



## **Carbon Sequestration Leadership Forum Background**

### **CSLF Targets Largest Sources of Manmade CO<sub>2</sub> with Technology; Effort Joins Developed and Developing Nations in Climate Activity**

The international Carbon Sequestration Leadership Forum (CSLF) is a voluntary climate initiative of developed and developing nations formed to enable early reduction and steady elimination of the large-source greenhouse gas emissions that account for more than 60 percent of the world's manmade CO<sub>2</sub>. Its 22 members cooperate and collaborate in technology development and demonstration.

The Intergovernmental Panel on Climate Change has determined that CO<sub>2</sub> capture and storage applied to such large-scale sources as electric generation and industrial activity can achieve up to 55 percent of the reductions required to stabilize atmospheric levels of the greenhouse gas in this century; and that it can reduce ultimate stabilization costs by 30 percent or more. It also found that capture and storage is not applicable to emissions of smaller, more numerous sources such as transportation, buildings and residences.

Formed in 2003, CSLF marshals intellectual, technical and financial resources from all parts of the world to support atmospheric stabilization, the long-term goal of the United Nations Framework Convention on Climate Change. Members are dedicated to collaboration and information sharing in developing, proving safe, demonstrating and fostering the worldwide deployment of multiple technologies for the capture and long-term geologic storage of carbon dioxide at low costs; and to establishing a companion foundation of legislative, regulatory, administrative, and institutional practices that will ensure safe, verifiable storage for as long as millennia.

Geologic storage at great depth is possible in multiple ways – in depleted and declining oil fields where sequestration linked with CO<sub>2</sub> enhanced oil recovery can also enhance near-term supply by boosting production; in natural gas fields; in unmineable coal seams, which may add to natural gas supply by displacing methane; in very deep saline reservoirs which underlie much of the world; and in other significant geologic formations such as basalt.

Preliminary findings indicate the world's potential CO<sub>2</sub> storage capacity may be as much as 11 trillion tons balanced against the IPCC's 2005 finding of total world emissions of more than 24 billion tons, of which about 15 billion tons came from the large-scale sources targeted by CSLF activity.

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Member nations produce approximately three-quarters of the world emissions. Storage estimates also show favorable matches of large-scale sources with suitable formations. Many CSLF-approved demonstrations are meant to quantify the potential and identify the best storage sites.

Nineteen demonstration projects have been recognized by and on behalf of CSLF-nation energy ministers.

Among the developed nations, demonstrations include the Castor Project, whose ultimate objectives include storage of up to 30 percent of Europe's industrial emissions; and North America's Regional Carbon Sequestration Partnerships, which join entities in 41 of 50 U.S. states, four Canadian Provinces and three Indian nations whose early work mapped most of the continent's potential storage and large-point sources. Their activities include identifying, testing and, ultimately, demonstrating seven large-scale storage sites.

Among developing nations, approved projects include a quantifying of potential storage capacity of China a variety of geologic formations; and of storage in India in basalt formations. An early assessment of basalt in the United States suggested the potential to take all emissions for hundreds of years.

The Forum was organized as a technical working group to develop technology and processes for dealing with greenhouse gases independent of other climate-change activity. It was formally named a medium of cooperation with the developing nations by the G8 Conference of Nations in 2005. It also works with the International Energy Agency on greenhouse gases.

G8 leaders specifically endorsed CSLF activities in their Gleneagles Plan of Action on Climate Change, Clean Energy and Sustainable Development and at the same time pledged to seek greenhouse gas stabilization through the United Nations climate agreement.

CSLF activities also recognize the facts behind IEA findings that the world will have to rely on fossil energy for economic growth and stability for the foreseeable future – use them through an indefinite period required to pass from the present to a point in the future where low- and no-carbon energy sources can meet most requirements. The challenge is to reduce emissions while fossil-energy use rises.

Many members are actively pursuing low- and no-carbon use of fossil energy through the concept called zero emissions plants, or ZEPs and the Forum is cooperating with an IEA initiative.

Forum membership spans the world's largest blocs of economic activity, including the North America Free Trade Area, the European Union and the leading economies of Asia. Members are Australia, Brazil, Canada, China, Colombia, Denmark, the European Commission, France, Germany, Greece, India, Italy, Japan, Mexico, the Netherlands, Norway, Russia, Saudi Arabia, South Africa, South Korea, the United Kingdom and the United States.