

THE INTERNATIONAL CCS TEST CENTRE NETWORK (ITCN)

November 2, 2015

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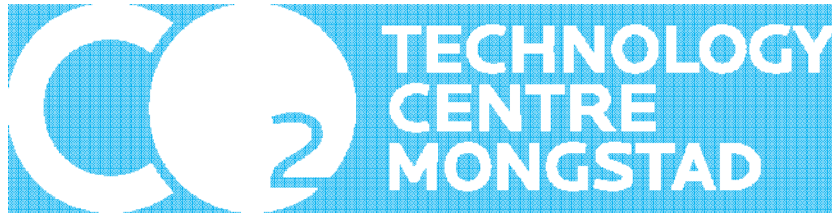
- The United States and Norway announced their commitment to support the Carbon Capture and Storage (CCS) Test Centre Network at the CSLF Ministerial Meeting in Washington DC November 7, 2013.



- Norway, through CO2 Technology Centre Mongstad (TCM) has chaired 2014 and 2015
- USA, through the National Carbon capture Centre (NCCC) will take the chair from start of 2016



Members of the International CCS Test Center Network as of June 2015



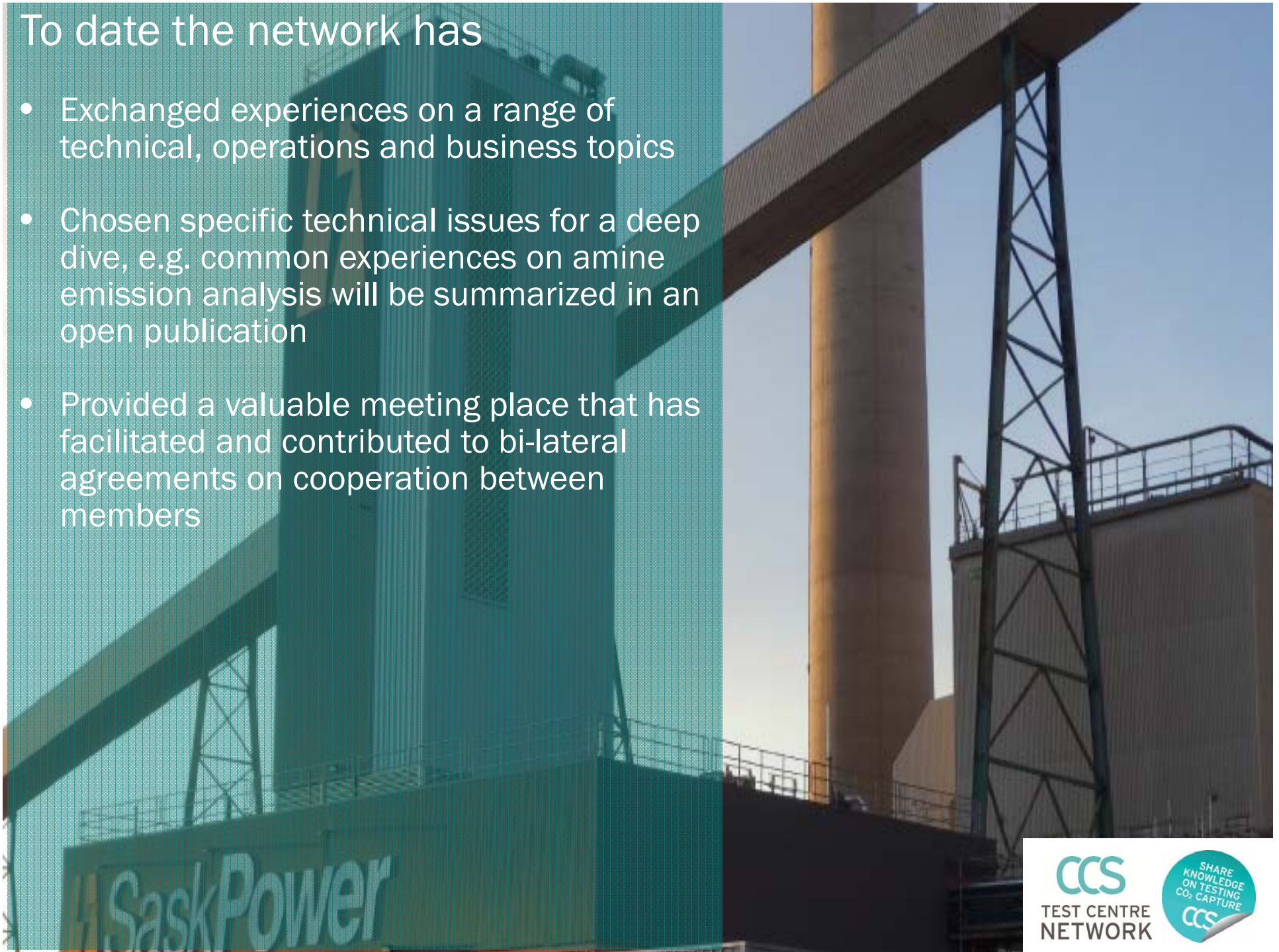
Left network as of March 01, 2015,
due to suspended CCS activities

Member as of February 01, 2015



To date the network has

- Exchanged experiences on a range of technical, operations and business topics
- Chosen specific technical issues for a deep dive, e.g. common experiences on amine emission analysis will be summarized in an open publication
- Provided a valuable meeting place that has facilitated and contributed to bi-lateral agreements on cooperation between members



Status knowledge sharing:

Members have shared detailed experiences on measuring emissions from post-combustion capture in three workshops:

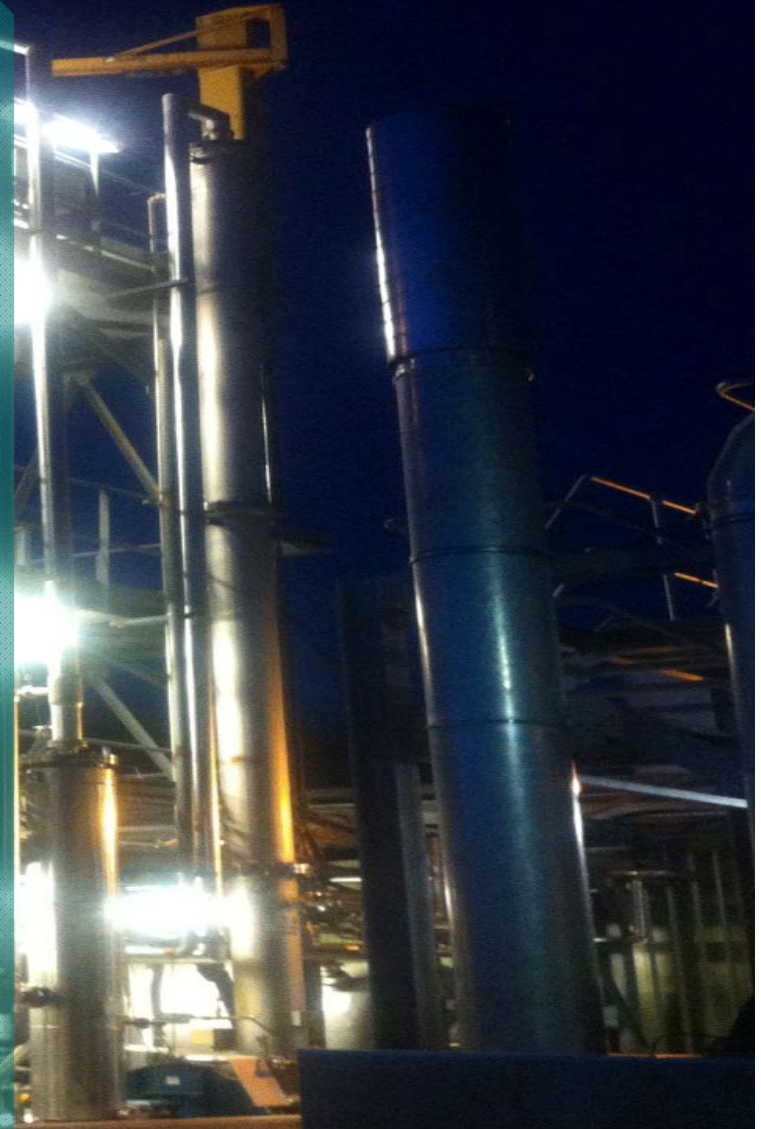
- Amines and amine degradation products
 - the sampling train set-up
 - the sampling locations; and
 - the preservation of the samples until they are analysed
 - Uncertainties
 - Permits
- Aerosols and mist formation
 - Under what circumstances does mist form
 - How to measure particle size and distributions
 - Mitigation
- Report on lessons learned from measurement of emissions of amine and amine degradation products in preparation

Recent development:

- Talking to
- SINTEF Materials and Chemistry and Australian CO2CRC and CSIRO
- Started revision of Contract and Charter
 - Simpler structure
 - No fixed annual fee
 - Open for activities and cooperation on non-technical issues

ITCN activities in 2016 will

- Provide enhanced technical learning and confidence that can be beneficial for projects in applying more efficient CCS solutions
 - Publicly share technical collaboration accomplishments to date as well as other scale test success stories from the ITCN collaboration.
- Increase insight and awareness of different technologies for relevant stakeholders that may reduce risks and increase investments in CCS technology
 - Presentations and panel discussions of test centers and network efforts.
- Provide a broader base of factual evidence which can increase general transparency of CCS, and thereby enhance public awareness and acceptance of the technology
 - Broaden Network Membership to include universities and small test centers to include early stage transformational technology development
 - Establish relationship with other test center networks



16/11/2015

CCS
TEST CENTRE
NETWORK



In 2016 ITCN will also

- Increase the value of public and private CCS research and technology investments through increased sharing of lessons learned and results from parallel activities
 - Finalize and publish guide of shared best practices for sampling and analysis for amine based solvent systems
- Continue emphasis on technical and non-technical collaboration
 - Determine more technical areas for collaboration, e.g.
 - Testing beyond advanced solvents
 - Comparing baselines and campaign results
 - Promoting technology certification and standardization through lessons learned
 - Explore business focus areas for collaboration

POTENTIAL KNOWLEDGE SHARING TOPICS:

- Energy/steam consumption
- MEA campaign results
- Anti-foam in solvents
- Instrumentation
- Health, safety and environment (HSE)
- Waste management
- Comparing baselines

Thank you for the
attention

Questions?