous requirement, being limited to such factors as adequate availability of land and a design configuration which does not impede carbon capture retrofit.

CoalPro welcomes this consultation but urges the Government to take into account the fact that CCS with coal-fired plant needs prior investment in higher efficiency plant and to ensure that the regulatory framework, specifically the new entrant criteria under Phase II of the EUETS, does not impede such investment.

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