Carbon Sequestration leadership forum
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CSLF Endorses Six New Carbon Capture, Utilization and Storage Projects

Technology Collaboration Critical Step Towards Commercial Deployment

Washington, DC--The Carbon Sequestration Leadership Forum has added six new carbon capture, utilization and storage (CCUS) projects to its existing R&D portfolio in an ongoing effort to bring together developed and developing nations in a collaborative quest to curtail manmade emissions of the greenhouse gas carbon dioxide (CO_2).

The new projects were approved at the CSLF's Fourth Ministerial Meeting in Beijing, China last week and brings the total number of recognized projects to 36. These projects provide the basis for international information sharing on some of the most important projects throughout the world covering all aspects of CCUS. All are aimed at gathering the knowledge and experience required to initiate widespread carbon capture and to conduct safe, secure geologic storage on the order of thousands of years.

Currently the CSLF portfolio includes pioneering activities to identify potential storage capacities and projects dedicated to matters such as cutting the costs of CO_2 capture technology and developing new methods of combustion; identifying storage capacity and widening the understanding of geologic reservoirs; predicting the behavior of stored carbon in various kinds of reservoirs; and developing technologies for successful, reliable and long-term monitoring, measurement and verification of stored carbon.

Most projects serve several purposes and a number capitalize on the concept of using CO_2 storage to augment energy production as with enhanced oil recovery and methane recovery from unmineable coal seams.

The projects in the portfolio report progress regularly to the CSLF and results are available to all members, stakeholders and others through the CSLF website. In return the projects receive global visibility.

The six new projects include:

- **Rotterdam Opslag en Afvang Demonstration (ROAD) Project (The Netherlands)** -- The goal of the ROAD Project is to demonstrate that an industrial-scale, integrated CCUS chain (capture on a coal-fired coal plant and offshore storage) can be applied in a reliable and efficient way within a 10-year timeframe (by 2020) and can make a substantial contribution to climate change

objectives. The project will share knowledge and experiences with other industries, countries, general public, NGOs and other stakeholders. ROAD is one of the six large-scale CCUS demonstration projects within the European Energy Programme for Recovery (EEPR). Captured CO_2 will be transported via pipeline and injected into depleted gas reservoirs under the North Sea.

- **CGS Europe Project - Pan-European Coordination Action on CO_2 Geological Storage (Europe)** -- CO_2 Geological Storage (CGS) Europe is a collaborative project involving extensive structured networking, knowledge transfer and information exchange, and is designed to facilitate the large-scale demonstration and deployment of CCUS, and to support implementation of the Directive on geological storage of carbon dioxide in all relevant EU Member States and associated countries.

  Building on the sound basis of the CO2 GeoNet Association, the CGS Europe Project will create a pan-European network of experts in the geological storage of CO_2 and a centralized knowledge base which will provide an independent source of information, research and advice for national, European, and international stakeholders. It will enable access to the most up-to-date results of CO_2 storage studies, the sharing of experiences and best practices, support of implementation of regulations, the formulation of relevant new research and the development of appropriate new projects.

- **SaskPower Integrated CCS Demonstration at Boundary Dam Unit 3 (Canada)** -- The goal of this project is commercial co-production of electricity and CO_2 for sale using indigenous coal resources. The Boundary Dam ICCS Demonstration Project is expected to be the first application of full stream flue gas treatment for a pulverized coal unit. Operations of the highly integrated system will demonstrate not only CO_2 capture technology, but its interaction and optimal thermodynamic integration with the heat power cycle and with power production at full commercial scale. The captured CO_2 will be used for Enhanced Oil Recovery.

- **CO2 Capture Project, Phase 3 (United States, Europe, Canada) --** The CO_2 Capture Project (CCP) is a partnership of several major energy companies working together to advance the technologies and to improve operational approaches in order to reduce costs and accelerate the deployment of CCUS. The CCP is currently in its third phase of activity – CCP3 (2009-2013). During the course of CCP3, the program will culminate in at least two field demonstrations of capture technologies and a series of monitoring field trials which will provide a clearer understanding of how to better monitor CO_2 in the subsurface.

- **Jänschwalde Project (Germany)** -- The goal of this project is to technically and economically validate the complete CCUS chain including the demonstration of oxyfuel and post-combustion capture (PCC) for lignite, CO_2 transportation and geological storage. The combination of two different CO_2 capture technologies (Oxyfuel and PCC) allows both technologies to be demonstrated and developed for commercial application. Oxyfuel technology was chosen on account of its potential to obtain high efficiency and capture rates when applied to newly built power plants. The rationale behind PCC is that it is the best option to retrofit existing power plants. The captured CO_2 will be transported by pipelines to be stored in deep geological formations.

- **Zero Emission Porto Tolle (ZEPT) Project (Italy)** --The goal of the Porto Tolle Zero Emission Project is to demonstrate the industrial application of the CO_2 capture and geological storage in the power sector at full scale. The demonstration plant will be operated for an extended period (10 years) in order to fully demonstrate the technology on an industrial scale, access clearly identify the real costs of CCUS and provide a commercial solution for new installations after 2020. The project is intended to prove the retrofit option for high-efficiency coal fired units which will be built (or replaced) in the coming 10-15 years.

The CSLF is a voluntary climate initiative of developed and developing nations that account for 75 percent of all manmade carbon dioxide emissions. The members engage in cooperative technology development aimed at enabling the early reduction and steady elimination of CO_2 emissions.

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, New Zealand, Norway, Poland, Russia, Saudi Arabia, South Africa, South Korea, United Arab Emirates, United Kingdom and the United States.

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