Thematic Report

Regulatory Development session – October 2013

A report from the European CCS Demonstration Project Network

Public version

Proceedings from the Stavanger knowledge sharing event 23 and 24 October 2013

Contents

Introduction

The European CCS Demonstration Projects Network continues to explore the theme of regulatory development, with participation from DG Energy of the European Commission and Technology Platform for Zero Emission Fossil Fuel Power Plants (ZEP).

This report presents the discussions, conclusions and actions agreed at the thematic workshop on Regulatory Development which was held in Stavanger and hosted by Statoil on the 23 and 24 October 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.

This meeting included an update from the Commission, detailed project updates from Don Valley, Compostilla and ROAD, an update on the current policy, legal, regulatory activities within ZEP.

The participants at this workshop and contributors to this report included representatives from Endesa, National Grid, 2Co, E.ON, Statoil and Global CCS Institute.

1 Network Update

The representative of the Network secretariat provided the group with an update on the discussions, announcements and decisions made at the Network's Advisory Forum meeting on the 11th October.

- The Network achieved its agreed outputs for the year with the presentation of the following reports to the Advisory Forum, and establishment of a workstream considering transport. External publications include:
    - Network Situation Report, 2012;
    - Thematic Reports;
    - ROAD Permitting Report;
    - 2Co Business case report.

- The Advisory Forum are keen to increase the international knowledge sharing and learning opportunities for the Network – looking to projects that are developing in Canada, the US, China, and South Korea – particularly projects that are actually in construction such as Sask Power's Boundary Dam.

- There was a strong view by a number of Advisory Forum participants that all of the Network projects are facing similar problems in terms of financing, and so the Network should try to integrate a session on funding, making the business case and getting a project to financial close. As such, possible discussion topics may include areas of interest such as financial mechanisms and questions of economies of scale.

- The Porte Tolle project has been officially cancelled and they have provisionally agreed to hold a Network-only knowledge sharing event in Italy as soon as possible.

- The Bełchatów Project (Poland) has produced two knowledge sharing reports – a Network only report and one that will be publically available. These documents are currently being reviewed and will be circulated to the Network as soon as possible.

- The Network Membership needs to be increased and diversified. Efforts are underway to do this, while ensuring that appropriate knowledge is shared. The four current UK projects are viewed as important potential Members and steps are being taken to invite them to join the Network.

2 European Commission Update – DG Energy

DG Energy representative provided an overview of the CCS-related work that is taking place within the Commission. This was greatly appreciated by the Regulatory Group and further participation from DG Energy and DG CLIMA has been requested.

2.1 Key Topics Discussed

The CCS Communication report

The CCS Communication report will be published before the end of 2013. This will be a summary of the 171 responses given to the CCS Communication. In the responses to the consultation there was a strong support for national decarbonisation roadmaps; recognition that a reliance on the ETS alone will not drive CCS deployment (with support for continuation of a NER300 – type funding scheme). There appeared to be little support for obligation from fossil fuel providers. There were some responses in support of strengthening the provisions of the CCS Directive; strengthening of public acceptance was recognised as necessary and the EU CCS demonstration programme was being seen as important.

The Network had contributed a response to this Communication, and during the meeting the need for a framework that is fit for purpose was emphasised – the EEPR and NER300 have clearly been insufficient financing mechanisms. The group raised the possibility of shorter term discussions around a second mechanism to come before 2020 such as a recycling of the unused EEPR funds; however it was confirmed by the representatives from ZEP and DG ENER that this option has been thoroughly investigated and is not feasible. CCS certificates were acknowledged as a possible longer term funding mechanism.

The DG ENER representative gave an overview of upcoming activities of the European Commission and European Parliament. CCS will be part of the White paper setting more concrete orientations on a 2030 framework which is expected to be published in early 2014. The European Parliament's activities will be interrupted for several months due to elections in May 2014. The last plenary session where dossiers are handled will take place in March 2014. The current Commission will stop work by the end of October 2014 and the next Commission will start again in early 2015. Preparatory briefing work on the 2030 framework will take place throughout 2014 followed by discussions on new proposals in 2015/16 and agreement reached possibly by the end of 2017 or early 2018. If there is to be any legislative proposal adopted prior to this, it will be on strengthening the EU ETS. Concrete legal proposals on CCS will only come out under next Commission under the 2030 framework.

The CCS Directive review

The CO_2 Storage Directive review process is in the remit of DG CLIMA. The first step is to complete the Implementation Report on transposition of the directive in Member States by the end of this year. Infringement cases are now open with 17 Member States; some of them are expected to be closed soon. According to Article 38 of the Directive: "[ ] *by 31 March 2015, the Commission shall assess in particular, on the basis of experience with the implementation of this Directive, in light of the experience with CCS and taking into account technical progress and the most recent scientific knowledge: [ ] and shall present a proposal for revision of the Directive if appropriate."*

The Commission will begin work on the review process in 2014 with a stakeholder consultation (led by DG CLIMA) that the Network will be asked to contribute to. The Consultation will result in a report that will recommend whether revisions to the directive are necessary.

The group reiterated the conclusion reached at the May 2013 Network meeting, that while it would be unlikely to ask for amendments to the Directive, it would strongly support amendments to the Guidelines.

The Regulatory Group has already prepared a number of reports that could form the basis of a response to DG CLIMA's engagement on the Directive. The three priority areas identified for possible revisions are:

- Transfer of responsibility (article 18 of the CCS Directive);
- Financial security (article 19 of the CCS Directive);
- Financial mechanism (article 20 of the CCS Directive)

The 2030 White Paper

As a follow up to the Green paper the Communication on 2030 climate and energy framework (White paper) will be published in January 2014 and discussed by the European Council in March 2014. The

Communication will set general orientations and overall vision to be endorsed (or not) by the European Council in March 2014 and to be followed up with more concrete proposals by the new Commission. The DG ENER representative encouraged the Network to respond to the Communication, confirming that it was helpful to receive multiple responses with similar positions from bodies such as ZEP, the CCSA and the Network. She confirmed that the 2030 framework was for longer term planning and it was important that CCS is included in this framework. The idea from Chris Davies' report on CCS milestones or targets already in 2020 is not feasible in the Commission's view. With regard to the international knowledge sharing ambitions the Commission is keen to work more closely with the US, China and Canada; there is an existing research programme in place with Australia with regards to CCS and the Commission is considering the possibility of a joint call on Horizon 2020 funding.

3 Project Updates

3.1 Don Valley

Don Valley representatives provided a detailed update on their project progress including updates from National Grid Carbon. Don Valley has increased confidence that a good Contract for Difference (CfD) strike price could drive their project.

The CCS Development Forum - a joint Industry/Government forum - is being reformed following the results of UK's Cost Reduction Taskforce published in October 2013[1]

This Forum has three work streams, each led by different organisations involved with the Cost Reduction Taskforce, which have been established to unlock cost reductions through the actions identified in the CCS Cost Reduction Taskforce Final report and will report to the CCS Development Forum:

- UK CO_2 Transport and Storage Development Group – The Crown Estate;
- UK CCS Commercial Development Group – Energy Technology Institute and Ecofin Foundation;
- UK CCS Knowledge Transfer Network – CCSA.

Don Valley highlighted the following statement in the Government's Response to the CCS Cost Reduction Taskforce:

"*…the Government is exploring an option to support a FEED study (as part of the White Rose project) for a CO_2 pipeline with capacity in excess of that required for the Competition project alone. The pipeline, a 'Yorkshire / Humber CCS Trunkline', has the potential to support a number of CO_2 emitters through the provision of transportation facilities and access to CO_2 storage."*

Over the summer, DECC published a suite of Electricity Market Reform (EMR) documents for consultation, largely focused on renewables. By December 2013, DECC is expected to publish the final EMR Delivery Plan.

Don Valley General Update

- De-selection from UK competition has led to a two year slippage – expected Final Investment Decision (FID) now end of 2015 with commissioning late 2018/2019.
- All of the Don Valley Partners are still keen to continue.
- The project has been restructured so that it could be financeable without the capital grant available in current UK CCS commercialisation competition.

[1] http://www.thegovernmentsays.com/cache/1177111.html

- CCS on gas has been recognised as an option for Don Valley Power Plant by both DG ENERGY and DECC. A technology provider and phasing of trains is still to be decided.
- National Grid Carbon's (NGC) permitting of CO_2 pipeline and appraisal of saline storage site continues.
- The project is in discussion with the UK's DECC about participation in the CfD funding mechanism.
- The UK announced the strike prices for renewable technologies at the end of June. Nuclear energy strike price announced in October was £92.50 per MWh;
- In the near future each CFD for CCS projects will need to be custom built – this is definitely the case for the UK's CCS Commercialization Programme competition projects, and likely to be the case for the other early mover projects like Don Valley;
- For the long/ medium term development of CCS – National Grid (the GB System Operator) will be a delivery body to provide expert analysis to assist Government with its decisions around CFDs
- The UK CCS projects currently outside of the UK competition are still eligible for an FID enabling process. This will allow the non-competition early movers to apply for CFD funding possibly as early as 2015.

Restructured Project Details

Power Plant

- Plant design includes two trains of 450 MWe gross, each producing 2.5 million tonnes per year of CO_2.
- Construction is phased to make financing possible.
- Investment decision is timed to allow access to power price premium under the UK Energy Market Reform.

Pipeline

- A new CO_2 pipeline would be constructed by National Grid Carbon between the Don Valley Power Plant and the initial storage site.
- Use of the trunkline would be shared between multiple carbon capture projects in the same area to obtain significant economy of scale;
- Further development of the Yorkshire and Humber CCS trunkline is expected to be supported by UK Government through the award of a FEED Study in conjunction with the White Rose project.
- The pipe will be approximately 200km long.
- The ambition is to provide an offshore hub for future connections to additional storage or EOR.

Saline Formation Storage

- CO_2 storage will be in the saline formation known as 5/42 located in the UK's first CCS Licence (CS001) and covered by an Agreement for Lease with The Crown Estate,
- The 5/42 storage project is being developed by National Grid Carbon,
- Storage of CO_2 from Don Valley is expected to be in conjunction with CO_2 from other Yorkshire projects such as White Rose.

EOR Storage

- EOR to be developed when there is more certainty that sufficient quantities of CO_2 will be available. Several fields in the North Sea have EOR potential.
- One train of Don Valley Power Plant would not provide sufficient CO_2 volumes for full-scale EOR.

Next steps

- Amend EEPR grant to reflect restructured project and revised timeline
- Progress project outside but parallel to the UK's CCS Commercialisation competition.
- Project dependent on securing FID-Enabling CfD which should be available from 2014 onwards as part of UK Electricity Market Reform process:
    - Don Valley Power Plant needs to be a competitive option,
    - The Project has been notified by DECC that it is eligible for the FID-Enabling CfD process,
    - Discussions with DECC about FID-Enabling CfD process have started.
- Permitting activity continues. Specifically:
    - Section 37 permit for overhead power lines from power plant to grid connection,
    - Amendment to existing Section 36 planning permission to include CCS on gas power generation.

National Grid Carbon Research Update

5/42 Saline Storage Appraisal Drilling

- National Grid drilled an appraisal well to confirm the ability of the saline aquifer to act as a CO_2 store for the Humber Cluster,
- First CO_2 offshore license and drilling pursuant to EU Storage Directive,
- Well operations undertaken with no lost time incidents or environmental harm,
- Gathered all the samples and data that were targeted. Completed within budget,
- National Grid and contractors are analysing results,
- Early indications, pending detailed post well analysis, are very encouraging that the store is suitable.

Transport and Infrastructure planning

- Formal public consultation for cross country pipeline complete Sept/Oct 2013 – around 700 landowners impacted,
- 9 events attended by around 500 people,
- Newspaper, radio and television publicity,
- Media coverage fair and positive with no anti-CCS feeling.

Offshore Pipeline Route Survey

- Environmental surveys and side scan sonar along 1km wide potential route,
- Geophysical surveys of seabed and sub-seabed conditions.

Sharing Infrastructure

- In September 2013 National Grid Carbon has produced a report with the Global CCS Institute looking at options for capacity charging with shared infrastructure[2]
- The report discusses the full range of approaches to shared infrastructure, discussing conceptual solutions and illustrative examples. It splits out capacity dependent and independent costs from incremental costs for adding additional capacity and making the shared infrastructure bigger.

3.3 ROAD

ROAD representative provided a brief update on their project progress although not much has changed since the May Network meeting and the project is still in 'slow' mode

Engineering

- The detailed engineering of the capture plant is ready
- The pipeline route engineered and 'flow assurance' study is complete
- 'Tie-ins' (ie. flue gas, steam) with power plant are being installed

Permitting

- Permitting procedures were finalised at the beginning of 2012
- The capture permits are now definitive and irrevocable
- The storage permit is now definitive and irrevocable
- The transport permits and final State Zoning Plan are expected to be published on 14 November, there was some discussion and additional work to be completed around the routing of the pipe.
- The Netherland's have published their Energy Agreement which is an Industry/ NGO/ Dutch Government joint agreement. It is strongly supportive of the development of offshore wind, which may mean less of a focus on CCS although CCS is still regarded as an essential instrument to reduce CO_2-emissions. The Agreement calls for at least one operational demonstration project in 2015 and the Dutch Government must draft a CCS vision for the period after 2015. The Dutch

[2] www.globalccsinstitute.com/publications/capacity-chargingmechanism-shared-co2-transportation-and-storage-infrastructure

Government is expected to emerge with a CCS vision by the end of 2013. This will have to fit with their ambition to close five older coal plants, but then remove the coal tax on new efficient coal power stations.
- The Dutch Government is lobbying to enforce ETS and get rid of the subsidies on renewables.

Contracts
- Capture supplier selected and EPC contract ready to be signed (after FID).
- Commercial contracts for transport and storage ready to be signed (after FID).

Funding
- Very low CO_2 prices have caused a funding gap.
- This is the biggest challenge for the ROAD project which is ready to be constructed if funding becomes available.
- The original funding gap has grown.

The ROAD Business Case
- As originally conceived, the project was funded by:
    - EU - €180M
    - NL – €150M
    - GCCSI - €4M
    - Carbon price - €150M (€30/t)
    - Parent companies funding the balance
- Since then:
    - The carbon price has collapsed (currently €4-5/t),
    - Forecasts for full CCS commercialisation in the EU have moved from 2020 to 2030.
- Since March 2012 ROAD has been seeking additional funding. Until such additional funding is available, the project will stay in slow mode.
- Advanced discussions on funding with several national and international stakeholders, such as the European Commission, the Dutch Government, ACALET, and the Port of Rotterdam (HBR) are taking place.

3.4 Compostilla

Compostilla provided a detailed update on their project progress as they are taking the final steps towards FID on Thursday 31st October. The main challenges for Compostilla are economic and also the lack of a suitable regulatory framework for CO_2 capture and transportation.

In terms of a more general update on regulatory progress in Spain, there has been no progress since the last Network meeting in May.

The Compostilla Project has achieved its exploration permits for storage, and the full storage permit will follow once a positive FID has been taken. The regulations for transportation have not been developed yet in Spain and this is causing the Compostilla Project difficulties.

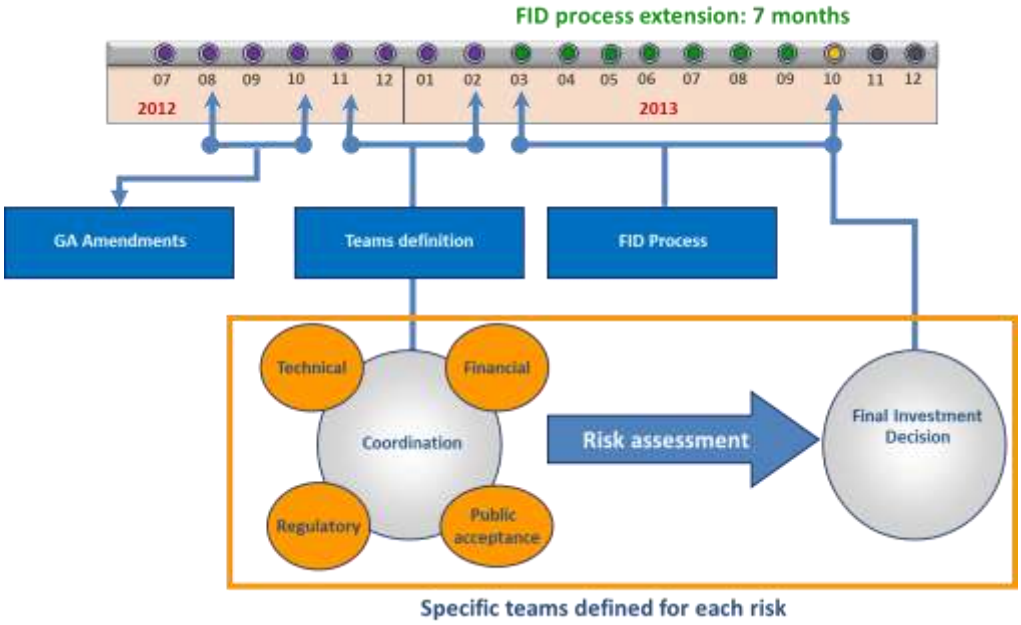
The main focus of the Compostilla Project over the last few months has been the definition and preparation for their FID process (the aim of this process is ultimately to communicate to the European Commission whether or not the Compostilla Project will be able to continue with their work on Phase two of their Grant Agreement). Compostilla was granted a 7 month extension to fully research and prepare for an FID process at the end of October.

A Steering Committee made up of representatives from all project partners has been established together with four Working groups based on the four key risks identified within the Grant Agreement with the European Commission (technical, financial, regulatory, public acceptance). Each group created a report assessing the status of the area they were responsible for and these findings have been combined into a final FID Report that will be presented to the Commission.

Original Project Schedule:

- Phase 1 construction of pilot plant – completed
- Phase 2 construction of power plant of 300MW and pipeline (147km) and storage site suitable for life of the plant (capacity >40 million tonnes).
    - Assessing if the project is feasible – technically, commercially and socially,
    - 31st Oct – FID decision - to build or not to build.

New Project Schedule:



3.5 Compostilla FID process - Key Conclusions of Working Groups

Technical

- The Compostilla OXY-CFB-300 plant is considered feasible although some technical risks are still relevant. The main concerns are related to the integration between ASU, Boiler and CPU:
  - The plant efficiency (>30%) is conditioned by the limited operational flexibility;
  - As the Project is considered a "First of a Kind" concept, there is an accepted risk that over time better performing equipment will be available than the one available right now;
  - Regarding CO_2 transport, there are minor concerns about possible local corrosion in the pipeline for off-design operations and risks associated with dense phase CO_2;
  - CO_2 storage in the Duero site seems to be technically feasible. Risks related to the storage are considered low, although malfunction of the injection area selected could have a notable impact on the Project execution and subsequent operation.
- Overall, a strong feasibility forecast, with certain outstanding operating concerns expected to be fixed in the future construction phase with additional, detailed process simulation and R&D activities.

Public Acceptance

- At the end of the exploration works of Phase I on the Compostilla Project, the public perception of the CO_2 storage facilities was positive, although these engagements cannot be directly extrapolated to Phase II.

- Significant uncertainties remain:
    - The storage area covers 30,000 ha and more than 15,000 land owners.
    - In relation to the power generation with CO_2 capture system in Phase II, public perception seems to be positive so far, this is a community with a long industrial and local mining tradition.
    - Public perception of the transport activities for the Project has more uncertainty around it, largely due to the lack of the regulation framework that should be in place in order to promote public confidence.
    - Phase II activities such as the construction of the injection wells and the CO_2 injection during plant operation are more sensitive activities than those pertaining to previous characterisation studies and must be handled appropriately.
- Overall the Project has achieved high levels of social acceptance in the vicinity of the plant; however this is an area that requires constant monitoring to avoid any issues in the future.

Regulatory and Permitting

- There has been a number of delays in the process of implementing CO_2 regulations in Spain:
    - New legislation in Spain was transposed in 2010, before the four guidance documents were released in March 2011.
    - At present the regulations have not been sufficiently developed to allow application for the storage licence.
    - In addition, CO_2 transportation is not covered by this new legislation, rendering the permitting of transport of CO_2 impossible at this time.
    - Several factors such as the non-maturity of the technologies used, the potential opposition of environmental groups or affected communities, and the high number of permits and authorizations involved, increase the probability of refusal and/or delays in the permitting process.
- The Project has applied for all available authorisations, each is currently in different stages of processing, but all are pending final approval which is not expected for another 2-3 years.
- The lack of CO_2 specific authorization norms in Spain means that it is currently not possible to complete all of the required permits.
- With regards to the existing electrical system regulation, a commercial size CCS demonstration-plant requires a specific retribution frame to operate the Plant in the pool market and to ensure certain number of operating hours for a minimum of 15 years period.

Financial

- The economic and financial analysis of the Project has shown that there is not a suitable business case for a power generator - there is no business case and no regulatory framework to incentivise the operation.
    - According to the reference scenario, the plant would not be dispatched during its service life and, therefore, the necessary income would not be available to compensate the CAPEX and O&M costs.
    - The minimum electricity and CO_2 prices required to make the investment economically feasible are well above current levels and difficult to achieve (>95€/t CO_2 in 2020).

    - Due to the current overcapacity in the region (8.000 MW), new power generation in the medium term seems to be unnecessary.
    - In this situation it is not feasible to look for private funding, or to build a partnership platform to develop a commercially viable power plant.
- A specific funding program will have to be implemented to compensate for the technological risks and the additional operating CCS costs to a power generator.
- The support and contribution of the funding Government, governing bodies and the technology suppliers is essential if this place is to become a reality.

Main Conclusions

- Electricity prices and CO_2 allowance prices should be very high to make investment feasible.
- Overcapacity in Spain means that investment in new generation in the medium term is unlikely.
- In this context, it is not feasible to look for private funding.
- Both the NER 300 and EEPR programs have proven insufficient to support CCS development in the EU.
- From technical, permitting and public perception points of view, non-affordable issues have not arisen but significant risks have been identified.[3]

[3] Note: on the 4th November, the Network was informed that a negative FID was taken. This was communicated to the European Commission.

4. Update from ZEP - European Technology Platform for Zero Emission Fossil Fuel Power Plants

Representatives of Statoil gave an overview on the work that ZEP has been doing and encouraged the Network to feed into some of the work they are focused on including: Green Paper 2030, London Protocol and the CCS Directive. On the 26th of November the ZEP general assembly will be held in the European Parliament.

4.1 Key Topics Discussed

- Green Paper 2030
  - Issued in March 2013 – ZEP response submitted in July 2013,
  - ZEP's main message: CCS Communication must be an integral part of the 2030 framework
  - ZEP requests an ambitious milestone for CCS such as exists for RES to ensure a level playing field. CCS has not benefited from EU-set targets or support schemes like RES.
  - 556 contributions were received by the Commission. A consolidated report[4] was produced by the Commission summarising these responses.
- Consultative Communication on CCS
  - Issued by the Commission on March 2013. ZEP response was submitted on July 2013.

  Key points:
  - Ensure CCS is fully integrated in the EU 2030 Energy and Climate Policy framework;
  - Support CCS demonstration and early deployment projects in Europe;
  - Remove unnecessary burdens and uncertainties on storage providers;
  - Ratify the London Protocol amendment as a matter of urgency;
  - Start developing a CO_2 infrastructure *now* – ahead of wide-scale deployment,
  - Support for a "CCS fund" for demonstration projects,
  - Reflections on proposed support measures such as FiT/CfD and Certificates; no view on Emission Performance Standards (EPS).

- ENVI Report (Chris Davies report)
  - Report acknowledges there is currently no business model that promotes private investment in CCS and there is need for political and financial support of Member States,
  - All Member States to indicate a strategy to reach the 2050 target (indicate the role for CCS),
  - Requests more effort from Member States that support CCS,
  - Support EU flagship projects,
  - Suggesting Fund out of EUA income,
  - Suggesting Certificates for the post 2020 pre-commercialisation phase,
  - Accepts that EPS may be necessary,

ZEP commented on the report in line with its contribution to the Consultative Communication and the Green Paper 2030.

- Review of the CO_2 Storage Directive:

[4] http://ec.europa.eu/energy/consultations/doc/20130702_green_paper_2030_consulation_results.pdf

- The group discussed the difference between a review and a revision.
- ZEP is communicating the urgency of a revision:
  - Sent letter to European Commission asking to start the process as soon as possible.
  - Gathering evidence on inter alia:
    - Long-term liability,
    - Financial security,
    - Third Party Access.
  - Necessary revisions due to EOR to be developed.
- In wider discussion, the regulatory group highlighted the need to prioritize the key challenges and make a distinction between problems caused by the Directive that need a solution, and those that just need clarification or enforcement through Member States changing their interpretations.

- CCS in EU energy-intensive industries
  - ZEP is considering reaching out to other energy-intensive industries like steel and cement currently not represented in the platform. ZEP report on CCS in the energy intensive industries was published in July 2013[5]

- Storage
  - ZEP is currently working on storage potential modelling report and called for focus in Horizon2020 programme on studying and demonstrating the storage potential in the North Sea.

- London Protocol
  - Ratification of amendment to Article 6 of the London Protocol is necessary for cross border transport of CO_2.
  - Currently the London Protocol has 42 Parties and 2/3 of the Contracting Parties need to ratify for the amendment to become valid as part of the Protocol.
  - Currently only Norway and the UK have ratified the amendment.
  - ZEP sent a letter two years ago to the Contracting Parties to encourage them to ratify the amendment – they are going to send a new letter.

- Re-allocation of the European Energy Programme for Recovery (EEPR) money
  - ZEP sent a request to the Commission to re-allocate unspent EEPR money to (remaining) CCS projects together with 12 other companies/institutes.
  - They received a reply from the President of the European Commission, Barroso that re-allocation of the EEPR funds was not legally possible under the terms and conditions of the EEPR Regulation.
  - The letter mentioned the second call for NER300 and the need for stronger financial involvement by Member States and industry.

[5] http://www.zeroemissionsplatform.eu/news/news/1601-zep-publishes-key-report-on-ccs-in-eu-energy-intensive-industries.html

- NER300
    - ZEP released a press release expressing disappointment that only one project applied for the second round funding with a call for a re-set of the European CCS programme to deliver a significant number of CCS projects before 2020 and a commitment to a defined volume of CCS by 2030.

- Other support measures

    - ZEP Market economics group presented a report last year with quantitative overview of support schemes for CCS; now they are trying to make it more qualitative i.e. to measure the impact of these schemes. One of the conclusions was that a lonely capital grant is not enough for successful demonstration.

5. 2014 Work Plan

The Regulatory Group held a planning session to put forward proposals for useful topics, issues and speakers for 2014 work program.

5.1 Key Topics Discussed

- There was agreement that it would be valuable to hold the next Network Knowledge Sharing Meeting in Italy, to hopefully have the opportunity to arrange a dissemination day with the Porto Tolle Project;

- The Network would like to invite the relevant National Governments to attend the meeting, including a session discussing where each Government sees the role for CCS in their future energy mix. This would be included in the Regulatory group's discussions. The Commission will also be invited as the group found the attendance of DG ENER at this meeting very important to ensure that messages are fed back to the Commission.

- The focus for next year's Regulatory Group work plan will be preparation for the Consultation activities that will be undertaken around the review of the CCS Directive.

- This will involve consolidating the materials already prepared for the ROAD Permitting Report and Diana Denton's report into a set of slides highlighting the priority areas for review in the Directive:
    - Transfer of responsibility (article 18)
    - Financial security (article 19)
    - Financial mechanism (article 20)
- Then developing this material into a draft Network response to the DG CLIMA Consultation during a session at the next Knowledge Sharing Meeting.

- The Regulatory Group also expressed some interest in further work on comparisons of CCS funding mechanisms in different countries – a webinar from the Global CCS Institute has been suggested as a starting point for this work.

- The Regulatory Group are keen to involve some international project proponents and regulators to attend a Network event, or possibly to plan an international site visit to an operational plant like SaskPower Boundary Dam to get an opportunity learn from a project that is moving forward. Establishing international links with non-Network Members is seen as very important.

- The Regulatory Group supports the Steering Committees suggestions to try to encourage new Network Members in particular the UK Projects that are likely to be undertaking FEED studies soon. All of these comments will be sent to the Steering Committee for their meeting in January.

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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. To achieve this goal, this community of leading demonstration projects is committed to sharing knowledge and experiences.
The successful deployment of this key technology will allow Europe to reach its environmental objectives, stimulate job creation, and generate a sustainable economic and industrial base.

Network support provided by:

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