How do we transfer learnings from 20 years at Sleipner globally?

Offshore CCS to other countries

Tim Dixon

GHGT-13 Panel Discussion

16th November 2016
Lausanne
**IPCC AR5 – Role of different low-carbon energy technologies**

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### Mitigation cost increases in scenarios with limited availability of technologies

[% increase in total discounted mitigation costs (2015–2100) relative to default technology assumptions]

<table>
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<tr>
<th>2100 concentrations (ppm CO₂-eq)</th>
<th>no CCS</th>
<th>nuclear phase out</th>
<th>limited solar/wind</th>
<th>limited bioenergy</th>
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<tbody>
<tr>
<td>450 (430 to 480)</td>
<td>138%</td>
<td>7% (4 to 18%)</td>
<td>6% (2 to 29%)</td>
<td>64% (44 to 78%)</td>
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<td>(29 to 297%)</td>
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IPCC AR5 SYR from Table 3.2 (2014)
The momentum from COP21 needs to be accelerated to reach 2DS ambitions.

Actions need to be pursued by stakeholders in all sectors to achieve an optimal transition strategy.
International Workshop on Offshore Geologic CO₂ Storage

- Organised by the Bureau of Economic Geology (BEG) at The University of Texas at Austin in collaboration with the South African Centre for CCS at SANEDI, IEAGHG (Chair of the International Steering Committee) and with support from CSLF and UNFCCC’s CTCN
- To facilitate sharing of knowledge and experiences among those who are doing offshore storage and those who may be interested
- 19-21 April 2016, at the BEG, University of Texas, Austin
- 13 countries attended (7 developing countries)
Status of Transportation Assessment

- Major coal-used power plants for large-scale CO₂ source in the western and southern coastal areas: long distance to promising storage sites
- Less public acceptance about CO₂ transportation/storage in land

- Onshore pipeline transportation: expensive cost and less public acceptance
- Ship transportation from CO₂ sources to Hub terminal
- Offshore pipeline transportation from Hub terminal to storage sites

Courtesy Sang Hoon Lee, KIOST
Ghana - Status of Offshore Geologic Storage Assessment

- Identification of prospective offshore geologic storage locations? None yet
- Evaluation of storage sites? None yet
- Risk assessment? None yet
- Engineering readiness? None yet
- Monitoring strategy? None yet
- Rank offshore versus onshore options? None yet

Courtesy Joseph Essandoh-Yeddu, Ghana, 2016
Conclusions

• Each country is at a different place on the path to offshore CCS, but with common interests
• Benefits of existing oil and gas infrastructure
Recommendations

• Workshop/training - Technical “deep dive” offshore storage
• Workshop/Task Force on infrastructure – assessment, new vs re-use, technology developments, shipping vs pipelines
• Workshop/training on storage resource assessment
• Workshop on funding tools/sources for early stages of CCS resource assessment in Developing Countries

• International collaboration for demonstration project
• Develop infrastructure test programme/pilot project
• Presentations available on
http://www.beg.utexas.edu/gccc/goi.php

• Report: International Workshop on Offshore CO2 Geological Storage, IEAGHG 2016/TR2 (May 2016) on
Questions

• What can international organisations do to help transfer CCS learnings offshore?