Carbon Sequestration leadership forum
CSLF-P-2011-07
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POLICY GROUP

CSLF Strategic Plan
Second Update
2011-2016

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CSLF STRATEGIC PLAN
SECOND UPDATE: 2011-2016

Note by the Secretariat

Background

The CSLF Strategic Plan was initially prepared in 2004 and was updated in 2009. The 2009 Update set out a strategy to carry the CSLF through June 2013, when the CSLF Charter was then set to expire. In preparation for the expected extension of the term of the CSLF beyond 2013 at the 2011 Ministerial in Beijing, this Second Update to the Strategic Plan provides a strategy for the CSLF through 2016, three years beyond the original expiration date of the CSLF Charter.

Action Requested

The Policy Group is requested to review the 2011 Update to the CSLF Strategic Plan.

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CSLF Strategic Plan
Second Update
2011-2016

Prepared by
CSLF Secretariat
August 18, 2011

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1. INTRODUCTION

This is the Second Update of the CSLF Strategic Plan. The CSLF Strategic Plan was initially prepared in 2004 and was updated in 2009. The 2009 update set out a strategy to carry the CSLF through June 2013, when the CSLF Charter was then set to expire. In preparation for the expected extension of the term of the CSLF beyond 2013 at the 2011 Ministerial in Beijing, this Second Update to the Strategic Plan provides a strategy for the CSLF through 2016, three years beyond the original expiration date of the CSLF Charter.

One additional major change to the Charter that will affect the strategy and activities of the CSLF is anticipated at the Beijing Ministerial: the focus of the CSLF is expected to be broadened from Carbon Capture and Storage (CCS) to Carbon Capture, Utilization and Storage (CCUS). This broadening recognizes that beneficial reuse is another potentially viable option for captured carbon dioxide (CO_2). Beneficial reuse includes a range of applications for CO_2, including Enhanced Oil Recovery (EOR, already envisioned in CCS), chemical and food production, as well as other uses. In some cases of these applications—many EOR projects, for example—captured CO_2 would be a replacement for natural sources of CO_2.

The technical, economic and institutional landscape for CCUS has changed since 2009 and this also needs to be reflected in the new strategy. Considerable progress has been made on the technology and practice of CCS and the world stands ready to build and operate many industrial-scale, fully-integrated CCS projects, potentially exceeding the 20 projects by 2020 called for by the CSLF and International Energy Agency in 2007. On the other hand, the economic downturn in many countries, the large investments required, and a continuing lack of public understanding have presented major hurdles to these projects and a number of them have been cancelled or delayed. Another challenge facing the CCUS community is to bring enough diverse industrial-scale integrated projects into operation with adequate information sharing to ensure that CCUS becomes widely commercial on a global scale by 2020. This will put a premium on international collaboration through the CSLF and other collaborative mechanisms.

Objective of this Update to the Strategic Plan

The objective of this Second Update to the CSLF Strategic Plan is to lay the groundwork for effective international collaboration through the CSLF on those activities necessary for CCUS to become widely commercial in both industrialized and developing countries. The Strategic Plan Second Update builds on the ongoing activities and demonstrated capabilities of the CSLF, takes into account the current global situation of CCUS, and is aligned with other international collaborations on CCUS.

Organization of this Update

The next section describes the framework under which this Update is being developed, including external and internal factors affecting the CSLF and defines the overall strategy. The sections following that describe the strategies and action plans of the three major organizational components of the CSLF: the Policy Group, Technical Group and Secretariat.

2. STRATEGIC FRAMEWORK AND STRATEGY

The development of a strategic plan for the CSLF requires understanding the objectives of the CSLF and how the external environment affects achievement of those objectives. It also requires understanding the organizational structure and strategic position of the CSLF. The strategic position consists of the current status of activities, as well as the strengths and weaknesses of the CSLF, its opportunities and threats, and its relationships to other organizations with similar goals. The strategy to achieve the objectives must then take into account the internal and external factors and take best advantage of the strategic position of the CSLF.

CSLF Objectives

The purpose of the CSLF, as stated in its Charter is:

- ✓ "to accelerate the research, development, demonstration and commercial deployment of improved cost-effective technologies for the separation and capture of carbon dioxide for its transport and long-term safe storage or utilization;
- ✓ to make these technologies broadly available internationally; and
- ✓ to identify and address wider issues relating to carbon capture and storage.

This could include promoting the appropriate technical, political, economic and regulatory environments for the research, development, demonstration and commercial deployment of such technology."

External Environment

The major driver for CCUS is the need to reduce greenhouse gas emissions and, in particular, CO_2 emissions, coupled with the needs of Member countries for continued economic stability and growth, as well as energy security. The widespread global use of fossil fuels is projected to continue in large industrial and power generation facilities for decades to come. The broad abundance and low cost of fossil fuels, as well as the immaturity and high cost of alternatives, make large-scale switching from fossil fuels difficult in the near term. The use of fossil fuels must become more efficient and less carbon intensive. For many large fossil fuel power generation and industrial facilities, CCUS is the only method to substantially reduce CO_2 emissions.

The Potential Role of CCUS

The potential global role that CCUS could play in emission reduction was shown in a recent study by the International Energy Agency (IEA), the results of which are shown in Figure 1. This study projects that CCS in the power and industrial sectors is needed to achieve 19 percent of the emission reduction required to keep CO_2 concentrations in the atmosphere below 450 parts per million. This is the level above which the Intergovernmental Panel on Climate Change (IPCC) concluded average temperatures would rise by 2°C, causing serious climate impacts. According to more recent analyses by the IEA, however, the "Prospect of limiting the global increase in temperature to 2ºC is getting bleaker" as increases in CO_2

emissions and atmospheric concentrations continue to rise to record levels.[1] All this makes the need for rapid deployment of CCUS increasingly vital.

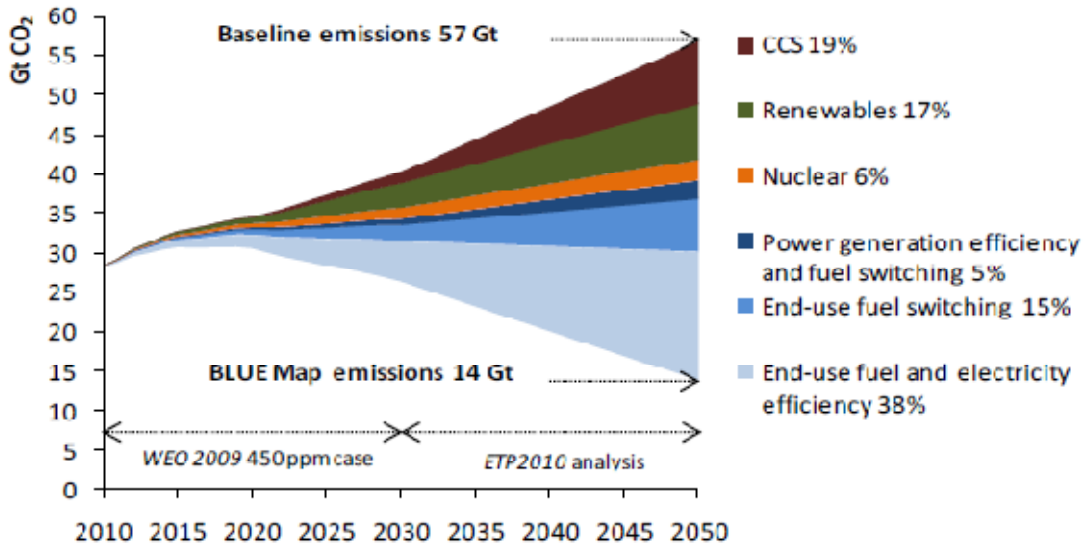


Figure 1. CO_2 Emission Reduction by Type in an Emission Reduction Scenario

Source: International Energy Agency, "Energy Technology Perspectives 2010: Scenarios and Strategies to 2050," Paris: OECD/IEA 2010.

Utilization of CO_2 (the expected new area under the CSLF Charter), especially for EOR, would improve the economics of projects. CO_2 drive EOR is a well-established practice in some regions and has a broader potential worldwide. At the same time, other utilization applications have been relatively unexplored.

Trends since the 2009 Update

Three trends evident in 2009 have continued to influence the potential for CCUS and the work of the CSLF: continued progress on CCUS, economic challenges and still-unresolved international discussions.

Progress on CCUS technology is accelerating. Interest in CCUS technology has grown and the research community working on it continues to expand. The scope of CCUS research, development and demonstration activities has vastly increased throughout the world. The next step towards development and deployment of CCUS is to develop fully-integrated industrial scale demonstration projects. Many fully-integrated industrial scale demonstration and commercial facilities are now under development.

Global economic challenges continue and may reduce the financial resources available for capital-intensive activities such as CCUS, and the costs of major projects have been escalating. On the other hand, CCUS projects have been part of economic stimulus packages in some countries. The challenge of financing is particularly difficult in developing countries.

[1] http://www.iea.org/index_info.asp?id=1959, accessed June 5, 2011.

International discussions are continuing through the United Nations Framework Commission for Climate Change (UNFCCC) on a new international agreement to succeed the Kyoto Protocol. The status of CCS as a domestic mitigation policy is well accepted, but the debate continues over the use of CCS in the Clean Development Mechanism (CDM) or its successor in the post-2012 agreement.

Barriers to CCUS

While great progress has been made, significant barriers to CCUS remain. These barriers are summarized in Table 1. Barriers 1 through 5 are policy related while barriers 6 through 14 are technical. Nearly all have economic aspects. This table is very general and the barriers, especially policy barriers, vary by country. More work remains to address each of these barriers. International collaboration through the CSLF, other international organizations and bilateral efforts can help address these barriers and speed up overcoming them.

International Collaborations

CCUS research, development and demonstration (RD&D) activities, as well as efforts to develop the institutions for CCUS, are being conducted by many CSLF Members and in some non-Member countries. Several jurisdictions also have economic incentives for CCS. In addition to the CSLF, several other international organizations also work to advance CCS:

- The International Energy Agency (IEA) has undertaken a broad array of efforts to further CCS. Some of these are the responsibility of its Working Party on Fossil Fuels; others are carried out by the IEA Secretariat and its CCS Unit. Two IEA Implementing Agreements are particularly focused on CCS:
  - The IEA Greenhouse Gas R&D Programme (IEA GHG) is an international research collaboration which studies and evaluates technologies that can reduce greenhouse gas emissions derived from the use of fossil fuels. The major focus of the IEA GHG is on CCS.
  - The IEA Clean Coal Centre is a research organization for clean coal technologies. Much of its recent work has focused on CCS in coal-based facilities.
- The Global Carbon Capture and Storage Institute (Global CCS Institute) was launched in 2009 to accelerate the deployment of CCS technologies through international collaborations and knowledge sharing. The Global CCS Institute has committed to work collaboratively with the IEA, the CSLF and other CCS organizations.
- At the second Clean Energy Ministerial in April 2011, Energy Ministers from around the world agreed to take action based on the recommendations of the CCUS Action Group (a CEM initiative) to accelerate the global deployment of CCUS technologies.
- Multilateral development banks, such as the World Bank and Asian Development Bank, are starting to include CCS in their activities. The World Bank conducts capacity building activities on CCS and both the World Bank and the Asian Development Bank are exploring financing of CCS in developing countries.

Table 1. Barriers to Development and Deployment

Barrier	Progress to Date	Current Situation
1. Inadequate legal/ regulatory frameworks	• Various jurisdictions have enacted legislation and regulations for CCS.	• Not all jurisdictions have enacted frameworks • Gaps in legal/regulatory frameworks remain
2. Gap in commercial financing	• Financial incentives have been enacted for demonstration projects in some jurisdictions.	• Except in certain niche markets or for demonstrations with large government incentives, commercial financing is unavailable.
3. Need for human and institutional capacity	• Initial efforts are being made in both industrialized and developing countries.	• Longer-term, more extensive efforts are needed. • Capacity building in developing countries relies on international collaboration.
4. Lack of public awareness, understanding and support.	• Some efforts to create public awareness of CCS, but much less than other greenhouse gas abatement measures.	• Public awareness of the need for CCS, how it works, and its safety remains limited. • Misperceptions abound.
5. Inadequate international frameworks	• CCS is included in London Convention and Protocol.	• London Protocol not ratified so cross-border CO_2 shipments not yet legal. • CCS is not included in international carbon trading mechanisms, but progress is now more likely.
6. Few industrial-scale integrated projects	• Only a few in operation, none in power generation	• Many projects are in various stages of development.
7. High capture cost	• R&D and pilot projects have made some progress.	• Capture costs are still too high. • Cost escalation is a concern. • Only some capture options addressed. • Industrial-scale projects needed.
8. High energy penalty	• Various options are being explored.	• Energy penalty is still too high. • Industrial scale projects are needed.
9. Limited work on capture from industrial sources	• Efforts in this area are limited.	• Significant work is just beginning.
10. Limited work on CO_2 utilization other than EOR	• Efforts in this area are limited.	• Significant work is just beginning.
11. Lack of CO_2 transport infrastructure	• Transport from sources to storage is mandatory.	• CO_2 pipelines are commercial for EOR, not geologic storage. • Plans for networks being developed. • Ocean transport is not yet developed.
12. Limited geologic storage experience	• Many smaller-scale injections have been conducted. • Enhanced oil recovery (EOR) is widely used in some regions.	• Multiple large-scale injections in diverse formations are beginning.
13. Need to estimate storage capacity and demonstrate storage integrity	• Various regional and national storage capacity estimates have been made. • CSLF has developed storage capacity estimate standards. • Some projects experience has been gained.	• Considerable progress has been made but regional and national numbers could be improved. • More and diverse project experience widely disseminated would enable widespread deployment.
14. Storage assurance and risk management tools need further development	• Measurement, monitoring and accounting (MMA) practices and protocols have been developed. • Risk analysis techniques have been developed.	• More experience with MMA and risk management is needed. • Linkage between technical risk and legal/financial liability is not clear.

In addition to the international organizations listed above, a number of regional cooperative ventures on CCS are also being implemented. The European Commission aims to achieve 12 up-to-commercial-scale demonstration projects by 2020 across a range of technologies and, within the EU, CCS project network, six demonstration projects already actively exchange information. The Regional Carbon Sequestration Partnerships in the United States and Canada (a CSLF-recognized project) are conducting numerous regional studies. Similarly, the Asia Pacific Economic Cooperation has sponsored several studies on CCS and has been conducting CCS capacity building workshops since 2005. Each of these activities has also involved collaboration between the public and private sectors.

While not specifically focused on CCS, the Intergovernmental Panel on Climate Change (IPCC) provides an objective source of information about climate change initiatives through assessment on a comprehensive, objective, open and transparent basis, of the latest scientific, technical and socio-economic literature produced worldwide. The IPCC has published a Special Report on Carbon Capture and Storage (2005), updated the inventory guidelines for CCS (2007), and recognized CCS as an important greenhouse gas abatement technology in its Fourth Assessment Report (2008).[2]

CSLF Organizational Structure

The basic organization of the CSLF is defined in the CSLF Charter as consisting of a Policy Group, a Technical Group and Secretariat, as is shown in Figure 2. The responsibilities of each of these are delineated in more detail in the CSLF Terms of Reference and Procedures. (See text box.)

Most of the ongoing substantive work of the CSLF takes place in task forces reporting to either the Policy Group, the Technical Group or both, all supported by the CSLF Secretariat. Task forces are created, modified or disbanded, as needed, by the decisions of the Policy Group or Technical Group and are chaired by Members of the CSLF. Participation in the task forces is voluntary and generally consists of experts in the subject matter of the task force. Participation is open to representatives of CSLF Members and, with the permission of the Task Force Chair, to Stakeholders. Numerous expert Stakeholders participate in CSLF task forces. Currently, there are 13 task forces. Of these, four report to the Policy Group, seven report to the Technical Group and two reports to both the Policy Group and Technical Group. Several new task forces are envisioned by this updated Strategic Plan. One Technical Group Task Force, the Task Force to Assess Progress on Technical Issues affecting CCS, has several working groups in specialized areas reporting to it.

Strategic Position

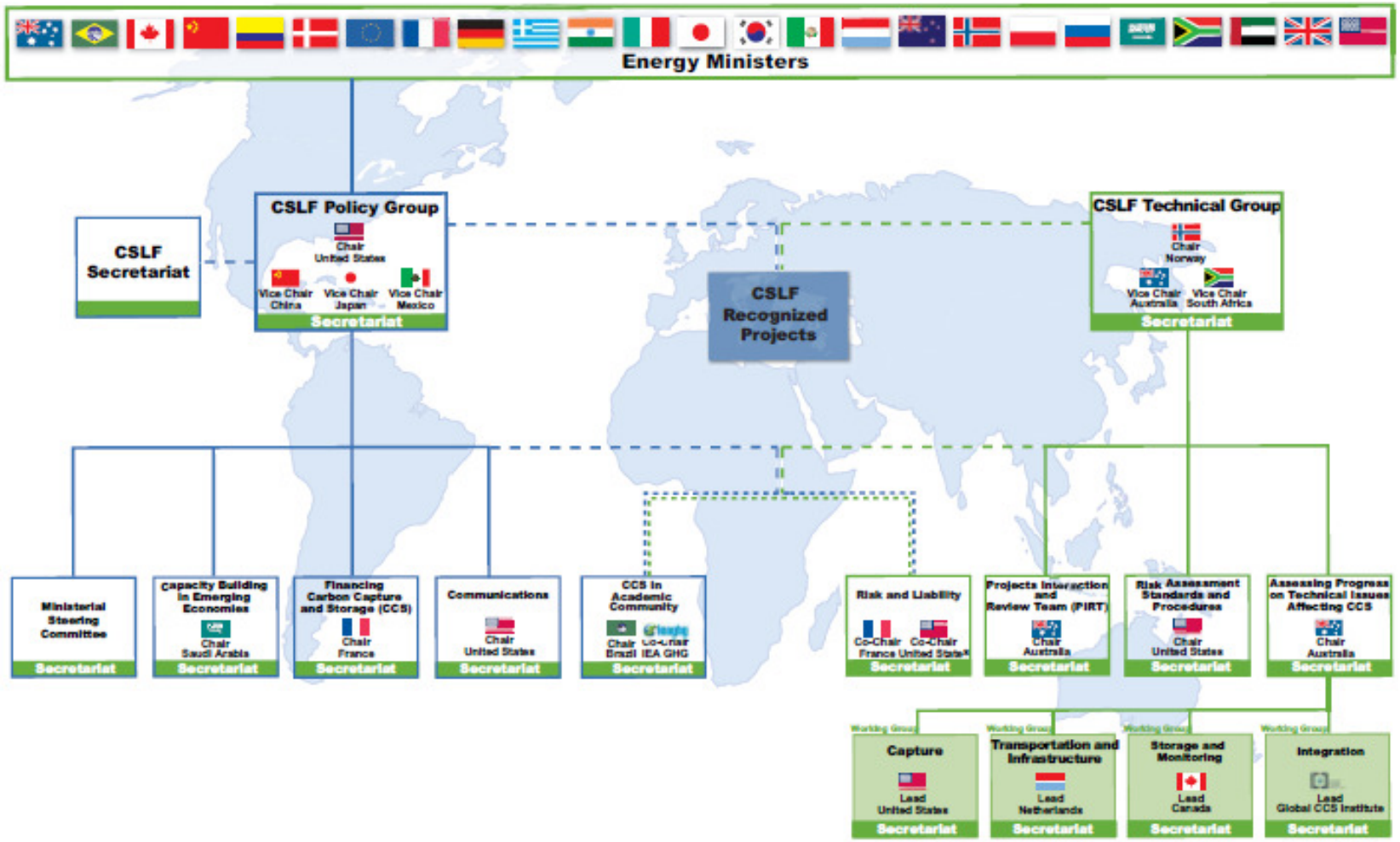
The strategic position of the CSLF is determined by the status of its ongoing activities, its strengths and weaknesses and the opportunities and threats it faces.

Status of CSLF Activities

Both the CSLF Policy Group and Technical Group made significant progress in achieving the goals of the CSLF through various task forces established to address specific areas of concern.

[2] These reports are available at: http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml

Figure 2. CSLF Organizational Chart



FROM THE CSLF TERMS OF REFERENCE AND PROCEDURES

1. Organizational Responsibilities

1.1 Policy Group. The Policy Group will govern the overall framework and policies of the CSLF in line with Article 3.2 of the CSLF Charter. The Policy Group is responsible for carrying out the following functions of the CSLF as delineated in Article 2 of the CSLF Charter:

- Identify key legal, regulatory, financial, public perception, institutional-related or
- other issues associated with the achievement of improved technological capacity.
- Identify potential issues relating to the treatment of intellectual property.
- Establish guidelines for the collaborations and reporting of results.
- Assess regularly the progress of collaborative projects and following reports from the Technical Group make recommendations on the direction of such projects.
- Ensure that CSLF activities complement ongoing international cooperation in this area.
- Consider approaches to address issues associated with the above functions.

In order to implement Article 3.2 of the CSLF Charter, the Policy Group will:

- Review all projects for consistency with the CSLF Charter.
- Consider recommendations of the Technical Group for appropriate action.
- Annually review the overall program of the Policy and Technical Groups and each of their activities.
- Periodically review the Terms of Reference and Procedures.

The Chair of the Policy Group will provide information and guidance to the Technical Group on required tasks and initiatives to be undertaken based upon decisions of the Policy Group. The Chair of the Policy Group will also arrange for appropriate exchange of information between both the Policy Group and the Technical Group.

1.2. Technical Group. The Technical Group will report to the Policy Group and make recommendations to the Policy Group on needed actions in line with Article 3.3 of the CSLF Charter. The Technical Group is responsible for carrying out the following functions of the CSLF as delineated in Article 2 of the CSLF Charter:

- Identify key technical, economic, environmental and other issues related to the achievement of improved technological capacity.
- Identify potential areas of multilateral collaboration on carbon capture, transport and storage technologies.
- Foster collaborative research, development, and demonstration (RD&D) projects reflecting Members' priorities.
- Assess regularly the progress of collaborative projects and make recommendations to the Policy Group on the direction of such projects.
- Establish and regularly assess an inventory of the potential areas of needed research.
- Facilitate technical collaboration with all sectors of the international research community, academia, industry, government and non-governmental organizations.
- Consider approaches to address issues associated with the above functions.

1.3. Secretariat. The Secretariat will carry out those activities enumerated in Section 3.5 of the CSLF Charter. The role of the Secretariat is administrative and the Secretariat acts on matters of substance as specifically instructed by the Policy Group. The Secretariat will review all Members material submitted for the CSLF web site and suggest modification where warranted. The Secretariat will also clearly identify the status and ownership of the materials.

Since its inception, both the Policy Group and Technical Group have achieved notable successes that have advanced CCS, for example:

- Implementation of an international capacity building program on CCS;
- Definition of storage site selection criteria;
- Methodology for estimating storage capacity;
- Definition of legal and regulatory issues; and
- Recommendations (with the IEA) on CCS to the G8.

Tables 2 and 3 provide an overview of the achievements and current status of CSLF activities for the Policy Group and Technical Group, respectively. In one achievement involving both Groups, the CSLF has recognized 31 major international projects that advance the state-of-the-art of CCS, each of which makes information publicly available on a global basis. Nine of those projects have been completed.

While much progress has been made, moving CCUS forward will require global cooperation on an unprecedented scale. This cooperation is needed to meet the challenges of advancing the technology, to reduce costs, to engage developing countries, and to collaborate with the private sector to deploy this technology.

Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

The CSLF's strengths, weaknesses, opportunities and threats remain those identified when this analysis was first performed in 2009 for the first update of the CSLF Strategic Plan. A number of changes since 2009 are indicated in **bold**.

- Strengths: The CSLF has demonstrated several key strengths. Foremost, is that the CSLF has demonstrated global convening power, both to facilitate information exchange on CCS and to bring together experts from around the world to address common problems such as developing standards for risk assessment and storage capacity estimates. CSLF reports are recognized as authoritative reference works worldwide.
- The CSLF is an organization of national governments.
- CSLF Members represent a large portion of the world's energy supply and demand and represent both industrialized and developing countries.
- The participation of developing countries, in particular, is a unique strength. Until the recent formation of the Global CCS Institute, the CSLF was the only international organization focused solely on CCS.
- Stakeholders participate in its task forces and activities.
- **The scope of the CSLF is expanding to include utilization.**
- **The first funded project of the CSLF (capacity building) may provide a model for further funding of projects.**

These characteristics make the CSLF a unique forum for ongoing collaboration on CCS.

Table 2. CSLF Policy Group Accomplishments and Their Status

Accomplishment	Significance	Status
1. CSLF Strategic Plan 2004, 2009 Update and 2011 Update	• The Strategic Plan represents consensus of the Members on future activities.	• Strategic Plan has been agreed upon by the Members. • The term of the CSLF Charter is anticipated to be extended indefinitely beyond 2013 at the 2011 Ministerial.
2. Recommendations to the G8	• These recommendations form the basis for activities to advance CCS throughout the world.	• In response to the G8, the CSLF and IEA made recommendations on how to advance CCS in near-term applications.
3. Progress towards a financing approach	• Financing is a major constraint on CCS, in both industrialized and developing countries.	• Work is ongoing. Several workshops on financing have been held and a Task Force continues work in this area.
4. Communications on CCS	• Public understanding is critical to CCS deployment.	• Public outreach materials for use by Members have been developed. • Daily email news on CCS is provided to CSLF Member and Stakeholders.
5. CSLF capacity building initiative	• This is a major demonstration of commitment to developing country Members.	• Six capacity building workshops have been held so far in four countries. Each has received enthusiastic response from participants and expressions of interest for more. • The CSLF Capacity Building Fund was established with approximately $3 million in commitments. • Nine projects in five countries are currently underway using the Fund and more are under consideration. • CSLF Collaborates with World Bank and Global CCS Institute.
6. Guidelines for legal-regulatory frameworks	• Legal and regulatory frameworks are necessary to CCS deployment.	• Worked with IEA to hold two workshops. • Developed guidelines which accelerated consideration of legal and regulatory framework. • By agreement, IEA has lead in further work in this area.
7. CCS in the academic community	• The academic community needs to teach and conduct advanced research on CCUS.	• Surveyed academic programs on CCS in North and South America and Europe; many programs were identified.
8. Project recognition	• This provides a basis for information sharing on 31 of the most important projects throughout the world covering all aspects of CCS.	• Projects report progress regularly to the CSLF. • Completed projects have already created the basis for later projects to build on their findings.

Table 3. CSLF Technical Group Accomplishments and Their Status

Accomplishment	Significance	Status
1. CSLF Technology Roadmap to identify and address gaps in R&D	• The CSLF Technology Roadmap reflects a consensus of leading international experts on the technical developments necessary to develop and deploy all aspects of CCS. • 2011 Roadmap emphasizes integration of complete value chain, needs to achieve commercial viability and global storage potential.	• The CSLF Technology Roadmap was first completed in 2004 and updated in 2009, 2010 and 2011. • The CSLF Technology Roadmap is widely accepted.
2. Technology Gaps Analysis	• Gaps analysis is a global consensus of experts on areas where further research, development and demonstration are needed.	• Outcomes have led to identification of a suite of future areas of activities. • Extensive gaps analysis activities are a continuing priority.
3. International standards for storage capacity estimates	• CSLF storage capacity estimation has gained international acceptance. • Methodology establishes a consistent basis for estimating, comparing and valuing geologic storage capacity for CO_2.	• This capacity estimation methodology has been developed on a theoretical basis by the foremost experts in the world.
4. Assessment and identification of gaps in MMV	• This assessment describes gaps in MMV technologies and practices where further R&D is required.	• Task Force report is complete. • Additional work to close identified gaps will require further study incorporating lessons learned from multiple projects.
5. Technical risk analysis	• Technical risk assessment is a key enabler of commercial deployment and public acceptance.	• Risk assessment standards and procedures examined. • Technical risks of injection and storage are being studied. • A Phase I Task Force report on risk identification and assessment has been completed.
6. Interactive information exchange	• Facilitates the exchange of technical information and real-world experience among project sponsors. • Knowledge sharing and information exchange will accelerate progress in commercialization of CCS technologies.	• An interactive forum has been successfully piloted with positive feedback from participants. • Planning for additional activities is underway.

As a voluntary organization of governments, the CSLF provides the basis for open discussions among governments and it does not impose the requirements of a funding organization.

Weaknesses: Being a voluntary organization, the CSLF has a limited internal budget and staffing resources. Also, it is not able to directly fund some of its outreach activities.

Opportunities: CCUS is now in transition from a largely experimental technology to a technology that is to be demonstrated at a commercial scale and will begin to be deployed commercially. Governments throughout the world can benefit from the open discussions and collaboration opportunities offered by the CSLF. Stakeholders can benefit from participation in the CSLF activities.

The model used by the CSLF Capacity Building Fund may indicate a way to overcome the weakness of the CSLF being a voluntary organization.

The two other international organizations with a major focus on CCS—the IEA and the Global CCS Institute—have complementary strengths. These provide the CSLF with the opportunities for cooperation that will greatly leverage its resources.

Threats: The primary threats faced by the CSLF are not threats to the CSLF as an organization, but rather the barriers—noted earlier—faced by CCUS as a greenhouse gas mitigation measure. Perhaps most important of those is that CCS is little known by the public and political decision makers. It is new and complex and, therefore, subject to considerable misunderstanding; it requires much more political championship globally.

Strategy

The CSLF will continue to provide an active forum for international collaboration to lower both policy and technical barriers to the development and widespread global deployment of CCS (or CCUS, given a widened mandate in a revised charter). The focus is in the areas in which the CSLF can provide the greatest value for its Members, including:

- Collaboration by experts from around the world to develop and improve policies, standards and procedures to be used by Members and make those more broadly available;
- Information exchange to accelerate or improve the policy development or technical progress of Members;
- Idea generation to advance CCUS for follow-up by Members individually or collaboratively;
- Capacity building in Member countries;
- Joint action to achieve mutual goals while reducing costs and accelerating progress; and
- Consensus facilitation in international policy discussions related to CCUS.

While remaining an organization of national governments, the CSLF invites the active involvement of non-governmental stakeholder experts to advance its initiatives.

The CSLF also works closely with other international organizations to advance CCUS, further broadening the scope and reach of international collaboration.

Action Plans to Implement the Strategy

Action Plans have been developed for future activities of the Policy Group, Technical Group and Secretariat. Each of these plans is designed to address a major challenge to the development and commercialization of CCUS or to facilitate the operation of the CSLF. There are a total of 22 Action Plans, six for the Policy Group, eleven for the Technical Group and five for the Secretariat. Each of the Policy Group and Technical Group Action Plans will be implemented by a task force. In some cases, these task forces have yet to be established.

Table 4 below enumerates these Action Plans. They are described in the following three sections.

Table 4. CSLF Strategy Action Plans 2011-2016

Action Plan	Priority
Policy Group Action Plans	
P1 – Bridging the Financing Gap	High
P2 – Financing Projects with CCS in Developing Countries	High
P3 – Incentives Registry	High
P4 – Capacity Building	Very High
P5 – Communications	High
P6 – CCS in Academic Community	High
Technical Group Action Plans	
T1 –Technology Gaps Closure	Very High
T2 – Best-practice Knowledge Sharing	High
T3 – Energy Penalty Reduction	Very High
T4 – CCS with Industrial Emissions Sources	High
T5 – Carbon-neutral and Carbon-negative CCS with Biomass	High
T6 – CO_2 Transport and Compression	High
T7 – Storage and Monitoring for Commercial Projects	Very High
T8 – Technical Challenges of using CO_2 EOR for CCS	Very High
T9 – Risk and Liability	Very High
T10 – CO_2 Utilization Options	Very High
T11 – Competition of Geologic Storage with Production of Other Resources	High
Secretariat Action Plans	
S1 – CSLF Administration	Very High
S2 – Administration of CSLF Capacity Building Program	Very High
S3 – Stakeholder Engagement	High
S4 – International Collaboration	High
S5 – Providing Information on CCS in International Negotiations	High

3. POLICY GROUP STRATEGY AND ACTION PLANS

Under the CSLF Charter, the Policy Group governs the overall framework and policies of the CSLF, periodically reviews the program of collaborative projects, and provides direction to the Secretariat. The Policy Group has developed Action Plans in four areas implemented by Task Forces that address the policy and institutional barriers identified in Table 1:

- Financing (Barrier addressed: gaps in commercial financing);
- Capacity Building (Barrier addressed: need for human and institutional capacity);
- Communications (Barriers addressed: lack of public awareness, understanding and support; and need for human and institutional capacity); and
- CCS in the Academic Community (Barrier addressed: need for human and institutional capacity).

Each area has one or more Action Plans as described below. The Policy Group also decides on recognition of projects recommended by the Technical Group.

Legal and regulatory frameworks have previously been addressed by the Policy Group in collaboration with the IEA. The CSLF has agreed that the IEA will take the lead in international collaboration in this area with the CSLF working with the IEA, as needed.

Financing

CCS technologies have a critical role in mitigating carbon emissions to achieve stabilization of atmospheric CO_2 concentrations. In order for this potential to be achieved, demonstration projects must make significant progress and the technology must then move from demonstration to commercial deployment. In moving to deployment, projects with CCS must earn revenues adequate to cover costs and attract private investment by offering competitive returns. A major difference between demonstration and commercial projects is that commercial projects also have commercial objectives that most also be met. Commercial industrial projects and power plants with CCS must both produce output and raise capital competitively.

The CSLF and other organizations—in particular, the Asian Development Bank, IEA, and Global CCS Institute—have recently analyzed the potential to finance CCS in global markets. Identifying potential barriers to and opportunities for investment and funding to facilitate projects is recognized as the key issue for the deployment of CCS. In Europe, an analysis of CCS Costs by the Zero Emission Platform concluded that, following the European Union (EU) CCS demonstration program, post-demonstration CCS in the EU will be cost-competitive in the early 2020s with other sources of low-carbon power such as on- or offshore wind, solar power and nuclear (not including natural gas, currently priced well below $8/Million Btu).

In Financing Task Force activities, funding models in different parts of the world were presented by Alberta, Japan CCS, and several private companies (GDF-Suez, Conoco and Duke Power). Each model showed the value of adapting tools to regional strengths and weaknesses and project features in deploying projects with CCS.

The modeling showed that no single incentive was sufficient. The Task Force concluded that a suite of incentives and funding models are needed for governments to mobilize private investment capital. These must be tailored to regional attributes and development priorities (e.g., access to coal and fuels, power pricing, features of CCS sites, public attitudes, competing supply). The Task Force further concluded that the CSLF should support member countries in developing a "toolkit" of approaches and funding models that offers multiple combinations of incentives, which are negotiated.

Action Plan P1: Bridging the Financing Gap

Responsibility: Financing Task Force

Given global turmoil in credit markets since 2008, this activity will be ongoing. Similarly, lack of progress in negotiating a global climate regime under UNFCCC requires that alternative approaches be developed. Such approaches would complement any resolutions that emerge from UNFCCC or from other high level forums such as G20. In the absence of cap and trade, other funding approaches for financial incentives must be explored.

Action: The CSLF will explore through the Financing Task Force, and in collaboration with other organizations, the most effective way to overcome the gap between the costs and incentives available for CCS, in the absence of adequate prices for GHG savings (carbon prices), in order to accelerate early deployment of CCS. It will engage with the financial community and develop a financing roadmap and multiple options or approaches based on case studies of project successes and failures. To the extent that it is available and appropriate, analyses will be conducted using a financial analysis model of CCS currently being developed by the World Bank.

Outcome: Identification and evaluation of a suite of policies that governments could use to promote to facilitate private investment in industrial projects with CCS.

Milestones:

Assembly of project case studies (with IEA, Global CCS Institute)	***Dec. 2011***
Ongoing engagement (or interviews) of financial community	***2012***
Outline of options and approaches (modified CSLF Financing Roadmap)	***Summer 2012***
Updates	***2013-2015***

Priority: High

Action Plan P2: Financing Projects with CCS in Developing Countries

Responsibility: Financing Task Force working with Asian Development Bank

Due to their size and technical complexity, projects with CCS fundamentally involve international financing and engineering; no single country possesses all needed technologies. Progress in developing countries will entail many of the same engineering firms and key vendors as those in OECD countries. That experience is essential to commercial progress worldwide, and needs to be exchanged among CSLF Members.

Action: Update perspectives and investment outlook from industry, capital sources, and Stakeholders by interviews and attending other forums on the framework of risks and rewards for commercial deployment of projects with CCS in developing countries and potential financing approaches for those projects.

Work with World Bank, Asian Development Bank, key countries on financing options for projects with CCS in emerging economies. Participate in multilateral financing fora.

Outcome: Report by the CSLF Financing Task Force

Milestones: Report from the Task Force. ***Summer 2012***

Priority: High

Action Plan P3: Incentives Registry

Responsibility: CSLF Secretariat

Action: The CSLF will update and publish its Incentive Registry and maintain its currency through the CSLF Members.

This database will provide information on the types of incentives available to commercial projects with CCS. The data will be displayed at national and sub-national levels (e.g., country, state or province) including the type of incentive (e.g., capital subsidy, tax credit, feed-in tariff, etc).

The database will be prepared in cooperation with IEA and the Global CCS Institute.

Outcome: A searchable database that provides current information to interested parties

Milestones: Updated Registry ***2012 and Ongoing***

Priority: High

Capacity Building

The CSLF has conducted very successful capacity building activities since 2005. Deployment of CCS will require the building of skills and expertise, as well as creating institutional capability in both the public and private sectors. This will be a challenge for all CSLF Members, but especially developing country Members.

To achieve worldwide commercial deployment as early and effectively as possible it is critical that countries share their experience and know-how so each can enhance its own capacity to effectively deploy CCS.

The CSLF Capacity Building Program Plan, approved by the CSLF Policy Group and endorsed by Ministers in 2009, defines the mission of the CSLF Capacity Building Program as assisting all CSLF Members to develop the information, tools, skills, expertise and institutions required to implement CCS demonstrations and then move rapidly into

commercial operation. The major focus of the Program is on meeting the needs of developing country Members, although all Members may participate in its activities.

The Program Plan further defines four Program initiatives:

- Disseminate practical information,
- Build capacity in emerging economies,
- Assist government and regulatory agencies, and
- Build academic and research institutions for CCS.

The capacity building activity is unique in that it is the only CSLF activity specifically funded by its Members. To this end, a CSLF Capacity Building Fund has been created with contributions of approximately US$3 million. In order to ensure proper management of the Fund, the Capacity Building Governing Council has been established to be responsible for the governance of the Fund.

The primary responsibility for capacity building concepts lies with the Policy Group Capacity Building Task Force. A country-driven approach to project identification and implementation has been developed to ensure responsiveness to the real needs of Members. Nine capacity building projects have been initiated to date using financial resources from the Fund and others may be initiated in the future. CSLF capacity building activities are coordinated with those of the World Bank and the Global CCS Institute.

Action Plan P4: Capacity Building

Responsibilities: Capacity Building Task Force
Capacity Building Governing Council (for the Fund)
Secretariat (day-to-day activities)

Action: The CSLF will continue to develop, implement and maintain a capacity building program tailored to the needs of each Member, subject to available resources. In addition, the Secretariat, under the direction of the Capacity Building Task Force and Governing Council Chairs, will be charged with the responsibility to carry out the day-to-day activities required to coordinate and execute the Capacity Building Program, including:

- Implement capacity building projects,
- Seek funding for capacity building activities,
- Ensure that information developed is effectively disseminated.

Outcome: Building of capacity in CSLF Members is responsive to their expressed needs.

Dissemination and sharing of information is effective.

Milestones:	Possible selection of additional projects	***2011***
	Evaluation of lessons learned from first projects Report and Workshop	***Summer 2012***
	Funding obtained and second round of projects	***Fall 2012***
	Further rounds of funding and projects	***Annual***

Priority: Very High

Communications

Public engagement on CCS falls into two areas: The global aspects of CCS as an important climate change mitigation technology; and the local aspects of developing capture, transportation and storage projects.

The CSLF will continue to focus on the global aspects of CCS as an important mitigation technology, rather than the development of capture, transportation and storage projects locally. Project engagement activity will have to address local considerations, which could differ from those in other communities, regions and jurisdictions. Individual CSLF Members, project developers and others are best suited to doing local outreach.

CSLF communications activities will continue to include the development of tools and informational materials that can be used by the CSLF and Member representatives, organizations such as the IEA and the GGCSI, Stakeholders (industry and NGOs), policy makers, regulators and project developers to engage with the public on CCS as an important mitigation technology to climate change.

Action Plan P5: Communications

Responsibility: Policy Group Communications Task Force

Action: Communications Task Force to continue refining an overall CSLF Communications Plan that includes the development of new materials and update of existing materials for CCS public awareness on the global aspects of CCS as an important mitigation technology. Annex 1 presents more detail on planned Communications activities.

Outcome: The visibility of both the CSLF and CCS as a viable technology is raised and key stakeholders and audiences are engaged with timely information.

Milestones:

Web site development/updating	***Ongoing***
Members identify CSLF spokespersons	***Ongoing***
Prepare calendar of CCS events	***Ongoing***
Communications vehicles/talking points	***Ongoing***
Communications materials/standard speech	***Ongoing***
Communications materials/PowerPoint presentation	***Ongoing***
Identify conference/speaking venues	***Ongoing***

Priority: High

CCS in the Academic Community

Academic experts and institutions are necessary to conduct much of the research to develop CCS technologies and to educate future CCS experts and practitioners. Recognizing this, a Task Force was created in 2009 to develop contacts within the academic community, identify academic perspectives and programs on CCS for universities in CSLF Member countries, and determine the path forward for the CSLF in this area.

The Task Force is now reaching completion of Phase I activities, marked by the finalization of the first combined report on existing academic CCS programs and the CSLF development of a dedicated Bulletin Board as a forum for academic discussion. Once the first Phase has been finalized, the second Phase will begin with an analysis of the survey report and collation into a database to be made available to academics; and further gap analysis will further identify where CSLF could target future activities. One such future activity for the Task Force would be to investigate an exchange program for university professors in CCS curricula to enhance collaborations, strengthening the CCS network and information exchange within the academic community.

Following gap analysis of existing CCS programs, should it prove a priority, it will be possible to explore key areas which CSLF may wish to develop and enhance through strategic course material for CSLF Members. The Task Force may also consider the progress of CCS in academia, the growth of graduate students to assist decisions and targeting of investment, and dedicated meetings to provide a forum with academic institutions. The Task Force will align its activities with the Capacity Building Task Force.

Action Plan P6: CCS in the Academic Community

Responsibility: Task Force on CCS in the Academic Community
(This is a joint responsibility of the Policy Group and Technical Group.)

Action: The CSLF will identify and review the international development of academic CCS programs, encourage academic student/researcher collaboration, performing gap analysis to target future activities whilst enhancing the developments of strategic curricula for graduate and post-graduate programs.

Outcome: Programs are identified and catalogued. Academic network developed. Proposals for curricula developed.

Milestones:

First report on existing CCS programs	**September 2011**
Update of report on CCS programs	**Ongoing**
Analysis of CCS programs and collation into database	**March 2012**
Database available to academics	**December 2012**
Gap Analysis to identify curricula proposals	**2013**
Proposals for CSLF curricula	**2013**
Implementation of curricula proposals	**2014**
Dedicated report of activities	**2015**
Review Task Force activities	***Ongoing***

Priority: High

4. TECHNICAL GROUP STRATEGY AND ACTION PLANS

According to the CSLF Charter the CSLF Technical Group "reviews the progress of collaborative projects, identifies promising directions for the research, and makes recommendations to the Policy Group on needed actions." Specific responsibilities are delineated in the CSLF Terms of Reference and Procedure (Text Box, page 7).

The Technical Group's strategy has Action Plans in five broad areas which address the technical barriers identified in Table 1:

- Advancing Technical Collaboration (Barriers addressed: all technical barriers);
- Capture (Barriers addressed: high capture cost, high energy penalty, and limited work on capture from industrial sources and CO_2 utilization);
- Transport (Barrier addressed: lack of CO_2 infrastructure);
- Storage and Utilization (Barriers addressed: limited geologic storage experience, need to estimate storage capacity and demonstrate storage integrity, and storage assurance and risk management tools need further development); and
- Understanding the Impacts (Barrier addressed: storage assurance and risk management tools need further development).

In addition to work on these Action Plans, the Technical Group recommends projects to the Policy Group for recognition.

Advancing Technical Collaboration

The Technical Group will continue and expand its efforts to advance technical collaboration among its Members and Stakeholders. The keystones guiding these efforts are the CSLF Technology Roadmap and Technology Gaps Analyses. Both are vital methods of identifying areas of CCUS development that can be addressed through international collaboration or can be taken up by CSLF Members or Stakeholders.

Industrial-scale integrated projects will be going into operation in various parts of the world in the next several years, particularly in power generation. This makes the need for best-practice knowledge sharing even more important.

Action Plan T1: Technology Gaps Closure

Responsibility: Task Force on Assessing Technical Issues that Affect CCS

Action: The Technical Group will identify and monitor key CCS technology gaps and related issues and recommend any RD&D activities that address these gaps and issues.

Outcome: Identification of all key technology gaps/issues and determination of the effectiveness of ongoing CCS RD&D for addressing these gaps/issues.

Milestones:

Review of CCS technology gaps and related issues	***Yearly***
Update of CSLF Technology Roadmap (Module 3)	***Yearly/Biannually***

Thematic reports on the status of CCS technology gaps/issues ***TBD 2012-2016***

Priority: Very High

Action Plan T2: Best-practice Knowledge Sharing

Responsibility: Projects Interaction and Review Team

Action: The Technical Group will facilitate the sharing of knowledge, information, and lessons learned from CSLF-recognized projects and other CCS RD&D.

Outcome: Development of interactive references for assisting next-generation commercial CCS projects, which will include links with other CCS entities.

Milestones:
- Thematic interactive projects "lessons learned" workshops ***TBD 2012-2016***
- Update of CSLF Technology Roadmap (Modules 1, 2, and 4) ***Yearly***
- Thematic reports on lessons learned ***TBD 2012-2016***
- Development of interactive "lessons learned" references (jointly with Communications Task Force) ***TBD 2015-2016***

Priority: High

Capture

A large amount of energy is required in most capture technologies to separate carbon dioxide from other gas streams and compress it for geologic storage. This energy penalty adds significantly to the cost of capture and reduces the effectiveness of the capture. Reducing the energy penalty would improve both the technical and economic viability of capture.

As much as half of the potential emission reductions from CCUS are estimated to be from industrial process sources other than power generation or natural gas separation. Industrial applications for CCUS vary widely and, in some industries, CCUS is the only significant carbon abatement option. Yet, industrial sources have received far less attention than power generation and relatively few proposed demonstration projects involve industrial sources.

Combining CCUS for energy production with sustainably-grown biomass has the potential to be either carbon neutral or carbon negative in facilities where the biomass is either the sole feedstock or, in adequate proportions, is a co-feedstock with fossil fuels. The opportunities and constraints need to be better understood.

Action Plan T3: Energy Penalty Reduction

Responsibility: Technical Group/New Task Force or Working Group

Action: The Technical Group will identify technological progress and any new research needs for reducing the energy penalty for CCS, both for traditional CO_2 capture processes and new breakthrough technologies.

Outcome: Identification of opportunities for process improvements and increased efficiency from experiences of "early mover" projects.

Milestones: Workshop to document knowledge and experiences of "early mover" projects ***TBD 2013***
Report on successful trends and breakthroughs ***TBD 2014***

Priority: Very High

Action Plan T4: CCS with Industrial Emissions Sources

Responsibility: Technical Group/New Task Force or Working Group

Action: The Technical Group will document the progress and application of CCS for industrial emissions sources and will identify and recommend demonstration opportunities for CSLF Members.

Outcome: Identification of opportunities for CCS with industrial sources. Identification and attempted resolution of technology-related issues (including integration) unique to this type of application

Milestones: Technology workshops on CCS for industrial sources ***TBD 2013-2016***
Outreach activities for CO_2-intensive industries ***TBD 2012-2016***
Reports on progress and issues unique to CCS with industrial sources ***TBD 2013-2016***

Priority: High

Action Plan T5: Carbon-neutral and Carbon-negative CCS with Biomass

Responsibility: Technical Group/New Task Force or Working Group

Action: The Technical Group will investigate technical challenges in use of CCS with power plants that utilize biomass (either pure or co-fired), to determine a pathway toward carbon-neutral or carbon-negative functionality.

Outcome: Identification of issues and challenges for use of CCS with biomass-fueled power plants.

Milestones: Biomass CCS technical workshop ***TBD 2013***
Interim Report ***TBD 2014***
Final Report ***TBD 2015***

Priority: High

Transport

A number of CO_2 pipelines are already in operation and many others are likely to be planned and built. It is important for governments, pipeline developers and operators and affected stakeholders to set appropriated standards for the construction, operation and maintenance of such standards.

Action Plan T6: CO_2 Transport and Compression

Responsibility: Technical Group/New or Existing Task Force or Working Group

Action: The Technical Group will review technologies and assess pipeline standards for CO_2 transport, in particular in relation to impurities in the CO_2 stream. Issues such as thermodynamics, fluid dynamics, and materials of construction will be considered. Alternatives to pipelines, such as ship transport, will also be assessed.

Outcome: Identification of optimum technical CO_2 transport strategies, both for pipeline and non-pipeline alternatives. Assessment of purity issues as they apply to CO_2 transport. Identification of optimal compression options and alternatives.

Milestones:	CO_2 transport workshop	***TBD 2014***
	Interim Report	***TBD 2015***
	Final Report	***TBD 2016***

Priority: High

Storage and Utilization

Geologic storage and monitoring will need to meet standards in order to assure their safety and effectiveness. Such standards will affect the design and operation of projects, as well as their financial viability. Regulations that set such standards have been implemented or proposed in a number of jurisdictions and "best practices" have been recommended based on prior research.

Injection of CO_2 for Enhanced Oil Recovery (EOR) has been practiced for decades and may be an early geologic storage application. EOR practices may be different from geologic storage, for example, in the recycling of CO_2.

Considerable technical research has been conducted by geologists on the risks of geologic storage. Yet, from the perspective of a developer of a geologic storage project, the concerns are not limited to just physical impacts; the potential for financial liability is also a concern and the linkage between the two is often unclear.

The mandate of the CSLF Charter is being expanded from CCS to CCUS. This raises questions that need to be explored about what the opportunities are for utilization.

Action Plan T7: Storage and Monitoring for Commercial Projects

Responsibility: Technical Group/New or Existing Task Force or Working Group

Action: The Technical Group will identify, review, and recommend standards for CO_2 storage and monitoring.

Outcome: Recommendations of standards for storage and monitoring of injected CO_2. The application of such standards should inform CO_2 crediting mechanisms.

Milestones:	Interim Report	***TBD 2015***
	Final Report	***TBD 2016***

Priority: Very High

Action Plan T8: Technical Challenges for Converting CO_2 EOR Projects to CCS

Responsibility: Technical Group/New Task Force or Working Group

Action: The Technical Group will determine technical and economic factors that can affect Enhanced Oil Recovery (EOR) that are also used for geologic storage of CO_2.

Outcomes: Identification and recommendation of permitting, monitoring, and reporting requirements for CO_2 EOR projects that apply for CO_2 credits.

Milestones: Interim Report ***TBD 2014***
Final Report ***TBD 2015***

Priority: High

Action Plan T9: Risk and Liability

Lead: Risk Assessment Task Force (or participation in new joint Policy-Technical Task Force)

Action: The Technical Group will identify and assess links between technology-related risks and liability.

Outcome: Development of proposed guidelines for addressing long-term technology-related risks with respect to potential liabilities.

Milestones: Risk and liability workshops ***TBD 2013-2014***
Thematic report with proposed guidelines ***TBD 2015***

Priority: Very High

Action Plan T10: CO_2 Utilization Options

Responsibility: Technical Group/New Task Force or Working Group

Action: The Technical Group will investigate CO_2 utilization options.

Outcomes: Identification of most economically attractive CO_2 utilization options.

Milestones: Interim Report ***TBD 2013***
Final Report ***TBD 2014***

Priority: Very High

Understanding the Impacts

Each component of CCS—capture, transport and geologic storage—has the potential to compete for valuable resources such as land, water and pore space with other uses, for example, hydrocarbon production or other water or land uses. What is the nature of this potential competition? Where does it occur? How can it be minimized?

Action Plan T11: Competition of Geologic Storage with Production of Other Resources

Responsibility: Technical Group/New Task Force or Working Group

Action: The Technical Group will examine criteria for assessing competing development priorities between CCS (particularly CO_2 storage) and other economic resources.

Outcomes: Identification and recommendation of criteria for determining relative economic viability of CO_2 storage sites.

Milestones: Interim Report ***TBD 2014***
Final Report ***TBD 2015***

Priority: Very High

5. SECRETARIAT STRATEGY AND ACTION PLANS

The CSLF Charter states that, "The principal coordinator of the CSLF's communications and activities will be the CSLF Secretariat. The Secretariat will: (1) organize the meetings of the CSLF and its sub-groups, (2) arrange special activities such as teleconferences and workshops, (3) receive and forward new membership requests to the Policy Group, (4) coordinate communications with regard to CSLF activities and their status, (5) act as a clearing house of information for the CSLF, (6) maintain procedures for key functions that are approved by the Policy Group, and (7) perform such other tasks as the Policy Group directs. The focus of the Secretariat will be administrative. The Secretariat will not act on matters of substance except as specifically instructed by the Policy Group."

Pursuant to this mandate, these responsibilities fall into three areas:

- CSLF Administration,
- Stakeholder Engagement, and
- Collaboration with Other International Organizations.

CSLF Administration

This involves carrying out the administrative duties as set out by the CSLF Charter, as well as the administration of the CSLF Capacity Building Program.

Action Plan S1: CSLF Administration

Responsibility: CSLF Secretariat

Action: Conduct the day-to-day business of the CSLF.

Outcome: Administration of CSLF activities proceeds smoothly.

Milestones:

Support to and conduct of all CSLF meetings	***Ongoing***
Support to Policy Group, Technical Groups and Task Force Chairs	***Ongoing***
Coordination of activities	***Ongoing***
Member communications	***Ongoing***
Preparation of CSLF documents	***As needed***
Membership applications	***As needed***
Strategic Plan Implementation Report	***Quarterly***
Administration of Capacity Building Fund	***Ongoing***
Strategic planning coordination	***2011***
Other duties as assigned by the Policy Group Chair	***As needed***

Priority: Very High

Action Plan S2: Administration of CSLF Capacity Building Program

Responsibility: CSLF Secretariat

Action: Conduct day-to-day business of the CSLF Capacity Building Program.

Outcome: Progress is made building the capacity of CSLF Members

Milestones:	Conduct needs assessments	***As needed***
	Support project selection process	***As needed***
	Support meetings of the Governing Council	***As needed***
	Manage contractors on Capacity Building Projects	***As needed***
	Manage the CSLF Capacity Building Fund	***Ongoing***
	Financial Reports to the Policy Group	***Twice per year***

Priority: Very High

Stakeholder Engagement

CSLF Members recognize that significant Stakeholder involvement in the CSLF process is critical to attaining its goals and objectives. Stakeholders have participated in the CSLF since its inception by serving on Task Forces, and by providing resources for CSLF activities and input into the CSLF decision-making process. To achieve the CSLF strategic goals, it is expected that Stakeholders will play an increasing role in supporting the activities of the CSLF by serving on Policy and Technical Task Forces and providing expert views on major issues. Delivering industrial-scale CCS projects world-wide requires a central role for industry within the government-industry partnerships necessary to deliver these projects. In support of this, the CSLF will seek to facilitate greater interaction between CSLF Members and industry stakeholders. Other types of stakeholders are also critical to public acceptance and technology advancement.

The G8/IEA/CSLF workshops are a benchmark for Stakeholder engagement; therefore, the CSLF will implement that style of process more broadly. The CSLF will more effectively engage and draw upon the expertise of Stakeholders. To this end, the CSLF will undertake the following:

1. Ensure effective and efficient communication with Stakeholders to promote greater participation in CSLF activities;
2. Make facilities available for Stakeholders to hold a forum at each annual CSLF meeting, including Ministerial meetings;
3. Stakeholders, including those from non-CSLF Member countries, will continue to be encouraged to attend, participate and contribute to all Policy Group and Technical Group, Task Force and Ministerial Meetings.
4. A Stakeholder contact will be identified for each CSLF Member.
5. CSLF Members will encourage meetings with Stakeholders in their constituencies to inform and discuss with them CSLF and CCS issues.
6. Collaboration will continue with the IEA and Global CCS Institute on a calendar of events to be posted on the CSLF website.

Action Plan S3: Stakeholder Engagement

Responsibility: CSLF Secretariat/Policy Group

Action: The CSLF will more effectively engage and draw upon the expertise of Stakeholders.

Outcome: Greater Stakeholder participation and more robust CSLF products including wider acceptability and applicability.

Milestones:

Make facilities available for Stakeholders forum at each annual CSLF meeting, including Ministerial.	***Ongoing***
Stakeholders invited to all Policy Group and Technical Group and Task Force Meetings.	***Ongoing***
Stakeholder contact identified for each CSLF Member	**1 January 2010**
Collaborate with the IEA and Global CCS Institute on a calendar of events to be posted on CSLF website	**Ongoing**

Priority: High

Collaboration with other International Organizations

As noted earlier, a number of multilateral organizations now work to advance CCS and CCUS. Collaboration among these international organizations has the potential to improve the effectiveness of each and avoid duplication. The CSLF has a unique role internationally, which is as an organization of governments solely devoted to promoting CCUS globally, which gives it a unique perspective and enables it to work on a complementary basis with the other organizations.

The CSLF has collaborated with the IEA since the inception of the CSLF and with the Global CCS Institute since the inception of that organization. Other collaborations have taken place with the CCUS Action Group, the World Bank and the Asian Development Bank. Such collaborations will continue and be expanded.

Action Plan: S4 International Collaboration

Responsibility: CSLF Secretariat

Action: The CSLF will continue a formal, long-term working relationship with the IEA and Global CCS Institute, World Bank and other international organizations involved in CCS. The Global CCS Institute and the IEA will be invited to all CSLF events.

Outcome: A collaborative agreement identifies the lead and supporting roles of each organization; that each organization ensures that the others are invited to important meetings; and that there is a consistent exchange of information, ideas and developments on CCS.

Milestones:

Meet with the IEA and Global CCS Institute to ensure coordination and collaboration	***Ongoing***

Priority: High

Action Plan S5: Providing Information on CCS in International Negotiations

Responsibility: CSLF Secretariat

Action: Support the Members in advocating the inclusion of CCS in the post-Kyoto framework for climate change by facilitating the exchange of information on CCUS before the UNFCCC and in other fora relevant to the status of CCUS methods as a recognized approach for mitigation of greenhouse gas emissions.

Outcome: Members are effective in advocating inclusion of CCS in the post-2012 agreement

Milestones: Respond as requested to requests of the CSLF Policy Group. ***Ongoing***

Priority: High

Annex 1
Communications Task Force Strategy and Activities

Summary

As is evident in media coverage, high-level meetings, and public opinion, carbon capture and storage (CCS) is increasingly mentioned as a potential mitigation option for effectively reducing CO_2 emissions while contributing to the security of national energy supplies. Although this is a positive trend, the worldwide level of understanding about CCS, its technologies and potential is low to non-existent, emphasizing the importance of engaging opportunities for disseminating affirmative and useful information.

Studies indicate that exposure to information from experts increases stakeholder understanding and support for CCS technology. Even more importantly, the results also suggest that those who understand CCS tend to support its advancement. Ultimately, stakeholder communities can be potentially powerful advocates who can assist in communicating the benefits of CCS to strategic venues and media.

Through its significant role and mission in the international effort to minimize global CO_2 emissions and reduce the threat of potential climate change, the CSLF clearly should be in the forefront of efforts to educate stakeholders and constituent audiences about CCS technology. The organization's responsibility in this regard is articulated in the 2011 update of the CSLF Strategic Plan which, among its technical, political, and regulatory goals, includes the need to "address the barriers to public awareness and acceptance" and "engage stakeholders in the development and execution" of the plan's objectives.

In addressing these challenges, the Strategic Plan directs the CSLF to focus its communications and outreach efforts on the "global aspects of CCS as an important mitigation technology," since project acceptability will be highly dependent on local conditions that could differ greatly from location-to-location. A key to the CSLF successfully achieving this objective is an integrated and collaborative communications and outreach effort that effectively engages key stakeholders and audiences in a variety of ways with timely, interesting, and educational information.

In conveying the central message about CCS technology as a vital mitigation option, an effective and comprehensive outreach strategy and effort will also: Raise CSLF visibility and establish the organization as a credible source on CCS technologies and policies; Help extend public confidence in the viability of fossil fuel resources for meeting both increased future energy needs and concerns about CO_2's contribution to potential climate change; Promote efforts by the CSLF and its members to realize CCS's promise and potential.

An important point to note is the fact that the CSLF lacks a communications and outreach budget that would allow for a much more extensive and effective program. Therefore, the communications plan recommends activities aimed at marshalling the collective in-kind capabilities and existing communications vehicles of CSLF members and the Secretariat in a proactive manner in an attempt to bring about realization of the stated objectives.

Objectives of the Communications and Outreach Plan

The primary goals of the activities suggested are to:

- Raise CSLF visibility and communicate important CSLF-related information;
- Engage key stakeholders and audiences with timely information in an integrated effort;
- Achieve outreach objectives as identified in the CSLF Strategic Plan.

Key Components

To accomplish these goals, the communications plan suggests the organization and members use a variety of communications tools:

- Web Site – Continue to refine existing CSLF web site, build on strengths, continually improving functionality and content.
- Identifying and Deploying "Messengers" – Continue to identify "spokesperson" from each CSLF member nation.
- Creating Communications Vehicles – Develop new communications tools and materials and refine existing materials for the CSLF membership to help deliver consistent information and reinforce the CSLF identity.
- Maximizing Venue Use – Identifying on a country, regional, and international basis the most effective venues, meetings, and conferences for promoting CCS and the CSLF.
- Encouraging Media Coverage – Undertaking a proactive effort to engage trade and major media, locally, regionally, and internationally.
- Identify Strategic Partner Relationships – Create a list by members of potential "allies," both nationally and regionally, who can be engaged to leverage CSLF communications efforts.
- Making Adjustments – Conducting regular reviews of CSLF outreach efforts; make adjustments when necessary.
- Coordinate with other CSLF Task Forces as appropriate on outreach activities.

Key Activities

- Web Site Review/Updating
- Members Identify CSLF Spokespersons
- Communications Vehicles/Talking Points Preparation/Updating
- Communications Materials/Standard Speech Preparation/Updating
- Communications Materials/Power Point Preparation/Updating
- Identify Conference/Speaking Venues
- Media Initiatives/Develop Media Contact List
- Media Initiatives/Monitor CCS News Coverage
- Media Initiatives/Disseminating CSLF NewsAlerts
- Media Initiatives/Directing Media to Web Sites
- Media Initiatives/Creating Op-Eds
- Media Initiatives/Media Briefings

- Identify Strategic Partners
- Conduct Regular Reviews of Communications and Outreach Effort