

Capacity Building Task Force for Carbon Capture and Storage in Emerging Economies



**2nd IEA/CSLF Workshop
for the G8 on
Early Opportunities for
Carbon Capture and
Storage
Oslo, Norway
21-22 June 2007**

Deputy Assistant Secretary
Justin R. Swift
Office of International Affairs and
Chair of the Capacity Building Task Force



Task Force on Capacity Building in Emerging Economies

- Melbourne 2004: capacity building activities first proposed
- Delhi 2006: Capacity Building Workshop approved
- Paris 2007: Capacity Building Workshop final details announced
- Invitations sent to all six emerging economy Members of the CSLF: Brazil, China, Colombia, India, Mexico, and South Africa. As member of the Task Force on Capacity Building, Saudi Arabia was invited to send participants to the Workshop
- Pittsburgh, USA, May 7-11, 2007: Capacity Building Workshop on Carbon Capture and Storage is held



Objectives of Capacity Building

- Assist emerging economy Members to develop needed expertise and institutions
- Develop a set of educational resources that all CSLF Members can utilize
- Transfer lessons from CSLF Projects and other known Carbon Capture and Storage (CCS) Initiatives.

The Workshop



Workshop on Capacity Building for Carbon Capture & Storage (CCS)

May 7-11, 2007
Sheraton Station Square
Pittsburgh, PA

Hosted by:



Organized by:



Workshop Details



- Held in Pittsburgh, Pennsylvania, May 7-11, 2007
- The 2 ½-day overview course was combined with the 2 ½-day 6th Annual Conference on Carbon Capture and Storage (CCS)

Workshop Details



- ✿ The workshop was organized under the CSLF, sponsored by the U.S. Department of Energy (DOE), and hosted by DOE's National Energy Technology Laboratory (NETL)
- ✿ Workshop presentation materials have been uploaded on the CSLF website (www.cslforum.org)





Workshop Highlights

- ❖ Course syllabus was developed to meet emerging economy needs. Comments from participants were considered in the preparation of the syllabus
- ❖ Internationally renowned experts lead the lectures
- ❖ The 6th Conference provided the participants with technical, economical, and policy information that complemented what they learned during the workshop
- ❖ A comprehensive evaluation form was given to participants that allowed them to provide feedback for future workshops
- ❖ Participants toured NETL's Carbon Capture and Storage R&D facilities

Countries Participating in Workshop



Number of participants and entities represented:

- ☑ **Brazil** – 15 participants (Petrobras, Ministry of Science and Technology, Pontifical Catholic University, Santa Catarina Coal Producers Association, Ecoplan Institute)
- ☑ **Colombia** – 1 participant (Ministry of Mines and Energy)
- ☑ **India** – 15 participants (Ministry of Science and Technology, Central Electric Authority, Indian Institute of Petroleum, National Thermal Power Corporation, Oil India Limited, CDM Group)
- ☑ **Mexico** – 3 participants (Energy Secretariat, PEMEX, Mexican Institute of Petroleum)
- ☑ **Republic of South Africa** – 10 participants (Department of Minerals and Energy, Sasol, Anglocoal, Eskom, Council for GeoScience)
- ☑ **Saudi Arabia** – 4 participants (Ministry of Petroleum and Mineral Resources, Saudi Aramco, King Abdul Aziz City for Sci. and Tech.)



Brazilian Delegation



Indian Delegation



Goal and Results

Goal: Participants to leave with a sound entry level understanding of development and implementation of CCS Projects.

- Based on evaluation questionnaire, the workshop was a **resounding success**. All participants who returned the completed questionnaire stated that the workshop **met its intended objective and their needs** as the initial event.
- Overall, comments were positive and valuable suggestions were given by the participants such as the need for additional site visits, making it more interactive so countries can bring up their specific circumstances, presentation of emerging economies case study, etc.
- Participants considered the opportunity to also attend the 6th Conference as extremely helpful and the tour of NETL facilities as an excellent complement to reinforce what was learned at the workshop and conference



Course Syllabus

- ✓ Overview of Issues and Need for Carbon Management
- ✓ CO₂ Storage Capacity and Assessment
- ✓ Risk Management
- ✓ Carbon Capture
- ✓ Measuring, Monitoring, and Verification
- ✓ Stakeholder Involvement
- ✓ Legal/Policy/Regulation in CCS
- ✓ Economics/Costs/Financing CCS Projects



Next Steps to be Discussed by Task Force

- Perform “lessons-learned analysis”
- Compile Workshop developed materials as future educational resources
- Explore opportunities for “in-country” (country-specific) capacity building.
- Saudi Arabia has offered to host the next multi-country capacity building workshop. Details are to be discussed at the next meeting of the Task Force on Capacity Building for Emerging Economies
- Identify resources necessary for future capacity building activities