



**CSLF**  
**Projects Interaction and Review Team (PIRT)**

**PIRT Status**

**Plenary Session**  
**Paris France**  
**Monday 26<sup>th</sup> March 2007**

# PIRT : Terms of Reference – 1

Agreed at Technical Group in Berlin 27<sup>th</sup> September 2005



- **Assess projects proposed for recognition by the CSLF**

- In accordance with the project selection criteria approved by the Policy Group. Based on this assessment, make recommendations to the Technical Group on whether a project should be accepted for recognition by the CSLF

- **Review the CSLF project portfolio and identify synergies, complementarities and gaps,**

- Provide feedback to the Technical Group and input for further revisions of the CSLF roadmap.

- **Identifying technology gaps where further RD&D would be required**

- **Foster enhanced international collaboration for CSLF projects**

- Both within individual projects (e.g. expanding partnership to entities from other CSLF members) and between different projects addressing similar issues.

# **PIRT : Terms of Reference – 2**

Agreed at Technical Group in Berlin 27<sup>th</sup> September 2005



- **Promote awareness within the CSLF of new developments in CO<sub>2</sub> Capture and Storage**

- By establishing and implementing a framework for periodically reporting to the Technical Group on the progress within CSLF projects and beyond

- **Organize periodic activities to facilitate the fulfillment of the above functions**

- Give an opportunity to individuals involved in CSLF recognized projects and other relevant individuals invited by the CSLF, to exchange experience and views on issues of common interest and provide feedback to the CSLF

- **Perform other such tasks which may be assigned to it by the CSLF Technical Group**

# PIRT : Organisation



- **Core Group :** representation from
  - Australia (Co-Chair PIRT)
  - Canada (Vice chair TG)
  - Denmark
  - European Commission (recently resigned as Co-Chair PIRT)
  - Germany
  - India (Vice chair TG)
  - Netherlands**
  - Norway (Chair TG)
  - Saudi Arabia**
  - United Kingdom (Co-Chair PIRT)
  - United States of America
- **Floating Group :**
  - Made up of representatives of CSLF recognized Projects and subject area experts

# PIRT : Progress

Since Meeting in New Delhi on 2<sup>nd</sup> April 2006



- **Core Group :**
  - Meetings held in
    - **Trondheim Norway** (GHGT8) 23<sup>rd</sup> June 2006 and discussed
      - Progress report on existing 5 Action Items and established 5 new Action Items; including Project Workshop for Paris
    - **San Francisco USA** (IEA/CSLF) 23<sup>rd</sup> August 2006 (informal)
      - Progress reports and follow up on Trondheim meeting agenda – 5 new Action Items
    - **London UK** (CSLF Technical Group Meeting) 14th November 2006
      - Core Group meeting with 6 recommendations to TG and 3 new Action Items
    - **Phone hook-ups** (numerous) planning assigned tasks
- **Floating Group :**

Contacted for assistance with regard Gaps Analysis of CSLF recognized projects

# PIRT : Outputs and Outcomes - 1

Since Meeting in New Delhi on 2<sup>nd</sup> April 2006



- **Project Assessment Metrics**
  - Established a set of metrics to enable PIRT to assess potential CSLF projects. These metrics were approved by the Technical Group at its November 2006 meeting in London
- **Project Submission Form**
  - Designed a revised Project Submission Form which will help with project assessment. This was approved by the Technical Group at its November 2006 meeting in London and is now on the CSLF website
- **Technology Gap Assessment**
  - A comprehensive Technology Gap Assessment was initiated to help identify where CSLF projects should be encouraged in relation to the CSLF Charter.
  - This Gaps Analysis was circulated to all of the CSLF recognised projects to ascertain areas where work is being undertaken. The results of this assessment being presented in Paris Workshop (Poster)

## CSLF Projects Interaction and Review Team (PIRT) CCS Technology Gaps Analysis



### PIRT FORMATION & OBJECTIVES

Following the Technical group meeting in Melbourne, Australia, in September 2004, a recommendation was put forward for a working group which would assess projects proposed for recognition by the CSLF and review the CSLF project portfolio to identify synergies and gaps that would then act as input for any future revision of the CSLF Technology Road map. This working group was endorsed by the Policy Group at the CSLF meeting in New Delhi in April 2006 and is now known as the Projects Interaction and Review Team (PIRT).

#### The PIRT has the following tasks:

- Assess projects proposed for recognition by the CSLF in accordance with the project selection criteria approved by the Policy Group. Based on this assessment, make recommendations to the Technical Group on whether a project should be accepted for recognition by the CSLF.
- Review the CSLF project portfolio and identify synergies, complementarities and gaps, providing feedback to the Technical Group and input for further revisions of the CSLF roadmap.
- Identify technology gaps where further RD&D would be required.
- Foster enhanced international collaboration for CSLF projects, both within individual projects (e.g. expanding partnership to entities from other CSLF members) and between different projects addressing similar issues.
- Promote awareness within the CSLF of new developments in CO<sub>2</sub> Capture and Storage by establishing and implementing a framework for periodically reporting to the Technical Group on the progress within CSLF projects and beyond.
- Organize periodic activities to facilitate the fulfillment of the above functions and to give an opportunity to individuals involved in CSLF recognized projects and other relevant individuals invited by the CSLF, to exchange experience and views on issues of common interest and provide feedback to the CSLF.
- Perform other such tasks that may be assigned to it by the CSLF Technical Group.

### TECHNICAL GAPS ANALYSIS

In order to complete the task of identifying technology gaps where further research and development would be required, a comprehensive gap assessment began in 2006. The purpose of this was to identify where projects should be encouraged in the CSLF charter, to promote synergies and inform on new developments.



Single well injection test: Alberta Enhanced Oil-bed Methane Recovery Project

The CSLF Technical Group Gap Analysis work was divided into three components: 1) Capture, 2) Storage and 3) Monitoring and Verification. These were initially instigated by completion of three taskforces examining these topics: Task Force to Identify Gaps in CO<sub>2</sub> Capture and Transport, Task Force to Identify Gaps in Measurement, Monitoring and Verification in Storage and the Task Force to Review and Identify Standards for CO<sub>2</sub> Storage Capacity Measurement. From the results of these taskforces and by scoping out other gaps from within the Core Group and Floating Group within the PIRT, a list of technology barriers to the CCS deployment were identified and are listed in the adjacent table. These technology gaps were assembled at a high level so that more detailed gaps could be addressed underneath key topics.

The 17 projects recognised within the CSLF were then asked to identify if any of their project outcomes would encompass these issues. Many projects were able to respond in time for this poster and the details of their responses are shown in light green. Those in dark green are taken from the projects descriptions on their websites and information sheets. An interactive spreadsheet of these responses is available at <http://www.cslforum.org/documents/PIRTGapAnalysis.xls>

The aim of this poster session is to highlight aspects of projects that currently or plan to fill these gaps, as well as promote discussion of the areas that are not being addressed by CSLF projects. If any non-CSLF projects wish to consider applying to be recognised as CSLF project, the submission forms are available at <http://www.cslforum.org/documents/ProjectSubmissionForm.doc>

Key Topic	CO <sub>2</sub> Capture	CO <sub>2</sub> Transport	CO <sub>2</sub> Storage	Monitoring and Verification	Pre-Commercial Demonstration	Commercial Demonstration	Full-Scale Deployment	Policy and Regulatory	Public Acceptance	Other
Pre-Commercial Demonstration										
Commercial Demonstration										
Full-Scale Deployment										
Policy and Regulatory										
Public Acceptance										
Other										
CO <sub>2</sub> Capture										
CO <sub>2</sub> Transport										
CO <sub>2</sub> Storage										
Monitoring and Verification										



See Poster tomorrow at Workshop for details of technology gaps being addressed in each CSLF recognised Project

More detailed Technology Gaps Analysis spreadsheet now on CSLF website

<http://www.cslforum.org/documents/PIRTGapAnalysis.xls>

# CSLF Gaps Assessment: For Recognised Projects



Will your project outcomes encompass any of these issues?	Examples;	Project to expand on the specific issues they will address under the relevant gaps and document the levels at which issues are being examined	Reference to relevant work ; Publication or website
<b>Project X</b>			



<b>Injection</b>	
<b>Optimum well spacings and patterns</b>	<b>Eg so as to maximise the access to storage capacity in a given reservoir,</b>
<b>Optimum injection parameters</b>	<b>Eg to avoid geomechanical impacts, or to avoid pressure interference.</b>
<b>Definition of variable rock facies or rock property types for injectivity.</b>	<b>Eg the need to compare the injectivity of thick good reservoir quality (marine deposited sandstone) versus poorer thin bedded (fluvial channel sandstone) reservoirs.</b>
<b>Sustainability of high injection rates</b>	<b>To match the supply rates and storage volumes at regional or local basin level eg how many separate injection operations could the North Sea sustainably manage in a single reservoir sequence for the time period required?</b>
<b>Formation water compression / displacement in closed or open system</b>	<b>Eg impacts on potentially compromising groundwater in open system or pressure build-up in closed system.</b>
<b>Reservoir engineering aspects</b>	<b>Eg Near well bore formation damage, hydrate formation, mineral precipitation, effects of impurities in CO<sub>2</sub> stream, etc</b>

# PIRT : Outputs and Outcomes - 2

Since Meeting in New Delhi on 2<sup>nd</sup> April 2006



- **CSLF (PIRT) Workshop**
  - Planned for the workshop on “Overcoming Barriers to CCS Deployment” being held at the CSLF meeting in Paris on the 27<sup>th</sup> March 2007 (tomorrow).
- **PIRT Invitation**
  - An invitation was issued for other CSLF Members to join the PIRT Core Group
  - Requests to join the Core Group being received from Netherlands and Saudi Arabia.
- **CSLF Reporting**
  - Completed two Strategic Implementation Reports.

# PIRT : Ongoing - 1



- **Formalise Link to IEA GHG**

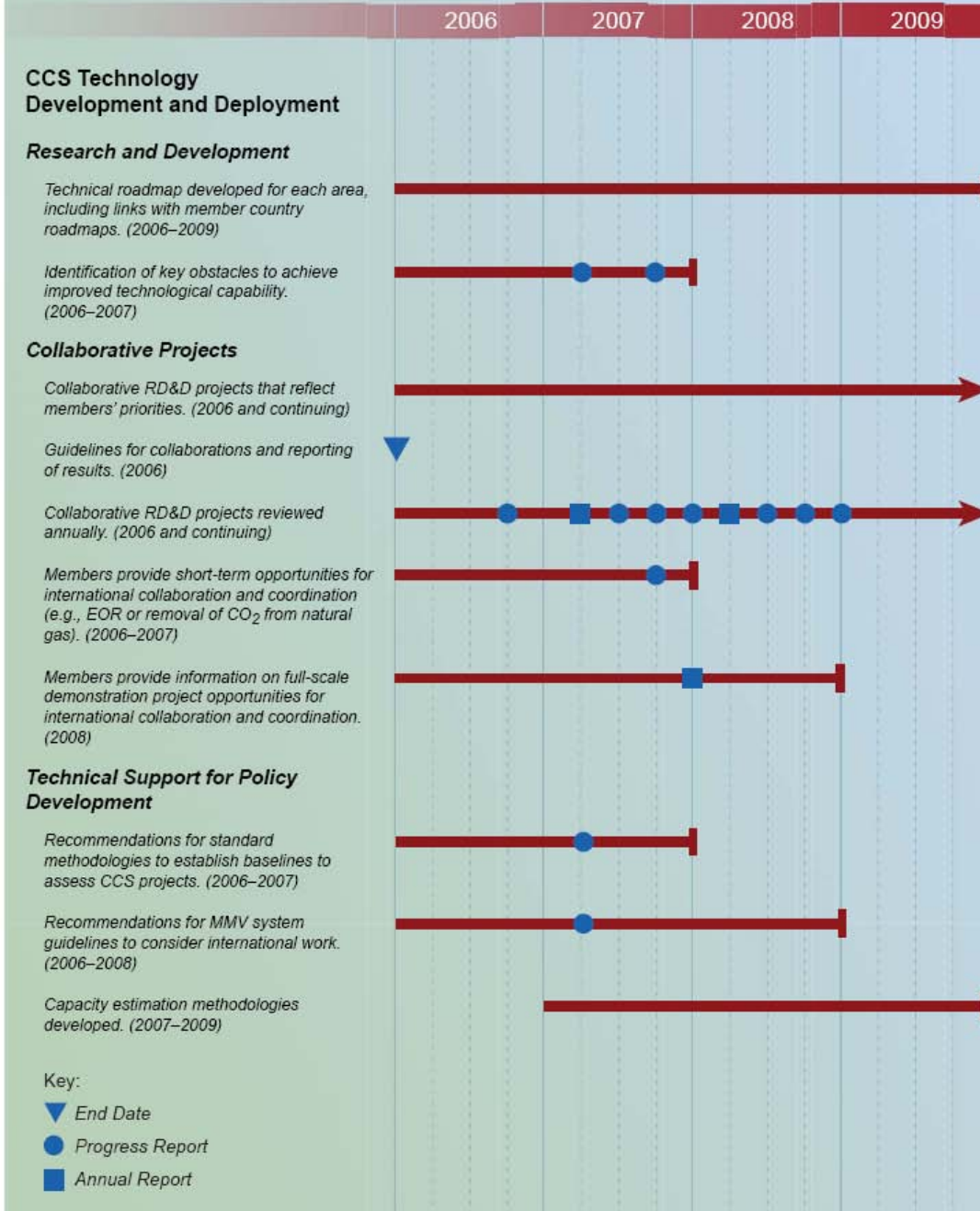
- As an outcome from the CSLF meeting in London, a mechanism for formalizing a relationship between the PIRT and the IEA GHG is to be developed – ongoing discussions

- **Excessive PIRT Workload**

- At the London CSLF Technical Group Meeting, the excessive workload of the PIRT was recognised as an issue, and so consideration of this matter is required

- Prioritization for implementation of CSLF Action Plan items is being developed – ongoing discussions

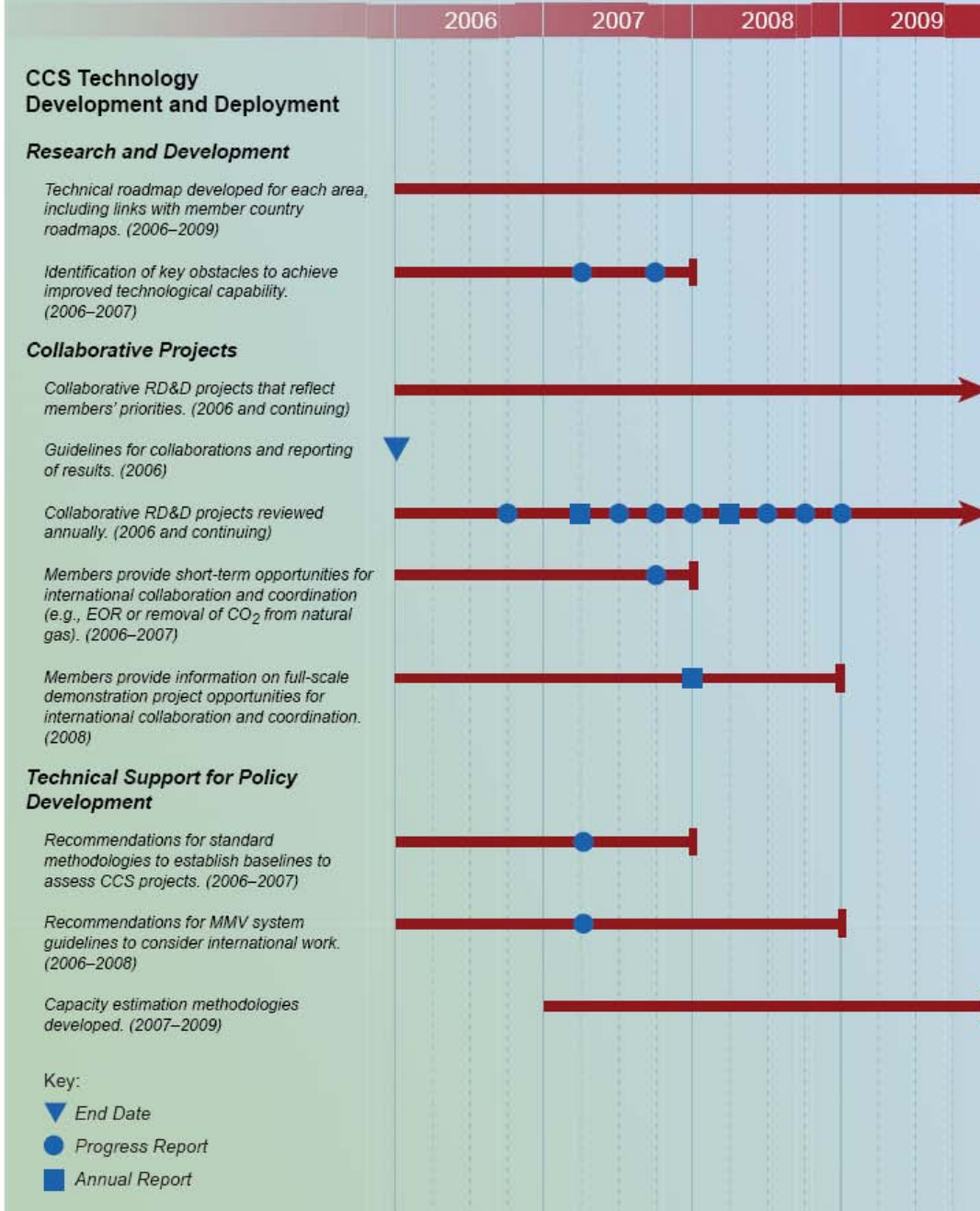
# CSLF Action Plan Timeline for the Projects Interaction and Review Team (PIRT)



PIRT Action Plan as per  
CSLF Strategic Plan

Excessive Workload  
requires prioritisation,  
external collaboration  
(IEA GHG) and re-  
adjustment of  
timelines

# CSLF Action Plan Timeline for the Projects Interaction and Review Team (PIRT)



At some level –  
all these  
items are  
happening



# PIRT : Ongoing - 2



## • PIRT new Co-Chair

- Under the PIRT guidelines, there is an opportunity for rotation of one of the three co-Chairs on an annual basis
- No new Co-Chair nominated but EC has stepped down
- Now only two Co-Chairs – Australia and UK

## •New Project Submissions

- Several projects intimated that they will seek CSLF recognition
- Zama Project – Canada and USA – Submitted application on 23<sup>rd</sup> February 2007
- Otway Basin Pilot Project – Australia and USA – Submitted application on 17<sup>th</sup> March 2007
- PIRT will provide status of applications and/or recommendations to the Technical Group on Wednesday

## •Roadmap and Technology Gaps Analysis

- Following the outcomes of the Workshop meeting in Paris in March 2007, the CSLF Technology Roadmap and Gaps Analysis will be reviewed.



# **CSLF Projects Interaction and Review Team**

**Status  
March 2007**

**END**