

# Capturing attention

Judith Shapiro, of the Carbon Capture & Storage Association, shares her views on why the UK and EU must seize the opportunity to kick-start the CCS industry...

**T**he UK and Europe are now deep into competition mode to see the first carbon capture and storage (CCS) projects built, which will finally enable inclusion amongst the global 'club' of countries that have already started down the CCS path.

In the UK, the government launched the 'CCS Commercialisation Programme' in April this year – its revamped CCS competition, after the first competition (launched in 2007) culminated in the cancellation of the sole remaining project at Longannet power station last year. Whilst the commercialisation programme does not commit to a total number of projects to be supported, the government has committed to supporting four commercial-scale CCS projects in its Coalition agreement. This competition presents the industry with a much more flexible package including both coal and gas, consideration of all capture technologies and inclusion of industrial emitters where part of a cluster project. A change in the name of the competition indicates that the government is now focused on the long-term commercialisation of CCS, with the high-level aim of enabling CCS to compete cost-effectively with other low-carbon technologies in the 2020s. Crucially, the programme now states clearly the need for projects to demonstrate their contribution to the development of early transport and storage infrastructure that will support CCS projects into the future, an issue that has long been at the forefront of industry discussions.

Alongside the commercialisation programme, the government also published the long-awaited CCS roadmap – setting out the goal of seeing commercial CCS deployment in the next decade, and the actions that will be taken to achieve this goal. Crucially, the roadmap recognises the industry ambition of at least 20-30GW of installed capacity of fossil fuel power plant fitted with CCS by 2030 – as set out in the CCSA report 'A Strategy for CCS in the UK and Beyond', published in September 2011. Although much detail still remains to be seen, the roadmap is beginning to send much-needed positive signals to the CCS industry regarding the government's commitment to a long-term CCS industry, enabling developers to make the investment decisions into the first CCS projects, as well as the ensuring roll-out of the industry.

In Europe, CCS policy has virtually come to a standstill whilst the Commission assesses the bids into its NER300 Competition (for CCS and innovative renewables) – an announcement on which is expected in the autumn. Whilst some CCS projects across Europe have faced difficulties recently, the UK remains in a very strong position, contributing half of the total 10 CCS projects that have been put forward by member states. A recent Commission review of the NER300 process ranked a UK project as top of the list for potential funding – further cementing the UK's opportunity to become one of the leading CCS countries in Europe. However, this is no time for complacency, as the NER300 will only fund up to 50% of a project's costs and the Commission requires that member states set out clearly how they intend to provide sufficient co-funding to make up the difference. Details of this co-funding must be provided to the Commission by the time of final project selection, and the UK must therefore make sure that the commercialisation programme concludes on time, allowing the UK and EU processes to be fully synchronised.

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A key factor that will influence the success of CCS will be the ability of the technology to reduce costs to a level that is competitive with other low-carbon technologies. Current estimates suggest that CCS is already cost-competitive with some low-carbon forms of electricity generation; however as with any emerging technology, CCS must go through a process of cost-reduction to reach commercial maturity. The sooner we get some momentum behind building the first CCS plants, the

### European Commissioner for Climate Action: Ensuring safe geological storage

In February, the Directorate-General overseen by European Commissioner for Climate Action Connie Hedegaard (pictured) issued an official 'opinion' backing the first national draft permits to store carbon dioxide in an offshore location on the Dutch continental shelf. "In developing this technology, our primary concern is that human health and the environment are protected," said Commissioner Hedegaard, "With this opinion, the Commission ensures the safe geological storage. Stringent safety standards will promote investor confidence for commercial-scale projects."<sup>1</sup>

The scheme is one of the first examples of geological carbon storage under the stringent standards set by the CCS Directive (2009/31/EC). The project is a joint venture between E.ON Benelux and GDF Suez and will see CO<sub>2</sub> from electricity production and industrial processes deposited in 'reservoirs' created by natural gas extraction. €180m of funding under the European Energy Programme for Recovery (EEPR) helped with feasibility studies required to get the project off the ground.<sup>2</sup> Hedegaard hopes that that the Netherlands' offshore storage scheme will inspire confidence for further commercial investment in the fledgling market.

The commission has also come under criticism from a very different angle in the European Parliament.<sup>3</sup> For GUE/NGL Group member Sabine Wils, CCS cannot and should not form part of the green low-carbon future as envisaged by Hedegaard. "The lack of ambition in relation to European climate protection policy threatens the sustainable development of Europe's economy," Wils told colleagues. "Dirty technologies, such as nuclear power and carbon capture and storage, are impeding a change in energy policy. The EU emissions trading system has so far failed as an instrument for climate protection and is undermining European climate protection policy. It shows that market-based instruments are not the way to combat climate change."

Further, the PPE's Mairead McGuinness warned that scientific knowledge on CCS is still "far from complete".

<sup>1</sup> [http://ec.europa.eu/commission\\_2010-2014/hedegaard/headlines/news/2012-02-29\\_01\\_en.htm](http://ec.europa.eu/commission_2010-2014/hedegaard/headlines/news/2012-02-29_01_en.htm)

<sup>2</sup> [www.globalccsinstitute.com/institute/news/commission-gives-first-nod-ccs-project](http://www.globalccsinstitute.com/institute/news/commission-gives-first-nod-ccs-project)

<sup>3</sup> [www.europarl.europa.eu/sides/getDoc.do?type=CRE&reference=20120315&secondRef=ITEM-006&format=XML&language=EN](http://www.europarl.europa.eu/sides/getDoc.do?type=CRE&reference=20120315&secondRef=ITEM-006&format=XML&language=EN)



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faster the process of technology optimisation and cost reduction can take place. To this end, the government has set up a CCS Cost Reduction Task Force, which will look at key areas that will be instrumental in achieving cost reduction in CCS in the immediate future. The interim findings of this task force will be published later this year and the conclusions will play a key role in securing vital government support for early CCS projects beyond the commercialisation programme.

In the UK, the commercial case for early and long-term CCS projects will be determined to a large extent by the UK's Electricity Market Reform (EMR) – introduced in 2011 to create an overarching framework by which all low-carbon electricity generating technologies can compete for a level of support. Key to EMR is the Feed-in Tariff Contract-for-Differences (FiT CfD) mechanism, which will provide a level of top-up to the wholesale electricity price to support nuclear, CCS and renewables on a similar and comparable basis. Whilst discussions are ongoing regarding the appropriate design of the FiT CfD for CCS, EMR must provide a sufficiently clear and strong signal to both those projects selected under the current commercialisation programme as well as projects not selected and those that will come on stream after. Policymakers need to ensure that developers have the confidence to make long-term investments, creating a CCS industry into the future.

We must not forget that CCS is becoming an increasingly necessary option for industrial sectors such as steel,

cement, chemicals and oil refining – which will soon be faced with tough decisions regarding their continued operation in a carbon constrained world. For many of these sectors, there is no realistic means of decarbonisation other than CCS, because the CO<sub>2</sub> is process as well as fuel generated.

The importance of CCS for both power and industry should not be underestimated. The power sector will experience increased amounts of intermittent and inflexible electricity sources coming on stream, and fossil fuels will have to play a vital role in providing the flexibility needed to balance the system. Only with CCS can we ensure that fossil fuels can fulfil this role, whilst enabling climate change targets to be met alongside the decarbonisation of the power sector in the next few decades.

The time is ripe for CCS in the UK and EU and we must seize the opportunity to kick-start this vital industry, which will create a market measured in trillions of dollars by 2050, with the associated jobs and growth that this will bring.



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