



## TECHNICAL GROUP

### Action Plan Update

#### Background

At the September 2011 CSLF Ministerial Meeting in Beijing, the Technical Group approved a new multi-year Action Plan to identify priorities and provide a structure and framework for conducting Technical Group efforts through 2016. Twelve individual actions were identified, and Task Forces were formed to address four of these twelve actions. At the 2013 Technical Group Meeting in Rome, the Secretariat was asked to prepare the following update on the status of the Action Plan.

#### Action Requested

The Technical Group is requested to review the Action Plan update.



## CSLF Technical Group Action Plan Update

### **Action Plan 1: Technology Gaps Closure**

**Action:** The Technical Group will identify and monitor key CCS technology gaps and related issues and recommend any R&D and demonstration 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.

**Status:** Technology Opportunities and Gaps Task Force (*led by Australia*) active since June 2012. **Final Report issued.**

### **Action Plan 2: Best-Practice Knowledge Sharing**

**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.

**Status:** Activity assigned to Projects Interaction and Review Team (*led by Australia*).

### **Action Plan 3: Energy Penalty Reduction**

**Action:** The Technical Group will identify technological progress and any new research needs for reducing the energy penalty for CCS, both for traditional CO<sub>2</sub> capture processes and new breakthrough technologies.

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

**Status:** United Kingdom (DECC) final report in this area sent to Technical Group delegates on 23 May 2013. **Possible activity in this area to be addressed at Technical Group meeting.**

#### **Action Plan 4: CCS with Industrial Emissions Sources**

**Action:** The Technical Group will document the progress and application of CCS for industrial emissions sources and will identify 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.

**Status:** Clean Energy Ministerial / IEA report issued. **Possible activity in this area to be addressed at Technical Group meeting.**

#### **Action Plan 5: CO<sub>2</sub> Compression and Transport**

**Action:** The Technical Group will review technologies and assess pipeline standards for CO<sub>2</sub> transport, in particular in relation to impurities in the CO<sub>2</sub> 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<sub>2</sub> transport strategies, both for pipeline and non-pipeline alternatives. Assessment of purity issues as they apply to CO<sub>2</sub> transport. Identification of optimal compression options and alternatives.

**Status:** No activity yet.

#### **Action Plan 6: Reviewing Best Practices and Standards for Geologic Storage and Monitoring of CO<sub>2</sub>**

**Action:** The Technical Group will identify and review standards for CO<sub>2</sub> storage and monitoring.

**Outcome:** Identification of best practices and standards for storage and monitoring of injected CO<sub>2</sub>. The application of such standards should inform CO<sub>2</sub> crediting mechanisms.

**Status:** Reviewing Best Practices and Standards for Geologic Storage and Monitoring of CO<sub>2</sub> Task Force (*led by Norway*) active since June 2012. Reports for Years 2012 and 2013 issued. **Continuation of Task Force an option.**

#### **Action Plan 7: Technical Challenges for Conversion of CO<sub>2</sub>-EOR to CCS**

**Action:** The Technical Group will determine technical and economic aspects that can affect moving from enhanced oil recovery (EOR) to carbon storage.

**Outcome:** Identification of permitting, monitoring, and reporting requirements for CO<sub>2</sub> EOR applications that apply for CO<sub>2</sub> credits.

**Status:** Technical Challenges for Conversion of CO<sub>2</sub>-EOR to CCS Task Force (*led by Canada*) active since June 2012. **Final Report issued.**

### **Action Plan 8: Competition of CCS with Other Resources**

**Action:** The Technical Group will examine criteria for assessing competing development priorities between CCS (particularly CO<sub>2</sub> storage) and other economic resources.

**Outcome:** Identification of criteria for determining relative economic viability of CO<sub>2</sub> storage sites.

**Status:** **Deferred** pending review of IEA GHG report in this area.

### **Action Plan 9: Life Cycle Assessment and Environmental Footprint of CCS**

**Action:** The Technical Group will identify and review methodologies for Life Cycle Assessment (LCA) for CCS, including life cycle inventory analysis, life cycle impact assessment, and interpretation of results.

**Outcome:** Identification of criteria for determining the full range of environmental effects for CCS technologies.

**Status:** **No activity yet.**

### **Action Plan 10: Risk and Liability**

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

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

**Status:** **Canceled.** Policy Group task force formed to investigate this area.

### **Action Plan 11: Carbon-neutral and Carbon-negative CCS**

**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.

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

**Status:** **No activity yet.**

### **Action Plan 12: CO<sub>2</sub> Utilization Options**

**Action:** The Technical Group will investigate CO<sub>2</sub> utilization options.

**Outcome:** Identification of most economically attractive CO<sub>2</sub> utilization options.

**Status:** CO<sub>2</sub> Utilization Options Task Force (*led by United States*) active since June 2012. **Final report issued.**