



Carbon Capture &  
Storage Association

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## **Carbon Capture and Storage Association Response to**

### ***Consultation on Proposed EU Emissions Trading System from 2013***

#### **Introduction**

The Carbon Capture and Storage Association welcomes this opportunity to respond to the Defra Consultation on proposed EU Emissions Trading System from 2013. We welcome the UK proposals on the EU Emissions Trading System (EU ETS) and the EU proposed Directive on the EU ETS as part of the wider EU Climate and Energy package, released in January.

The CCSA brings together a wide range of specialist companies across the spectrum of CCS technology, as well as a variety of support services to the energy sector. The Association exists to represent the interests of its members in promoting the business of Carbon Capture and Storage (CCS) and to assist policy developments in the UK and the EU towards a long term regulatory framework for CCS, as a means of abating carbon dioxide emissions.

The Association would like to express its support for the EU ETS as the primary long-term mechanism to incentivise investment in low-carbon technologies and build a market in trading carbon that ensures lowest cost reduction in emissions. The UK must be commended for its ambition and early lead in the development of the ETS, making London the current centre of the emissions trading market. The outcomes of this consultation and the proposed EU Directive will play an important part in the development of an effective trading system into phase III and beyond, enabling long-term certainty in carbon trading across the EU.

We acknowledge the many issues and questions within this consultation however, we would like to limit our comments to the issues relating to CCS.

## 2.4.2 Carbon Capture and Storage

**Q7. Do you agree with the proposed method for including CCS? If not, please provide your reasons and evidence.**

The CCSA supports the inclusion of capture, transport and storage of greenhouse gas emissions in the EU ETS from phase III (2013), to bring CCS in line with the treatment of other low-carbon technologies, thereby recognising the important role that CCS plays in the reduction of greenhouse gases.

It is important that the wording in the Directive explicitly recognises that CO<sub>2</sub> captured and permanently stored should be considered as not emitted. It is likely that individual parts of the capture, transport and storage chain will be owned by different operators and responsibility between operators of the different elements of the CCS chain need to be clear. Legal certainty is necessary before decisions on investment in CCS plants are made.

## 4.6 Use of auction revenue – Q33

**Q33. Do you agree with the UK position that there should not be a system of hypothecation or earmarking of auctioning revenues?**

As part of the wider issue of incentivising early CCS projects (which will be outlined below), the use of auction revenue should also be mentioned. The CCSA recognises government's reluctance to " earmark " specific revenue streams however there is an urgent need to support the development of emerging technologies like the early CCS projects in a manner that does not undermine existing technologies and without distorting the market.

Establishing a funding mechanism to incentivise CCS projects has become an important policy priority. Decisions need to be made around the support mechanisms for the demonstration projects. The auctioning of allowances will generate significant revenues providing ample source of finance. It has been estimated that across the EU, auctioning 60% of phase III (2013) allowances i.e. power sectors contribution would yield a revenue of €28bn per year by 2013 based on €35/tonne carbon price<sup>1</sup>. The UK alone would in phase III receive revenue in excess of €2bn each year, and a number of early CCS projects could be sufficiently supported from a proportion of this revenue. Across the EU, the auction revenue stream therefore provides an attractive source of funding for low-carbon technologies, including early CCS projects.

The draft EU ETS Directive currently proposes that 20 per cent of the revenues from auctioning in phase III should be used for a range of climate change and energy efficiency measures including CCS. Considering the large variety of measures included in the list to be supported by this revenue (renewable energy, energy efficiency, CCS, avoiding deforestation, amongst others), the CCSA does not feel that 20 per cent is a sufficient figure and would strongly recommend that this figure is increased, with a large

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<sup>1</sup> *Banking on Higher Prices*, Deutsche Bank, July 2007

proportion dedicated to funding early CCS projects. However, many Member States are unfavourably disposed towards “earmarking” and it may therefore be worth setting out a transparent process by which Member States should justify their spend on climate change mitigation measures, as well as including details on how auction revenues are used to support these measures.

## **Incentivising CCS – the wider issue**

### *The importance of CCS*

There is broad agreement by International climate bodies, that the deployment of CCS is urgently needed to help mitigate climate change. Lord Stern, in a recent comment on his 2006 Stern Report on The Economics of Climate Change, stated that zero carbon electricity should be in place by 2050, “that means carbon capture and sequestration (CCS) in electricity by 2050...we need to get better at carbon capture and sequestration very quickly”<sup>2</sup>. The International Energy Agency recently published their Energy Technology Perspectives 2008, which include calculations of the amount of low-carbon technologies required to stabilise CO<sub>2</sub> emissions at the target level of 450ppm. For CCS alone, the report concludes that “on average per year 35 coal and 20 gas-fired power plants would have to be fitted with CO<sub>2</sub> capture and storage (CCS) technology, between 2010 and 2050”<sup>3</sup> and both the EU and the G8 leaders have agreed aspirational targets for CCS plants to be built; 10-12 projects by 2015 and 20 projects worldwide committed by 2010 respectively<sup>4</sup>. Even the UK Government’s own calculations have reached the conclusion that with or without an expansion in renewable technologies, fossil fuel power will be needed in the UK to satisfy baseload demand and without CCS, this will result in a significant increase in CO<sub>2</sub> emissions, that will lock-in the UK for generations.

Whereas the concept of CCS and its importance is generally well understood, the methods for incentivising early projects has so far not been forthcoming. The full chain of CCS has yet to be deployed at a commercial scale and, as with all new technologies, additional support will be needed to demonstrate the technology at full-scale. Developing and proving this emerging technology to understand performance and associated costs, will enable cost reduction and efficiency improvement. It is widely expected across the CCS industry, that CCS projects will become self-financing within the EU ETS on a level playing field with other low-carbon technologies – common sources estimate that this will happen post 2020. However, the current carbon price in the EU ETS is not yet at an appropriate level or reliable enough to incentivise the urgent early deployment of CCS projects and therefore additional support must be found over and above the avoided cost of not purchasing allowances.

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<sup>2</sup> <http://www.independent.co.uk/news/business/news/stern-warns-that-climate-change-is-far-worse-than-2006-estimate-810488.html>

<sup>3</sup> *Energy Technology Perspectives 2008*, IEA, July 2008

<sup>4</sup> *G8 Hokkaido Toyako Summit Leaders Declaration*, July 2008

### *Proposed support mechanisms*

A specific amendment on CCS has been proposed by the Rapporteur for the Directive, Avril Doyle MEP as well as Chris Davies MEP (rapporteur for the CCS Directive) and Linda McAvan MEP. This amendment proposes that “up to a maximum of 500 million allowances in the new entrants reserve shall be awarded to large-scale commercial demonstration projects that are undertaking the capture and geological storage of carbon dioxide”<sup>5</sup>.

The CCSA would like to emphasise that although this is not the ideal solution for incentivising CCS projects (including pressure on the size of the new entrants reserve amongst several issues), it has potential, and should therefore be considered further as one of a number of support mechanisms. Another option that should be considered is the use of Contract for Differences (CFD), which is a well-established and efficient means of support in that it removes market uncertainty. Carbon contracts for avoided emissions is another method of rewarding emission reductions.

It is important to emphasise that any support mechanism for early CCS projects will not be required indefinitely and should therefore be time and volume limited – limited to a number of early projects in the first instance. As mentioned above, CCS will become self-financing at a point in the future (in line with other low-carbon technologies) and therefore additional funding will only be needed in the transitional period. Consideration must also be given to the flexibility of this mechanism, particularly as the various CCS technologies are at different stages of development, as well as flexibility in the number of projects that will require support to enable CCS projects to be considered on an equal basis with other low carbon technologies – that have benefited from support over a longer period. Although it is important to note that any support mechanism for CCS should not impede the adoption of complementary low carbon technologies.

Although individual Member States may offer different incentives for supporting low-carbon technologies (such as feed-in tariffs, tax exemptions etc), there is considerable merit in a centrally coordinated EU funding mechanism for low-carbon technologies, including CCS. To ensure the maximum transparency, the preferred method should be to provide support through a competitive process, where project developers compete for funding through a bidding method (such as the UK CCS Competition), however such a process should ensure efficiency in the application of funds to projects coming forward. A CCS incentive mechanism would also need to consider the different incentives in Member States, which would provide a lesser or larger amount funding for projects therefore needing varying amounts of top-up funds from the EU to reach commercial viability. It is essential that such an EU mechanism does not distort the EU ETS as this will be the main system for incentivising all low-carbon technologies into the future. In particular any mechanism must not impact on the total number of allowances within the scheme and should not affect the price of CO<sub>2</sub> allowances.

Amongst the Member States, the UK is in a unique position to influence the development of such an incentive mechanism for CCS projects. The UK has already taken a lead role in the creation of a regulatory framework for CCS projects, large parts of which have fed

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<sup>5</sup> *Amendments, Draft Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to improve and extend greenhouse gas emission allowance trading system of the Community*, Avril Doyle MEP, June 2008

into the work to establish the EU CCS Directive. It has also been estimated that storage capacity in the North Sea could be sufficient to meet the UK CO<sub>2</sub> storage needs for perhaps a century or more, giving the UK a significant opportunity for early demonstration of CO<sub>2</sub> storage operation. Over the past two years, a number of proposals for large scale IGCC pre-combustion capture projects have come forward – awaiting only a suitable economic incentive to be deployed now. In addition, the large number of responses to the BERR CCS competition have demonstrated that post combustion and oxyfuel capture technologies could be developed to commercial scale in 2014-2016. When considering that many EU Member States may not be ideally placed in terms of storage sites as well as being in the very early stages of developing regulation for CCS, the UK is extremely well placed to build several of the early CCS projects needed to move CCS towards commercial deployment. This would also contribute a larger proportion to the EU's aspirational goal of 10-12 CCS projects by 2015, thereby giving greater certainty in achieving this goal.

## **Conclusion**

It is commonly agreed that the EU ETS is the main mechanism for incentivising all low-carbon technologies, including CCS. It is estimated that CCS will become self-financing within the EU ETS at some point in the near future, however CCS is currently in its early stages of development and similar to other low-carbon technologies, will need additional incentives to develop to a commercial scale. Such incentives will likely come from a number of different sources, one of which is the EU ETS, however it is important to note that as different capture technologies are at different stages of development, the incentives required must be flexible, link to the EU ETS, and should not distort the functioning of the carbon market. The auctioning of allowances under both phase II and phase III of the EU ETS provides a large amount of revenue for Member States, which would be more than sufficient to fund a number of early CCS projects. However, should this option appear not to be forthcoming, there is some merit in further consideration of use of allowances from the New Entrants Reserve to provide funding to incentivise early CCS projects, although the CCSA feels that this is not the ideal solution.

The UK is in a unique position to build a number of early CCS projects and should therefore take a keen interest in influencing the development of a suitable incentive mechanism for early CCS projects.

The CCSA looks forward to working with the UK Government and the EU to enable a programme of investment in early CCS projects to bring CCS to commercial deployment and we would welcome discussion on any of the issues mentioned above.

*The view expressed in this paper cannot be taken to represent the views of all members of the CCSA. However, they do reflect a general consensus within the Association.*