

**ACCSEPT Project Workshop on the Acceptability of Carbon Capture and Storage:
Devising Appropriate Policy and Regulatory Frameworks in the European Union**

Main messages from this meeting, as noted in the meeting

May 10th – 11th 2007

Opening Address – Pierre Dechamps, DG Research, European Commission

- New Project Officer of the ACCSEPT Project
- FP 7 – 25 proposals on CCS
- DG Research responsible for CCS; DG Tren responsible for Clean Coal Techn.
- CCS is high on the EU agenda; DG Research; DG Tren; the DG Environment
- European Climate Change Programme – 4 working groups, 1 on CCS. DG Environment responsible
- The Energy Package. 7-8 Com doc to be published. One on Sustainable Fossils Fuels. Energy Council in March 2007: up to 12 large scale demonstration CCS plants before 2012
- The principle of Subsidiarity needs to be taken care of when developing the regulatory framework in the EU

Discussion points

- The EUs view on mineral sequestration: not listed on the priority list, due to the environmental issues
- China: GHG issue a problem of the “rich”. Energy supply, classical environmental issues before the GHG issue. Put one of the EU’s 12 large scale demo CCS projects in China? The costs of CCS too high for China; the Techn Platform has not yet decided on the location of the demo plants, but the first ones will most likely be in Europe.
- The need for better geological knowledge in countries like China and India. Bilateral cooperation between EU and China? Also should be done with India. The property rights issue is easier related to geology issues/storage capacity, compared with property rights on the capture technology
- Com doc in the end of 2007. Proposal for a Framework Directive could also be a Green paper, before we do the next step
- China: The status of the Coach (?) Project, and the effectiveness of CSLF

The ACCSEPT Project and Exploring Gaps – Gudmundur Sigurthorsson

- For the presentation: See attached slides on the share point site
- About the ACCSEPT Project
- The escalating interest and engagement
- The importance of social and public acceptance
- Project organisation and methodology
- Where are we now? Have done the literature review, and the gap identification. Need to do the gap analysis, and the policy recommendations
- Gap identification – prioritised gaps on the thematic areas

European Stakeholder Perceptions of CCS – Simon Shackley

- For the presentation: See attached slides on the share point site

Discussion points

- Extensive statistical analysis was undertaken: comparison of means using independent t-test and correlations using the Pearson test. However, there were insufficient respondents from many countries to be able to undertake statistical analysis at the country level except in the case of eight countries.
- Those who spend more than 50% of their work time on CCS are more likely to perceive it positively and less likely to perceive it negatively than those who spend less than 50% of their work time on CCS. On the other hand, it is not more likely that some one who spends 90% of their work time on CCS is more positive about CCS than some one who spends 60% of their time on CCS. This suggests that there is a threshold effect at about 50%, whereby there is a tailing-off of 'positive' impressions of CCS.
- How to grasp policy messages from this? How can stakeholder issues feed into the regulatory development? How do stakeholders regard CCS vis-à-vis other options such as nuclear and renewables?
- This is a question of priority: where do you put your money into? RE or CCS. Should the energy system move in another direction, not to be dependent on fossil fuels? The focus on CCS, keep the development along the business as usual scenario, and we should strive for more than that.
- We find the public opinion still being vague on CCS, how the public perception will develop in the future important to follow. NGOs a pivotal role here.

Best Practice, Standards and Regulation at Local, National and International level –

Jason Anderson

- For the presentation: See attached slides on the share point site

Discussion points

- Needed action slide from Jason
- Questions defined by Jason/the structured issues: the last slide
- Global industry carbon management. Lessons to be learned from the oil and gas industry when it comes to operational standards. There should be analogues from the oil and gas industry to take into account?
- Questions: other parts of the chain that needs to be highlighted? What are bottom lines of regulation? What kind of harmonisation is necessary and possible, and at what level?
- How to engage stakeholder issues, how to take them into account in a structured manner?
- The development of a policy regulation in general, also relevant to CCS, could include the following elements
 - The science based facts, risk based
 - Transparency, accountability
 - Learning, how to learn from the errors done in the past
 - Flexibility
 - Independence
 - High trust, dialogue
- How to develop a useful strategy in order to bring the science based knowledge into the political arena?
- Should NGOs be involved in the detailed decision-making of the investors? Is it possible? Is this a wanted situation?

- The NGOs role, some want to collaborate more than others; the different strategy the NGOs have
- The country context needs also to be taken into account; the situation from country to country is very different when it comes to the national energy supply and demand, the role of NGOs, the national GHG reduction goals etc.

Balancing CCS and renewables – Is CCS the next barrier to renewable energy implementation? - *Heleen de Coninck*

1. Does CCS lead to an increased use of fossils fuels on the system level? [what are the system-wide impacts of the increased use of fossil fuels arising from CCS?]
2. Do you know examples of genuine competition between CCS and renewables in the fields of research funding, policy effort and media attention?
3. Is CCS enabling more stringent climate policy?

Respondent:

Peter Viebahn

- For the presentation: see slides attached on the share point site

Discussion points:

- The LCA-approach is one of several approaches that needs to be taken into account when deciding the portfolio of options
- The infrastructure related to the input factors is not taken into account
- The HSE issue related to coal mines not taken into account
- Not a competition between CCS and renewables , but CCS can be applied on areas where renewables cannot be used
- More push for renewables as a govt push, not the same push on CCS from the govt
- Attention vs competition
- Still unclear on the scale issue on CCS. Is this a large scale opportunity?
- The matter of energy security in segments of the industry where renewables can not compete
- The economic aspects of a energy portfolio. The costs of the different options vs the practical/technical need for more clean energy supply
- We need both options; both directions are important and the R&D budgets on CCS and renewables are independent of each other
- The R&D budget on nuclear has historically been much higher than for clean coal or renewables.
- Two main aspects related to CCS: the increase of renewable energy in Germany only possible if the feed in tariff continuous in the future; the shift from centralised power plant to decentralised CHP plant, that is that the infrastructure of the electricity sector needs to be changed
- Adding more options into the portfolio enables the govt to have harder reduction ambitions; the likelihood of a Kyoto Protocol after 2012 is greater with CCS in the portfolio
- The political support to the different options not to be underestimated
- The govt budget is limited, so the competition related to “the money”, where the capital stream should go, is realistic. This might be different for the private sector

Liability and risk management – Chris Norton

- For the presentation: see attached slides on the share point site

Discussion points

- Liability is a key issue related to CCS
- Operational liability (operational), in situ liability (post-injection), climate liability (post-injection)
- EU Directive on Environmental Liability (2004/35/EC)
- Strict liability vs fault-based liability
- Is this a new business area for the oil companies? What is the motive behind the oil company's engagement in CCS?
- Yes, this could become an commercial opportunity to become a more “green” company
- How to strike the right balance in the liability regime between the govt and the private corporate entity?
- What are you liable for?
- The storing phase the critical point, how to design the liability regime related to storing CO₂ under the EU ETS?
- How is the liability regime on the Sleipner-field, where the CO₂ is injected into the Utsira formation?

Policy Options in the EU – Mihai Tomescu

- For the presentation: see the attached slides on the share point

Discussion points

- The ambition is to make a Directive Proposal, not “only” a Com doc, before the end of 2007
- The comitology route and/or the subsidiarity principle
- The mandatory obligation vs set technology standards. A mandatory approach more flexible to the member states, and to the industry
- The monitoring requirements related to storing CO₂ vs the operator of the storage site is regulated satisfactory by national legislation

Conclusions and next step – Gudmundur Sigurthorsson

- The messages from this group will be related to the gaps from the gap identification report from the ACCSEPT project
- CCS need to be seen in a larger context – a bridge to the low carbon future
- Dynamic interaction between societal values/perceptions/standards
- Set targets and then find the best policy mix
- Pursue many options in parallel
- The communication of CCS
- The consensus position need to be found – trust, transparency and good information
- The different channels of information, and the different credibility
- Agreement to longer term pathways
- How to create common trust and understanding of the risks
- How to reach consensus on performance criteria (the risks of leakage, HSE risks, financial risk)?
- How to get an informed public debate, vertically and horizontally?
- Who takes what liability and when?

- The role of the market forces?