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Thematic Report

Regulatory Development Session May 2013

A report from the European CCS Demonstration Project Network

Website version

Proceedings from the Doncaster knowledge sharing event 20/21 May 2013

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Introduction

This report presents the discussions, conclusions and actions agreed at the thematic workshop on Regulatory Development which was held in Doncaster and hosted by the Don Valley project on the 20 and 21 May 2013. The workshop, at which four of the five member projects were represented, was one of three parallel tracks in the Network knowledge sharing event. The other thematic groups focused upon Storage and CO_2 Transport.

Building on the work undertaken to date by the Network, it was decided that work should continue on legal and regulatory issues in 2013. The agenda was intended to cover a number of elements and included: an overview of project progression; a review of the paper that is currently being drafted in response to the CCS Communication; an update by the CCSA on the review of the EU Storage and an overview of transposition of the EU Storage Directive in countries which are not covered by the Network.

Participants

The participants at this workshop included representatives from 2Co, CCSA, Dentons Law Firm, DRAX White Rose, ENDESA, MIT, National Grid, ROAD, Statoil and Global CCS Institute.

Project Presentations

Prior to the in-depth discussions, project representatives offered a brief update on progress and activities since the last meeting. The following sections provide brief summaries of the key messages from each of these individual presentations.

Don Valley Project – 2Co

The 2Co project was officially 'de-selected' from the UK Government Commercialisation Programme in 2012 and, despite the completion of an EOR study in late-2012, project activity under the original proposal has been suspended. The project proponents believe that EOR will inevitably reduce the costs of the storage aspect of CCS operations and remain keen to undertake EOR in the North Sea. As such they are also keen to receive CO_2 from other third-party sources. For the purposes of the Don Valley project, however, the company is now solely considering a saline aquifer storage solution (being developed by National Grid).

The Don Valley project does not believe that the second draft of NER 300 funding will be of value to the project, citing in part the low value of the credits which are to be made available in the second phase. The project has retained all of its original partners and highlighted in particular, that it had successfully attracted inward investment to the UK of around £1bn from Korean organisations. The focus of activity in the short and medium term for the project will include:

- The restructuring of the EEPR funding with the European Commission;
- To continue operations 'outside, but in parallel' with the UK competition;
- Access the enabling Contract for Difference (CfD) mechanism (apply by the end of May);
- Proving the aquifer will be crucial.

Don Valley Project - National Grid

There was a further presentation from the Don Valley from the other project proponent, National Grid. A presentation, and discussion session, was held regarding the outcomes of the CCS Cost Reduction Taskforce's final report of the 16 May 2013. The report, which can be found here https://www.gov.uk/government/publications/ccs-cost-reduction-task-force-final-report, had three points of particular note:

- It is anticipated that CCS electricity costs could approach 100/MWh by the early 2020s,
- It outlines the 7 key next steps to support large scale CCS in the UK,
- New organisational structures are proposed.

There was also a discussion regarding the activities being undertaken by National Grid, specifically the proposed pipeline route running from Don Valley through to the saline aquifer site being developed by National Grid

- Shared infrastructure with key emitters linking into the proposed network,
- Concept is that there will be common entry/exit point(s) to accept CO2 from multiple emitters and/or to export CO_2 to other offshore storage sites,
- 600mm pipeline is being considered, which will be capable of transporting around 17mt of CO_2 per annum.

Regarding the development of the 5/42 Saline storage site, a number of key actions are going to be undertaken:

- Appraisal drilling will be undertaken shortly (May 2013), following DECC licence approval,
- The rig is presently in-dock, but will be moved offshore in the next couple of weeks,
- The Crown Estate has also approved offshore lease,
- This is the first saline aquifer project to go through the leasing/licensing process in the UK.

Transport infrastructure planning is underway – formal public consultation (under the new Planning Act) will be required in late 2013/early 2014

- EIA assessment data collection is presently underway,
- Near-shore survey is being undertaken.

ROAD Project - ROAD

There have been very few changes to the ROAD project's situation in recent months. The new-build power plant will become operational in the coming months and, as soon as a positive FID has been taken by the proponents, the construction of the capture plant may commence. Permitting procedures for the ROAD project were finalized in 2012, with work related to the capture permits concluded and the storage permit receiving a favourable review from the European Commission. The publication of the definitive transport and storage permits is expected in the forthcoming months.

Despite the resolution of a number of these important permitting issues, the critical issue of funding has yet to be adequately addressed. Low CO_2 prices have resulted in a significant funding gap for the project and this continues to prove a major obstacle for the project. The coal tax in the Netherlands was highlighted by the proponents as perhaps offering a further opportunity for CCS, notably the availability of an exemption for CCS under the new legislation.

Compostilla Project – ENDESA

The Compostilla project highlighted that all relevant permitting applications have now been submitted to the relevant authorities for the capture aspect of the project and that in February 2013, the regional administrative authority published the information for land-use identification for the plant.

The legislation and permitting model for the transportation aspect of the project has proved to be a concern for the project proponents; with the absence of new legislation and a lack of clarity regarding the transportation of CO_2 impacting upon the permitting schedule for the project. Similar concerns were also voiced with regard to the storage permits, which have also been sought by the project. In a move away from the existing permitting model found in the mining law, permits were sought under the new Spanish storage law, which transposes the requirements of the EU Storage Directive. While the EU Storage Directive requires exploration and storage permits to be under the same legislation, the Compostilla project's exploration phase had been undertaken under the pre-existing mining legislation.

Norway Overview – Statoil

The relevant government departments in Norway are working on transposing the requirements of the EU Storage Directive into national legislation.

White Rose Project

The project's proponents, Alstom, DRAX and BOC, plan to build an oxy-combustion CCS demo project at the existing DRAX power facility in North Yorkshire. Once operational, the project will capture 2 Million tonnes of CO_2 per annum and transport it via a National Grid pipeline to a storage site in the North Sea. The oxycombustion technology to be used in the project has been described by the proponents as proven and the project team anticipate the making of an FID and the commencement of construction in 2015. The completion of construction and the commencement of operations at the plant are scheduled for 2019.

An Environmental Impact Assessment (EIA) has already been completed for the former proposed power plant; however the proponents anticipate that a new application and consultation will be required in light of the changes made to the project in the intervening period. It is highly likely however, that some of the information used in original process could be used in a new application.

The project has made an application under Phase II of the European NER 300 funding programme.

Report overview: The experience of CCS demonstration projects in the European Union with the transposition of the CCS Directive

The main objective of the report is to provide an overview of the lessons learned by carbon, capture and storage (CCS) demonstration project developers in selected European Union (EU) Member States in the permitting process of their projects, in the transposition context of Directive 2009/31/EC on the geological storage of carbon dioxide (CCS Directive). The report looks into:

a. The transposition process of the CCS Directive in four selected EU Member States with CCS demonstration projects, namely: Don Valley project in the United Kingdom (UK), Maasvlakte CCS Project CV, "Rotterdam Opslag en Afvang Demonstratieproject" (ROAD) project in the Netherlands, Compostilla project in Spain, and Mongstad project in Norway, and

b. The permitting process of these selected CCS demonstration projects.

The initial scope of this report initially included Italy, with the Porto Tolle project, and Poland, with the Bełchatów project. However, the final report does not contain information on these topics due to the status of the regulatory frameworks in these countries and the permitting status of their projects. A draft act transposing the CCS Directive was adopted by Poland's Council of Ministers only on 30 April 2013. The draft act needs to go next through the Polish legislative process: Parliament – Senate – President. Furthermore, in April 2013 the Bełchatów project was put on hold. On the other hand, Italy's Porto Tolle project is experiencing permitting delays due to the difficulties in

getting the environmental impact assessment approved and in securing the environmental permit for the coal power plant.

Although the report also provides information on the regulatory frameworks in the Member States selected, the report primarily seeks to bring together the practical experience of the selected CCS demonstration projects and to determine those common issues that project developers came across most frequently in the permitting process. Therefore, the information on the regulatory frameworks has been selected to provide background to the challenges faced by the project developers. The information on the regulatory frameworks is not intended to be exhaustive.

The report provides the following:

- Inventory of transposition process in the selected EU Member States with CCS demonstration projects (including the methods for transposition);
- Inventory of existing legislation in the selected EU Member States and the relationship with the EU CCS Directive;
- Inventory of the regulatory process of the different projects - where do projects stand, which permits have been applied for and which regulatory gaps/obstacles do they face;
- Selection of most important common barriers;
- Summary of potential solutions.

The report is based on the research of the information publicly available with respect to the CCS Directive transposition process in the selected Member States and on the interviews with the project developers of the selected projects. A set of questions was prepared for each project, with some questions being asked to all project developers, while some being project specific. We have also interviewed competent authorities, where possible, and policy experts.

The main regulatory challenges for CCS project developers emerging from the research and interviews conducted were:

- **Transfer of responsibility (article 18 of the CCS Directive)**: the lack of clear criteria for the transfer of responsibility and the 20 years rule, *i.e.*, the transfer of responsibility should not take place prior to the elapse of a minimum period of 20 years, unless the competent authorities are convinced that the stored CO2 will be completely and permanently contained before the elapse of the 20 years;
- **Financial security (article 19 of the CCS Directive)**: the lack of calculation method for the amount of the financial security and the uncertainty over the price of EUAs in the long run; the latter remains the most important risk in relation to the financial security, as due to the long term liability for potential leakages, it is challenging to model the potential variations in the price of EUAs to a degree of accuracy sufficient enough to provide comfort to investors;

- **Financial mechanism (article 20 of the CCS Directive)**: the amount of the financial contribution, *i.e.*, costs of monitoring for 30 years plus costs borne by the competent authority after the transfer of responsibility in order to secure that CO2 is securely stored, may in fact not represent an actual transfer of responsibility.

Discussion regarding CCS Directive Review and Revision

The CCSA provided a detailed overview of the work the CCSA had been undertaking in collaboration with ZEP, including the possible review and/or revision of the EU Storage Directive. These discussions focused in particular upon the review provision found in Article 38 of the Directive, whereby the Commission should report on the experiences of implementing the Directive and may present a proposal for revision "if appropriate".

The presentation and resulting discussions focused on various avenues for assessing and addressing some of the regulatory barriers for CCS, and highlighted some proposals. The analysis focus upon three main areas:

(i) Issues that may benefit from a revision of the Directive:
- Liability,
- Financial security,
- Transfer of responsibility,
- Storage permitting procedures/requirements (practical requirements vs. Directive),
- Definition of 'operator',
- Third-party access,
- Carbon Capture Readiness.

(ii) Where the existing approach is deemed to be appropriate:
- Demonstration of safe CO_2 storage,
- Stream composition, site characterisation and monitoring,
- Commission's role in reviewing (Arts. 10 & 18),
- Mandatory EPS – ETS to remain the key mechanism,
- Transboundary cooperation.

(iii) Issues that may require new or additional measures:
- Incentives to use biomass,
- Transportation by ship.

The issues identified in the above, and possible approaches to tackling them, are solely based on preliminary discussions and will require further elaboration in the coming months.

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The European CCS Demonstration Project Network was established in 2009 by the European Commission to accelerate the deployment of safe, large-scale and commercially viable CCS projects. The Network that has been formed is a community of leading demonstration projects which is committed to sharing knowledge and experiences, and is united towards the goal of achieving safe and CCS. The learnings that are gained will be disseminated to other projects, stakeholders and public to help gain acceptance of the technology –and support CCS to achieve its full potential as a vital technique in our fight against climate change.

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