



INTERNATIONAL
T R A D E
ADMINISTRATION

Coal News and Trends

Upcoming Events:

- **China Coal and Mining Expo in Beijing, November 6-9, 2007**

The China Coal and Mining Expo has the support of the DOC's staff in both the United States and Singapore. By supporting this event, DOC recognizes the capability and exhibition experience of the organizer of the U.S. Pavilion, Marketing International Corporation Inc., and the potential of this market for U.S. industry exports. Companies participating in the U.S. Pavilion will work with DOC trade experts to establish or expand overseas distribution, generate sales leads, identify licensing and joint venture partners, find new customers, meet with existing clients, introduce new products, assess the needs of Asian markets, and evaluate competitors. The U.S. Pavilion will offer prospective U.S. exhibitors the following services: streamlined booth arrangements, market entry counseling and logistics liaison with Chinese organizers. Assistance with setting up one-on-one meetings with prospective Chinese buyers is available for a separate fee. For additional information, please contact Peggy Pauley at peggy.pauley@mail.doc.gov or refer to <http://www.chinaminingcoal.cn>.

- **ITA Clean Energy Trade Mission to China and India, January 8-14, 2008**

The January 2008 ITA Clean Energy Trade Mission builds on the first U.S. Clean Energy Technologies Trade Mission, which took place in April 2007 and brought 17 U.S. companies to China and India. China recently announced its first national plan to address climate change, calling for a 20 percent reduction in energy consumption per unit of GDP by 2020 while increasing the use of renewable energy. By 2020, China plans to spend nearly \$200 billion to increase renewable energy use to 15 percent of total supply. India plans 100 gigawatts (GW) of new power over the next ten years, including 10 GW from renewable sources. This plan includes the electrification of 18,000 remote villages, and a goal to meet 10 percent of its energy demand using clean energy by 2012. U.S. companies have the opportunity to take part in either the China portion of the mission (January 8-13 in Beijing, Guangzhou, and Hong Kong) and/or the India portion of the mission (January 14-18 in Kolkata and Bangalore). The application deadline is November 5, 2007. For additional information and application procedure, visit www.export.gov/cleanenergymission or contact Justin Rathke at (202) 482-7916. For additional information regarding APP, visit www.asiapacificpartnership.org.

Policy Analysis:

DOE Releases Draft Funding Opportunity Announcement for CCPI Round 3

http://fossil.energy.gov/news/techlines/2007/07071-DOE_Seeks_CCPI_Comments_.html

October 4, 2007

Washington, DC - The U.S. Department of Energy has released for public comment the draft Funding Opportunity Announcement (FOA), Model Cooperative Agreement, and Model Payment Agreement for Round 3 of the Clean Coal Power Initiative (CCPI). CCPI invites private industries to partner with Government to demonstrate new clean coal technologies at commercial scale.

The draft FOA allows interested parties to voice concerns and seek answers to questions regarding the cost-shared partnership. The public comment period begins immediately and continues through November 9, 2007.

In addition, a public meeting will be held on November 1, 2007, at the Hyatt Regency Hotel at the Pittsburgh International Airport in Pittsburgh, Pa.

Developed as a response to President Bush's commitment to clean coal technology, the CCPI is a ten-year \$2 billion program initiated in 2002 to demonstrate advanced coal-based, power generation technology at the commercial scale. DOE seeks new and innovative technologies that are not available on the current market rather than new applications or minor improvements to existing technologies. In addition, potential projects must ensure that a minimum of 75 percent of the fuel energy input is from coal, and a minimum of 50 percent of the energy-equivalent output is from electricity.

The CCPI will conduct four solicitation rounds through 2010; eight projects are currently active from the previous two rounds. The projects are cost-shared, with the award recipient providing at least 50 percent of funds for the project. A Notice of Intent was posted in May of this year, which provided a brief summary of Round 3. The draft of the FOA is a lengthier document that details the goals and requirements of Round 3 and is to be used as a guide by the industry to create proposals.

CCPI Round 3 specifically focuses on technologies that capture and sequester carbon dioxide (CO₂) emissions or put them to beneficial reuse. DOE has established the following goals for demonstration at a commercial scale in a commercial setting:

- Technologies that capture and sequester at least 50 percent of CO₂ emissions from the proposed facility, or put them to beneficial reuse.
- Technologies that show significant progress toward 90 percent carbon capture.
- Technologies that show significant progress toward CO₂ capture and sequestration with less than 10 percent increase in electricity costs.

DOE is also interested in structuring Round 3 to allow demonstration projects under CCPI to integrate with ongoing sequestration field tests, which might already be fully operational when new projects become available. DOE anticipates the award of multiple Cooperative Agreements resulting from this Announcement.

The release of the final FOA is expected at the end of November 2007. Applications will be due to DOE on approximately April 29, 2008, and selections will be announced in November 2008.

Coal is the Nation's most abundant energy resource, and 90 percent of all coal consumed supplies more than 50 percent of national electricity. By accelerating the availability of advanced coal technologies for commercial deployment, CCPI will enable the United States to benefit from clean, reliable, and affordable electricity and power. Participation in CCPI offers high risk, yet the risk is worthwhile because a successful demonstration will allow the individual participant to replicate the technology in the commercial market.

DOE Awards First Three Large-Scale Carbon Sequestration Projects ***U.S. Projects Total \$318 Million and Further President Bush's Initiatives to Advance Clean Energy Technologies to Confront Climate Change***

http://fossil.energy.gov/news/techlines/2007/07072-DOE_Awards_Sequestration_Projects.html

October 9, 2007

Washington, DC - In a major step forward for demonstrating the promise of clean energy technology, U.S. Deputy Secretary of Energy Clay Sell recently announced that the Department of Energy (DOE) awarded the first three large-scale carbon sequestration projects in the United States. The three projects (the Plains Carbon Dioxide Reduction Partnership, the Southeast Regional Carbon Sequestration Partnership, and the Southwest Regional Partnership for Carbon Sequestration) will consist of large volume tests for the storage of one million or more tons of carbon dioxide (CO₂) in deep saline reservoirs. DOE plans to invest \$197 million over ten years (subject to annual appropriations from Congress) for the projects, whose estimated value including partnership cost share is \$318 million. These projects are the first of several sequestration demonstration projects planned through DOE's Regional Carbon Sequestration Partnerships.

The formations to be tested during this third phase of the regional partnerships program are recognized as the most promising of the geologic basins in the United States. Collectively, these formations have the potential to store more than one hundred years of CO₂ emissions from all major point sources in North America.

"Successful demonstration of large volume carbon capture and storage technology plays a key role in achieving President Bush's goals for a cleaner energy future," Deputy Secretary of Energy Clay Sell said. "Coal is vitally important to America's energy security and this technology will help enable our Nation, and future generations, to use this abundant resource more efficiently and without emitting greenhouse gas emissions."

The projects include participation from 27 states and the Canadian provinces of Alberta, Saskatchewan, and Manitoba. They will demonstrate the entire CO₂ injection process (pre-injection characterization, injection process monitoring, and post-injection monitoring) at large volumes to determine the ability of different geologic settings to permanently store CO₂.

The projects awarded today are as follows:

Plains CO₂ Reduction Partnership: The Plains CO₂ Reduction Partnership, led by the Energy & Environmental Research Center at the University of North Dakota, will conduct geologic CO₂ storage projects in the Alberta and Williston Basins. The Williston Basin project in North Dakota will couple enhanced oil recovery and CO₂ storage in a deep carbonate formation that is also a major saline formation. The CO₂ for this project will come from a post-combustion capture facility located at a coal-fired power plant in the region. A second test will be conducted in northwestern Alberta, Canada, and will demonstrate the co-sequestration of CO₂ and hydrogen sulfide from a large gas-processing plant into a deep saline formation. This will provide data about how hydrogen sulfide affects the sequestration process. The Plains partnership includes North Dakota, South Dakota, Minnesota, Montana, Wyoming, Nebraska, Iowa, Missouri, and Wisconsin, along with the Canadian provinces of Alberta, Saskatchewan, and Manitoba. Total Project Cost: \$135,586,059; DOE Share: \$67,000,000; Partner Share: \$68,586,059

Southeast Regional Carbon Sequestration Partnership: This partnership, led by Southern States Energy Board, will demonstrate CO₂ storage in the lower Tuscaloosa Formation Massive Sand Unit. This geologic formation stretches from Texas to Florida and has the potential to store more than 200 years of CO₂ emissions from major point sources in the region. The partnership will inject CO₂ at two locations to assess different CO₂ streams and how the heterogeneity of the formation affects the injection and containment. Injection of several million tons of CO₂ from a natural deposit is expected to begin in late 2008. The project will then conduct a second injection into the formation using CO₂ captured from a coal-fired power plant in the region. The results of these projects will provide the foundation for the future development of CO₂ capture and storage opportunities. The Southeast partnership covers Georgia, Florida, South Carolina, North Carolina, Virginia, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, and southeast Texas. Total Project Cost: \$93,689,242; DOE Share: \$64,949,079; Partner Share: \$28,740,163

Southwest Regional Partnership for Carbon Sequestration: Coordinated by the New Mexico Institute of Mining and Technology, the Southwest Regional Partnership for Carbon Sequestration will inject several million tons of CO₂ into the Jurassic-age Entrada Sandstone Formation in the southwestern United States. The Entrada formation stretches from Colorado to Wyoming and is a significant storage reservoir in the region. The partnership will inject CO₂ into the formation after extensive baseline characterization and simulation modeling. The project will test the limits of injection and demonstrate the integrity of the cap rock to trap the gas. Information gained from the project will be used to evaluate locations throughout the region where future power plants are being considered. The Southwest partnership includes the states of New Mexico, Oklahoma, Kansas, Colorado, and Utah, and portions of Texas, Wyoming, and Arizona. Total Project Cost: \$88,845,571; DOE Share: \$65,437,395; Partner Share: \$23,408,176

Over the first 12 to 24 months of these projects, researchers and industry partners will characterize the injection sites and then complete the modeling, monitoring, and infrastructure improvements needed before CO₂ can be injected. These efforts will establish a baseline for future monitoring after CO₂ injection begins. Each project will then inject a large volume of CO₂ into a regionally significant storage formation. After injection, researchers will monitor and model the CO₂ to determine the effectiveness of the storage reservoir.

These three projects will double the number of large-volume carbon storage demonstrations in operation worldwide. Current projects include the Weyburn Project in Canada, which uses CO₂ captured during coal gasification in North Dakota for enhanced oil recovery; Norway's Sleipner Project, which stores CO₂ in a saline formation under the North Sea; and the In Salah Project in Algeria, which stores CO₂ in a natural gas field. The successful demonstration of carbon storage in these U.S. geologic basins by the Regional Partnerships will play a crucial role in future infrastructure development and sequestration technology to mitigate CO₂ emissions.

The newly awarded projects kick off the third phase of the Regional Carbon Sequestration Partnerships program. This initiative, launched by DOE in 2003, forms the centerpiece of national efforts to develop the infrastructure and knowledge base needed to place carbon sequestration technologies on the path to commercialization. During the first phase of the program, seven partnerships, consisting of organizations from government, industry and academia, and extending across the United States and into Canada, characterized the potential for CO₂ storage in deep oil-, gas-, coal-, and saline-bearing formations. When Phase I ended in 2005, the partnerships had identified more than 3,000 billion metric tons of potential storage capacity in promising sinks. This

has the potential to represent more than 1,000 years of storage capacity from point sources in North America. In the program's second phase, the partnerships implemented a portfolio of small-scale geologic and terrestrial sequestration projects. The purpose of these tests was to validate that different geologic formations have the injectivity, containment, and storage effectiveness needed for long-term sequestration.