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MEETING SUMMARY

Projects Interaction and Review Team (PIRT) Meeting
Venice, Italy
22 April 2018

Prepared by the CSLF Secretariat

LIST OF ATTENDEES

PIRT Active Members

Australia: Andrew Barrett (Chair), Max Watson
Canada: Eddy Chui, Mike Monea
France: Didier Bonijoly, David Savary
Italy: Paolo Deiana, Sergio Persoglia
Japan: Ryozi Tanaka, Iiro Tanaka
Korea: JaeGoo Shim, Yikyun Kwon
Netherlands: Paul Ransak
Norway: Lars Egolf Eide, Åle Slagtern (Technical Group Chair),
Espen Kjergaard
Poland: Anna Madyniak
Romania: Sorin Anghel
United Kingdom: Brian Allison
United States: Mark Ackiewicz, Sallie Greenberg

Allied Organization

IEAGHG: James Craig
GCCSI: John Scowcroft
CO₂GeoNet: Marie Gastine, Rowena Stead, Ceri Vincent

CSLF Secretariat Richard Lynch

Invited Speaker

Marie Gastine, ENOS Coordinator, BRGM and CO₂GeoNet, France

Observers

Canada: Simon O'Brien (*Shell*)
Japan: Takashi Kamijo, Chibumi Kimura, Makoto Susaki, and
Yasuhiro Tatsumi (*MHI Engineering*)
Saudi Arabia: Pieter Smeets (*SABIC*)
United Kingdom: Mark Crombie (*BP*)
M. Pourkashanian (*University of Sheffield*)

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1. Welcome

PIRT Chairman Andrew Barrett welcomed participants to the 28th meeting of the PIRT. Mr. Barrett stated that the three major items to be taken up at this meeting were review of the ENOS Project which has nominated for CSLF recognition, an update from the PIRT working group to explore feasibility for measuring progress on recommendations from the 2017 CSLF Technology Roadmap (TRM), and an update from the working group on exploring existing and new ideas for possible future Technical Group actions. Mr. Barrett thanked Italy's Ministry of Economic Development for hosting the meeting and thanked Sergio Persoglia and the CO₂GeoNet Association for providing large amounts of organizational support on arranging the facilities and logistics for the meeting.

2. Introduction of Meeting Attendees

PIRT meeting attendees introduced themselves. In all, twelve CSLF delegations were represented at the meeting.

3. Adoption of Agenda

The draft agenda for the meeting, which had been prepared by the CSLF Secretariat, was adopted without change.

4. Approval of Meeting Summary from Abu Dhabi PIRT Meeting

The Meeting Summary from the December 2017 PIRT meeting in Abu Dhabi was approved as final with no changes.

5. Report from CSLF Secretariat

Richard Lynch provided a two-part report from the Secretariat, which covered the status of CSLF-recognized projects and outcomes from the previous PIRT meeting of December 2017 in Abu Dhabi.

Concerning the portfolio of CSLF-recognized projects, Mr. Lynch stated that as of April 2018 there were 34 active projects and 20 completed projects spread out over five continents. For the current meeting, one new project has been proposed for CSLF recognition.

Mr. Lynch reported that there were four outcomes from the Abu Dhabi meeting:

- The PIRT recommended approval by the Technical Group for the CO₂CRC Cway Project Phase 3 to be a CSLF-recognized project.
- The 2017 TRM was completed and launched.
- The PIRT's Terms of Reference (ToR) document was revised to update project recognition procedures and to make it consistent with the CSLF Charter. Mr. Lynch acknowledged the help of both Ryozo Tanaka and Max Watson in assembling all the changes into an annotated draft of the revised ToR.
- A PIRT working group was organized to explore and suggest approaches for tracking follow-up and progress on TRM recommendations.

Mr. Lynch concluded his report by stating that there was one Action Item from the previous PIRT meeting: the Secretariat was asked to produce a new version of the PIRT Terms of Reference which incorporates all agreed changes, and this has been completed.

6. Review and Approval of Project Proposed for CSLF-Recognition: Enabling Onshore CO₂ Storage in Europe (ENOS)

Marie Gastine, representing BRGM and the CO₂GeoNet Association, gave a detailed technical presentation about the ENOS project. This is a multi-faceted project whose objectives are to provide crucial advances to help foster onshore CO₂ storage in Europe through (a) developing, testing and demonstrating key technologies specifically adapted to onshore storage, and (b) contributing to the creation of a favorable environment for onshore storage across Europe. The European Union-funded project considers Europe in a broad context, though research will mainly be based on data from the Hontomin pilot site in Spain, two oil and gas fields in the Netherlands and the Czech Republic, and two field laboratories where CO₂ leakage will be simulated. Overall, ENOS has 29 partner research organizations located in 17 countries throughout Europe. Project activities include CO₂ injection testing in order to validate technologies related to reservoir monitoring, preservation of potable groundwater and terrestrial/aquatic ecosystems, and detection of any CO₂ leakage. In addition, the project will lead to increased data availability for improved site characterization and increased understanding and prevention of induced seismicity (which is crucial in an onshore storage context). The project also has a goal of integrating onshore CO₂ storage with local economic activities and of engaging researchers with local communities.

Outcome: After a discussion which clarified some of the details about the project, there was unanimous consensus by the PIRT to recommend approval of ENOS by the Technical Group. Project nominators are Italy (lead), Australia, Canada, France, the Netherlands, Norway, Romania, and the United Kingdom.

7. Measuring Progress on Recommendations from the 2017 TRM

Lars Ingolf Eide made a presentation that followed up on one of the outcomes from the December 2017 PIRT meeting. At that meeting there was agreement that the PIRT should find ways on how to measure progress toward carbon capture and storage (CCS) in light of current TRM recommendations and that, in the longer term, the PIRT could utilize expertise and learnings from CSLF-recognized projects as an input to future editions of the TRM. To that end, a small working group was organized to further explore the feasibility of doing this. Mr. Eide, as spokesman for the working group, stated that the intent of this activity would be to find and implement corrective actions, as much as it is possible, where progress on implementing recommendations from the TRM has been slow. The working group would monitor the status of the TRM's priority recommendations, which were presented to the 2017 Conference of CSLF Ministers in December. There are ten such recommendations, five under the Technical Group and five under the Policy Group.

Mr. Eide proposed that the working group operate under a single lead coordinator, with topics to be assigned to one or more working group members (each of whom may have to work on more than one topic). Overall there would be seven topics: one for the 2025 target for global CO₂ storage (400 megatonnes per year, or 1,800 megatonnes cumulative), one that lumps together the five recommendations under the Policy Group, and one for each of the five recommendations under the Technical Group:

- Facilitate CCS infrastructure development;
- Leverage existing large-scale projects to promote knowledge-exchange opportunities;

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- Drive costs down along the entire CCS chain through research, development and demonstration (RD&D);
- Facilitate innovative business models for CCS projects; and
- Facilitate implementation of CO₂ utilization

Mr. Eide stated that a template could be used for reporting, and the overall approach should include participation of CSLF allied organizations and other stakeholders with an interest in CCS as well as CSLF delegates. There would be annual reports from the working group, and corrective actions (where warranted) could include joint workshops / task forces / webinars with allied organizations and others. Additionally, there could be communications or other interactions with governments, industry, and other stakeholders to promote CCS and CO₂ utilization. Mr. Eide ended his presentation by stating benefits which can be achieved by this approach: an easier and new approach for identifying new task forces, increased engagement from CSLF members, closer cooperation with allied organizations and other stakeholders, and transforming the TRM into a living document to which decision makers pay attention.

Ensuing discussion confirmed that this is one of the PIRT's most important areas of interest. There was consensus that the details for moving forward in this area were not solvable at the current meeting but that the Secretariat would moderate an offline discussion for any delegates who wanted to have a role. Additionally, this item will be on the agenda for the next PIRT meeting, in October 2018, where a plan for measuring progress on 2017 TRM recommendations will be proposed.

8. Update from Working Group on Evaluating Existing and New Ideas for Possible Future Technical Group Actions

The CSLF Technical Group Chair, Åse Slagtern, made a short presentation that summarized existing Technical Group activities and possible new ones in advance of a more detailed discussion during the next day's full Technical Group Meeting. At the 2017 CSLF Mid-Year Meeting, a working group (led by Norway) had been created by the Technical Group to appraise all unaddressed items in the Action Plan from 2015, propose new topics for appraisal, and review past task force reports to see if any updates are warranted. A preference poll of working group members resulted in "Hydrogen as a Tool to Decarbonize Industries" being the highest ranked option for a new task force, which led to the formation of a new Technical Group task force on that topic.

Ms. Slagtern stated that there are currently three other active task forces: Improved Pore Space Utilization (co-chaired by Australia and the United Kingdom), Bioenergy with CCS (chaired by the United States), and CCS for Energy Intensive Industries (chaired by France). Additionally, there are twelve other possible future actions, identified by the 2015 working group, but there had not yet been any consensus to form task forces around these possible actions. There have also been seven actions which were completed between 2013 and 2017 and have resulted in task force final reports.

Ensuing discussion centered on other task force options which had achieved a high prioritization ranking from the working group, though decisions on these items would be made at the next day's full Technical Group meeting. Mark Ackiewicz suggested that the Technical group take a new look at Utilization Options for CO₂, which had been the topic of a previous task force in 2011-2013. There was additional discussion concerning the merits of forming task forces in the areas of CO₂ Capture by Mineralization, Reviewing Best Practices and Standards for Geologic Monitoring and storage, and

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Global Scaling of CCS. Brian Allison inquired if any of these would qualify for a study by the IEA Greenhouse Gas R&D Programme (IEAGHG), and James Craig responded that the IEAGHG welcomed suggestions of this nature and mentioned that CSLF backing could be influential but that there was a defined process for new studies and that not all proposals resulted in studies being commissioned.

9. General Discussion and New Business

There was discussion about the PIRT's project review process. Mar Ackiewicz mentioned that there did not seem to be a formalized way for documenting any questions that might arise from review of completed submission forms for projects being nominated for CSLF recognition. Richard Lynch suggested that the Secretariat could produce a document that summarizes any questions or comments for any project being reviewed by the PIRT and that the document could be provided in advance to the project sponsor so that the questions and comments could be addressed during the project presentation at the PIRT meeting. There was consensus that this approach be adopted.

10. Adjourn

Mr. Barrett thanked the attendees for their interactive participation, expressed his appreciation to the host Italian Ministry of Economic Development, and adjourned the meeting.

Summary of Meeting Outcomes

- The PIRT has recommended approval by the Technical Group for the ENOS project to be a CSLF-recognized project.
- Measuring progress on recommendations from the 2017 TRM is one of the PIRT's most important areas of interest, and will be a centerpiece of future PIRT meetings.

Actions

- The CSLF Secretariat will set up an offline discussion for PIRT delegates to develop details for moving forward on finding ways to measure progress on recommendations from the 2017 TRM. (*Note: This was superseded by a Technical Group outcome at its meeting the next day.*)

The CSLF Secretariat will henceforward produce a document that summarizes any questions or comments for any project being reviewed by the PIRT.