

**Review of 1<sup>st</sup> CSLF Workshop  
on Capacity Building -  
Pittsburgh, USA, May 2007**



**CSLF Technical Group Meeting and  
3<sup>rd</sup> CSLF Workshop on Capacity Building  
for Carbon Capture and Storage**

**Dhahran, Saudi Arabia  
January 27 – 29, 2008**

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U.S. DOE Office of Fossil Energy  
Chair, CSLF Capacity Building Task Force**

## How Pittsburgh Workshop came to be:



- 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 Task Force on Capacity Building member Saudi Arabia was invited to participate in Workshop
- The United States Department of Energy (DOE) made commitment to fund workshop logistics and provide in-kind support to organize event. Delegate expenses were to be covered by own countries or by DOE.



## 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 CCS initiatives

# The Workshop



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

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

Organized by:



Hosted by:



# The Pittsburgh Workshop



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

# The Pittsburgh Workshop



- ✿ 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](http://www.cslforum.org))



# Pittsburgh 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



# 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 6<sup>th</sup> 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 Pittsburgh 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.)
- ☑ One unofficial representative from **China**, sponsored by Australia, attended a portion of the Workshop



**Indian Delegation**



**Brazilian Delegation**



# Results from Evaluation Analysis



1. The Workshop's goal was for the Participants to leave with a sound entry level understanding of development and implementation of CCS Projects. All participants who returned the completed questionnaire stated that the workshop met its intended objective and their needs as the initial event.
2. Combining the CSLF workshop with the CCS conference was judged to have reinforced the workshop presentations and discussions.
3. The workshop speakers were rated as subject matter experts in their fields, with their performances as a speaker and their presentations rated almost unanimously as very good.
4. All of the workshop topics received positive ratings overall.

# Results from Evaluation Analysis



5. It was recommended that the CBTF consider:
  - ❖ developing a suite of basic, mid-level, and advanced CCS technology/policy/market workshops;
  - ❖ convening future workshops in emerging economies;
  - ❖ providing broader international perspectives via delivering Keynote Speeches and sessions devoted to emerging economy issues;
  - ❖ allowing more time for dialogue between presenters and participants;
  - ❖ visiting a pilot CCS demonstration site in conjunction with a future workshop, and;
  - ❖ ensuring the broadest possible CCS information dissemination via CDs, websites, etc.