



3rd
International Workshop on
Offshore Geologic CO₂ Storage



3rd International Workshop

3-4 May 2018

Research Council of Norway
Oslo, Norway



The Research Council
of Norway



sonedi
South African National Energy
Development Institute

CLIMIT



Statoil



Norwegian Ministry
of Petroleum and Energy

Conclusions



Value chains

- New interest in EU and Japan from Hydrogen as a fuel has the potential for significant emissions reductions and opportunities for CCS
- In USA the new 45Q is significant to stimulate projects. The required time limit of 6 years to “break ground” may limit activity due to the average 5 years it has taken for current storage projects to be permitted, noting that they were FOAK.



Conclusions



Infrastructure

- Re-use not necessarily easy. More likely to be able to re-use pipelines than platforms
- More R&D on legacy abandoned wells (learn to deal with). Different standards in time, region, purpose



Conclusions



Monitoring

- Permanent Reservoir Monitoring benefits outweigh extra costs, but coverage inflexible
- Different methods informing each other, including trigger methods, so complimentary monitoring crucial
- Marine environment baselines – are learning more
- AUV proving successful for long term surveillance, temporal and spatial, public assurance
- Find anomaly and attribute
- HR4D seismic can be used for characterization of shallow leakage structures and for monitoring the plume during injection
- Microseismic needs background data



Conclusions



Resource assessment

- Can spend too much time on refining broad static assessments – can leapfrog from regional to more local assessment including dynamic, eg SRMS. Resource qualification and quantification will become more important

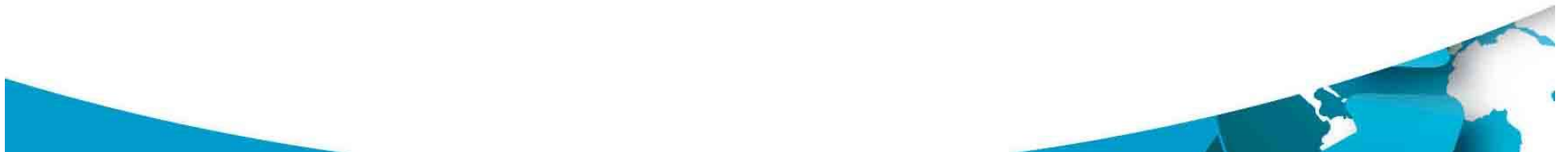


Conclusions



Projects

- Norway is developing a full scale project on industry and the US is developing a robust offshore research and development program. Japan and Brazil have mature projects ongoing
- 4D seismic very encouraging at Tomakomai – first imaging of CO₂ at 60,000t at 1km depth.



Conclusions



Regulations

- Should adapt to learnings
- ISO useful for trust with different actors and stakeholders
- LP scope needs clarification – projects can help test applicability wrt export prohibition



Conclusions



Brainstorming Criteria for International Collaborative Project
– (the what and the how, not the where)

- Objective is to share learning by doing from the real projects
- Need roadmap to info sources
- Need an ISS for CCS, or IODP for CCS
- ACT for projects not just R&D
- Use ACT and Mission Innovation
- Could OGCI fund a real project?



Conclusions



Funding

- Funders keener on non-fossil fuel technologies
- CCS value needs better advocacy to funders
- Norwegian project seeking international collaboration
- GCF will use SDGs as one of 6 criteria – CCS lacking evidence-base to support it in SDGs



Recommendations



- Explore models for international collaboration project
- Eg An ACT good for R&D (US joining), so an ACT for projects
- Consider how to build knowledge sharing from hands-on operational projects , including international collaboration project
- Provide a roadmap to existing info sources
- Joint funding between countries has started and should continue
- To survey which DCs would be attracted to offshore storage
- Getting DCs to these meetings. Identify key persons.
- More advocacy to funders on CCS – future NDCs will need CCS, how to make countries aware of their potential. Research community is ready to inform.
- Complimentary monitoring to be build into MVA plans - different monitoring methods informing each other, including trigger methods



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