



TECHNICAL GROUP

Planning Document: CO₂ Utilization Options Task Force

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PLANNING DOCUMENT:
CO₂ UTILIZATION OPTIONS TASK FORCE

Note by the Secretariat

Background

At the 4th CSLF Ministerial Meeting, at Beijing, China in September 2011, the Technical Group approved a new multi-year Action Plan. “CO₂ Utilization Options” is one of the twelve Actions that comprise the Action Plan, and the United States has volunteered to lead a new Task Force that will focus on CO₂ utilization options that have the potential to yield a significant, net reduction of CO₂ emissions in sufficient volumes to make a meaningful contribution to global warming and climate change objectives. This paper is a Planning Document for the new Task Force that describes its mandate, goals, timeframe, and expected outcomes.

Action Requested

The Technical Group is requested to review and approve this Planning Document.

Planning Document for Technical Group Action Plan #12

CO₂ Utilization Options

Background

Since its inception in 2003, the Carbon Sequestration Leadership Forum (CSLF) has focused its efforts to facilitate the research, development, demonstration and deployment of effective, low-cost carbon capture and storage (CCS) technologies as a viable option to reduce greenhouse gas emissions in an effort to combat the effects of global warming. While these efforts focused on a variety of capture technologies applicable to power and industrial plants that use or process fossil fuels, the CO₂ storage technologies focused primarily on geological sequestration, an option that provides no direct economic benefit.

In recent years the world has become increasingly interested in finding beneficial uses for CO₂ captured from power plant and industrial sources. As a climate change mitigation strategy such beneficial uses include technologies that convert or use anthropogenic CO₂ in volumes sufficient to make a meaningful contribution to greenhouse gas emission goals. Implicit in this strategy is the notion that technology pathways must result in a substantial net reduction of CO₂ emissions. While CO₂ utilization is not a solution to global warming concerns, it is an important pathway to permanent CO₂ storage, providing much needed economic incentives.

CO₂ utilization options are not insignificant. According to the International Energy Agency 2010 report, “Highest Ever Annual Carbon Emission Leave World in Trouble,” CO₂ utilization has the potential to reduce worldwide annual CO₂ emissions by ten percent. Whether converting CO₂ into other useful products such as biofuels or using it as a chemical feedstock, or developing non-conversion uses such as enhanced oil recovery, adding value to CO₂ is an important consideration to achieve widespread commercial deployment of CCS technologies.

For a good overview of CO₂ utilization and a discussion of technology pathways, please visit the CSLF website and see the *inFocus* fact sheet, “What is Carbon Utilization?”

Charter

At the CSLF Ministerial meeting in Beijing, China (September 19-23, 2011) the CSLF Charter was amended to, among other things, include CO₂ utilization technologies as an important aspect of a CO₂ emission reduction strategy, in addition to carbon capture and storage technologies that have been the focus of CSLF efforts since its inception in 2003. In response, the CSLF Technical Group included in its Five-Year Action Plan, 2011-2016, an action item to provide focus to the new suite of technologies associated with an array of CO₂ utilization options. Specifically, the five-year plan includes Action Plan 12: CO₂ Utilization Options. A new task force was proposed to investigate CO₂ utilization options under the direction of the CSLF Technical Group. At the September 2011 joint meeting of the Technical Group and the Policy Group in Beijing, China, the Five-Year Action Plan was approved, and the formation of a task force to implement Action Plan 12 was proposed.

Membership

The United States has agreed to lead or co-lead the task force. Membership of this task force is open to CSLF member countries and interested parties. *[Note: those interested in participating on the task force as a member or co-lead should contact the CSLF Secretariat*

or Mr. Joseph Giove, Director, Division of CCS Demonstrations, Office of Fossil Energy, U.S. Department of Energy at Joseph.Giove@HQ.DOE.GOV]

Goals

The goal of the CO₂ Utilization Options Task Force, as stated in the Technical Group Five-Year Action Plan is the identification of the most economically attractive CO₂ utilization options. In pursuing this goal, the task force will focus on utilization options that have the potential to yield a significant, net reduction of CO₂ emissions in sufficient volumes to make a meaningful contribution to global warming and climate change objectives. For purposes of this task force the term “economically attractive” includes any CO₂ utilization technology or application, the use of which has a reasonable potential for an economically viable venture, or the use of which has a reasonable potential to partially offset the cost of anthropogenic CO₂ capture, thus facilitating the deployment of conventional CCS technology.

The work product of the task force will include a summary of existing information regarding utilization options, an assessment of the state of each relevant technology and application, a gap analysis for the most promising technologies, and an assessment of the relative value of the utilization option to make a meaningful impact on CO₂ emissions. *[Note: the final scope of the work effort will be determined by the task force members]*

The findings of the task force will be reported in an interim report in [date], 2013, with a final report completed by [date], 2014.