



Coal News and Trends

July 2008

Upcoming Coal and Mining Web-Based Seminars:

For additional information on the 2008 Coal and Mining Webinar Series and registration procedures, please contact Shannon Fraser (Shannon.Fraser@mail.doc.gov, 202-482-3609) or Steve Murray (Steve.Murray@mail.doc.gov, 412-644-2819). Please note that these sessions will be recorded and disseminated to registrants after each event.

➤ **'Opportunities for U.S. Companies in the Coal/Mining Sectors of India**
July 8, 9:00 am Eastern Time

Led by Aileen Nandi (Commercial Service-Kolkata)

The July 8 India Coal/Mining webinar will provide U.S. companies with an overview of the Indian coal, mining, and coal preparation markets as well as highlights on commercial opportunities for U.S. companies. Registration details for this event are available at: <http://www.buyusa.gov/pittsburgh/indiacoalandmining.html>

➤ **'Opportunities for U.S. Companies in the Coal, Coal Bed Methane, and Coal Mining Sectors of China**
July 14, 8:30 pm Eastern Time

Led by Bryan Larson (Commercial Service-Beijing),
Pierce (Jing) Li (Asian American Gas), and
Yang Kebao (Caterpillar Global Mining China)

The web-based discussion on China will highlight China's current commercial environment, China's coal-bed methane sector, and mining equipment opportunities for U.S. firms. Registration details for this event are available at: <http://www.buyusa.gov/pittsburgh/chinacoalandmining.html>.

International Trade Opportunities:

- **Market Development Cooperator Program, July 31 Application Deadline**

Market Development Cooperator Program (MDCP) awards include financial and technical assistance from the International Trade Administration (ITA) to support projects that enhance the global competitiveness of U.S. manufacturing and services industries. An MDCP award establishes a partnership between ITA and non-profit industry groups such as trade associations and chambers of commerce. Such groups are particularly effective in reaching small- and medium-size enterprises (SMEs). The non-profit groups compete for a limited number of MDCP award partnerships by proposing innovative projects that enhance the global competitive position of their industry with a special emphasis on SMEs. Industry groups pledge to pay a minimum of two-thirds of the project cost and to sustain the project after the MDCP award period ends. Individual award limit of \$250,000. Funds may be expended over the period of time required to complete a project, but the period cannot exceed three years. Additional information and application procedures are available at: <http://ita.doc.gov/td/mdcp/about.html>

Upcoming Events:

- **Bluefield Coal Symposium, August 26-27, Bluefield, WV**
The Bluefield Coal Symposium will provide an overview of 1) industrial coal mine safety programs, 2) regional mining legislation, and 3) recent mining technology developments. For additional information on the program agenda, please refer to <http://www.bluefieldchamber.com/csinformation.htm>
- **Clean Energy and Environment Trade Mission to India and China, September 1-12**
Join Assistant Secretary of Commerce David Bohigian on this 6 city mission to China and India. Throughout the trade mission, participants will meet one-on-one with prescreened potential partners, agents, distributors, licensees, and retailers and take part in discussions with national and local government officials, networking opportunities, country briefings, and site visits. The cities and dates for the trade mission are Beijing, Jinan, and Shanghai, China (September 1-5) and New Delhi, Hyderabad, and Mumbai, India (September 7-12). Targeted products include clean energy and energy efficiency technologies or services such as renewable energy, clean coal, or distributed generation, and all environmental technologies including air pollution abatement, water, waste, or instrumentation and monitoring equipment. To participate in the mission in both China and India, the fee is \$5,400 per company and \$1,000 for each additional company representative. To participate in either the China or India portion of the mission, the fee is \$3,500 per person and \$750 for each additional company representative. Applications are due by July 21, 2008. For additional information and registration procedures, please refer to: <http://www.export.gov/cleanenergymission/>
- **Electra Mining, September 8-12, Johannesburg, South Africa**
Electra Mining Africa is targeted towards equipment producers, traders, service and product suppliers, and representatives from mining and smelting plants. This event serves as the second largest mining show worldwide. Representatives from the International Trade Administration will coordinate pre-arranged meetings between U.S. new-to-market companies and South African companies. Please contact Johan.vanRensburg@mail.doc.gov for additional information.
- **MINExpo International, September 22-24, Las Vegas, NV**
Occurring every four years, the MINExpo event will take place from September 22-24 in Las Vegas and will include educational seminars, mining equipment displays, and optional site visits. The Department of Commerce will coordinate foreign buyer delegations to attend the conference and will arrange for one-on-one meetings between Foreign Service coal and mining trade specialists and U.S. company representatives to discuss the expansion of business opportunities in a targeted overseas market. For additional information, please refer to <http://www.minexpo.com/tours.shtm?id=2> or contact Shannon Fraser at Shannon.Fraser@mail.doc.gov, 202-482-3609.
- **International Pittsburgh Coal Conference, September 29-October 2, Pittsburgh, PA**
The Twenty-Fifth Annual International Pittsburgh Coal Conference will focus on environmental emissions issues and technologies surrounding the continued use of coal and the development of future coal-based energy plants to achieve near-zero emissions of pollutants. For additional information on this year's program, please refer to <http://www.engr.pitt.edu/pcc/2008%20Conference.htm>

Policy Analysis:

DOE Seeks to Invest Approximately \$1.3 Billion to Commercialize CCS Technology

Funding Opportunity Announcement Solicits Applications for Restructured FutureGen Program

http://fossil.energy.gov/news/techlines/2008/08023-FutureGen_FOA_Released.html

June 24, 2008

Washington, D.C. - The U.S. Department of Energy (DOE) recently issued a Funding Opportunity Announcement (FOA) to invest in multiple commercial-scale Integrated Gasification Combined Cycle (IGCC) or other clean coal power plants with cutting-edge carbon capture and storage (CCS) technology under the Department's restructured FutureGen program. The solicitation is seeking multiple cost-shared projects to advance coal-based power generation technologies that capture and store the greenhouse gas carbon dioxide (CO₂). The Department anticipates \$290 million will be available for funding of selected projects through fiscal year (FY) 2009 and an additional \$1.01 billion is expected to be available in subsequent years, subject to appropriations by Congress.

"The Department is committed to increasing the nation's energy security and addressing CO₂ emissions by ensuring coal, an abundant domestic resource, can be used to meet our growing energy demand in an environmentally responsible way," Under Secretary of Energy Bud Albright said. "This announcement brings us one step closer towards the installation of carbon sequestration technology on commercial-scale clean coal power plants."

The FOA provides instructions for submitting applications and outlines the mission need and background, project description, and the primary technical goals and performance requirements. The announcement also provides the evaluation criteria, terms and conditions of a model cooperative agreement, as well as cost-sharing required for public-private cooperation under the restructured FutureGen projects. Applications are due October 8, 2008 and the selection of projects is targeted for the end of calendar year 2008.

DOE announced a restructured approach to its FutureGen project on January 30, 2008, to build on technological research and development advancements in CCS technology achieved over the past five years. This approach responds to changing market conditions for clean coal technology, as well as efforts to limit taxpayer exposure and maximize the federal government's investment in this cutting-edge technology. The restructured approach aims to accelerate the near-term deployment of advanced clean coal technology by equipping new IGCC or other clean coal commercial power plants with CCS technology. By funding multiple projects DOE expects at least to double the amount of CO₂ sequestered compared to the amount under the concept announced in 2003. When these plants are operational, they will be the cleanest coal-fired power plants in the world - each capturing and storing an expected 1 million metric tons of carbon dioxide per year.

Subject to compliance with the National Environmental Policy Act, the FOA envisions commercial operation of IGCC or other clean coal power plants equipped with CCS technology to begin as soon as the plants are commissioned by the end of 2015. The restructured FutureGen approach will focus on the challenges associated with avoiding and reducing carbon emissions through sequestration. Technical, economic, and operational results from multiple projects will inform and guide the promulgation of regulations related to wide-scale carbon sequestration activities and at the same time will help establish technologies and protocols for CO₂ monitoring, mitigation and verification.

DOE's FOA requires that at least 50 percent of the energy output of the project's energy conversion system must be used to produce electricity and the project must be located in the United States. In addition, the FutureGen goal is 90 percent capture of carbon content in the syngas or flue gas. Projects must also remove at least 90 percent of the mercury emissions based on mercury content of the coal, and reduce sulfur, nitrogen oxides and particulate emissions to very low levels. To ensure safe and permanent sequestration, DOE also includes in the FOA monitoring and verification performance requirements for FutureGen projects, including quantifying and assessing CO₂ capture, transport, and storage during a 3-5 year demonstration of at least one million metric tons of CO₂ injected per year in a saline formation; monitoring and reporting to DOE the plumes of injected CO₂ for a minimum of two years after cessation of the injection demonstration; and developing information necessary to estimate costs of future CO₂ management systems.

Clean coal technology is a vital component of the Bush Administration's vision for a cleaner, more secure energy future and the restructured approach to FutureGen will demonstrate the integration of IGCC or other clean coal technology with CCS to enable wider use and more rapid commercialization,

facilitating economic growth, and increasing living standards in a way that maximizes Federal investment and limits taxpayer risk. President Bush's FY 2009 budget request of \$648 million for clean coal research, development and deployment represents the largest amount requested for DOE's coal program in more than 25 years and builds on more than \$2.5 billion invested to advance clean coal technology since 2001.

Hawaii Joins DOE's Carbon Sequestration Regional Partnership Program New Partner Fortifies Greenhouse Gas Mitigation Efforts

http://fossil.energy.gov/news/techlines/2008/08021-Hawaii_Joins_WESTCARB.html

June 8, 2008

Washington, D.C. - The state of Hawaii is the newest member of the U.S. Department of Energy (DOE) Regional Carbon Sequestration Partnership Program - the centerpiece of national efforts to validate and deploy carbon sequestration technologies. The addition of Hawaii, the 42nd state to join the partnerships program, helps strengthen U.S. efforts to reduce greenhouse gas emissions and mitigate climate change.

Hawaii was included as a regional partner for the first time when the West Coast Regional Carbon Sequestration Partnership (WESTCARB) was awarded DOE funding for a Phase III large-scale sequestration test. The WESTCARB award was announced on May 6, 2008, at the Carbon Sequestration Conference in Pittsburgh, Pa.

The Regional Carbon Sequestration Partnership Program is a nationwide cooperation of federal, state, and private sector partnerships that are determining the most suitable technologies, regulations, and infrastructure for future carbon capture and storage in different areas of the country. Launched in 2003, the program is leading national efforts to develop the infrastructure and knowledge-base needed to place carbon sequestration technologies on the path to commercialization. The seven regional partnerships include more than 350 state agencies, universities, and private companies within 42 states, three Indian nations, and four Canadian provinces.

During the first phase of the program, the partnerships characterized the potential for CO₂ storage in deep geologic formations. When Phase I ended in 2005, the partnerships had identified more than 3,000 billion metric tons of potential storage capacity in promising geologic formations, which have the potential to represent more than 1,000 years of storage capacity from point sources in North America.

In Phase II of the program, 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.

During Phase III, the partnerships will perform large-volume tests to validate that the capture, transportation, injection, and long term storage of over 1 million tons of carbon dioxide can be done safely, permanently, and economically.

Hawaii is the latest state to join the WESTCARB partnership, which also includes California, Arizona, Nevada, Oregon, Washington, Alaska, and British Columbia. As part of their Phase III efforts, WESTCARB is conducting a geologic CO₂ storage project in the San Joaquin Basin in Central California. Efforts in Hawaii will focus on site characterization or "source-sink matching" of CO₂ emission sources, such as power plants, and terrestrial and geologic sinks that will hold the CO₂. Scientists under the direction of the University of Hawaii will initially examine and update the sources of greenhouse gases as part of the new state law requiring an inventory of state sources.

The seven regional partnerships are -

- Big Sky Carbon Sequestration Partnership, led by Montana State University.
- Midwest Geological Sequestration Consortium, headed by the University of Illinois-Illinois State Geological Survey.
- Midwest Regional Carbon Sequestration Partnership, led by Battelle.
- Plains CO₂ Reduction Partnership, led by the Energy & Environmental Research Center at the University of North Dakota.
- Southeast Regional Carbon Sequestration Partnership, headed by the Southern States Energy Board.
- Southwest Regional Partnership for Carbon Sequestration, led by the New Mexico Institute of Mining and Technology.
- WESTCARB, headed by the California Energy Commission.