



# CSLF Annual Meeting

Report by the CSLF Secretariat

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Deputy Director  
CSLF Secretariat

**Cape Town, South Africa**

**April 16, 2008**

# CSLF Members



## CSLF Member Countries represent

58% of world population

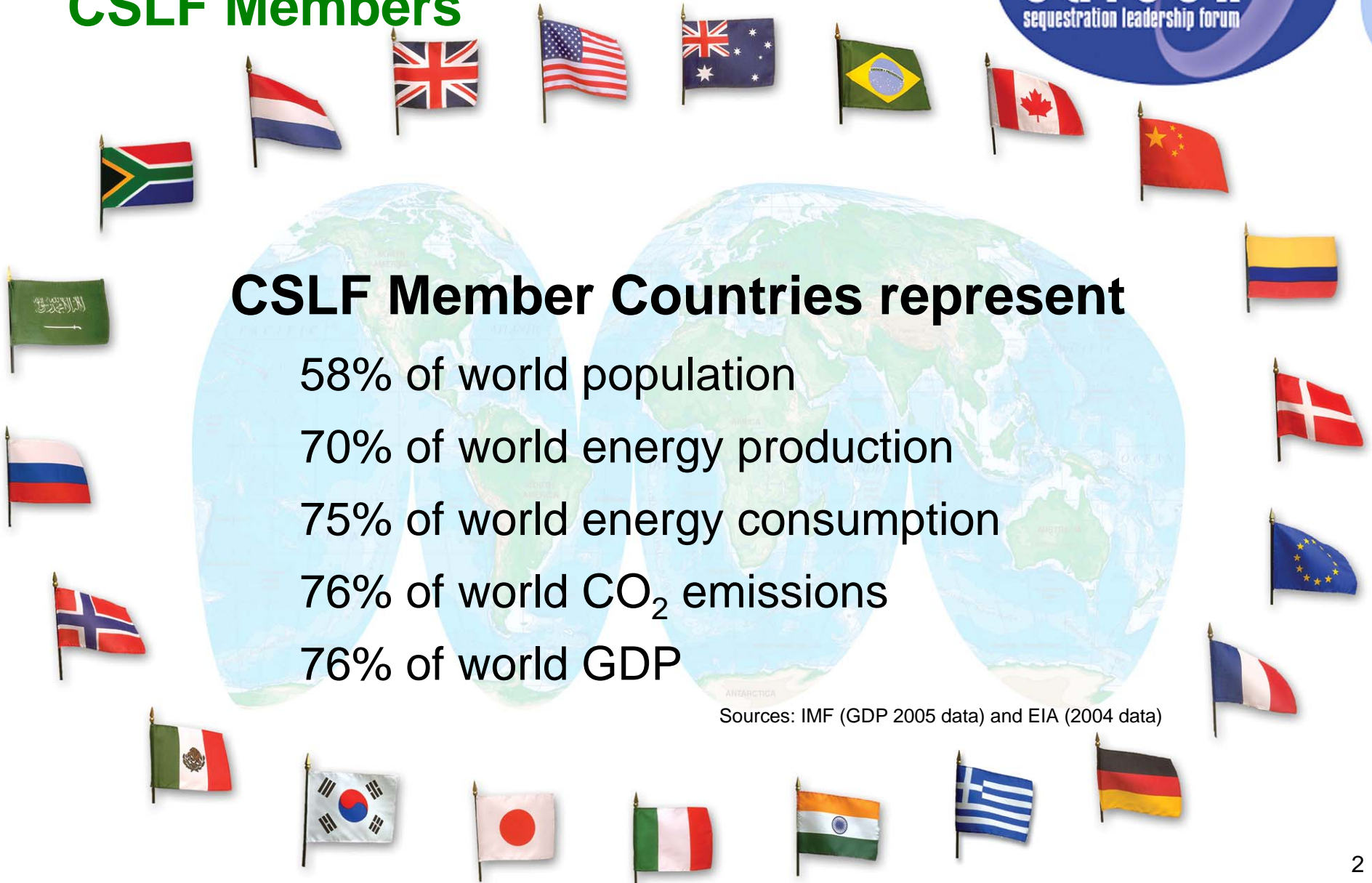
70% of world energy production

75% of world energy consumption

76% of world CO<sub>2</sub> emissions

76% of world GDP

Sources: IMF (GDP 2005 data) and EIA (2004 data)



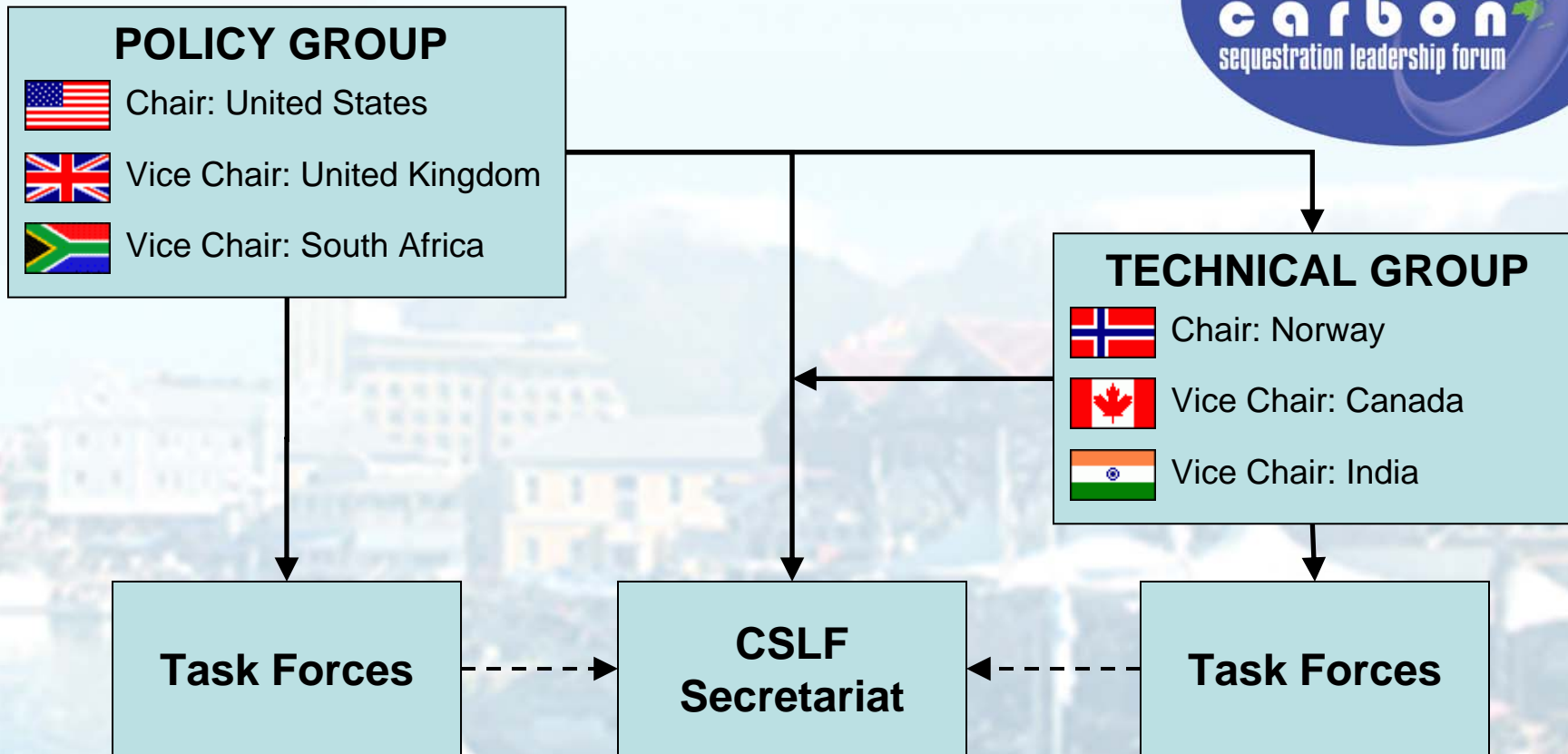
## Overview of Secretariat Activities



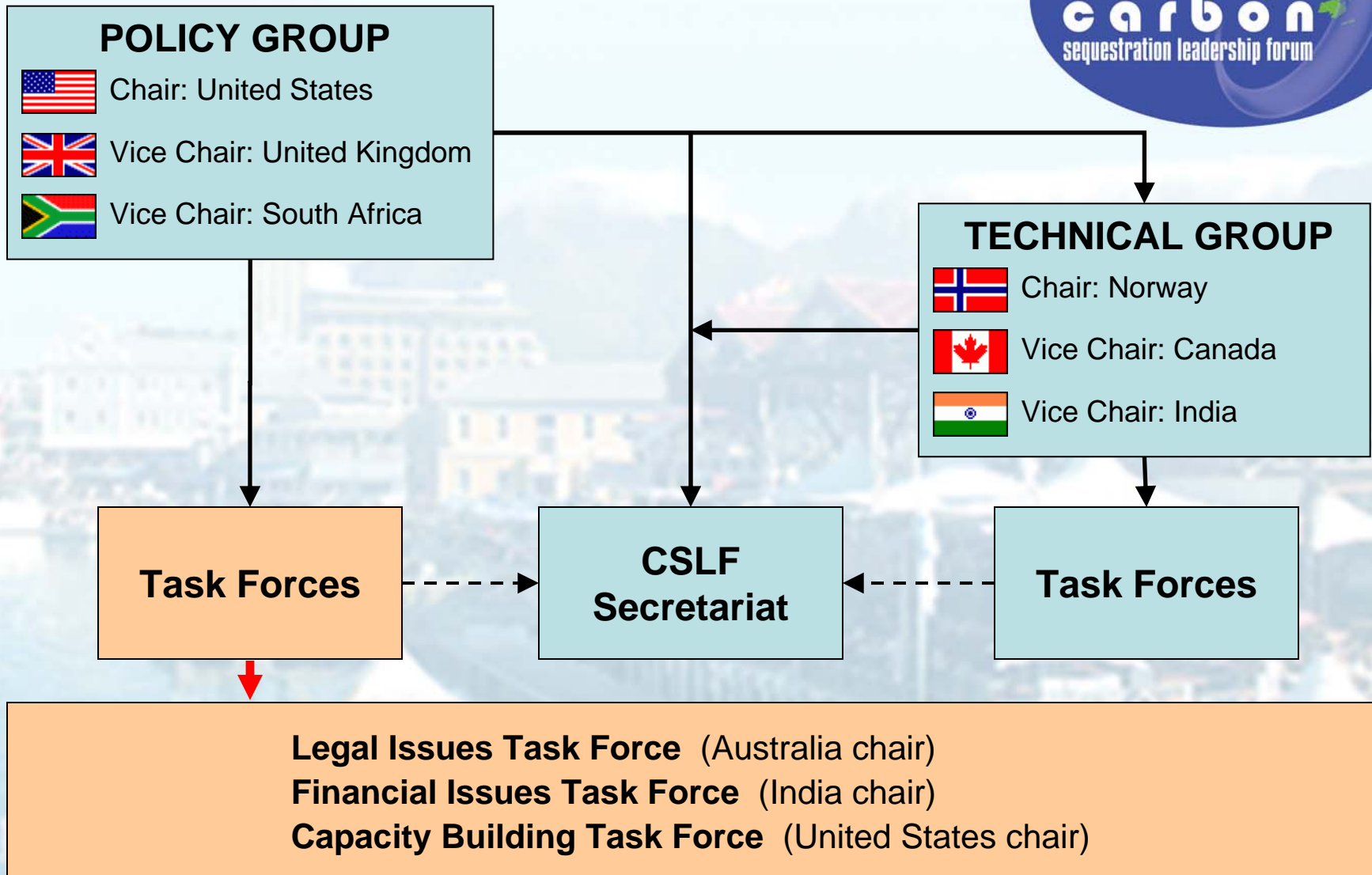
- CSLF Structure
- Website Updates
- Meetings and Workshops
- Stakeholder Registry
- Workshop Surveys
- CSLF Projects



# CSLF Structure



# CSLF Structure



## Policy Group Task Forces



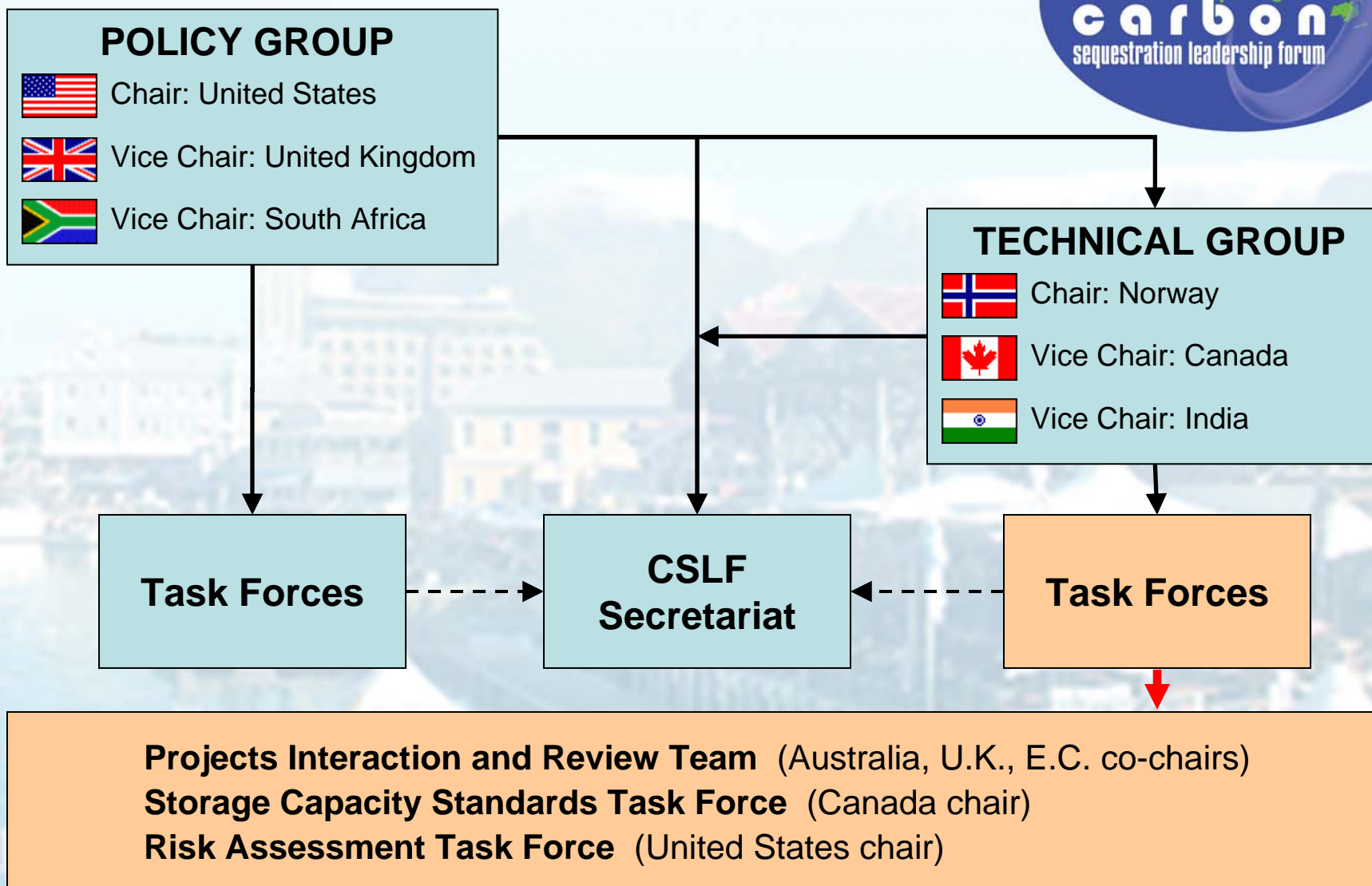
### Financial Issues Task Force

- **Members:** India (chair), Australia, European Commission, France, Korea, Netherlands, South Africa, United Kingdom, and United States

### Capacity Building Task Force

- **Members:** United States (chair), Australia, Canada, Colombia, European Commission, France, India, Italy, Mexico, Saudi Arabia, and United Kingdom

# CSLF Structure





## Technical Group Task Forces



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

- Members: United Kingdom (chair), Australia, Canada, Denmark, European Commission, Germany, India, Netherlands, Norway, Saudi Arabia, and United States

### **Storage Capacity Estimation Task Force**

- Members: Canada (chair), Australia, Brazil, European Commission, France, Norway, United Kingdom, United States

### **Risk Assessment Task Force**

- Members: United States (chair), Australia, Canada, France, India, Japan, Netherlands, Norway, and IEA GHG



## CSLF Web Site



- Continued to upgrade the site.
- Created a new search tool for the entire site.
- Posted press releases on CCS projects, programs, and events to promote CCS awareness.
- Posted presentations and materials from these meetings and workshops:
  - Capacity Building in Emerging Economies Workshop (Pittsburgh, USA, May 7-11, 2007)
  - 2nd Capacity Building in Emerging Economies Workshop (Porto Alegre, Brazil, October 18-19, 2007)
  - 2nd IEA-CSLF Workshop on Near Term Opportunities for Carbon Capture and Storage (Oslo, Norway, June 21-22, 2007)
  - Review and Identification of Standards for CO<sub>2</sub> Storage Capacity Estimation Task Force Meeting (Paris, France, 25 March 2007).
  - CSLF Financial Issues Task Force Meeting (New Delhi, India, 11-12 October 2007).
  - Capacity Building Task Force Meeting (Oslo, Norway, June 20, 2007).
  - Capacity Building Task Force Meeting (Calgary, Canada, November 27-28, 2007).



# CSLF Web Site Search Function

A screenshot of a Microsoft Internet Explorer browser window displaying the CSLF website. The browser's address bar shows "http://www.csforum.org/". The website has a green and blue color scheme. On the left is a vertical navigation menu with buttons for Home, About the CSLF, Organization, Events, Meeting Information, Documents, Presentations, Task Forces, Workshops, Publications, Projects, Roadmaps, Press, Links, and Contact Us. Below this menu are three sections: "CSLF Stakeholders Registry", "Education Center", and "How to Apply for CSLF Membership". The main content area features a search bar at the top with the text "Search the CSLF Website" and a "Submit" button. Below the search bar is a large banner with the CSLF logo and a welcome message. The "What's New" section contains three news items, each with a small icon and a brief description of recent events or publications.

Search the CSLF Website

Submit

Welcome to the website of the Carbon Sequestration Leadership Forum (CSLF). Here you can find information about the CSLF and its activities, including endorsed projects, papers and presentations relevant to carbon sequestration, and links to resources of interest to the sequestration community, including government agencies and programs of CSLF Members, multilateral organizations, and



## What's New

- All materials for the CSLF Policy and Technical Group Meetings, April 13-17, 2008 in Cape Town, South Africa are available online, including agendas, minutes from previous meetings, and meeting registration. [Click here](#) or visit the Events page to learn more.
- The report from 3rd G8-IEA-CSLF Workshop on Early Opportunities for Carbon Capture and Storage is now available. [Click here](#) to view.
- The Norwegian government has announced plans for two large-scale CCS projects. The Kaarstø project will be a full-scale CCS retrofit for a gas-fired power plant on the Western coast of Norway. The investment decision is planned for 2009. [Click here](#) to learn more. The Mongstad project will be a full-scale CCS plant for a combined heat and power (CHP) plant to be developed in two stages with completion scheduled for 2014. [Click here](#) to learn more.
- The booklet Geologic Storage of Carbon Dioxide - Staying Safely Underground has been published by the IEA Working Party on Fossil Fuels and the IEA Greenhouse Gas R&D Programme. [Click here](#) to download.

# Search Function

A screenshot of a Microsoft Internet Explorer browser window displaying the CSLF Search page. The browser's address bar shows the URL: <http://www.cslforum.org/search/cslforum/query.html?qt=capacity+storage+estimation&col=cslf&ht=0&qp=&qs=&qc=&pw=90%25&>. The search bar contains the text "capacity storage estimation" and a "search" button. Below the search bar, the results are displayed. The "Results for:" section shows "capacity storage estimation". The "Document count:" section shows "capacity (205) storage (326) estimation (52) capacity storage... (2)". The search results are sorted by relevance, and there are 344 results found. The first result is titled "CSLF- P/ T-2008-08 13 March 2008 POLICY GROUP TECHNICAL GROUP March 2008 CSLF Strategic Plan Implementation Report (SPIR) Note by the Secretariat Barbara N. McKee Tel ..." with a 57% relevance score and a date of 17 Mar 08. The second result is titled "Task Force to Review and Identify Standards for CO 2 Storage Capacity Estimation Report at the CSLF" with a 48% relevance score. The browser's taskbar at the bottom shows several open applications, including "Sent It...", "P:\21020...", "Microsoft ...", "Reportfro...", "Presentat...", "CSLF\_Ov...", and "CSLF Sea...". The system clock shows 4:49 PM.





# Presentations

A screenshot of a Microsoft Internet Explorer browser window displaying the CSLF Presentations page. The browser's address bar shows "http://csforum.org/presentations" with a red circle around the domain and a red arrow pointing to the "Presentations" link in the left-hand navigation menu. The page content is organized into sections based on meeting dates and locations. The left navigation menu includes links for Meeting Information, Documents, Presentations, Task Forces, Workshops, Publications, Projects, Roadmaps, Press, Links, Contact Us, CSLF Stakeholders Registry, Education Center, How to Apply for CSLF Membership, and CSLF Public Meeting Place. The main content area lists presentations from various meetings, including the CSLF Technical Group Meeting and Capacity Building Workshop in Al Khobar, Saudi Arabia (2008), the CSLF Meeting in Paris, France (2007), the CSLF Technical Group Meeting in London, United Kingdom (2006), the CSLF Meeting in Delhi, India (2006), and the CSLF Meeting in Berlin, Germany (2005). A link for "Written Welcome Remarks (pdf 860 KB) Wolfaana Clement, Minister" is also visible at the bottom.



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## Task Force Reports

### Policy Group

Capacity Building Task Force

Financial Issues Task Force

### Technical Group

Projects Interaction and Review Team  
(PIRT)

Storage Capacity Estimation Task Force

Risk Assessment Task Force

### Other Reports

Report from CSLF Secretariat

Report from Stakeholders

# Strategic Plan Implementation Report (SPIR)



## Status Reports from CSLF Recognized Projects

Alberta Enhanced Coalbed Methane  
Recovery Project

CASTOR

CO<sub>2</sub> Capture Project, Phase 2 (CCP2)

CO<sub>2</sub> GeoNet Project

CO2CRC Otway Project

CO2SINK

ENCAP

Frio Brine Pilot Project

Geologic CO<sub>2</sub> Storage Assurance at  
In Salah, Algeria

IEA GHG Weyburn-Midale CO<sub>2</sub> Monitoring  
and Storage Project

International Test Center (ITC) CO<sub>2</sub> Capture  
with Chemical Solvents

Regional Carbon Sequestration  
Partnerships

Regional Opportunities for Carbon Dioxide  
Capture and Storage in China

Zama Acid Gas EOR, CO<sub>2</sub> Sequestration,  
and Monitoring Project

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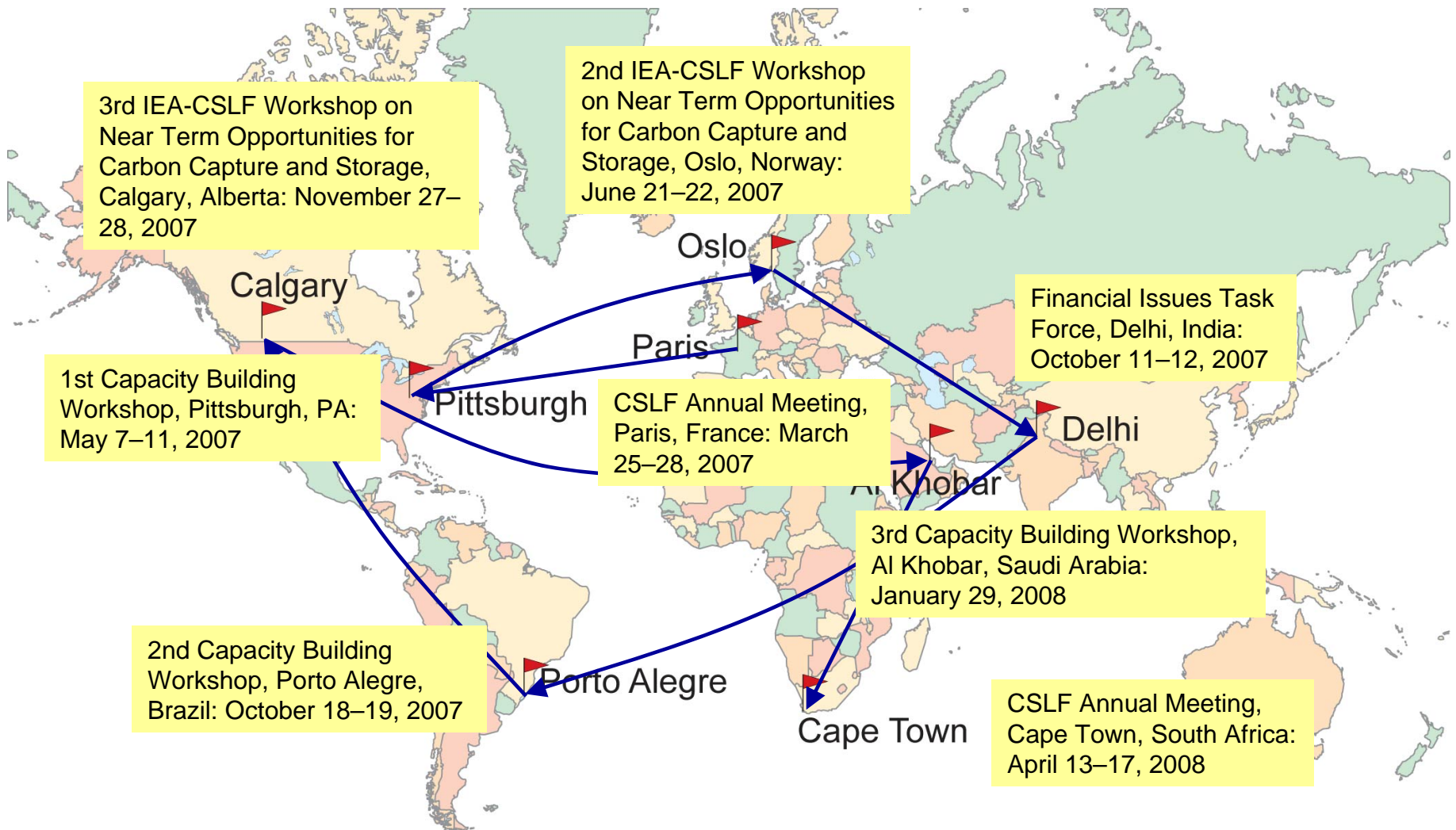


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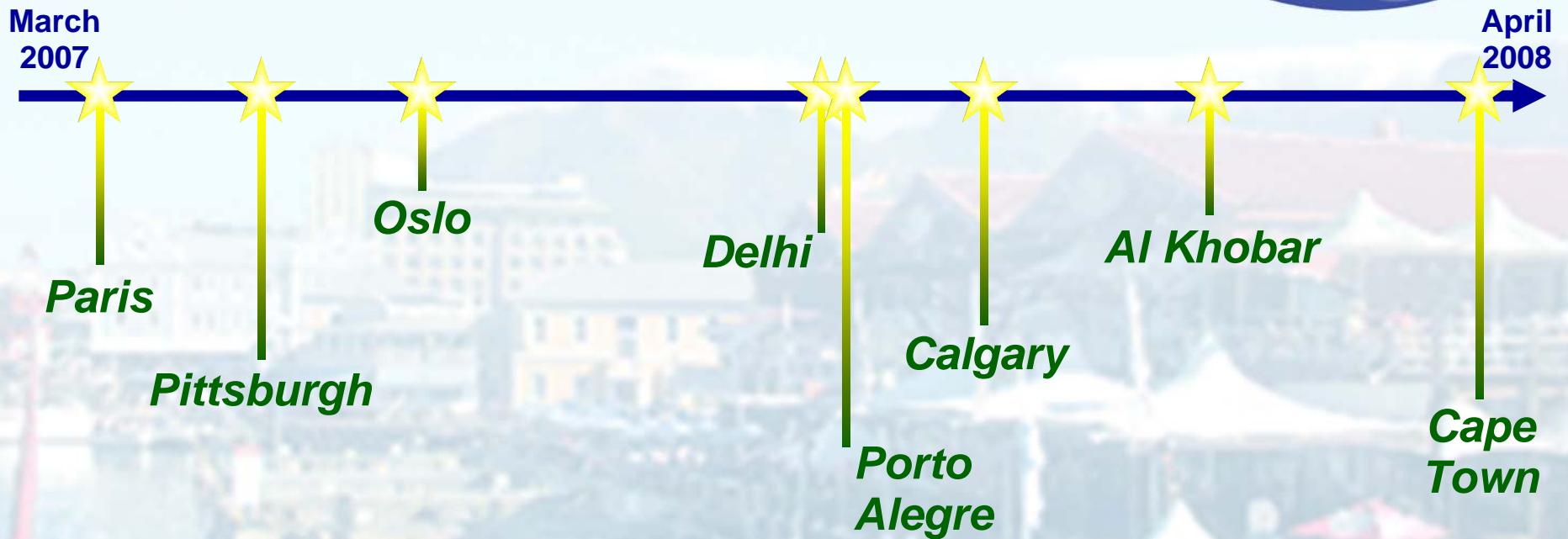


# CSLF Activities and Workshops March 2007 – April 2008

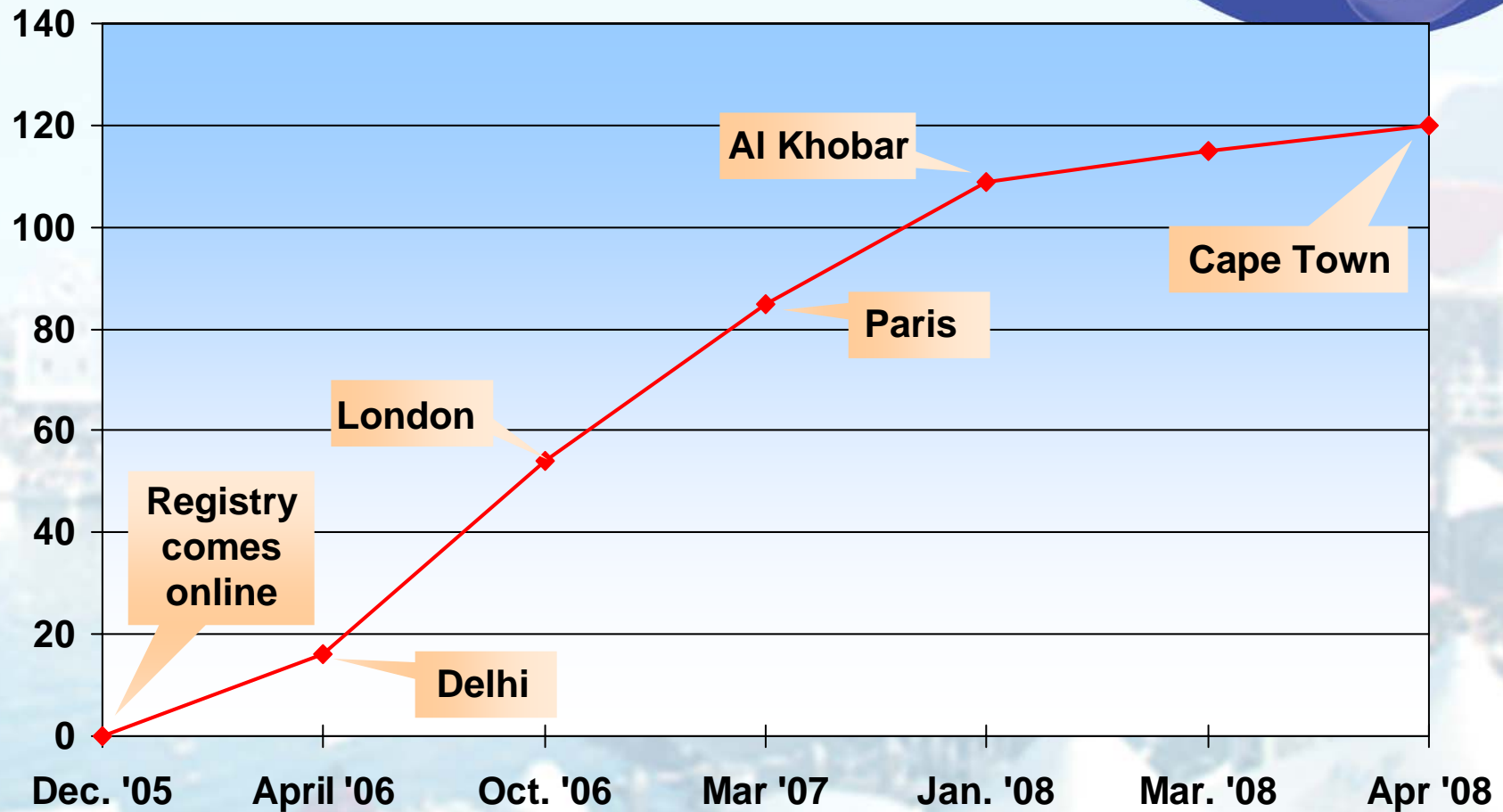




# CSLF Events Timeline



# Stakeholder Growth

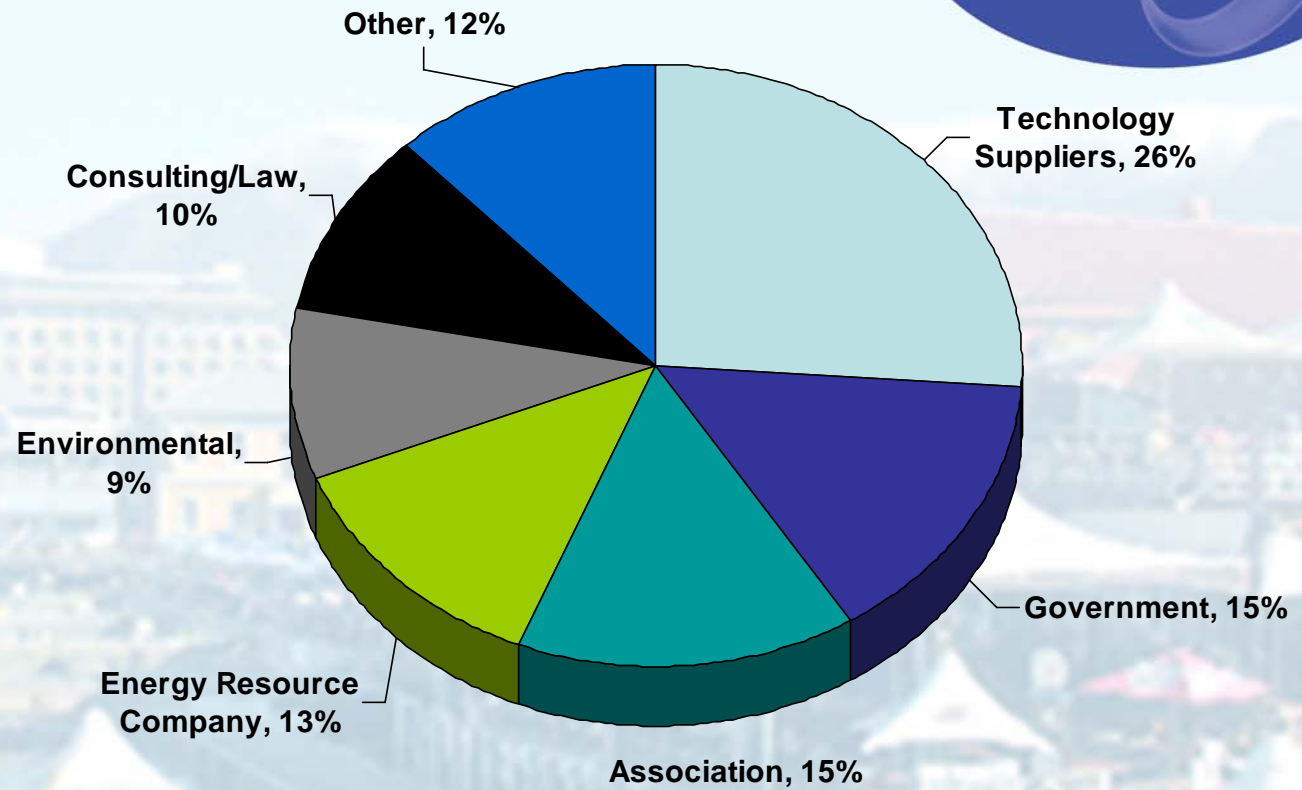


# Stakeholder Registry



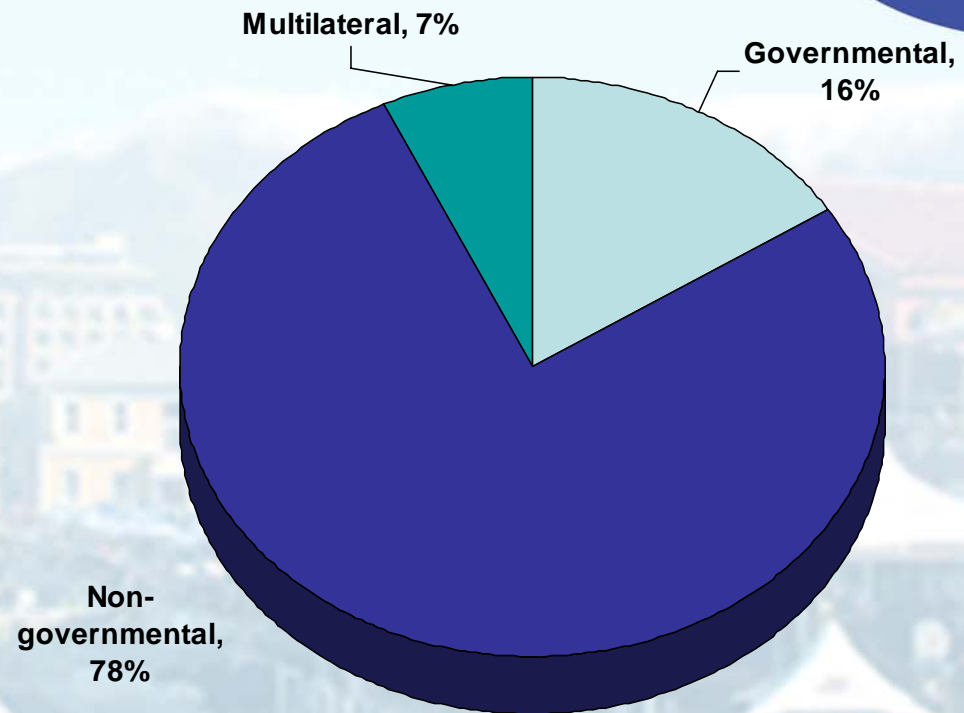
- 34 stakeholders have registered since the Paris CSLF meeting.
- 120 registered stakeholders, as of April 7, 2008
- Stakeholders by Industry:
  - Technology suppliers – 26%
  - Government – 15%
  - Association – 15%
  - Energy resource company – 13%
  - Environmental – 9%
  - Consulting/law – 10%
  - Other – 12%
- Areas of Interest:
  - CO<sub>2</sub> capture – 81%
  - CO<sub>2</sub> transport – 60%
  - CO<sub>2</sub> storage – 88%
  - Environmental policy – 83%
  - Energy policy – 86%
  - Economics – 72%
  - Legal/regulatory issues – 82%
  - Capacity building – 63%
  - Financing – 51%
- Type of organization:
  - Governmental – 16%
  - Non-governmental – 78%
  - Multilateral – 7%

# Stakeholders by Industry

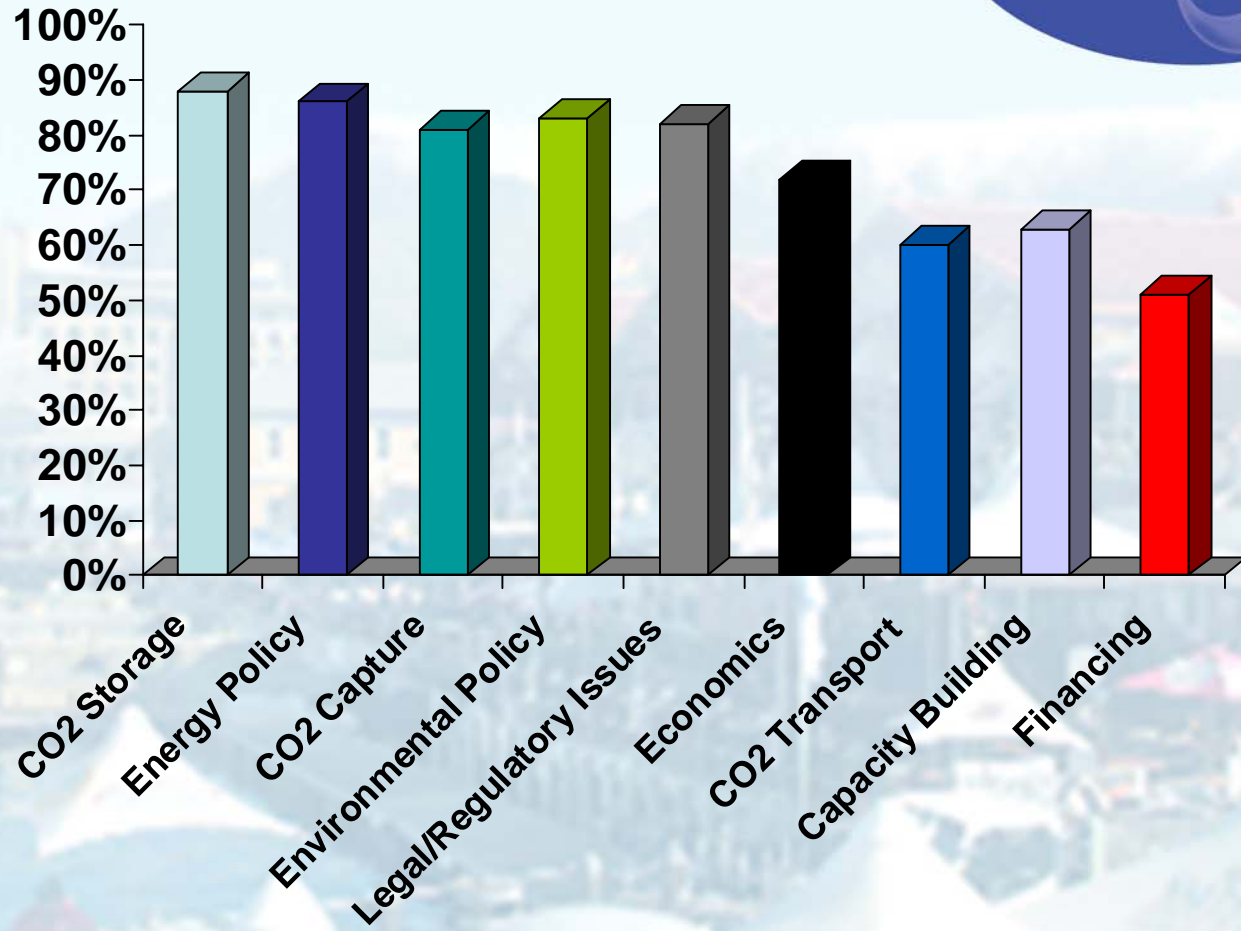




# Type of Organization



# Areas of Interest



# Overcoming Barriers to CCS Deployment Workshop Survey



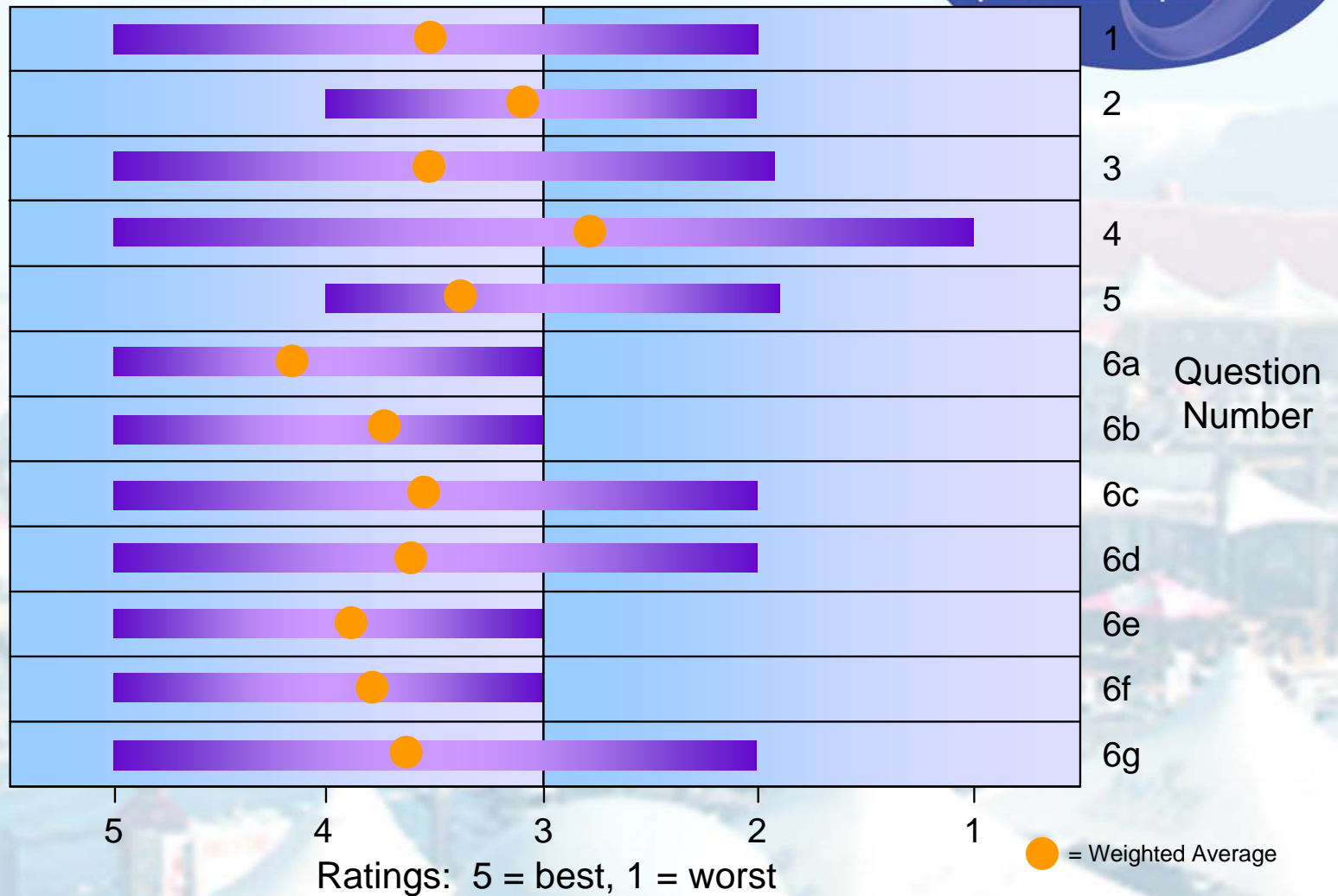
**Date of Workshop:** March 27, 2007

**Location:** IFP Offices, Paris, France

**Number of Attendees:** Approx. 120



# CCS Deployment Workshop Survey – Overall Ratings





# CSLF Project Recognition Survey



## Questions to Stakeholders:

1. Has your organization ever considered submitting a project to the CSLF for recognition?
2. What can the CSLF do to encourage project sponsors to apply for CSLF recognition?
3. What are the reasons for not seeking CSLF recognition?
4. Is your organization presently a sponsor of any of the 19 CSLF-recognized projects?

# CSLF Project Recognition Survey



## Questions to Project Sponsors:

1. What do you see as the value of CSLF recognition to a project sponsor?
2. What can be done to make CSLF recognition more attractive for project sponsors?



# CSLF Projects Overview

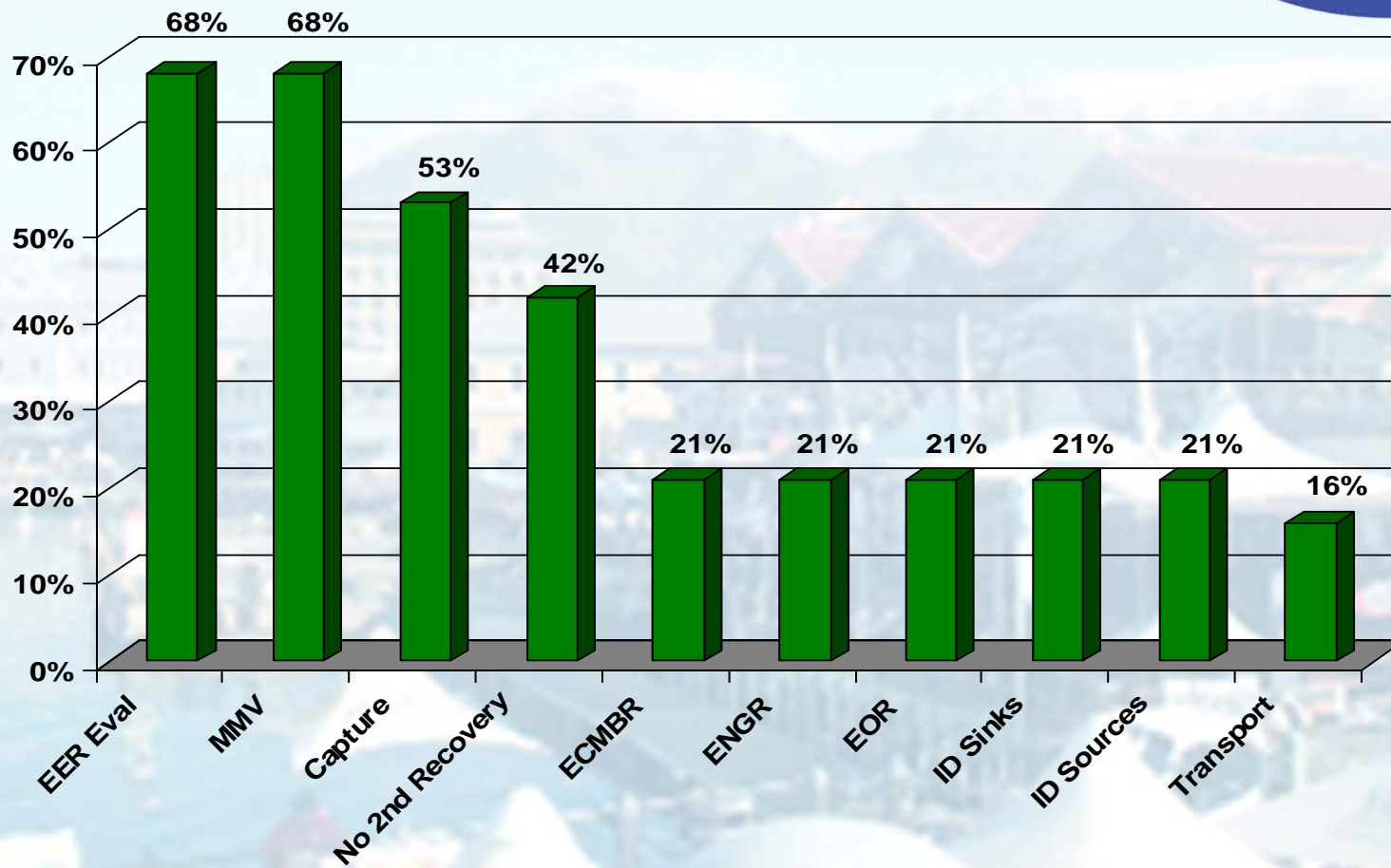


# Project Technologies



- 19 CSLF Recognized Projects (16 Active Projects; 3 Completed Projects)
- Project Technologies:
  - CO<sub>2</sub> Capture – 10 projects
  - CO<sub>2</sub> Transport – 3 projects
  - CO<sub>2</sub> Storage with Enhanced Oil Recovery – 4 projects
  - CO<sub>2</sub> Storage with Enhanced Coal Bed Methane Recovery – 4 projects
  - CO<sub>2</sub> Storage with Enhanced Natural Gas Recovery – 4 projects
  - CO<sub>2</sub> Storage with No Secondary Recovery – 8 projects
  - CO<sub>2</sub> Measurement, Monitoring, and Verification (MMV) of Storage – 13 projects
  - Identification of potential CO<sub>2</sub> storage sites – 4 projects
  - Identification of target CO<sub>2</sub> sources – 4 projects
  - Economic and/or Environmental Evaluation and/or Risk Assessment – 13 projects

# Project Technologies



Percentage of CSLF-Recognized projects showcasing a given technology

# Completed CSLF Projects



<i>Project</i>	<i>Location</i>
<p><b>China's CBM Technology/CO<sub>2</sub> Sequestration Project</b></p> <p>Conclusion: enhancement of coalbed methane recovery and storage of CO<sub>2</sub> is feasible in the anthracitic coals of Shanxi Province</p> <p>Current bi-lateral country funding phase (Canada and China) completed</p> <p>Recommendation 1: proceed to multi-well pilot at test site</p> <p>Recommendation 2: evaluate deeper coal seams at alternative sites</p> <p>Project paper in the <i>International Journal of Greenhouse Gas Control</i> Volume 1(2007) p. 215-222, available at <a href="http://www.sciencedirect.com">http://www.sciencedirect.com</a></p>	<p><b>China</b></p>
<p><b>CO2STORE</b></p> <p>Report: "Best Practice Manual" summing up results from the previous SACS project and CO2STORE (<a href="http://www.co2store.org">http://www.co2store.org</a>, look in "Archive")</p>	<p><b>Denmark, Germany, Norway, and United Kingdom</b></p>
<p><b>CASTOR</b></p> <p>Project duration: February 2004 – February 2008</p> <p>CASTOR 2 solvent under test (Sept. – Dec. 2007)</p> <p>Four site studies in progress (modeling, monitoring design, ...)</p> <p>Final CASTOR workshop 22-24 January 2008 with ENCAP, CACHET and DYNAMIS EU projects.</p> <p>Final technical reporting in progress</p>	<p><b>Denmark, Spain, Austria, The Netherlands, Norway</b></p>

# Cape Town Closing Dinner



**PROGRAM**  
**CLOSING DINNER**  
Cape Sun Hotel • 16 April 2008  
Hosted by South Africa Department of Minerals and Energy

**INTRODUCTORY REMARKS**  
Lesole Bethuel Kgobane, South African Organizing Committee

**HOST REMARKS**  
Muzi Mkhizi, Chief Director, Department of Minerals and Energy

**PRESENTATION OF CSLF RECOGNITION AWARDS**  
James A. Slutz, CSLF Policy Group Chairman

**CLOSING REMARKS**  
Lesole Bethuel Kgobane

The program agenda is centered within a white rectangular frame. The frame is decorated with a banner of international flags from various countries, including South Korea, Netherlands, United Kingdom, United States, Australia, Brazil, Canada, China, Colombia, Denmark, European Union, France, Germany, India, Italy, Japan, Mexico, and Norway. A smaller version of the Carbon Sequestration Leadership Forum logo is positioned in the top right corner of the frame.



# CSLF Recognition Awards



Completed Projects to be Honored at the Closing Dinner on Wednesday April 16<sup>th</sup>.

- China's CBM Technology/CO<sub>2</sub> Sequestration Project
- CO2STORE
- CASTOR





➤ Backup Slides

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# CSLF Annual Meeting Paris, France, March 25–28, 2007





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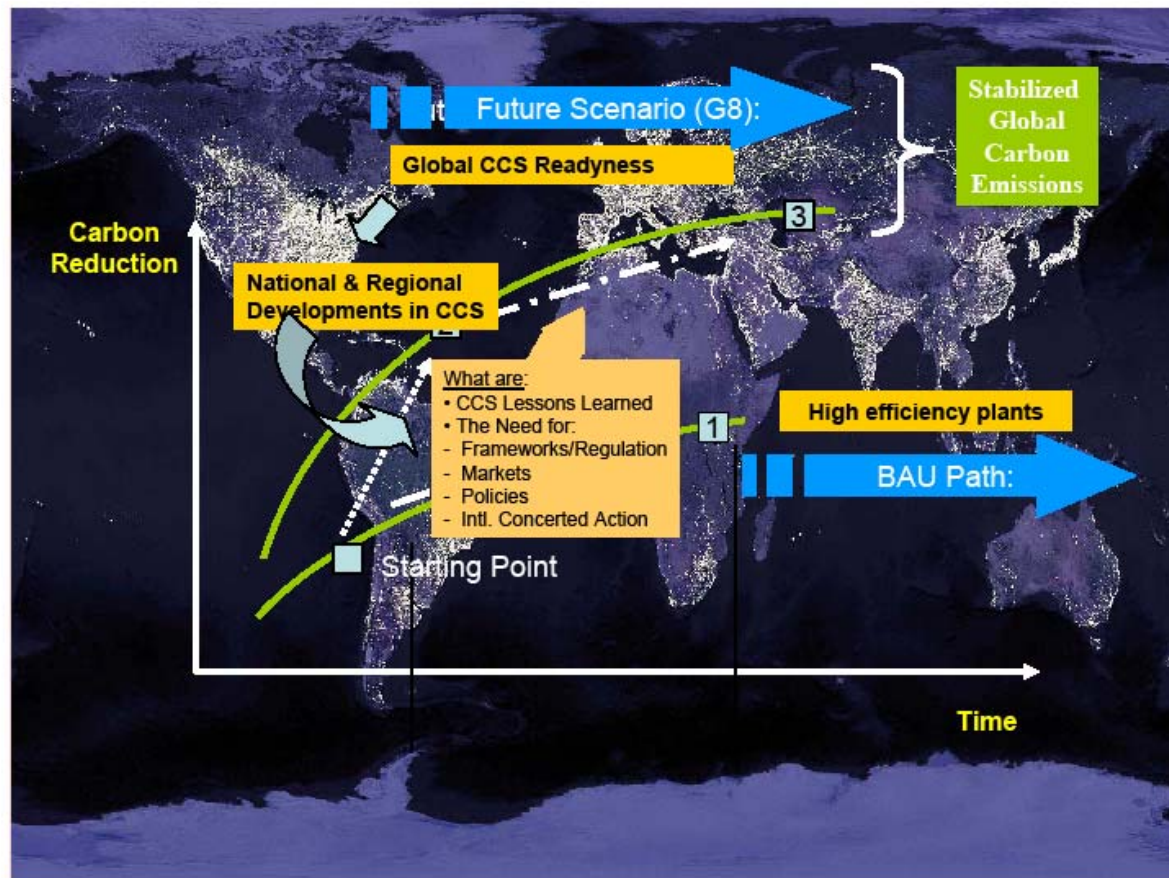
# 1<sup>st</sup> Capacity Building Workshop Pittsburgh, PA May 7–11, 2007





## Back to Timeline

# 2<sup>nd</sup> IEA-CSLF Workshop on Near-Term Opportunities for CCS Oslo, Norway, June 21–22, 2007



Back to Timeline

# Financial Issues Task Force

## Delhi, India, October 11–12, 2007





Back to Timeline

# 2<sup>nd</sup> Capacity Building Workshop

## Porto Alegre, Brazil, October 18–19, 2007





## Back to Timeline

# 3<sup>rd</sup> IEA-CSLF Workshop on Near Term Opportunities for Carbon Capture and Storage

Calgary, Alberta, November 27–28, 2007



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada



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## CSLF Technical Group Meeting

Al Khobar, Saudi Arabia,  
January 27–29, 2008



Back to Timeline

**CSLF Annual Meeting**  
**Cape Town, South Africa**  
**April 13–17, 2008**



# Overview



## Purpose:

- Gather feedback on the workshop's strengths and weaknesses.
- Learn what attendees would like to see in future workshops.



# Overview



## Attendees were asked about:

- Level of success in identifying opportunities and obstacles;
- Appropriateness of workshop content;
- Value of the poster session;
- Overall success of the workshop in meeting expectations;
- Interests of workshop attendees;
- Amount of presentations and panel discussions;
- Ideas for future workshops; and
- Overall impressions.



## Key Findings



- The workshop was worthwhile.
- 85% thought topics were appropriate (neutral or higher).
- Most were interested in technical as well as policy aspects.
- Unanimous support for more time for panel discussions.
- Majority would like to see fewer presentations.
- Overall Impressions:
  - More time for audience interaction and panel discussion.
  - Fewer presentations and posters.
  - Scheduling the workshop in the middle of a CSLF meeting ensures best possible attendance.

# CSLF Project Recognition Survey – Stakeholders



**1. Has your organization ever considered submitting a project to the CSLF for recognition?**

- Yes (7)
- Intend to, after funding decisions are made (2)
- No (2)

# CSLF Project Recognition Survey – Stakeholders



## 2. What can the CSLF do to encourage project sponsors to apply for CSLF recognition?

- More could be done to promote endorsed projects, to disseminate information on their progress and to facilitate collaboration between project participants
- Clarify and communicate the benefits of CSLF recognition
- Use the CSLF R&D projects to coordinate the development of policy and regulatory frameworks
- Widen areas of interest, and not restrict to "conventional" CO<sub>2</sub> capture & storage
- Seek out projects and solicit applications



## CSLF Project Recognition Survey – Stakeholders



### 3. What are the reasons for not seeking CSLF recognition?

- Benefits of doing so are not made clear
- Administrative burden outweighs apparent benefits
- Awaiting funding decisions/financial support
- For R&D projects there is currently little apparent pay-off in terms of project promotion and collaboration
- Lack of awareness of CSLF



# CSLF Project Recognition Survey – Stakeholders



**4. Is your organization presently a sponsor of any of the 19 CSLF-recognized projects?**

➤ Yes (7)

➤ No (4)

# CSLF Project Recognition Survey – Project Sponsors



## 1. What do you see as the value of CSLF recognition to a project sponsor?

- opportunity for to seek partnerships and collaborations
- distinguishes projects from rest of the pack
- “Prestige.”
- Access to US DOE co-funding, or other potential funding

# CSLF Project Recognition Survey – Project Sponsors



## 2. What can be done to make CSLF recognition more attractive for project sponsors?

- Pay for travel to present results at CSLF meetings
- Invite the project sponsors to present the progress, opportunities and technology advancement of a project to the CSLF audience
- Show clearly that the outputs from the research projects are used for policy development
- Increase the profile of projects and encourage CSLF members to work cooperatively rather than developing competing projects.
- Multi-lateral agreements among member countries that facilitate the project collaborations under those agreements.
- Seed funding for initiating collaborative projects through CSLF recognition
- There needs to be some way of CSLF demonstrating its value through national members or by providing better access to endorsed projects.