



## MEETING SUMMARY

CSLF Financing CCS Task Force Meeting  
San Francisco, California, USA  
30 June 2009

Prepared by the CSLF Secretariat

### LIST OF ATTENDEES

Australia:	John Hartwell, Kathy Harman
European Commission:	Jeroen Schuppers
France:	Bernard Frois (Task Force Chairman)
India:	G. Ravindra
New Zealand:	Chris Baker
United Kingdom:	Ruth Hampton, Nick Otter
United States:	Stu Dalton, Rhiannon Davis, David Denton, Matt Gebert, John Hammond, Jack Parkes, Andrew Paterson, Maria Pineda
Asian Development Bank:	Ashok Bhargava
World Bank:	Alexandrina Platonova-Oquab, Richard Zechter
CSLF Secretariat:	Barbara McKee, Jeff Price, Rich Lynch

### 1. Welcoming Remarks

Task Force Chairman Bernard Frois of France welcomed the attendees to the meeting. Dr. Frois thanked everyone for their interest in this important activity and stated that he hoped the Task Force would have the beginnings of an action plan as a result of this meeting.

### 2. Purpose of Task Force

Barbara McKee, Director of the CSLF Secretariat, stated that the Secretariat had recommended creation of this Task Force as a means of investigating incentives and investments for CCS in both developing and developed countries. This would allow the CSLF a new means of engaging financial and multinational entities. The existing Asian Development Bank (ADB) project to analyze key policy issues and barriers to CCS in developing countries will be a useful addition to this Task Force's activities.

Nick Otter, representing the Global Carbon Capture and Storage Institute (GCCSI), agreed with Ms. McKee and stated that this Task Force should also work to understand the financial mechanisms necessary to do big carbon capture and storage (CCS) projects. This would help us to find ways to attract necessary funds for feasibility studies as well as projects.

### 3. Activities and Interests of Multinational Financial Institutes

Representatives of the World Bank and the Asian Development Bank provided brief summaries of their activities and interests concerning CCS.

Richard Zechter, Coordinator of the World Bank's Carbon Partnership Facility, stated that the World Bank has relationships with developing country governments based on assistance programs. The World Bank is working to help these countries meet their energy requirements in a sustainable way through lending operations and technical assistance. The World Bank has also developed risk insurance programs that could have relevance for CCS financing and risk management. Mr. Zechter also noted that the World Bank also has technical expertise in many sectors, including topics related to the legal and regulatory framework for CCS. The World Bank has the operational capacity to deliver technical assistance, such as capacity building, though with respect to CCS special funding from bilateral donors would be needed, together with a request from the country.

Alexandrina Platonova-Oquab, Carbon Finance Specialist in the World Bank's Carbon Finance Unit, noted that the World Bank can help developing countries develop low-carbon activities and related carbon assets and that the World Bank's Carbon Partnership Facility is set up to help ensure the continuity of the carbon markets under the umbrella of the UNFCCC. Dr. Platonova-Oquab stated that a September workshop on CCS capacity building co-sponsored by the World Bank and the International Energy Agency will be held in Washington, D.C. on 14 September. This workshop is intended to bring together representatives of developing countries, international financing institutions and donor countries active in capacity building in developing countries. The objective of the workshop is to 1) maximize information exchange; 2) explore rational and potential approaches for engaging developing partner countries in CCS capacity building activities; and 3) initiate discussions on potential assistance to developing countries for capacity building needs, evaluation of trade-offs and exploration of solutions for indigenous CCS development. The workshop will also include a panel discussion on financial needs for capacity building.

Ashok Bhargava, Senior Energy Specialist in the Asian Development Bank's Energy Division, stated that India and China are priorities for the ADB, but a selective approach is being used for project identification. Mr. Bhargava stated that it has been accepted that CCS demonstrations will require public sector finance, especially in developing countries, but it must be determined what the cost will be and what kind of concessional money is needed. Mr. Bhargava also noted that IPR issues are also being addressed by the ADB, as is risk. The perceived risk for CCS is too high for the private sector alone.

### 4. Development of Task Force Action Plan

There was consensus by the Task Force that the areas of CCS risks and incentives should be the main focus for the Task Force during the run-up to the CSLF Ministerial Meeting in October. Dr. Frois stated that there is a need to define risks or project financing is almost impossible. Andrew Paterson of the United States, representing the CCS Alliance, agreed and noted that potential liabilities are inhibiting projects. Mr. Paterson stated that the European Union is taking on long term liability for projects within Europe, but this is not yet happening in the United States. It seems clear that projects will be financed by debt, not venture capital. Lenders are ready, but risks have not yet been defined.

Jeff Price of the CSLF Secretariat noted that incentives may be needed for early projects; some of these reduce risks and, as a result, the cost of capital. Concessional inducements

could work in developing world. Mr. Price suggested that case studies might also be useful, or analogs from other kinds of technologies and how they were financed. Mr. Paterson agreed, but noted that incentives address specific risks, but not all risks. All things that could go wrong must be addressed or no project would result – addressing 80% of the risks is not enough. Analysis may show that certain types of risk are not being addressed.

Maria Pineda of the United States, representing the UCLA School of Public Affairs, stated that some types of CCS projects will have different levels of risk, depending on individual characteristics. For power production the risk cost is significant but in chemicals production, CO<sub>2</sub> separation is part of the process. In some cases, transportation risk would be high, while in others, almost nonexistent.

Ruth Hampton of the United Kingdom noted that acknowledgement from countries that certain types of risks must be assumed or addressed, such as for long-term CO<sub>2</sub> storage liability. This would be different from type of risks that developers assume.

John Hartwell of Australia stated that the issue for immediate future is that all large projects in near future will have subsidization and not be truly commercial. Economics alone will not be enough to make them happen. Mr. Hartwell suggested that this Task Force might be able to describe what various countries are doing to mitigate risk and help projects along.

David Denton of the United States, representing Eastman Chemical Company, described the “TX Energy” project in east Texas that will gasify petroleum coke to make hydrogen and synthesis gas for chemicals production. Approximately 5 million tons per year of CO<sub>2</sub> resulting from the process would be captured and utilized for enhanced oil recovery (EOR). Mr. Denton stated that incremental risk costs can be 20% of capital for first-of-kind project like this. For this project, financing risk has been addressed, and loan guarantees were helpful. Operational risk was not really a problem, as Eastman has been doing gasification for many years. Issues for this kind of project will include a need for some kind of financing mechanism. The path forward has been incremental, finding pieces and putting them together. Mr. Denton stated that Eastman can provide information relative to the TX Energy facility and also some more generic information relative to industrial gasification.

Jack Parkes of the United States, representing the Electric Power Research Institute (EPRI), noted that one way to mitigate risks would be to put projects in place as quickly as possible – select about three candidate projects and accelerate them as fast as possible, fully funding with government money. This would very much assist subsequent projects in their risk management. Mr. Parkes stated that EPRI will fund some case studies in utility area. This will help to determine incremental cost of CCS and related considerations.

Stu Dalton of the United States, also representing EPRI, noted that each project is a puzzle, where it’s necessary to look for each possible mechanism that will help assembling all the pieces. Even little incentives will matter and might make a difference. Mr. Dalton stated that EPRI can also provide an analysis on costs and incentives.

Mr. Zechter suggested that the Task Force may need to engage with major private insurance companies to determine what concerns they have and how they might price this kind of risk insurance. A targeted needs assessment would appear to be a good idea, and the upcoming World Bank workshop might help in this area. Ms. Hampton noted that some insurance companies are already starting to offer products and policies in this area.

## 5. Preliminary Action Plan

Ms. McKee noted that the Task Force needs to have something ready for the upcoming Ministerial Meeting, and that a “map of risks” seems called for at this point. There was consensus that the Task Force should proceed in this area and prepare a “Framework of Risks and Rewards for Commercial Deployment of Projects with CCS”. Dr. Pineda and Mr. Paterson will be lead writers, with the remainder of the Task Force to provide comments and assist as needed. The goal is to have a good draft by 15 September and a final version by end of September. There is a need a paragraph much sooner than that, for use in preparing documents for the Ministerial Meeting.

## 6. Task Force Members

The following people have agreed to be members of this Task Force:

- CSLF Delegates:
  - France: Bernard Frois (Chair)
  - Australia: Kathy Harman
  - United Kingdom: Ruth Hampton
- CSLF Stakeholders and Observers:
  - Asian Development Bank: Ashok Bhargava
  - World Bank: Richard Zechter
  - Australia: Nick Otter (GCCSI)
  - United Kingdom: Luke Warren (Carbon Capture and Storage Association)\*
  - United States: Stu Dalton (EPRI); Rhiannon Davis (U.S. Department of Energy); David Denton (Eastman Chemical Company); Jack Parkes (EPRI); Andrew Paterson (CCS Alliance); Maria Pineda (UCLA School of Public Affairs)
- CSLF Secretariat: Barbara McKee; Jeff Price

\* Could not attend meeting, but requested to be a member of the Task Force