

# POLICY GROUP TECHNICAL GROUP

# Secretariat Report on Strategic Plan Implementation Reports

Note by the Secretariat

Barbara N. McKee Tel: 1 301 903 3820 Fax: 1 301 903 1591

CSLFSecretariat@hq.doe.gov



# Secretariat Report on Strategic Plan Implementation Reports

Note by the Secretariat

# **Background**

At the April 2006 CSLF meeting in Delhi, India, a Strategic Plan was proposed by the CSLF Policy Group's Task Force on CSLF Strategic Plan, Management and Structure that was adopted in May 2006 by the CSLF Policy Group after a 30-day comment period. The Strategic Plan includes activities for the Policy and Technical Groups and Stakeholders. In order to achieve the goals of the Strategic Plan and the CSLF, the CSLF Executive Committee has implemented a new system for the quarterly reporting of progress. To that end, all Task Forces, the CSLF Secretariat, and Stakeholders were asked to prepare progress reports that would be collected into a Strategic Plan Implementation Report (SPIR). The SPIR would then be distributed to all CSLF delegates by the Secretariat and posted to the CSLF website. This report is a compilation of the two SPIRs that have been issued to date.

Action Requested

None.

# First Strategic Plan Implementation Report (December 2006)



#### December 1, 2006

# Dear Colleague:

I am pleased to report that the year 2006 has been a year of growth and moving forward for the Carbon Sequestration Leadership Forum (CSLF). We have made significant progress on a number of important issues such as technology gaps analysis, capacity building, outreach, and implementing a strategic plan. To be able to continue and build on this forward momentum, it has become very clear that we needed a way to communicate progress in all of these areas throughout the year, rather than just at the meetings. As a reaction to this, the CSLF Executive Committee, earlier this year, decided to initiate the Strategic Plan Implementation Report (SPIR).

The SPIR is a means for keeping you, the CSLF delegates, up to date about CSLF activities, including those of the Task Forces of the Policy and Technical Groups, the Stakeholders, and the CSLF Secretariat. A new SPIR will be published and sent to you quarterly, and all SPIRs will be available at the CSLF website (www.cslforum.org).

The first SPIR is enclosed. Since the April CSLF meeting in Delhi, India, there has been much activity by CSLF Task Forces and other working groups. Enclosed in this SPIR are individual reports of their activities, but here are some of the highlights:

- The Policy Group's Task Force on Legal Issues, in cooperation with the International Energy Agency, recently held a workshop on Legal Aspects of Storing CO<sub>2</sub>. It is currently at work on a draft report on this topic, which will be published by the IEA next year.
- The Policy Group's Task Force on Capacity Building has gotten started on the planning for a workshop we would like to hold next year in the United States, in Montana. It is also developing a set of informational, training and educational resources that all CSLF Members can use.
- The Technical Group's Projects Interaction and Review Team (PIRT) has created a
  framework for the assessment of technology gaps covering CO<sub>2</sub> capture and storage
  issues. It has also developed an initial set of metrics intended for use in assessing
  projects proposed for CSLF recognition.
- The Technical Group's Task Force for Review and Identification of Standards for CO<sub>2</sub>
  Storage Capacity Measurement has completed all of its Phase I and most of its Phase II
  activities. The result will be a report, to be finished in time for the Paris CSLF meeting
  next April that will serve as a basis for any country to collect the necessary information
  for properly assessing its geologic CO<sub>2</sub> storage capacity.
- Two of the Technical Group's other Task Forces, for Identifying Technology Gaps in CO<sub>2</sub> Capture and Transport and for Identifying Technology Gaps in CO<sub>2</sub> Monitoring and Verification of Storage, have finished their activities and submitted final reports.

- The CSLF Stakeholders have been actively promoting CO<sub>2</sub> capture and storage concepts
  at meetings and workshops held in France, China, Romania, Malaysia, Estonia, and
  Russia. They are also actively trying to identify potential geologic carbon sequestration
  demonstration projects that could be proposed for CSLF recognition.
- The CSLF Secretariat has been active in many areas, including organizing the upcoming CSLF meetings in London and Paris, preparing many documents for these meetings including the draft project selection methodologies and guidelines, and being the point for all CSLF public outreach activities. The Secretariat has also worked very hard to make the CSLF website a world-class resource for information not only about the activities of the CSLF itself, but also on CO<sub>2</sub> capture and storage activities in general.

In addition, there have been two Workshops that the CSLF has jointly sponsored with the International Energy Agency (IEA). The first, held in San Francisco in August, was devoted to the topic of Near-Term Opportunities for Carbon Capture and Storage, and was attended by approximately 130 experts on various aspects of Carbon Capture and Storage from fifteen countries. It was a very productive and useful event. The IEA will prepare a report on this event soon, but presentations from the Workshop are already online at the CSLF website (www.cslforum.org/aug222006.htm). A second Workshop, on the topic of Legal Aspects of Storing CO<sub>2</sub>, was held in Paris on October 17th, and by all accounts was a great success. Presentations from the Workshop will be available at the CSLF website soon.

I invite your comments and suggestions on this first SPIR and on the progress of CSLF activities. Please e-mail any such comments to the CSLF Secretariat at: CSLFSecretariat@hq.doe.gov.

Meanwhile, we are moving ahead with planning for several future events:

- Stakeholder, Policy and Technical Group Meetings, Paris, France, April 2007;
- Second Joint Workshop with the IEA on Near-Term Opportunities for Carbon Capture and Storage, Oslo, Norway, June 21-22 2007; and
- Third Joint Workshop with the IEA on Near-Term Opportunities for Carbon Capture and Storage, Canada, October 2007.

I am very excited about the work of the CSLF and greatly encouraged by the direction set in our new Strategic Plan. Together, we can make a difference.

Sincerely,

Jeffrey D. Jarrett

Assistant Secretary for Fossil Energy

and

Chair, CSLF Policy Group

Enclosures

# Strategic Plan Implementation Reporting Systems

# Note by the Secretariat

# Background

This is the initial reporting under the new Strategic Plan Implementation Reporting System (SPIR).

Reports were received from the following CSLF activities:

Capacity Building in Emerging Economies

Legal Issues

Projects Interaction and Review Teams (PIRT) Activities

Identify Gaps in CO2 Capture and Transport

Stakeholders

Secretariat

50 stakeholders have signed up for the CSLF registry since the April CSLF meeting. Currently there are 66 registered stakeholders.

A CSLF Discussion Forum was approved by the Policy Group for a 6-month trial. Its purpose is to facilitate greater involvement of the stakeholders and to foster greater communications both among stakeholders, and between stakeholders and the CSLF. Development of the CSLF Discussion Forum is nearing completion.

Discussion has been initiated between the CSLF Secretariat and the European Commission to develop draft procedures for election of the Technical and Policy Group Chairs and Vice Chairs.

# Capacity Building in Emerging Economies Task Force CSLF Task Force Strategic Implementation Report (TFIR)

#### 1. Task Force

- CSLF Capacity Building Training Workshop
- A capacity building initiative was approved at the Delhi meeting, held on April 4, 2006, to assist emerging economy members build capacity for carbon sequestration.

#### 2. Task Force Members

- Australia
- Canada
- Columbia
- India
- Italy
- Mexico
- Saudi Arabia
- South Africa
- U.S. Chair

#### 3. Purpose of Task Force

- Assist emerging economy Members to develop the knowledge, skills, expertise and institutions they need to understand and implement carbon sequestration.
- Develop a set of informational, training and educational resources that all Members can utilize.
- Identify, document and transfer lessons learned from the prior experience of CSLF recognized projects and sequestration-related institution building.

# 4. Milestones

• 8/17/06 - Chair of the CSLF approved Montana State University, Bozeman, MT as the venue for the Capacity Building Workshop for the week of March 12, 2007.

#### 5. Status

 Date on Going – obtain funding from the CSLF Member Countries to proceed with the Building Capacity Workshop.

# Legal Issues Task Force CSLF Task Force Strategic Implementation Report (TFIR)

#### 1. Task Force

- 2nd IEA/CSLF Workshop and Publication on Legal Aspects of Storing CO<sub>2</sub>
- Conduct Workshop and produce Publication to further investigate the five priority issues (IP, national legal and regulatory frameworks, international environment protection instruments, creating a level playing field for CCS, public awareness) identified in the 1<sup>st</sup> Workshop (July 2004) and Publication (2005) on Legal Aspects of Storing CO<sub>2</sub>

#### 2. Task Force Members

- Tania Constable, Australia (Chair)
- Peter Horracks, European Commission
- Scott Brockett, European Commission
- Carole Lancereau, France
- Philippe Geiger, France
- Jacek Podkanski, France (IEA Secretariat)
- Hans Spiegler, the Netherlands
- Caroline van Dalen, the Netherlands
- Dag Trygve Enden, Norway
- Mette Karine Gravdahl Agerup, Norway
- Brian Morris, United Kingdom
- Tim Dixon, United Kingdom
- Barbara McKee, United States (IEA WPFF)
- Jeff Price, United States
- Mike Smith, United States

# 3. Purpose of Task Force

- Goals or outcomes sought include further exploring the five priority issues to:
  - raise awareness of the issues
  - create discussion regarding the five issues (IP, national legal and regulatory frameworks, international environment protection instruments, creating a level playing field for CCS, public awareness) and
  - assist in developing solutions to these issues
- Performance indicators include attendance at Workshop, general level of interest in reviewing Publication, number of copies of Publication sold/downloaded

# 4. Milestones

- End May 2006 complete drafting of discussion papers on five priority issues
- 17 October 2006, Paris 2<sup>nd</sup> IEA/CSLF Workshop on Legal Aspects of Storing CO<sub>2</sub>
- November/December 2006 Taskforce to finalise draft of legal report and handover to IEA
- Early 2007 IEA to publish 2<sup>nd</sup> report on Legal Aspects of Storing CO<sub>2</sub>

#### 5. Status

- Lead countries (United States, United Kingdom, Norway, the Netherlands, Australia) produced discussion papers on five priority issues
- Drafting group (led by Australia) produced a discussion paper to be discussed at Workshop based on the five discussion papers
- Logistics group (France and Australia) finalizing preparations for the Workshop

# Project Interaction and Review Team (PIRT) CSLF Task Force Strategic Implementation Report (TFIR)

#### 1. Task Force

Project Interaction and Review Team (PIRT)

The formation of the CSLF Projects Interaction and Review Team (PIRT) was endorsed by the Policy Group at the CSLF Meeting in New Delhi in April 2006. Its main aim is to help the CSLF meet its goals through the recognition of CSLF projects. In this role the PIRT will operate under the supervision of the CSLF Technical Group.

By responding to the gaps and priorities identified in the CSLF Technology Roadmap, the CSLF projects will be a key element in generating and exploiting the knowledge that may lead to improved CCS technologies. It is therefore of major importance to have appropriate mechanisms within the CSLF for the recognition, assessment and dissemination of projects and their results for the benefit of the CSLF and its Members. The PIRT will play an instrumental function in this context.

#### 2. Task Force Members

The Team consists of:

• A Core Group comprising the Chair and Vice Chairs of the Technical Group, and other delegates as designated by the Technical Group. Current membership consists of representatives from:-

Australia John Bradshaw Canada Bill Reynen

Denmark Flemming Ole Rasmussen

European Commission Denis O`Brien
Germany Volker Breme
India Malti Goel
Norway Trude Sundset
UK Nick Otter
USA Howard Herzog

The chair is performed via a 3 co-lead approach (currently with Australia, EC and UK) with 1 person to change on an annual basis, so ensuring continuity, sharing the work load and providing opportunity for change.

 A Floating Group comprising representatives of CSLF recognized projects with overall management responsibility in the project (e.g. Project manager), as well as other subject area experts.

#### 3. Purpose of Task Force

The PIRT has the following tasks:

- Assess projects proposed for recognition by the CSLF in accordance with the project selection criteria approved by the Policy Group. Based on this assessment, make recommendations to the Technical Group on whether a project should be accepted for recognition by the CSLF.
- Review the CSLF project portfolio and identify synergies, complementarities and gaps, providing feedback to the Technical Group and input for further revisions of the CSLF

roadmap.

- Identify technology gaps where further RD&D would be required.
- Foster enhanced international collaboration for CSLF projects, both within individual projects (e.g. expanding partnership to entities from other CSLF members) and between different projects addressing similar issues.
- Promote awareness within the CSLF of new developments in CO2 Capture and Storage by establishing and implementing a framework for periodically reporting to the Technical Group on the progress within CSLF projects and beyond.
- Organize periodic activities to facilitate the fulfilment of the above functions and to give an
  opportunity to individuals involved in CSLF recognized projects and other relevant individuals
  invited by the CSLF, to exchange experience and views on issues of common interest and
  provide feedback to the CSLF.
- Perform other such tasks that may be assigned to it by the CSLF Technical Group.

#### 4. Milestones

o At its first meeting held on 2<sup>nd</sup> April 2006 in Delhi the Governance issues for the PIRT were discussed and agreed upon and future activities decided

#### **April 2006**

o Completion of a comprehensive gap assessment with the aim of identifying where CSLF projects should be encouraged in relation to the CSLF Charter

# December 2006

 Completion of a review CSLF project selection criteria to ensure consistency with CSLF Charter, CSLF Technology Roadmap and Gap Assessment action and to establish a set of guidelines/metrics to be used by PIRT within its project assessment function.

December 2006

Organization of a Project Workshop aimed at sharing experience and identifying where CSLF projects would be most useful.

**April 2007** 

o Assessment of potential candidate CSLF Projects and make recommendations to the Technical Group as to their suitability.

September 2007

#### 5. Status

- □ A briefing paper of the function of PIRT has been established by the Core Group. This has been sent to all CSLF Project contact points as part of the engagement process of them and other stakeholders as members of the Floating Group in the activities of the PIRT.
- A framework for the assessment of gaps covering capture and storage issues has been established by the Core Group. This will be distributed to the members of the Floating Group

in October 2006 in order for them to assess what level of contribution the outcome of their CSLF Projects will have in assessing key issues. Their response will be considered at the next meeting of PIRT in London on 14<sup>th</sup> November 2006 when it will be used to help establish the format of the Project Workshop planned for April 2007 adjacent to the Joint Technical/Policy Group meeting.

- ☐ It is envisaged that the Workshop will involve many stakeholders, especially from those involved in CSLF and other related projects, and be a major event in the CSLF calendar promoting awareness and sharing experience.
- An initial set of metrics to enable PIRT to assess potential CSLF projects has been established. This will be refined at the next PIRT and Technical meetings due in London on 14<sup>th</sup> and 15<sup>th</sup> November 2006.

# Task Force to Identify Gaps in CO2 Capture and Transport CSLF Task Force Strategic Implementation Report (TFIR)

#### 1. Task Force

- The task force on identifying the GAPs in existing knowledge of CO2 capture and transport.
- The task force has worked to identify the knowledge GAPs concerning CCS, but limited to the Capture and Transportation steps in the full chain of capture and storage of CO₂. Only technical ways to capture CO₂ are considered, i.e. reforestration and other system-related ways are not included. Technical options should also be read as referring to energy production or in energy related industrial processes. There exist numerous industrial processes where CO₂ can be captured, which are not discussed e.g. in the chemical, petrochemical, food and paper and pulp industries.

#### 2. Task Force Members

- Lars Strömberg Vattenfall AB Sweden, representing the European Commission (appointed chairman in Jan 2005)
- Chen Wenying Tsinghua University, representing China
- Claudio Zeppi ENEL S.p.A. representing Italy
- Hubert Höwener Forschungszentrum Jülich GmbH, representing Germany. (replaced in 2006 by Volker Breme, Forschungszentrum Jülich GmbH)
- Lars Ingolf Eide Norsk Hydro ASA, representing Norway
- Jean-Xavier Morin Alstom, representing France
- Germany also added Jürgen-Friederich Hake from Forschungszentrum Jülich to their representation.

#### 3. Purpose of Task Force

- The purpose of the Task force is:
  - o to identify the primary gaps in knowledge and subsequently the research needs related to carbon dioxide capture and transport
  - o to provide input to update the R&D Roadmap
- During the process several related reports have been published. The outcome both from the IPCC special report on CCS and also the European Zero Emission Technology Platform for Fossil Fuelled Power Plants, are in general terms similar in their conclusions as this report. A separate report comparing the CSLF task force report and the IPCC Special Report has been made.

#### 4. Milestones

- The task force was set up in September 2004
- A first Draft of the GAP analysis was presented to the Oviedo meeting in **February 2005**.
- A second Draft was presented in August 2005 and The Technical Group approved the gap analysis on the **29**<sup>th</sup> **of September 2005** in its form at that time. However some delegates had not had time to provide their views and a further revision was conducted.
- The final version of the report will be presented after a renewed examination process at the Technical Group meeting in London on the 15<sup>th</sup> of November 2006
- A preliminary report on the differences and similarities between this GAP analysis and the IPCC special report was provided in **February 2006** to the Technical Group.
- The task force has also provided a proposal to define a second appointment from the meeting of the Technical Group in September 2005 concerning a discussion on process integration, the

definition of the task and the R&D needs in this area. This report was provided to the Technical group at end of **March 2006**.

# 5. Status

- The GAP report has now been accepted by all delegates concerned in the form which will be presented at the London meeting in November 2006. If the meeting approves, the task force will consider this work finalized.
- The London meeting of the Technical Group should decide if the work on Process Integration shall continue.

Task Force on Reviewing and Identifying Standards with Regards to CO<sub>2</sub> Storage Capacity Measurement CSLF Task Force Strategic Implementation Report (TFIR)

#### 1. Task Force

■ Standards for CO<sub>2</sub> Storage Capacity Estimation – Phase 2

Previous attempts to assess CO<sub>2</sub> storage capacity used a wide variety of approaches and methodologies that considered various trapping mechanisms, and data sets of variable size and quality, resulting in widely varying estimates of inconsistent quality and reliability. Storage capacity estimates have been produced for Australia, Canada, northern Europe, Japan, USA, and projects are under way to assess the storage capacity in southern and eastern Europe. At its meeting in September 2004 CSLF recognized the need to provide consistent and accepted methodologies for estimating CO<sub>2</sub> storage capacity in developed and developing countries alike and established a *Taskforce for Review and Development of Standard Methodology for Storage Capacity Estimation*. In September 2005 the Taskforce presented the results of Phase 1 in a Discussion Paper in which previous estimates were critically analyzed and gaps in knowledge and/or methodology were identified. Phase 2 of the Taskforce assignment covers definitions, concepts and methodologies to be used in estimating CO<sub>2</sub> storage capacity that should serve as a basis in CSLF member countries for collecting the necessary data and properly estimating the CO<sub>2</sub> storage capacity in geological media in their jurisdiction.

#### 2. Task Force Members

- Stefan **Bachu**, Canada, Chair
- Didier **Bonijoly**, France
- John **Bradshaw**, Australia
- Robert Burruss, USA
- Niels Peter **Christensen**, EC
- Sam Holloway, UK
- Odd-Magne Mathiassen, Norway

#### 3. Purpose of Task Force

- The main goal of the Taskforce is to develop a clear set of definitions and methodologies that will allow:
  - Consistent assessments of CO<sub>2</sub> storage capacity in geological media at various levels based on jurisdiction and/or geological domains that will provide policy and decision makers in government and industry with the necessary information needed for making the right decisions regarding CCS implementation;
  - 2) Comparison of CO<sub>2</sub> storage capacity at various levels (country, basin, regional) and among sites;
  - 3) Understanding of the basis for estimation and critical review of results.
- Performance indicators are:
  - 1) Adoption of the report by the CSLF Technical Group (*realistic*)
  - 2) Adoption of definitions and methodologies by CSLF member countries (*realistic*)
  - 3) Adoption of definitions and methodologies by other countries (*ambitious*)
  - 4) Use of the recommended definitions and methodologies by government, research and/or industry groups in producing assessments of CO<sub>2</sub> storage capacity at various levels (country, basin, regional, local and site specific)

#### 4. Milestones

- Phase 2 Report, to be produced in time for the next CSLF Joint Meeting of the Policy and Technical Groups in April 2007
- Recommendations regarding future work at the next CSLF Joint Meeting of the Policy and Technical Groups in April 2007
- Possibly a paper to be submitted to and published in the International Journal of Greenhouse Gas Control, summer 2007
- Inclusion of definition and methodologies in training materials to be produced by the CSLF Capacity Building Task Force

#### 5. Status

- Phase 1 ended in September 2005
- This is the first Quarterly Progress Report for Phase 2
- Part 1 of the Phase 2 report has been completed, it contains:
  - o Introduction
  - Summary of Phase 1
- Part 2 of the Phase 2 report has been completed, it contains chapters on:
  - o CO<sub>2</sub> Storage Capacity in Coal Beds
  - o CO<sub>2</sub> Storage Capacity in Oil and Gas Reservoirs

# CSLF Stakeholder Update CSLF Task Force Strategic Implementation Report (TFIR)

September 29, 2006 Covering the period: April-September 2006

# A. World Energy Council (WEC)

Since the April meeting of CSLF in Delhi, the following activities have been conducted:

#### **Dissemination and Outreach**

- 1) Presentations of CCS concepts, status and outlook at WEC meetings and workshops held in:
  - a) Paris (France), WEC Programme Committee meeting, 40 participants
  - b) Shauxing (China), WEC Regional Forum, 70 participants
  - c) Neptun (Romania), WEC Regional Forum, 40 participants
  - d) Kuala Lumpur (Malaysia), Power Generation Assets Management Workshop organised by the UKDTI/WEC Centre of Excellence for Sustainable Energy, 120 participant
  - e) Tallinn (Estonia), WEC Executive Assembly, 60 participants
  - f) Moscow (Russia), WEC/VTI Workshop, 70 participants.
- 2) Publication (hard copies and on the WEC website) of a pamphlet "Carbon Capture and Storage: WEC Interim Balance". Copies have been distributed to all WEC Member Committees in 95 countries.

# **CCS Demonstration Projects in Developing Countries**

Continued discussions with the selected WEC Member Committees in developing countries aimed at identifying potential CCS demonstration projects.

# **B.** Siemens Power Generation (Germany)

Since the last CSLF meeting in April in Delhi, Siemens Power Generation continued contributing to CCS topics by a variety of activities such as

- Participation in the FP6 integrated CO<sub>2</sub> storage project CO<sub>2</sub> SINK.
- Active participation in major European CCS R&D projects CASTOR, DYNAMIS, CACHET and ENCAP.
- Further development of the Siemens Fuel Gasification Technology after acquisition of the coal gasification technology of the Swiss Sustec Group.
- Development of a burner system for gas turbine-generators capable of burning hydrogenrich syngases as part of the FP6 integrated project ENCAP.
- Active participation in the TGC3 Technical Group "Coal combustion, clean and efficient coal technologies, CO<sub>2</sub> capture" of the Research Fund for Coal and Steel.
- Active participation in the Zero Emission Fossil Fuel Power Plant Technology Platform ZEP.

# C. Gorgon Project (Australia)

# (reported by Australian Petroleum Production & Exploration Association Limited)

The last six months saw the release of the recommendation by the Western Australian Environment Protection Authority (WA EPA) to the Western Australian Government. While recommending against locating the proposed Liquefied Natural Gas plant on Barrow Island, the WA EPA recommended that if the project was ultimately approved then it must include the proposed geosequestration of reservoir carbon dioxide, or put in place alternative offsets. Importantly, the WA EPA did not find any adverse environmental impact from the proposed injection of reservoir carbon dioxide into the Dupuy Formation.

The process of gaining Australian Government and Western Australia State Government environmental approval for the Gorgon Project is continuing with environmental approval anticipated late in 2006.

# D. Anglo Coal (Australia)

- Following the 2005 completion by the CO<sub>2</sub> CRC of the Latrobe Valley CO<sub>2</sub> Storage Assessment, Anglo Coal presented an overview of it's associated Monash Energy Coalto-Liquids and CCS project to the April 2006 New Delhi meeting of CSLF.
- Subsequent 2006 work on the Monash Energy project has so far centred on refining onshore demonstration plant options, and on input to the development of an offshore regulatory regime to facilitate CCS development.
- In September 2006 Anglo Coal and Shell signed a Joint Development Agreement governing the ongoing development of the Monash Energy project.

# Report of CSLF Secretariat CSLF Strategic Implementation Reporting System (SPIR) October 2006

# A. Meetings and Workshops

#### Past

- CSLF Policy and Technical Groups (3-5 April, Delhi, India). The Secretariat worked closely with the host country, India, in planning and organizing the meeting while resolving all logistical problems and arranging all necessary support. Minutes from the meeting have been prepared and are online at the CSLF website. The draft of the CSLF Strategic Plan has reached the end of its comments period (it received no comments) and is now in force. All items related to the meeting are now complete.
- Executive Committee Meetings. Since the Delhi meeting, the Secretariat has staffed and provided all necessary support for three Executive Committee discussions and meetings.
- <u>IEA-CSLF Workshop</u>. The Secretariat worked closely with the IEA in planning and organizing the IEA-CSLF Workshop on Near Term Opportunities for Carbon Capture and Storage, in San Francisco, August 22-23, 2006. Presentations from the Workshop are online at the CSLF website.

#### Future

- CSLF Technical Group (14-15 November, London, U.K.). The Secretariat is working closely with the Technical Group Chair and also the host country, the United Kingdom, in planning and organizing the meeting. The Agenda, along with additional information and documents related to the meeting, has been provided to Technical Group delegates and is available at the "London Meeting" page of the CSLF website.
  - <u>CSLF Policy and Technical Groups (22-25 April 2007, Paris, France)</u>. The Secretariat has initiated planning for this meeting with the host country, France. Plans are for a four-day meeting. Members will be informed as plans progress.
- <u>IEA-CSLF Workshop on Legal Aspects of Storing CO2</u>. The Secretariat has worked closely with the IEA to plan and organize the IEA-CSLF Workshop on Legal Aspects of Storing CO2, in Paris on October 17, 2006.

#### **B.** CSLF Members

No new applications for CSLF Membership have been received.

# **C.** CSLF Project Templates

The Policy Group approved a standard project template as a communications tool. Project information templates to be filled out were sent to all 17 projects that have been recognized by the CSLF. As of the end of September, six projects have returned completed templates to the Secretariat:

- Alberta Enhanced Coal-Bed Methane Recovery Project
- China Coalbed Methane Technology / CO2 Sequestration Project
- CO2 Separation from Pressurized Gas Stream
- Feasibility Study of Geological Sequestration of CO2 in Basalt Formations (Deccan Trap) in India
- IEA GHG Weyburn-Midale CO2 Monitoring and Storage Project
- ITC CO<sub>2</sub> Capture with Chemical Solvents

Information from these project templates will be available on the CSLF website and for other CSLF outreach activities to provide increased visibility for the projects, such as an updated project DVD presentation and CSLF project brochures for the public, press and top-level decision makers.

# D. Implementation of the CSLF Strategic Plan

As requested by the CSLF Executive Committee, the Secretariat prepared a draft implementation approach for the CSLF Strategic Plan that went into effect in June. This draft implementation approach was intended to be a starting point to identify specific actions that could be taken in each areas identified by the CSLF Strategic Plan.

As part of this implementation approach, and as directed by the Executive Committee, the Secretariat developed and implemented guidelines and procedures for the preparation of a quarterly report, the CSLF Strategic Plan Implementation Report (SPIR). Implementation involved developing a report of the Secretariat's own activities, coordinating with Task Force Chairs on their reports, and integrating all of the individual reports.

#### **E.** Current and Future Secretariat Documents

All Secretariat documents from past CSLF meetings are in the "Meeting Information" section of the CSLF website. Secretariat documents for the upcoming London Technical Group are also online at the CSLF website, in the "London Meeting" page of the website. These include:

• Secretariat Report on CSLF Project Selection Methodology. The Secretariat prepared a paper in support of the PIRT that summarized both the existing informational requirements that are subject to all projects proposed for recognition by the CSLF and provided details on a proposed expansion that would add metrics to these requirements. A preliminary draft was reviewed by PIRT members and comments were incorporated in the final draft. This draft will be discussed London meeting of the Technical Group and submitted to the Policy Group for approval.

- Meeting Agenda. The Secretariat worked closely with the Technical Group Chair to assemble an Agenda for the London Technical Group meeting. A preliminary draft was reviewed by the Technical Group Chair and comments were incorporated into the final draft.
- Minutes from Delhi meeting (April 2006). The Secretariat assembled the Minutes
  from the Delhi meeting based on its notes and transcripts from the meeting. A
  preliminary draft was sent out to Policy and Technical Group delegates and
  comments were incorporated in the final draft.

#### F. Public Outreach

At the Delhi meeting, the Policy Group decided to assemble a comprehensive list of public outreach experts in Member countries that could be available for future activities. A request for listings of public outreach experts was sent to all CSLF Members in July. As of the end of September, five CSLF Members have provided the Secretariat their listings:

- Canada
- India
- Korea
- United Kingdom
- United States

Each CSLF Member's public outreach experts will assist as needed with that Member's public outreach activities involving carbon capture and storage, and also be available to dialog as needed with similar public outreach experts of other CSLF Members. Members that have not responded are encouraged to do so.

#### G. CSLF Blog

Establishing a blog as a communications tool for stakeholders to use to share ideas could promote communications and openness. A CSLF blog was approved by the Policy Group for a 6-month trial. Its purpose is to facilitate greater involvement of the stakeholders and to foster greater communications both among stakeholders, and between stakeholders and the CSLF.

Development of the CSLF blog, to be called the "CSLF Discussion Forum" is nearing completion. The blog is projected to be online at the CSLF website by the end of October and will probably have been on line for the six months by the April Policy Group meeting. The Secretariat will inform Members when it is on line and encourages Members to promote the use of the blog to stakeholders. Provided that sufficient experience is gained, the Secretariat expects to report on the performance of the blog at the April 2007 Policy Group meeting in Paris.

# **H.** Updates to CSLF website (www.cslforum.org)

A number of changes have been made to the CSLF website:

- Annotated Links. The Policy Group in Delhi approved the expansion of the annotated links in the CSLF website. Considerable research has resulted in more than 90 new links to other sequestration-related websites have been added to the "Links" page of the CSLF website. More than 125 annotated links are now available at the "Links" page.
- The disclaimer recommended by the Secretariat and approved by the Policy Group in Delhi is now on the links page. The purpose is to eliminate any liability for what is on any of the linked pages.
- Upcoming April 2007 Meeting of the CSLF Policy and Technical Groups. A link for the
  upcoming April 2007 CSLF meeting in Paris has been added to the "Events" page of the
  CSLF website. A "Paris Meeting" page also has been added to the "Meeting Information"
  section of the CSLF website for room documents, including final drafts of minutes from the
  Delhi meeting.
- <u>Upcoming November 2006 Meeting of CSLF Technical Group</u>. A link for the upcoming November meeting of the Technical Group in London has been added to the "Events" page of the CSLF website. A "London Meeting" page also has been added to the "Meeting Information" section of the CSLF website for room documents and venue information, and includes an online meeting registration form.
- April 2006 Meeting of the CSLF Policy and Technical Groups. All presentations from the April CSLF meeting in Delhi, India, have been added to the "Presentations" page of the CSLF website. A new page containing photos from the Delhi meeting was also added to the CSLF website.
- <u>IEA-CSLF Workshop</u>. Presentations from the August 2006 IEA-CSLF Workshop on Near Term Opportunities for Carbon Capture and Storage have been added to a new "IEA-CSLF Workshops" page in the "Meeting Information" section of the website.

#### I. Stakeholders

Several activities involving stakeholders are ongoing or planned:

- The Policy Group in Delhi requested the World Energy Council (WEC) to work with stakeholders to prepare a proposal on future stakeholder involvement. The Secretariat is coordinating with the WEC about the stakeholders proposal.
- More than 50 stakeholders have signed up for the CSLF Registry since the April CSLF meeting. There are now 46 registered stakeholders, three of which have requested not to be shown in the CSLF website listing. Members are encouraged to have their stakeholders register.
- A stakeholder meeting is tentatively planned for the April Paris CSLF meeting.
- Stakeholders are participating in the joint workshops with the IEA noted above.

#### J. Procedures for Election of Officials

The Secretariat has initiated discussions with the European Commission on procedures for election of CSLF Officials and is now awaiting input from the European Commission.

# **K.** Trademark Registration

The application for a trademark for the CSLF logo was filed on February 24, 2006 with the United States Patent and Trademark Office. This filing will effectively register the trademark in the 78 countries signatory to the Madrid Protocol. This application is still going through the normal application review process at the U.S. Patent and Trademark Office and is expected to be finalized within a few months.

# Second Strategic Plan Implementation Report (February 2007)



# February 5, 2007

# Dear Colleague:

I am pleased to present you with the quarterly CSLF Strategic Plan Implementation Report (SPIR). Progress has been made in many areas, especially by the Technical Group which held a successful meeting in London in November. We are now moving ahead with planning for several future events:

- Stakeholder, Policy and Technical Group Meetings, Paris, France, March 25-28, 2007;
- CSLF Capacity Building Workshop, Pittsburgh, USA, May 6, 2007; and
- Second Joint Workshop with the IEA on Near-Term Opportunities for Carbon Capture and Storage, Oslo, Norway, June 21-22 2007

I would like to take this opportunity to thank the United Kingdom's Department of Trade and Industry for hosting the November 2006 Technical Group meeting. Two Technical Group task forces are also to be commended for successfully completing their activities and submitting final reports:

- Task Force for Identifying Technology Gaps in Monitoring and Verification of Geologic CO2 Storage; and
- Task Force for Identifying Technology Gaps in CO2 Capture and Transport

Please note that we will not have a SPIR in March since we will be meeting in Paris and updating our activities at that time. Also, I am happy to report that the new CSLF Public Meeting Place (PuMP) is now online at the CSLF website. I encourage each of you to take advantage of this new informational resource.

I look forward to seeing each of you in Paris.

Sincerely,

Jeffrey D. Jarrett

Assistant Secretary for Fossil Energy

U.S. Department of Energy

and

Chair, CSLF Policy Group

# Enclosures:

Legal Issues Task Force Report Letter from Capacity Building Task Force Chair Letter from Financial Issues Task Force Chair PIRT Report Storage Capacity Estimation Task Force Report Report from Secretariat Report from Stakeholders

# Legal Issues Task Force CSLF Task Force Strategic Implementation Report (TFIR) January 2007

#### 1. Task Force

- 2nd IEA/CSLF Workshop and Publication on Legal Aspects of Storing CO<sub>2</sub>
- Conduct Workshop and produce Publication to further investigate the five priority issues (IP, national legal and regulatory frameworks, international environment protection instruments, creating a level playing field for CCS, public awareness) identified in the 1<sup>st</sup> Workshop (July 2004) and Publication (2005) on Legal Aspects of Storing CO<sub>2</sub>

#### 2. Task Force Members

- Tania Constable, Australia (Chair)
- Shona Butler, Australia
- Peter Horracks, European Commission
- Scott Brockett, European Commission
- Carole Lancereau, France
- Philippe Geiger, France
- Jacek Podkanski, France (IEA Secretariat)
- Thomas Kerr, France (IEA Secretariat)
- Hans Spiegler, the Netherlands
- Caroline van Dalen, the Netherlands
- Dag Trygve Enden, Norway
- Mette Karine Gravdahl Agerup, Norway
- Brian Morris, United Kingdom
- Tim Dixon, United Kingdom
- Barbara McKee, United States (IEA WPFF)
- Jeff Price, United States
- Mike Smith, United States

# 3. Purpose of Task Force

- Goals or outcomes sought include further exploring the five priority issues to:
  - raise awareness of the issues
  - create discussion regarding the five issues (IP, national legal and regulatory frameworks, international environment protection instruments, creating a level playing field for CCS, public awareness) and
  - assist in developing solutions to these issues
- Performance indicators include attendance at Workshop, general level of interest in reviewing Publication, number of copies of Publication sold/downloaded

#### 4. Milestones

- End May 2006 complete drafting of discussion papers on five priority issues
- 17 October 2006, Paris 2<sup>nd</sup> IEA/CSLF Workshop on Legal Aspects of Storing CO<sub>2</sub>
- November/December 2006 Taskforce to finalise draft of legal report and handover to IEA
- Early 2007 IEA to publish 2<sup>nd</sup> report on Legal Aspects of Storing CO<sub>2</sub>

#### 5. Status

- Successful workshop held in Paris on 17 October 2006. Workshop chaired by John Ryan, attracted around 130 participants (mostly legal) from government, industry, the research community and law firms around the world. Discussion between panel members and participants revolved around discussion paper which was circulated prior to the Workshop.
- Discussion paper revised based on comments received during the workshop and during the

- comment period of one month following the workshop.
- Discussion paper signed off by the Taskforce on 19 December and handed over to the IEA for editing and publishing.
- IEA currently undertaking editing and preparations for publishing with the aim of launching the publication at the G8-IEA-CSLF Workshop in Oslo in June 2007.

From: Swift, Judd

Sent: Tuesday, January 16, 2007 9:22 AM

To: CSLF Secretariat

Subject: capacity building update.

Subject: Capacity Building Task Force Update.

On May 6, 2007 the United States will host the first "Capacity Building in Emerging Economies Workshop" in conjunction with the 6th Annual National US Sequestration Conference in Pittsburgh, Pennsylvania, USA.

Attendees are expected from Brazil, India and South Africa. Representatives from these countries have been and continue to be engaged in designing the content of the training curriculum. The workshop is being coordinated by the CSLF Task Force on Capacity Building. The workshop is being sponsored by Brazil, Canada and the United States.

Judd

From: rvshahi@nic.in

Sent: Thursday, December 28, 2006 2:05 AM

To: CSLF Secretariat

Subject: Re: Reminder: Task Force Strategic Implementation Report (TFIR)

dueto Secretariat by December 29

This is regarding the request of CSLF Secretariat for strategic implementation report from CSLF Task Force on Financial Issues.

A presentation was made on the proposal of the Task Force in the meeting of the Policy Group held in New Delhi in April'06. The proposal was for creating a fund for supporting CCS R&R projects in developing countries with most of the contribution to the fund coming from developed countries who have much higher per capita CO2 emissions.

No consensus could be reached in the Policy Group on the specific proposal of the Task Force. However, the Policy Group asked the Task Force to develop a detailed plan on how to address the financing of projects in emerging economies.

It will be worthwhile for the Task Force to work out a detailed plan only when there is a broad agreement in the Policy Group regarding the basic approach.

Therefore, the basic approach proposed by the Task Force, as presented in the April meeting, needs to be considered by the Policy Group again for decision. Thereafter, the Task Force would work out further details. It is again reiterated that the desired and required momentum to CCS activities under the CSLF umbrella could be brought about only if CSLF organizes a reasonable funding arrangement and starts providing, at least partly, fund for various activities.

(R.V. Shahi)

- > This is a reminder that Task Force Strategic Implementation Reports
- > (TFIRs) from the following CSLF Task Forces are due to the CSLF
- > Secretariat by December 29th.

> \* Policy Group Task Force on Legal Issues (Tania Constable, Chair)

- Policy Group Task Force for Capacity Building in Emerging
- > Economies (Judd Swift, Chair)
- Policy Group Task Force on Financial Issues (R.V. Shahi, Chair)
- Technical Group PIRT (John Bradshaw, Chair)
- Technical Group Task Force to Review and Identify Standards for
- > CO2 Storage Capacity Estimation (Stefan Bachu, Chair)

> >

# Project Interaction and Review Team (PIRT) CSLF Task Force Strategic Implementation Report (TFIR) January 2007

#### 1. Task Force

Project Interaction and Review Team (PIRT)

#### 2. Task Force Members

The Team consists of:

 A Core Group comprising the Chair and Vice Chairs of the Technical Group, and other delegates as designated by the Technical Group. Current membership consists of representatives from:

> Australia John Bradshaw Canada Bill Reynen

Denmark Flemming Ole Rasmussen

European Commission
Germany
India
Norway
UK
UK
USA
Denis O`Brien
Volker Breme
Malti Goel
Trude Sundset
Vick Otter
Howard Herzog

The chair is performed via a 3 co-lead approach (currently with Australia, E.C., and UK) with 1 person to change on an annual basis, so ensuring continuity, sharing the work load and providing opportunity for change.

• A Floating Group comprising representatives of CSLF recognized projects with overall management responsibility in the project (e.g. project manager), as well as other subject area experts.

#### 3. Purpose of Task Force

The PIRT has the following tasks:

- Assess projects proposed for recognition by the CSLF in accordance with the project selection criteria approved by the Policy Group. Based on this assessment, make recommendations to the Technical Group on whether a project should be accepted for recognition by the CSLF.
- Review the CSLF project portfolio and identify synergies, complementarities and gaps, providing feedback to the Technical Group and input for further revisions of the CSLF roadmap.
- Identify technology gaps where further RD&D would be required.
- Foster enhanced international collaboration for CSLF projects, both within individual projects (e.g. expanding partnership to entities from other CSLF Members) and between different projects addressing similar issues.
- Promote awareness within the CSLF of new developments in CO2 Capture and Storage by establishing and implementing a framework for periodically reporting to the Technical Group on the progress within CSLF projects and beyond.
- Organize periodic activities to facilitate the fulfillment of the above functions and to give an opportunity to individuals involved in CSLF recognized projects and other relevant individuals invited by the CSLF, to exchange experience and views on issues of common interest and provide feedback to the CSLF.
- Perform other such tasks that may be assigned to it by the CSLF Technical Group.

#### 4. Milestones

Near-term milestones are:

- Plan workshop on "Overcoming Barriers to CCS Deployment". (February 2007)
- Assessment of potential candidate CSLF Projects and make recommendations to the Technical Group as to their suitability. (March 2007)
- Examination of CSLF Technology Roadmap to identify any sections that need updating. (October 2007)

#### 5. Status

- A mechanism for formalizing a relationship between the PIRT and the IEA GHG is being developed.
- Knowledge gained from the E.C.'s Zero Emission Platform (ZEP) project will now be considered for any relevant PIRT activities.
- Prioritization for implementation of CSLF Action Plan items is being developed.
- A set of metrics to enable PIRT to assess potential CSLF projects has been established. A new Project Submission Form for this purpose was approved by the Technical Group at its November 2006 meeting in London.
- A comprehensive Gap Assessment was completed that will help identify where CSLF projects should be encouraged in relation to the CSLF Charter.
- An invitation was issued for other CSLF Members to join the PIRT Core Group. Requests to join the Core Group were received from Netherlands and Saudi Arabia.

Task Force to Review and Identify Standards for CO2 Storage Capacity Estimation CSLF Task Force Strategic Implementation Report (TFIR) January 2007

#### 1. Task Force

#### Standards for CO<sub>2</sub> Storage Capacity Estimation – Phase 2

Previous attempts to assess CO<sub>2</sub> storage capacity used a wide variety of approaches and methodologies that considered various trapping mechanisms, and data sets of variable size and quality, resulting in widely varying estimates of inconsistent quality and reliability. Storage capacity estimates have been produced for Australia, Canada, northern Europe, Japan, USA, and projects are under way to assess the storage capacity in southern and eastern Europe. At its meeting in September 2004 CSLF recognized the need to provide consistent and accepted methodologies for estimating CO<sub>2</sub> storage capacity in developed and developing countries alike and established a *Taskforce for Review and Development of Standard Methodology for Storage Capacity Estimation*. In September 2005 the Taskforce presented the results of Phase 1 in a Discussion Paper in which previous estimates were critically analyzed and gaps in knowledge and/or methodology were identified. Phase 2 of the Taskforce assignment covers definitions, concepts and methodologies to be used in estimating CO<sub>2</sub> storage capacity that should serve as a basis in CSLF member countries for collecting the necessary data and properly estimating the CO<sub>2</sub> storage capacity in geological media in their jurisdiction.

#### 2. Task Force Members

- Stefan Bachu, Canada, Chair
- Didier Bonijoly, France
- John Bradshaw. Australia
- Robert Burruss, USA
- Niels Peter Christensen, EC
- Sam Holloway, UK
- Odd-Magne **Mathiassen**, Norway

#### 3. Purpose of Task Force

- The main goal of the Taskforce is to develop a clear set of definitions and methodologies that will allow:
  - 4) Consistent assessments of CO<sub>2</sub> storage capacity in geological media at various levels based on jurisdiction and/or geological domains that will provide policy and decision makers in government and industry with the necessary information needed for making the right decisions regarding CCS implementation;
  - 5) Comparison of CO<sub>2</sub> storage capacity at various levels (country, basin, regional) and among sites;
  - 6) Understanding of the basis for estimation and critical review of results.
- Performance indicators are:
  - 5) Adoption of the report by the CSLF Technical Group
  - 6) Adoption of definitions and methodologies by CSLF member countries
  - 7) Adoption of definitions and methodologies by other countries
  - 8) Use of the recommended definitions and methodologies by government, research and/or industry groups in producing assessments of CO<sub>2</sub> storage capacity at various levels (country, basin, regional, local and site specific)

# 4. Milestones

- Phase 2 Report, to be produced in time for the next CSLF Joint Meeting of the Policy and Technical Groups in March 2007
- Recommendations regarding future work at the next CSLF Joint Meeting of the Policy and Technical Groups in March 2007
- Possibly a paper to be submitted to and published in the International Journal of Greenhouse Gas Control, summer 2007
- Inclusion of definition and methodologies in training materials to be produced by the CSLF Capacity Building Task Force

# 5. Status

- Part 3 of the Phase 2 report has been completed this quarter, on:
  - CO<sub>2</sub> Storage Capacity in Deep Saline Aquifers

# Report of CSLF Secretariat CSLF Strategic Implementation Reporting System (SPIR) January 2007

# L. Meetings and Workshops

#### Past

CSLF Technical Groups (14-15 November 2006, London, United Kingdom). The Secretariat worked closely with the Technical Group Chair and also the host country, the United Kingdom, in planning and organizing the meeting while resolving all logistical problems and arranging all necessary support. Minutes from the meeting have been prepared and have been sent to the delegates for comments. All Secretariat action items related to the meeting are now complete.

#### Future

CSLF Policy and Technical Groups (25-28 March 2007, Paris, France). The
Secretariat and the host country, France, are working together to plan the upcoming
Paris meeting. The meeting will include a technical workshop on the topic of
"Overcoming Barriers to CCS Deployment".

#### M. Secretariat Documents

All Secretariat documents from past CSLF meetings are in the new "Documents" section of the CSLF website. Secretariat documents for the upcoming Paris meeting are also online at the CSLF website, in the "Paris Meeting" page of the website. These include:

- Policy Group Minutes from Delhi meeting (April 2006)
- Minutes from Delhi Joint Meeting of Policy and Technical Groups (April 2006)
- Technical Group Minutes from London meeting (November 2006)

# N. CSLF Public Meeting Place (PuMP)

A CSLF online discussion forum was approved by the Policy Group for a 6-month trial. Its purpose is to facilitate greater involvement of the stakeholders and to foster greater communications both among stakeholders, and between stakeholders and the CSLF.

Development of the discussion forum, now titled the CSLF Public Meeting Place (or "PuMP"), is complete and it is now online at the CSLF website. Provided that sufficient experience is gained, the Secretariat expects to report on the initial performance of the PuMP at the March 2007 Policy Group meeting in Paris.

# O. Updates to CSLF website (www.cslforum.org)

A number of changes have been made to the CSLF website in order to improve it ease of navigability:

- A new "Documents" section was created which contains finalized minutes from
  previous CSLF meetings; background documents such as the CSLF Charter, Terms of
  Reference and Procedures, the CSLF Strategic Plan, and the CSLF Technology
  Roadmap; Task Force Final Reports; and previous SPIR reports.
- A new "Workshops" section was created which contains proceedings and presentations from past CSLF workshops.
- The link to the "Meeting Information" section was relocated to a more visible place at the website, on the menu bar at the left side of the home page. This section contains room documents for the upcoming Paris meeting and for past meetings.
- A link for the PuMP was added to the menu bar.

Additional updates to the website include the following:

- Presentations from the London Technical Group meeting of 14-15 November are now online in the "Presentations" section of the website.
- A meeting registration page for the upcoming Paris meeting is now online.
- Listings of delegates' contact information have been updated.

# P. Stakeholders

Several activities involving stakeholders are ongoing:

- A proposal drafted by the World Energy Council (WEC) to define future stakeholder involvement has been received and sent to the CSLF Executive Committee.
- There are now 77 registered stakeholders, five of which have requested not to be shown in the CSLF website listing. Members are encouraged to have their stakeholders register.

#### **Q.** Election Procedures

The Secretariat and the European Commission have developed a new procedure for election of CSLF Officials, which was sent to the delegates for review. Comments have been received from Canada, Germany, India, Norway, and the United States, and these have been incorporated into a final draft.

# Report from Stakeholders CSLF Strategic Implementation Reporting System (SPIR) January 2007

# 1. World Energy Council (WEC)

# CSLF Stakeholders Meeting in London

On 15 November 2006, WEC convened a CSLF Stakeholders' meeting which took place back-to-back with the CSLF Technical Group Meeting in London. The Stakeholder meeting was attended by 15 representatives from six countries. Due to the UNFCCC COP meetings held in Nairobi, Kenya at the same time, a number of leading CSLF Stakeholders had to send their apologies. Those attending the London meeting focused their discussion on Stakeholders' expectations and their involvement in CSLF. It was agreed to hold another meeting in early 2007 to develop Stakeholders contribution to the Agenda for the next CSLF Meeting in Paris, 25-28 March 2007.

# CCS Demonstration Projects in Developing Countries

WEC's efforts aimed at identifying potential CCS demonstration projects in developing countries are beginning to bring results. The WEC Nigerian Member Committee has prepared a draft proposal for "Feasibility Study and Demonstration Projects On Carbon Dioxide Capture and Storage (CCS) in Nigeria". The objective of the proposed study is to examine the technical and economic feasibility of CCS, including technology transfer and support for setting up an R&D facility in the country. The study would also investigate the feasibility of incorporating CO<sub>2</sub> capture and storage into new power plants to be built in Nigeria. The draft proposal is being reviewed by the relevant WEC Committees to define further actions.

# 2. Project Information

All registered CSLF stakeholders were requested to provide information on CCS projects they are involved in. The following reports were received.

# The Australian Petroleum Production & Exploration Association Limited Report Gorgon Project

During the second half of 2006 the Gorgon Project in Western Australia continued to progress environmental approvals. This culminated with the announcement by the Western Australian Minister for the Environment on 12<sup>th</sup> December 2006 that he has prepared the way for the granting of State Environmental approvals. Formal State and Federal environmental approval is anticipated in the first half of 2007.

The Gorgon Joint Venturers also received a funding offer of AUD 60 million from the Federal Government Low Emissions Technology Demonstration Fund. This funding offer is contingent on the Project receiving its formal approvals.

# Fairview Power Project

In November 2006, the Federal Government announced AUD 75 million support from the Federal Government Low Emissions Technology Demonstration Fund for a new gas-fired power

station coupled with a CCS project to highlight the significant contribution that natural gas can make to reducing greenhouse gas emissions.

The Fairview Project will see a new coal seam gas-fired power station and CCS project constructed at Injune, near Roma in Queensland. Further details are contained in the attached document.

# CCS legislative and regulatory developments in Australia

The industry has continued to present its views to the Australian Government on the proposed development in 2007 of a legislative and regulatory framework for CCS activities in Australia.

# The Anglo Coal (Australia) Report Monash Energy (Australia)

- In September 2006 Anglo Coal and Shell signed a Joint Development Agreement governing the ongoing development of the Monash Energy project a major Coal-to-Liquids project featuring large-scale offshore geological storage of by-product carbon dioxide.
- Subsequent activity in 2006 has centred on the resourcing and implementation of the Joint Development Agreement, and on engagement in the process for the development of the Australian regulatory regime for offshore geological storage.