

Carbon Sequestration Leadership Forum



Technology Roadmap

**Second CSLF Ministerial Meeting
Melbourne, Australia
September 13, 2004**

Development of Technology Roadmap

- ❖ December 8 Original CSLF Technology Roadmap drafted by the Secretariat and posted to CSLF website for review
- ❖ January 21 Rewrite of Roadmap proposed in Rome
- ❖ January 30 UK provided Secretariat with a draft framework to CSLF Technology Roadmap
- ❖ February 7 Secretariat distributed draft framework to Technical Group Members
- ❖ February 27 Comments due on draft framework
- ❖ March 8 Final draft of framework posted on CSLF website for review and comments.
- ❖ April 29 Modules 1-3 posted on CSLF website for review



Development of Technology Roadmap

- ❖ May 14 Modules 0 and 4 posted on CSLF website for review
- ❖ May 21 Comments due on Modules 1-3
- ❖ May 31 Comments due on Modules 0 and 4
- ❖ June 7 Secretariat posted 1st draft of complete roadmap on CSLF website for review
- ❖ June 30 Comments due on draft
- ❖ July 20 Secretariat posted 2nd draft of roadmap on CSLF website for review
- ❖ August 3 Comments due on draft
- ❖ August 20 Meeting in Salvador, Brazil, to finalize roadmap for approval at Melbourne CSLF meeting
- ❖ September 13 Technical Group meeting Melbourne, Australia



Overview of Technology Roadmap

- ❖ Roadmap intended to:
 - Evaluate current status of CO₂ capture and storage technology (Module 1)
 - Document ongoing activities in CO₂ capture and storage (Module 2)
 - Arrive at technology gaps in CO₂ capture and storage technology (Module 3)
 - Outline possible routes for meeting future CO₂ capture, transmission and storage needs for the CSLF and its Members (Module 4)

Roadmap is a “living” document



Overview of Technology Roadmap

❖ Roadmap Themes

– Lower Costs

- CSLF should set specific cost targets
- Most promising pathways should be identified over next five years, for example:
 - Alternative absorption solvents or materials that, relative to amines, reduce capture costs and increase efficiency
 - Alternative power generation processes and/or plant configurations
 - Novel approaches (chemical looping)
- Ultimate cost goals will be achieved after 2014

Large-scale CO₂ capture demonstrations are greatly needed



Overview of Technology Roadmap

❖ Roadmap Themes (cont'd)

– Secure Reservoirs

- CSLF should promote and facilitate field experiments over the next five years resulting in:
 - Identification most promising reservoir types for CO₂ storage
 - Development of reservoir selection criteria
 - Estimates of worldwide storage capacity
- Commercial-scale CO₂ storage (at least 10 megatonnes/year) should be in a position to proceed by 2014

Site characterization and monitoring prior to, during, and following injection are crucial



Overview of Technology Roadmap

❖ Roadmap Themes (cont'd)

- Monitoring and Verification Technologies
 - Modify existing monitoring and verification technologies to meet requirements of CO₂ storage
 - Instruments to measure and distinguish CO₂ levels in storage compared to CO₂ in background and from natural processes
 - Verified mathematical models of storage to ensure long-term site security
 - Assist in addressing evolving requirements for CO₂ monitoring and verification
 - Technologies must be field tested and made commercially available by 2014

Risk assessment will play an important role at all stages of a carbon sequestration project



Overview of Technology Roadmap

❖ Technology Roadmap

CSLF Milestones by Themes and Timescales

