

Now or never? The urgent need for CCS demonstration

A EURELECTRIC Recommendations paper



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Now or never? The urgent need for CCS demonstration

TF Carbon Capture Storage

Gwyn Dolben (GB), Chair

Franz Bauer (DE); Heinz Bergmann (DE); Pompilio Caramuscio (IT); David Corregidor Sanz (ES); Laviniu Danciu (RO); Kathrin Eichel (DE); António Ermida Mano (PT); Staffan Görtz (SE); Jorma Isotalo (FI); Jörg Kerlen (DE); Gerald Kinger (AT); William S. (Bill) Kyte, OBE (DE); Ales Laciok (CZ); Håvard Vaggen Malvik (NO); Hakon Mosbech (DK); Declan O'Brien (IE); Philippe Opdenacker (BE); Peter Radgen (DE); Cristina Rivero (ES); Lynne Ross (GB); Walter Ruijgrok (NL); Luis Manuel Santos Moro (ES); Sivane Soumagnac (FR); Kazimierz Szynol (PL); Elvan Tugsuz Guven (TR); Willy Van Well (DK); Owen Wilson (IE)

Contact:

Giuseppe Lorubio – glorubio@eurelectric.org

EURELECTRIC RECOMMENDATIONS

Carbon capture and storage (CCS) is one of the key low-carbon solutions needed to enable the power sector – and industry at large – to move towards carbon neutrality by 2050. EURELECTRIC is of the view that **Europe needs to show a sense of urgency in demonstrating CCS** if it is to live up to its potential as a climate technology. Further discussion on the pros and cons of the technology at this stage would be unhelpful; if we cannot demonstrate the technology now, Europe could become locked into a considerably higher-cost trajectory to decarbonisation. Diversity of the energy mix could also be threatened.

Europe could be at a serious competitive disadvantage if other regions of the world go ahead with CCS while Europe gets stuck in the demonstration phase. What has happened with the development of renewables, especially solar photovoltaic (PV), proves that Europe has everything to lose in surrendering its technological leadership. Given the rapid development of shale gas in the US and the continuing increase in coal use particularly in Asia, it is all the more important that Europe is able to advance CCS as a decarbonisation technology.

Therefore, EURELECTRIC would like to make the following four recommendations to launch the CCS demonstration programme as soon as possible.

RECOMMENDATION ONE

The European Commission should without delay table proposals to amend Regulation 663/2009 to allow the unspent CCS funds resulting from the official cancellation of projects to be directed towards other CCS demonstrators.

Assuming this process takes 6 to 8 months, it will still be compatible with final investment decisions being taken that comply with the EEPR and NER300 timing.

It is absolutely **necessary to maximise the effectiveness of the EU funds** already committed to CCS and taking account of the European Parliament's 'Motion for a Resolution on a Roadmap for moving to a competitive low carbon economy in 2050'¹ (document A7-0033/2012, dated 2 February 2012).

It is of the utmost importance that the unspent money stemming from the cancellation of the Jämschwalde or any other project should be directed towards other CCS projects which have a higher likelihood of succeeding and contributing to the demonstration of the CCS technologies.

¹ The European Parliament called, inter alia, on the Commission "to propose that unspent funds for CCS projects within the European Economic Recovery Programme be reallocated towards alternative CCS demonstration projects."

RECOMMENDATION TWO

Member states must transpose and implement the provisions of the EU CCS Directive without further delay in such a way as to facilitate the development of CCS; otherwise they risk jeopardising the uptake of the CCS demo programme.

CCS can only flourish in a **supportive political and regulatory environment at all levels**: European but also national, regional and local. EURELECTRIC sees the need for such a framework to be put in place as soon as possible.

The EU treaties require member states to transpose and implement in a timely fashion the directives adopted by the Council and the European Parliament. Member states must therefore transpose the CCS Directive even should they not want CCS projects to be implemented on their territory – which is indeed legitimate according to the CCS Directive. We urge member states to take such steps as a matter of urgency: developers need clarity to go ahead with their plans!

RECOMMENDATION THREE

Those member states currently developing CCS demo projects, or with a prospect to develop CCS projects shortly, should put in place mechanisms for supporting the uptake of CCS by using part of the revenues generated from the auctioning of allowances under the Emission Trading Scheme (ETS).

Article 10.3 of the ETS Directive (Directive 2003/87/EC, as amended by Directive 2009/29/EC) stipulates that, even though member states shall determine the use of ETS revenues they raise, “at least 50 % of the revenues generated from the auctioning of allowances [...] should be used for one or more of the following: [...] e) the environmentally safe capture and geological storage of CO₂”.²

It needs to be recalled here that the first CCS demos will not create value for their project sponsors in the short term; on the contrary, they will probably destroy value, as the CCS demos are likely to create stranded assets, even though they are fundamental to proving the technology at integrated scale and helping it move along the development phase to demonstration and finally commercialisation. Furthermore, given the current economic environment and outlook we believe that re-investing (part of) the revenues generated from the auctioning of the ETS allowances in CCS will not only help Europe to decarbonise, but also allow for the creation of technology centres as well as a CCS industry in Europe, stimulating economic growth and helping Europe’s economic recovery.

² Other measures include reduction of greenhouse gas emissions (10.3.a), support to renewables (10.3.b), afforestation (10.3.c), support to energy efficiency in the sectors covered by the directive (10.3.g), etc.

Several mechanisms could be envisaged for supporting CCS demonstration, including *inter alia* premium feed-in tariffs, power purchase agreements for CCS-electricity, tax breaks/rebates, loan guarantees, etc. EURELECTRIC takes the view that wherever those mechanisms are introduced they should be well-designed, i.e. transparent, proportionate and transitional. This will give investors the needed confidence to invest in capital intensive CCS projects while ensuring the right value for money to consumers and tax-payers.

Support should also:

- i. Have no (or negligible) impact on other policies/instruments (i.e. the ETS);
- ii. Not distort the functioning of wholesale electricity markets;
- iii. Evolve from technology-specific to technology-neutral.

In the medium to long term, all low-carbon technologies should freely compete on a market basis and their development should be driven by the ETS CO₂ price.

RECOMMENDATION FOUR

The industry and the European Commission should explore possibilities to Europeanise – or at least regionalise – the projects being funded by the EU.

This could take different forms including (but not limited to) pooling of resources into projects with the highest chances of succeeding in demonstrating the technology.

The current difficulties encountered by some demonstration projects call for a **renewed approach to the development of the EU demonstration programme** that puts cooperation among operators at its heart.

The recent developments with the discussion on the Regulation on trans-European energy infrastructure have shown that consensus exists among political parties in the European Parliament and member states to allow CO₂ infrastructure projects to benefit from the status of projects of common interest (PCI). This is indeed a first step in setting up a truly EU programme where projects can be linked together across borders by a common CO₂ infrastructure (both transport and storage) which would allow significant economies of scale. While these developments only apply to transport and storage, greater consideration should be given to the possibility of Europeanising the capture part of the CCS chain at demonstrator level.

BACKGROUND: STATE OF PLAY OF THE EU CCS DEMONSTRATION PROGRAMME

On 21 September 2012 the European Commission organised a high-level stakeholder roundtable that took stock of the (lack of) progress in establishing the EU CCS demonstration programme, following the call by the European Council, in March 2007 and June 2008, for up to 12 CCS demonstration plants to be put into operation by 2015, a commitment also contained in the EU CCS Directive (Directive 2009/31/EC).

This commitment is now clearly out of reach. However, the consensus remains that CCS is a fundamental low-carbon technology needed to combat climate change and secure Europe's electricity supply, along with other low-carbon technologies and increased energy efficiency.

Two main EU funding programmes provide support for CCS at the moment:

- The **European Energy Programme for Recovery** (EPR), that awarded €180 million each to five CCS demonstrators located in Poland, the Netherlands, UK, Germany and Spain and €100 million to a project located in Italy;³
- The **New Entrant Reserve under the EU ETS** (NER300), that will identify CCS (and innovative RES) projects to be funded under two successive calls for proposals and whose first results are expected by the end of 2012.

The EU CCS demonstration programme is at a tipping point, as also demonstrated by the European Commission's recent decision to push back the adoption of the list of projects to receive funding under the first NER300 call for proposals. This is to allow for further negotiations with the concerned governments.

The difficulties encountered by some of the projects include regulatory hurdles (e.g. failure to implement the CCS Directive or gaps in regulation across the CCS value chain⁴), public opposition to the pre-selected storage site(s), economic uncertainties (e.g. low emission allowance prices) and lack of political support at national level.

Amid the difficulties described above, the six EPR demo projects are at different development stages. One project – Vattenfall's Jämschalde – has been officially cancelled and withdrawn from the NER300 competition and the EU-sponsored CCS Project Network. Among the EPR demos, only the ROAD project ("Rotterdam Capture and Storage Demonstration project") sponsored by a joint-venture between E.On Benelux and GDF Suez Energie Nederland did not lodge an application for the NER300 1st call. However, this project was already set to receive about €150 million of funding from the Dutch government.

³ The six projects are: PGE's Bełchatów in Poland; Enel's Porto Tolle in Italy; 2Co Energy's Don Valley Project in the UK (known as Hatfield before); Endesa's Compostilla in Spain; Vattenfall's Jämschalde in Germany; and E.On/GDF SUEZ's ROAD ("Rotterdam Opslag en Afvang Demonstratieproject") in the Netherlands.

⁴ A case in point is Spain, where missing regulation on transportation of carbon dioxide is deterring the development of CCS projects.



Union of the Electricity Industry - EURELECTRIC aisbl
Boulevard de l'Impératrice, 66 - bte 2
B - 1000 Brussels • Belgium
Tel: + 32 2 515 10 00 • Fax: + 32 2 515 10 10
VAT: BE 0462 679 112 • www.eurelectric.org