Carbon Sequestration leadership forum

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Presentation from PIRT

Technical Group Discussion
and Actions

Clinton Foster

PIRT Chairman

Points for approval

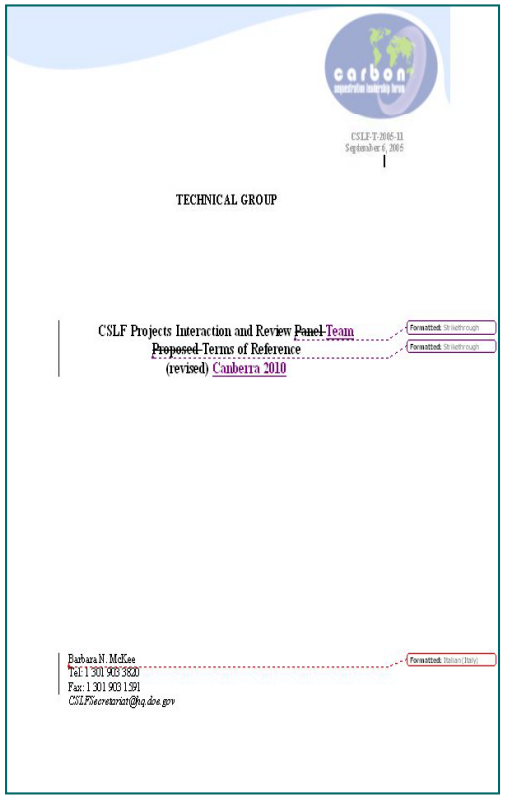
- Revision of the PIRT Terms of Reference
- New CSLF Project submission form
- Approach to increase CSLF uptake – return to members – workshops for CSLF members?
- Update schedule for the CSLF Technology Road Map – analysis method agreed
- Recommendation to form a new taskforce
  - Measuring progress on closing the technology gaps
- Recommendation to put forward the Gorgon Project for CSLF recognition

Revision of PIRT Charter and Terms of Reference

- Agreed at Technical Group in London on 11 October 2009 to review the PIRT Terms of Reference and define future action plans

✓ Revised PIRT Terms of Reference

[TAB 4]



TECHNICAL GROUP

CSLF Projects Interaction and Review ~~Panel~~ Team
~~Proposed~~ Terms of Reference
(revised) Canberra 2010

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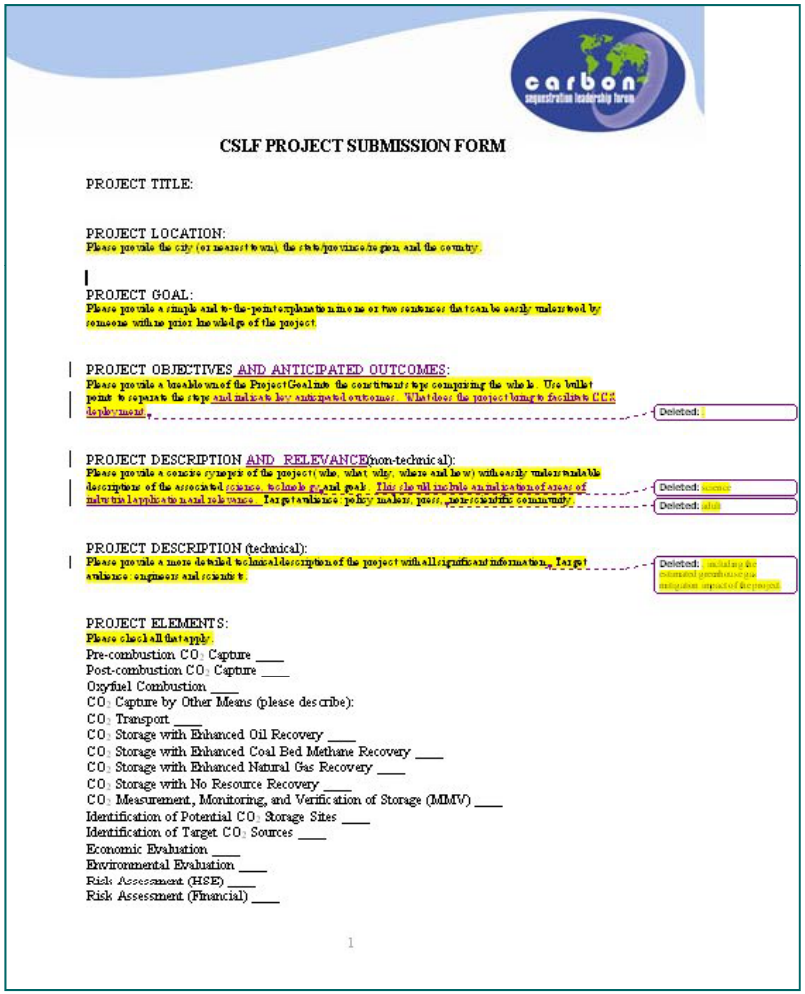
Project Submission Form

- ✓ Updated project submission form

[TAB 5]



CSLF PROJECT SUBMISSION FORM

PROJECT TITLE:

PROJECT LOCATION:
Please provide the city (or nearest town), the state/province/region and the country.

PROJECT GOAL:
Please provide a simple and to-the-point explanation in one or two sentences that can be easily understood by someone with no prior knowledge of the project.

PROJECT OBJECTIVES AND ANTICIPATED OUTCOMES:
Please provide a breakdown of the Project Goal into the constituents/steps comprising the whole. Use bullet points to separate the steps and indicate key anticipated outcomes. What does the project hope to facilitate CCS deployment?

Deleted:

PROJECT DESCRIPTION AND RELEVANCE (non-technical):
Please provide a concise synopsis of the project (who, what, why, where and how) with easily understandable descriptions of the associated science, technology and goals. This should include an indication of areas of maturity in application and relevance. Target audience: policy makers, possibly other scientific community.

Deleted: science

Deleted: also

PROJECT DESCRIPTION (technical):
Please provide a more detailed technical description of the project with all significant information. Target audience: engineers and scientists.

Deleted: including the estimated greenhouse gas mitigation impacts of the proposed

PROJECT ELEMENTS:
Please check all that apply.
Pre-combustion CO_2 Capture ____
Post-combustion CO_2 Capture ____
Oxyfuel Combustion ____
CO_2 Capture by Other Means (please describe):
CO_2 Transport ____
CO_2 Storage with Enhanced Oil Recovery ____
CO_2 Storage with Enhanced Coal Bed Methane Recovery ____
CO_2 Storage with Enhanced Natural Gas Recovery ____
CO_2 Storage with No Resource Recovery ____
CO_2 Measurement, Monitoring, and Verification of Storage (MMV) ____
Identification of Potential CO_2 Storage Sites ____
Identification of Target CO_2 Sources ____
Economic Evaluation ____
Environmental Evaluation ____
Risk Assessment (HSE) ____
Risk Assessment (Financial) ____

1

Detailed review of the 11th PIRT meeting

Actions for engaging CSLF recognised projects and attracting new projects

- Ask the projects what they want out of CSLF recognition
- Prompted by comments from stakeholders, developed three questions for CSLF projects:
  - What do you need to make the project succeed?
  - What advantages do you see from greater CSLF project interaction?
  - What else should the CSLF do?
- The responses will help the PIRT to develop a plan for attracting new projects

ACTION: send questions to CSLF project proponents and develop plan for attracting new projects based on responses

Detailed review of the 11th PIRT meeting

. Analysis of CSLF projects in relation to Gaps

- Agreed to recommend formation of a new Task Force: ***To assess progress on closing the technology gaps***
- TF will be led by Technical Group Vice-Chair (Australia)

TF Assessing the progress of closing the gaps

- 4 Working Groups:
  - Integration [lead GCCSI, **members** …]
  - Capture [lead USA, **members** ...]
  - Transport and Infrastructure [lead Netherlands, **members** …]
  - Storage [lead Canada, **members** France, USA, …]

ACTION: Recommend formation of new Task Force "Assessing the progress of closing the gaps" to Technical Group

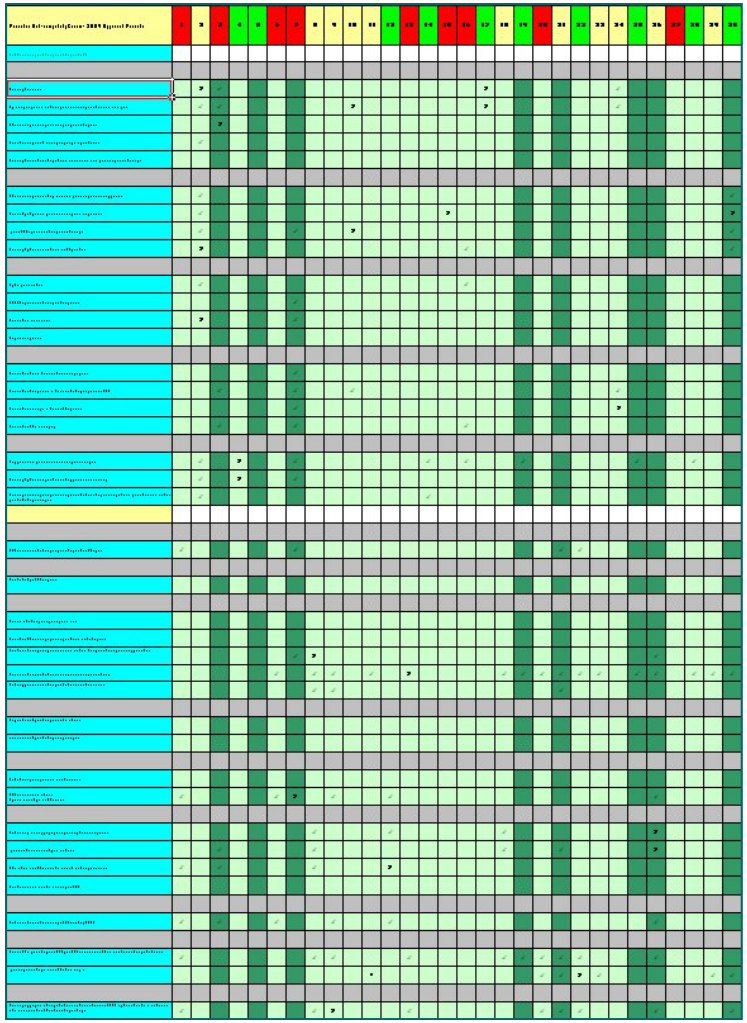
ACTION: Volunteers required for Working Groups

Detailed review of the 11th PIRT meeting

Analysis of CSLF projects in relation to Gaps (1)

- Project report card: Technology Gaps Matrix
- Identify which gaps CSLF projects currently address
- Help identify projects to address remaining gaps

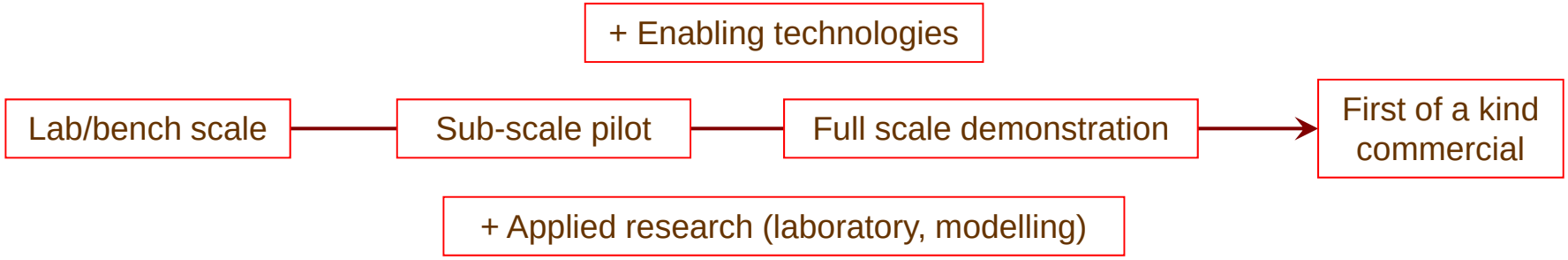
ACTION: Secretariat to send Technology Gaps Matrix to CSLF projects for input *on the new project sheet* **[TAB 5, 4-9]**



Detailed review of the 11th PIRT meeting

Analysis of CSLF projects in relation to Gaps (2)

- CCS projects Technology Readiness Level analysis
- Modelled on NASA Technology Readiness Levels
- Assess CSLF CCS projects within the TRL framework



ACTION: Subgroup formed (Norway, NETL/USA, GCCSI) to undertake CSLF Project Gap Matrix and Technology Readiness assessment; estimated completion date June 2010

Detailed review of the 11th PIRT meeting

Actions for engaging CSLF recognised projects and attracting new projects (1)

- Bring projects together through a “projects workshop” to exchange technical information and learnings, address gaps, and foster greater interaction
- Inform projects about existing networks and other resources they have access to
- Visibility - use CSLF links with other organisations to promote CSLF projects
- Organise projects workshop(s) in collaboration with key CCS events

ACTION: Australia & GCCSI to complete first draft of workshop proposal

Need to coordinate with the Research Networks set up by IEA GHG

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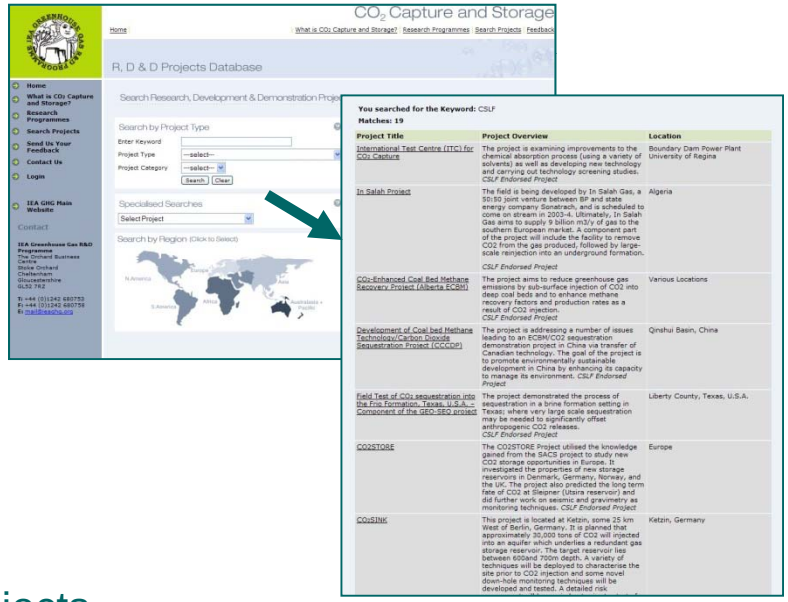
Detailed review of the 11th PIRT meeting

Actions for engaging CSLF recognised projects and attracting new projects (3)



Assessment of outcomes from completed projects

ACTION: Secretariat to complete summaries of projects

ACTION: a summary of completed projects is to be completed for the CSLF website, modelled on IEA GHG website / matrix

Detailed review of the 11th PIRT meeting

Recommendation to extend CSLF charter beyond 2013

CSLF Charter: 2013 and beyond

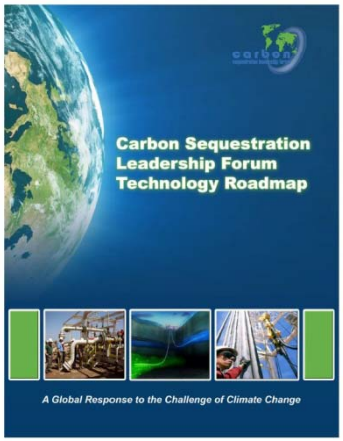
7. Commencement, Extension, Modification, Withdrawal, and Termination

- *7.1 Commencement and Modification*
  - *7.1.1 This Charter will commence on June 25, 2003 and will continue for 10 years unless extended or terminated.*
  - *7.1.2 This Charter may be modified in writing at any time by unanimous consent of all Members.*
- *7.2 Extension, Withdrawal and Termination*
  - *7.2.1 By written arrangement, the Members may extend this Charter for additional periods.*
- Many new and existing projects are projected to commence or be completed after 2013
- Enhance potential for additional CCS projects by extending CSLF beyond its current termination date of 2013

ACTION: that PIRT recommends extension of CSLF beyond 2013 to Technical Group

Detailed review of the 11th PIRT meeting

Schedule for updating Technology Roadmap



✓ Developed schedule for next update of Technology Roadmap:

- **1 June 2010**: Complete revision of technology gaps section and circulate to PIRT
- **1 July 2010**: Receive updates on national programs and projects
- **31 July 2010**: Revised Technology Roadmap circulated to PIRT
- **October 2010**: Table updated TRM
- **November 2010**: present updated road map at annual CSLF meeting

ACTION: Norway and NETL (USA) to complete revision of technology gaps by 1st June with help from GCCSI

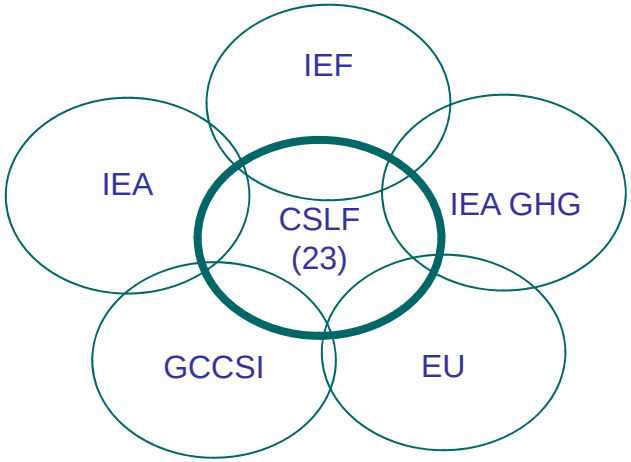
ACTION: delegates to provide country updates (section 2.5) by 1st July

ACTION: projects to provide updates by 1st July

ACTION: GCCSI to provide updated sections 2.1, 2.3, 2.4. **New economics needed**

Detailed review of the 11th PIRT meeting

Review of current collaboration and opportunities for new collaboration



ACTION: Canada to lead preparation of proposal to IEA GHG for study updated study of storage in unconventional geological media: scope may include assessment of resource conflict.

ACTION: Delegates to consider proposing research projects for IEA GHG and other opportunities Timetable May/November 6 monthly cycles

Detailed review of the 11th PIRT meeting

Prioritisation of PIRT activities / PIRT action plan

Near term (next 6 months)

- Populate technology gaps matrix and technology readiness level
- Develop plan for attracting new projects using input from new project questions
- Develop plan for implementing a projects workshop
- Prepare summaries of completed projects for web
- Update Technology Roadmap (October 2010)
- Develop and submit project proposals for study of storage of carbon dioxide in unconventional geological media (examples basalts, shales); project scope may include analysis of resource conflict

Detailed review of the 11th PIRT meeting

Prioritisation of PIRT activities / PIRT action plan

Long term (next >18 months)

- Complete periodic assessments of gaps and upgrades of the TRM
- Promote awareness of activities among the CSLF members and stake holders
- Project engagement workshops, events, networks
- Collaboration with other organisations

Recommendations to the Technical Group

- Extend the CSLF Charter beyond 2013
- Complete roadmap update by October 2010
- Undertake extensive gaps analysis (in context of projects)
- Form new Task Force “Assessing the progress of closing the gaps” ***Identify the participating countries***.
- Implement action plan to engage CSLF projects
- Pursue opportunities for collaboration
- Prioritised near and long term activities for PIRT / PIRT action plan
- TG accept the PIRT recommendation that the Chevron JV Gorgon Project becomes a CSLF recognised Project.

  Signed Letter of Nomination

  CSLF - Gorgon CO2 Injection Briefing - March 2010