



## MEETING SUMMARY

Projects Interaction and Review Team (PIRT) Meeting  
Edmonton, Alberta, Canada  
18 May 2011

Prepared by the CSLF Secretariat

### LIST OF PARTICIPANTS

Australia:	Clinton Foster (Chair), Mark Trupp
Canada:	Stefan Bachu, Eddy Chui
China:	Sizhen Peng, Ping Zhong, Qi Li, Ruina Xu
European Commission:	Jeroen Schuppers
France:	Didier Bonijoly
Germany:	Jürgen-Friedrich Hake
Italy:	Giuseppe Girardi, Sergio Persoglia
Japan:	Ryo Kubo
Korea:	Chong Kul Ryu, Young Cheol Park
Netherlands:	Harry Schreurs
Norway:	Trygve Riis
Saudi Arabia:	Khalid Abuleif, Abdulmuhsen Al-Sunaid
South Africa:	Fred Goede
United Kingdom:	Philip Sharman
United States:	George Guthrie, Joseph Giove
Global CCS Institute:	Kathy Hill, Ian Hayhow
IEA GHG:	Ameena Camps
CSLF Secretariat:	John Panek, Rich Lynch

#### 1. Welcome and Summary of Previous PIRT Meeting

PIRT Chairman Clinton Foster welcomed participants to the 15<sup>th</sup> meeting of the PIRT and provided a brief summary of the March 2011 PIRT meeting in Al Khobar, Saudi Arabia. There were three main consensuses arising from the Al Khobar meeting: agreement on a schedule for the 2011 CSLF Technology Roadmap update, termination of the technology readiness level analysis of CSLF-recognized projects, and recommendation that Wandoan Project be approved by the Technical Group.

#### 2. Introduction of Meeting Attendees

PIRT meeting attendees introduced themselves. In all, fourteen countries and the European Commission were represented at the meeting. Participants also included representatives from the Global CCS Institute and the IEA Greenhouse Gas R&D Programme (IEA GHG).

### **3. Approval of Meeting Summary from Al Khobar PIRT Meeting**

The Meeting Summary from the previous PIRT meeting in Al Khobar was approved as final with no changes.

### **4. Review of Action Items from Al Khobar Meeting**

Dr. Foster provided a brief update on the status of the action items from the Al Khobar meeting. The first was to inform the Technical Group that ideas are needed for the CSLF Ministerial Meeting in China. To that end, the CSLF Secretariat has contacted Technical Group delegates via email to solicit ideas and concepts, and this is an agenda item for the May 19<sup>th</sup> Technical Group meeting.

A second action item was that Dr. Foster would take the lead in coordinating with the Global CCS Institute about CSLF efforts regarding Knowledge Management. Dr. Foster stated that this activity would be commencing in the near future.

The final Al Khobar action item was that the Secretariat would set up a Technical Executive Committee teleconference with the Global CCS Institute concerning knowledge sharing efforts and activities. John Panek reported that the Secretariat will hold this teleconference later in the year.

### **5. Review of Plan for 2011 CSLF Technology Roadmap**

Dr. Foster provided an update on the 2011 CSLF Technology Roadmap. For this revision, only Module 2, encompassing ongoing activities in carbon capture and storage (CCS), is being updated. The Secretariat has requested updates to the “R&D Components in CSLF Member Countries” section of that module and has so far received responses from Australia, Canada, the European Commission, Japan, Norway, South Africa, and the United States. Mr. Panek stated that updates from other CSLF Members are needed as soon as possible, as the final draft of the 2011 Roadmap needs to be prepared by about the beginning of August. The Secretariat was requested to send out a reminder to those CSLF Members who have not yet provided their updates.

### **6. Discussion on Task Force to Assess Progress on Technical Issues Affecting CCS**

Dr. Foster, as Task Force Chair, noted that the Task Force has not made as much progress as had been hoped for and stated that the Task Force therefore needed to affirm that it was concerned with technical issues. After ensuing discussion, there was consensus that the four Working Group Chairs should make adjustments as needed so that Working Group memberships consist of people with technical expertise in CCS.

There was also discussion about the CSLF Gaps Checklist. Philip Sharman noted that at the October 2010 PIRT meeting in Poland, there had been agreement to have two different Checklists – a granular one for gaps analysis and a concise one for project approval. Trygve Riis noted that a highly granular Checklist was not a good thing, as the CSLF does not have sufficient resources to do extremely detailed analysis activities. Jürgen-Friedrich Hake stated that the number of gaps is too large, and questioned the relevancy of some of the existing gaps, mentioning that certain gaps appeared to be more strategic than others with some of the gaps being mainly of academic interest. In the end, there was consensus that the Task Force Working Groups will produce a single and concise listing of gaps. Dr. Foster noted that the 2012 CSLF Technology Roadmap will incorporate revisions to the “Gap Identification” module, and this new gaps listing will be an input to the Roadmap update process.

Ensuing discussion also touched on whether to limit any gaps analysis to only the CSLF-recognized projects. Dr. Foster mentioned that the gaps analysis to be done by the Task Force will be an important activity as it feeds into the Technology Roadmap, and the Roadmap is being used by other organizations, including the International Energy Agency (IEA). In that regard, it would be important to know if a technology gap has been addressed by whatever the means. Mr. Riis agreed that it would be useful to include projects outside the CSLF community in future analyses. However, it would likely not be possible to complete any kind of detailed analysis prior to the Ministerial Meeting. Dr. Foster inquired if it would be worthwhile to attempt an analysis of some kind that could be a deliverable for the Ministerial Meeting. In response, Harry Schreurs suggested that numbers do not tell the complete story, as only a relatively small fraction of the projects are actually making progress on addressing gaps, for instance. In the end there was no consensus on how gaps should be assessed or analyzed. Dr. Foster will work with the Working Group Chairs to provide some clarity in that regard and develop a schedule of deliverables for the Task Force. Dr. Foster also mentioned that it might be useful to develop a general message to the Ministers and policy makers that global cooperation on CCS technologies via the CSLF is producing results. There was agreement for Dr. Foster and the Secretariat to attempt to develop such a message.

Dr. Foster also recommended that this Task Force be separated from the PIRT and in the future report directly to the Technical Group. There was concurrence to do so.

## **7. Review and Approval of Projects Nominated for CSLF Recognition**

### Zero Emission Porto Tolle (ZEPT) Project

This is a large-scale project, located in northeastern Italy, which will demonstrate post-combustion CCS on 40% of the flue gas from one of the three 660 megawatt units of the existing Porto Tolle Power Plant (which is being converted from heavy oil fuel to coal). The goal of the project is to demonstrate industrial application of CO<sub>2</sub> capture and geological storage for the power sector at full commercial scale. The demonstration plant will be operated for an extended period (approx. 10 years) in order to fully demonstrate the technology on an industrial scale, clarify the real costs of CCS, and prove the retrofit option for high-efficiency coal fired units which will be built (or replaced) in the coming 10-15 years. Storage of approx. 1 million tonnes per year of CO<sub>2</sub> will take place in a deep saline aquifer beneath the seabed of the Adriatic Sea approx. 100 kilometers from the project site.

After brief discussion, there was consensus to recommend that the project be approved by the Technical Group.

### Jänschwalde Project

This is a large-scale lignite-fueled project, located in southeastern Germany, which will technically and economically validate the complete CCS chain, including demonstration of two capture technologies (oxyfuel and post-combustion capture). The goals of the project are to transfer knowledge from an existing pilot plant to a full-scale demonstration, prove and evaluate the suitability of different storage alternatives. Two of the 250 megawatt units at the existing Jänschwalde Power Plant will be converted for this project, one for oxyfuel operation and one for post combustion capture of CO<sub>2</sub>. Storage sites for the approx. 1.7 million tonnes per year of CO<sub>2</sub> are being determined and will be evaluated during the course of the project, and may include both deep saline aquifers and depleted gas fields.

After brief discussion, there was consensus to recommend that the project be approved by the Technical Group.

#### General Discussion

Before moving on to the next agenda item, there was general discussion about the procedure being used for approval of projects nominated for CSLF recognition. It was proposed that an adjustment be made such that the most information about a newly-proposed project would be provided during the PIRT meeting via the Project Submission Form and a presentation by the project sponsor. Following approval by the PIRT, a summary of salient information about the project would be provided during the Technical Group meeting via a brief presentation by the Technical Group delegate of the country hosting the project. And following approval by the Technical Group, the Technical Group Chairman would then present the project to the Policy Group in a single summary viewchart. After ensuing discussion, there was consensus to adopt this change.

### **8. Identification of Issues and Concepts for Future PIRT and Technical Group Meetings**

Dr. Foster inquired if there were any issues or possible agenda items for the Beijing Ministerial Meeting that can be advanced to the full Technical Group at its meeting. Dr. Bonijoly stated that France is considering nominating the CGS Europe Project at the Beijing meeting; this project would build on the results from the CSLF-recognized CO<sub>2</sub> GeoNet Project to build a credible, independent and representative pan-European scientific body of expertise on CO<sub>2</sub> geological storage. Mr. Schreurs offered that the Netherlands may nominate the Rotterdam Opslag en Afvang Demonstratieproject (ROAD), which will be one of the one of the largest demonstration projects in the world for capture and sub-seabed storage of CO<sub>2</sub> from a commercial power plant. Mr. Panek requested that the Project Submission Forms any nominated projects be submitted as soon as possible so that PIRT members would have sufficient time for review them prior to the Beijing meeting.

In regards to the Project Submission Form, Dr. Foster suggested that an updated version of the Form be considered at the next PIRT meeting. After ensuing discussion, there was general agreement that an update was needed and there was consensus that Dr. Foster would develop a revised Form, including a simplified Gaps Checklist, for consideration at the next PIRT meeting.

### **9. Exploring Ideas for Future Technical Workshops**

Dr. Foster inquired if there were ideas for future Technical Workshops. Rich Lynch suggested that these be called “Lessons Learned Workshops”, which might make them of greater interest to the Policy Group. George Guthrie suggested that the workshops be structured around technology gaps, while Jeroen Schuppers offered that public acceptance and outreach would be a good topic. Dr. Foster noted all of the suggestions and stated that whatever the topics for future workshops, the experience at the Al Khobar workshop proved that the key to a successful workshop is to allow enough discussion time, especially between panelists. After further discussion, there was agreement that knowledge sharing and capacity building could be key attributes of any future workshop, but no plans were put in place for any specific events.

### **10. New Business**

There was no new business.

## 11. Adjourn

Dr. Foster thanked the participants for their hard work which resulted in a productive meeting and adjourned the meeting.

### Summary of Consensus Reached

- The Task Force to Assess Progress on Technical Issues Affecting CCS has been separated from the PIRT and henceforward will report directly to the Technical Group.
- The following two projects are approved by the PIRT and (along with previously approved Wandoan Project) were sent forward to the Technical Group for its consideration:
  - ZEPT Project
  - Jänschwalde Project
- A new procedure will be used for approval of projects nominated for CSLF recognition.

### Summary of Action Items

Item	Lead	Action
1	Secretariat	Send out reminders to CSLF Members who have not yet provided their updates for 2011 CSLF Technology Roadmap.
2	Working Group Chairs for Task Force to Assess Progress on Technical Issues Affecting CCS	Make adjustments as needed so that Working Group memberships consist of people with technical expertise in CCS.
3	Working Groups for Task Force to Assess Progress on Technical Issues Affecting CCS	Develop new and concise listings of technology gaps.
4	Chair and Working Groups of Task Force to Assess Progress on Technical Issues Affecting CCS	Develop a schedule of deliverables for the Task Force.
5	Chair of Task Force to Assess Progress on Technical Issues Affecting CCS and Secretariat	Develop a general message to the Ministers and policy makers that global cooperation on CCS technologies via the CSLF is producing results
6	PIRT Chair	Develop draft of revised Project Submission Form, including simplified Gaps Checklist.