



PROGRAM PLAN FOR CAPACITY BUILDING

Carbon capture and storage (CCS) is vital to reducing emissions of carbon dioxide (CO₂) from large facilities. CCS, however, is new and the capacity to widely implement it is not yet adequate in either emerging or industrialized countries. Although specialists are fast developing CCS technologies and techniques, the knowledge and the tools they are developing need to be brought into the various institutions that must implement CCS throughout the world. The more rapidly that capacity is built, the sooner CO₂ emissions reductions can be achieved.

This report describes a CSLF Program to help all its Members build the capacity to meet their needs. This Program builds on the highly successful CSLF Capacity Building activities that have been implemented since 2005.

Capacity building is a unique CSLF strength. The CSLF pioneered CCS capacity building on CCS technology and on policy, legal and socio-economic issues for emerging economies. Recognizing that CCS is new and the capacity to widely implement it is not yet adequate in either emerging or industrialized economies, the CSLF has developed a new capacity building program that will assist all its Members to implement CCS demonstrations and then move rapidly into commercial operation.

Greater levels of funding than previously committed are needed to support this Program Plan for Capacity Building. This Program Plan anticipated expenditures of US\$5 million per year for the remaining four years of the CSLF term. Members are requested to commit to funding or in-kind services for a substantial portion of this, with the balance of funding to be sought from foundations, industrial and other organizations, including multilateral organizations.

Needs for Capacity Building

While specific needs vary, four basic tasks are required to implement CCS:

1. Evaluate the potential. This first task consists of identifying and characterizing CO₂ sources and potential reservoirs and then matching sources to potential reservoirs.
2. Create policy and legal/regulatory frameworks. This typically involves analysis and formulation of policies, laws and regulations; various consultations; and allocation of responsibilities.
3. Evaluate projects. Pre-feasibility, feasibility and regulatory studies must be performed to support decisions about proposed projects.
4. Implement projects. CCS projects must be planned, provided with the appropriate legal/regulatory authorizations, financed, constructed, operated, and monitored.

Each of these tasks requires an understanding the CCS technologies, their economics and capabilities. Capacity must be built in order to create that understanding and carry out each of these tasks. This capacity consists of:

1. Information and tools to define, evaluate and realize opportunities for CCS;
2. Skills and expertise to plan, implement and regulate CCS;
3. Institutions, both public and private, including:
 - Source industries that emit CO₂,
 - Service industries to transport and store CO₂,
 - Financial institutions to fund CCS projects,
 - Government agencies to formulate and implement public policies, and
 - Academic/research institutions to develop the technology and train practitioners.

Mission

The Capacity Building Program will assist all CSLF Members to develop the information, tools, skills, expertise and institutions required to implement CCS demonstrations and then move rapidly into commercial operation.

Guiding Principles

- Use a country-led process in which each country defines its own needs.
- Share information and tools, create skills and expertise and build institutions.
- Tailor capacity building to the individual needs of each Member.
- Take advantage of existing resources and avoid duplication.
- To the extent possible, work with partners and leverage resources.

Program Initiatives

Four Capacity Building Program initiatives will accelerate the deployment of CCS:

1. Disseminate Practical Information. The information provided will enable recipients to take effective actions to implement CCS.
 - *Continue introductory CCS workshops*. These workshops will follow up on and expand prior CSLF capacity building workshops and be tailored to specific needs.
 - *Target specific issues*. Informational materials on how to overcome specific implementation problems will be provided to practitioners, including potential facility owners and operators.
 - *Create problem-solving networks*. These will enable implementers to share information and come to solutions more quickly and effectively.
2. Build Capacity in Emerging Economies. Emerging economies typically face the greatest challenges due to limited financial resources and expertise. Each of the following tasks is funded by and will be conducted in partnership with the Global Carbon Capture and Storage Institute (GCSSI).
 - *Conduct preliminary capacity building workshops*. A series of basic workshops will be conducted in emerging economies.
 - *Follow-on with advanced workshops*. These will be more in-depth workshops to address identified issues.
 - *Develop country recommendations*. At the conclusion of the workshop series a final report will be prepared for host countries with recommendations on how to advance CCS.

3. Assist Government and Regulatory Agencies. Government actions will be required to ensure that CCS is done effectively and safely.
 - *Facilitate exchanges among government agencies.* These exchanges will enable governments to share experiences and compare approaches to similar problems.
 - *Work with the International Energy Agency (IEA) CCS Regulators Network.* The IEA has established a network of regulators throughout the world who regularly exchange information.
 - *Promote seconding of staff in similar Agencies.* Agencies in different countries with similar missions could partner to second staff members to each other, perhaps for periods of a year to provide those staff members with experience beyond that available from their own agencies.
4. Build Academic and Research Institutions for CCS. These institutions will ultimately need to bear most of the burden of developing the necessary skills and expertise. Enhancing the capabilities of these institutions will have a high long-term payoff.
 - *Create course materials on topics relevant to CCS.* A substantial body of knowledge on CCS has been developed. This knowledge can be incorporated into curricula, either as stand-alone courses or as part of existing courses in geology, geological engineering, mechanical engineering, economics or public policy.
 - *Train instructors.* “Teaching the teacher” multiplies the ability of the CSLF to reach greater numbers of potential students.
 - *Develop networks of scholars.* Researcher-to-researcher interactions among people facing similar challenges are often the best way to facilitate progress. Mechanisms for interaction using the Internet could be particularly cost-effective.
 - *Build institutional research partnerships.* Ongoing relationships among departments in different countries should be facilitated, including joint projects.
 - *Facilitate faculty/researcher exchanges.* Researchers and professors from the relevant departments of academic, research and laboratory institutions should be provided with fellowships to similar institutions in relevant disciplines.
 - *Establish CCS scholarships and fellowships.* These will attract students to CCS in order to provide the intellectual capital to make further advancements and run effective CCS programs and projects. Foundations may be an appropriate source of funding for this activity.
 - *Expand summer programs for graduate students.* Such programs could supplement what is offered at specific institutions of higher learning, international organizations and national programs. Existing programs could be expanded and new programs created. Again, foundations may be an appropriate source of funding.

Implementation

Implementation will require an ongoing effort to facilitate these activities, Member commitments to capacity building and the resources to carry out these activities. Initial planning activities will identify specific needs and resources available, and then develop specific actions:

1. *Needs assessment.* In order to be successful, it is vital that this capacity building process be country-led in the sense of being responsive to the real needs of the countries in which capacity is to be built. Initial efforts will be to work with members to identify these needs.
2. *CCS Activity Analysis.* Capacity building activities under way or resources available would be identified in order to take advantage of available resources and avoid duplication. (This task is partly funded by the GCCSI.)
3. *Implementation Plan.* Plans will be developed for the detailed activities under this Program. It is expected that implementation will proceed in two phases:
 1. Pilot implementations in selected countries will develop an integrated process and guidelines for future activities. It is expected that the capacity building activities will be a collaborative process between the CSLF and involving institutions in the countries where capacity is being built.
 2. Wider implementations in more countries using the lessons learned and processes developed from the pilot implementations.

Capacity building activity will be oriented towards creating the capacity to develop and operate initial projects in participating countries and then enable the country to move to wider implementation.

4. *Resource Development.* Commitments of funding and in-kind services to implement the plan should be solicited from Members, foundations and other potential partners, including industry. Industrial firms, in particular, have the knowledge and capability to make a strong substantive contribution and will ultimately be beneficiaries.

This effort will be led by the Capacity Building Task Force of the CSLF Policy Group with the Secretariat providing administrative support. Ongoing coordination will take place both within and external to the CSLF. Various task forces of both the Policy and Technical Groups will be called upon to devote effort in their areas of expertise.

An Executive Board will oversee the financial aspects of the Capacity Building Program. See Annex A.

Several organizations outside of CSLF with an interest in CCS have relevant expertise, experience in capacity building and the resources to contribute. These include the GCCSI, the IEA, the World Bank, and the Asian Development Bank. These have already expressed an interest in working with the CSLF on capacity building. Several foundations are also interested in CCS and should be approached.

Schedule

Obtain Initial Commitments	October 13, 2009
Develop Implementation Plan	December 31, 2009
Implementation	January 1, 2010 – June 30, 2013 (Specifics developed in the Implementation Plan)

Annex A

Proposed CSLF Capacity Building Financial Governing Council

Carbon Sequestration Leadership Forum (CSLF) capacity building efforts have been advanced through a series of highly successful workshops supported by financial contributions from CSLF member countries, including Brazil, Mexico, Saudi Arabia and the United States.

Recognizing the need for all CSLF Members to develop the capacity to deploy carbon capture and storage and the unique position of the CSLF to engage in capacity building efforts, the Policy Group, at its June 2009 meeting in San Francisco, directed the Secretariat to develop a robust capacity building program. That program will be launched at the CSLF Ministerial meeting in London. The Capacity Building Task Force will develop and propose capacity building activities to the Policy Group and the program is intended to be actively managed by the Secretariat.

The CSLF will be responsible for raising the significant financial resources needed to implement the program. Potential sources of financing include CSLF member countries, international financial institutions, the private sector and others. In anticipation of this capacity building effort, Australia through the GCCSI recently became the fifth CSLF member to financially contribute to this initiative.

In recognition of the need for accountability in managing a well-financed program, the Secretariat recommends that CSLF Policy Group establish the CSLF Capacity Building Financial Governing Council (Council) for financial contributors. The primary purpose of the Council is to ensure the financial resources available to the program are spent wisely and appropriately. The initial membership of the Council is to include one representative from each of the five donors that have thus far made significant financial contributions to CSLF capacity building efforts. Other donors that make significant contributions will be added to the Council. The Council will be responsible for overseeing financial planning and budget execution and will develop terms of reference for its operation.