INTERNATIONAL TRADE ADMINISTRATION

Coal News and Trends

July 2009

Coal Industry Trade Leads:

- **Coal-Fired Power Plant in Kenya, Kenya Electricity Generating Company**

  The Kenya Electricity Generating Company (KenGen) completed a feasibility study for the construction of a 300 MW coal-fired power plant in the Mombassa region. The study advances the implementation of a coal fired power plant to be comprised of two units of 150 MW each and estimated to cost U.S. $700 million. KenGen recently put forward a notice for Expression of Interest (EOI) for a joint venture partner who will take on 60 percent equity, with KenGen owning the remaining 40 percent. Information on the EOI is available at:
  http://www.kengen.co.ke/Tenders.aspx?TenderId=0
  U.S. companies interested in this project are encouraged to contact Mary Masyuko, Commercial Specialist at the U.S. Embassy in Nairobi, at Mary.Masyuko@mail.doc.gov.

- **Coal Preparation Plant Projects in India, Coal India Limited**

  The U.S. Commercial Service is actively supporting and encouraging U.S. companies to form consortiums with Indian companies to bid for the upcoming coal preparation plant projects that are being funded by Coal India on a build-operate-maintain basis. Coal India Limited will provide capital funding and infrastructure facilities (land, water, power) for the facilities. The financial requirements include average annual sales of INR 500 million (US$10 million, approximate) and evidence of possessing working capital of at least INR 340 million (US$7 million, approximate). Upcoming bid deadlines are July 23 for the Patherdih Washery (Bharat Coking Coal Limited) and October 7 for the Dugda Washery (Bharat Coking Coal Limited). For additional information and details on these projects, please contact Arup Mitra, Senior Commercial Specialist at the U.S. Consulate in Kolkata, at Arup.Mitra@mail.doc.gov.

Upcoming Industry Events:

- **Coal-Gen Conference, Charlotte, August 19-21**

  Coal-Gen 2009 is the place for coal and power sector attendees to learn about the current state of the coal industry, including the challenges and opportunities ahead, current topics affecting coal-fired power plants, and the latest products and services. The International Trade Administration will provide an overview of 'Federal Climate Change Legislation and Implications for the U.S. Coal Industry' as part of the technical sessions. For additional information, please contact Shannon.Fraser@mail.doc.gov, 202-482-3609, or refer to http://www.coal-gen.com/index.html.

- **International Pittsburgh Coal Conference, Pittsburgh, September 20-23**

  The International Pittsburgh Coal Conference is hosted by the University of Pittsburgh, Swanson School of Engineering. As an outgrowth of a series of conferences spanning more than three decades, this annual event highlights coal utilization both in the United States and internationally. The conference is dedicated to providing a unique opportunity for in-depth and focused exchange of technical information and policy issues among international representatives from industry, government, and academia. For additional information or to register for the event, please refer to: http://www.engr.pitt.edu/pcc/2009conf.html, or contact Shannon.Fraser@mail.doc.gov, 202-482-3609.

- **Mining Technology Trade Mission to South Africa, October 23-November 1**

  This trade mission, coordinated by the Foreign Commercial Service-Johannesburg and the Kentucky World Trade Center, will allow U.S. delegate companies to learn about South Africa's dynamic and growing coal and mining sectors; gain an understanding of the opportunities that exist in the South African market for U.S. companies; and discover successful market entry strategies to develop business with the right South African partners. Delegation members will have the option of attending the International Coal Science and Technology Conference in Cape Town, where they will meet coal industry leaders from around the world. U.S. companies interested in this trade mission are encouraged to contact Johan Van Rensburg at the U.S. Consulate in Johannesburg at Johan.VanRensburg@mail.doc.gov.

Policy Analysis:

Secretary Chu Announces Agreement on FutureGen Project in Mattoon, Illinois

Paves Way for First U.S. Commercial Scale Carbon Capture and Storage Project

http://fossil.energy.gov/news/techlines/2009/09037-DOE_Announces_FutureGen_Agreement.html

Washington, D.C. – U.S. Secretary of Energy Steven Chu recently announced an agreement with the FutureGen Alliance that advances the construction of the first commercial scale, fully integrated, carbon capture and sequestration project in the country in Mattoon, Illinois.

"This important step forward for FutureGen reflects this Administration's commitment to rapidly developing carbon capture and sequestration technology as part of a comprehensive plan to create jobs, develop clean energy and reduce climate change pollution." said Energy Secretary Steven Chu. "The FutureGen project holds great promise as a flagship facility to demonstrate carbon capture and storage at commercial scale. Developing this technology is critically important for reducing greenhouse gas emissions in the US, and around the world."

"The agreement that was reached by the Department of Energy and the FutureGen Alliance is an historic moment for both our state and our country," said Assistant Senate Majority Leader Dick Durbin (D-IL). "In my time in Congress, I can't recall a project that has greater scientific and practical significance than FutureGen, not to mention the enormous economic benefit it will have in Illinois. I want to thank Secretary Chu for his leadership along with my colleagues in the Senate, members of the Illinois Congressional Delegation and the State of Illinois for working with me to keep this project alive for the Obama Administration."

Under the terms of the provisional agreement between the Department of Energy and the FutureGen Alliance, the Department will issue a Record of Decision on the project by the middle of July, with the following activities to be pursued from the end of July 2009 through early 2010:

- Rapid restart of preliminary design activities.
- Completion of a site-specific preliminary design and updated cost estimate.
- Expansion of the Alliance sponsorship group.
- Development of a complete funding plan.
- Potential additional subsurface characterization.

Following the completion of the detailed cost estimate and fundraising activities, the Department of Energy and the FutureGen Alliance will make a decision either to move forward or to discontinue the project early in 2010. Both parties agree that a decision to move forward is the preferred outcome and plan to reach a revised cooperative agreement that will include a funding plan for the full project. Funding will be phased and conditioned based on completion of NEPA review.

The Department of Energy's total anticipated financial contribution for the project is $1.073 billion, $1 billion of which comes from Recovery Act funds for CCS research. The FutureGen Alliance's total anticipated financial contribution is $400 million to $600 million, based on a goal of 20 member companies each contributing a total of $20 million to $30 million over a four to six year period. The Alliance, with support from DOE, will pursue options to raise additional non-federal funds needed to build and operate the facility, including options for capturing the value of the facility that will remain after conclusion of the research project, potentially through an auction of the residual interests in the late fall.

New Jersey Joins the Energy Department's Carbon Sequestration Regional Partnership Program

New Partner Augments Midwest Regional Carbon Sequestration Partnership

http://fossil.energy.gov/news/techlines/2009/09040-New_Jersey_Joins_Regional_Partners.html

Washington, D.C. – The State of New Jersey is the newest member of the U.S. Department of Energy's Regional Carbon Sequestration Partnership program—the centerpiece of national efforts to validate and deploy carbon sequestration technologies. The addition of New Jersey, the 43rd state to join the program, helps strengthen U.S. efforts to reduce greenhouse gas emissions and mitigate climate change.

New Jersey—along with Indiana, Kentucky, Maryland, Michigan, New York, Ohio, Pennsylvania, and West Virginia—is a regional partner and a participant in the Midwest Regional Carbon Sequestration Partnership (MRCSP) Phase II validation projects. Contributions from the New Jersey Department of Environmental Protection and Rutgers University will include building and refining the state's geologic and terrestrial sequestration frameworks, as well as a terrestrial demonstration of forested wetlands.

The Regional Carbon Sequestration Partnership program comprises a nationwide association of federal, state, and private-sector partnerships that are determining the most suitable technologies, regulations, and infrastructure for future carbon capture and storage activities 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 now include more than 350 organizations spanning 43 states, three Indian nations, and four Canadian provinces. The National Energy Technology Laboratory manages the partnerships program for DOE's Office of Fossil Energy.

During the first phase of the program, the seven partnerships characterized the potential for carbon dioxide (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. These formations have the potential to provide more than 1,000 years of storage capacity from point sources throughout North America.

In Phase II of the program, the partnerships are implementing a portfolio of small-scale geologic and terrestrial sequestration projects. The purpose of these projects is to validate that different geologic formations have the receptivity, containment, and storage effectiveness needed for long-term storage. During Phase III, the partnerships will complete large-volume tests to validate that the capture, transportation, injection, and long term storage of up to one million tons of CO2 per year can be done safely, permanently, and economically.

Efforts in New Jersey will focus on the developing and integrating data on the potential geologic and terrestrial sequestration capacity in the Garden State. Due to the prevalence of off-shore storage opportunities believed to exist in New Jersey, MRSCP will, for the first time, include off-shore reservoirs in its database.

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 CO_2 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.
- West Coast Regional Carbon Sequestration Partnership, headed by the California Energy Commission.

DOE Partner Begins Carbon Storage Test

Field Test to Advance Geological Carbon Storage While Enhancing Domestic Oil Supply

http://fossil.energy.gov/news/techlines/2009/09041-DOE_Partner_Begins_Carbon_Storage_.html

Washington, D.C. – A Department of Energy sponsored project in Hopkins County, Kentucky has begun injecting carbon dioxide (CO2) into a mature oil field to assess the region's CO2 storage capacity and feasibility for enhanced oil recovery.

The project is part of DOE's Regional Carbon Sequestration Partnership (RCSP) program and is being conducted by The Midwest Geological Sequestration Consortium (MGSC). The project is part of the RCSP's "validation phase," where field tests are being conducted nationwide to assess the most promising sites to deploy carbon capture and storage technologies.

This project is expected to create 13 full time jobs which will be supported throughout the project's life of more than two years.

The Kentucky test is designed to inject up to 8,000 tons of CO2 over a period of 6-8 months into an existing brine-water injection well at depths of about 1,900 feet. At this depth, the CO2 will remain in a gaseous state and will only partially mix with the oil it encounters.

This type of enhanced oil recovery, termed an "immiscible" CO2 flood, can recover an additional 5–10 percent of a reservoir's original oil-in-place. Following injection, the oil, gas, and water produced will be measured to evaluate the field's enhanced oil recovery characteristics.

To monitor the fate of the CO2, the MGSC, with technical support from the Kentucky Geologic Survey, will implement a monitoring program at the site. The program will consist of tracking the rate and volume of injected CO2, and the pressures and temperatures within the well. These measurements will provide an indication of how efficiently the CO2 displaces oil within the reservoir and how efficiently the reservoir stores the CO2.

Ambient air quality around the wells will also be continuously monitored to ensure worker safety, as will groundwater quality to ensure that injected CO2 is not leaking from the oil reservoir.

MGSC is one of seven partnerships in DOE's RCSP program. Led by the University of Illinois, Illinois State Geological Survey, Indiana Geological Survey, and the Kentucky Geological Survey, MGSC investigates CO2 storage options for the 60,000-square-mile Illinois Basin, which underlies most of Illinois, western Indiana, and western Kentucky. Annual CO2 emissions in this area exceed 335 million tons.

The Office of Fossil Energy initiated the RCSP program in 2003. The partnerships comprise a nationwide network that is researching and testing the best approaches for capturing and permanently storing CO2, a greenhouse gas which can contribute to global climate change. The National Energy Technology Laboratory manages the RCSP program.

The program's validation phase began in 2005 and is now nearing completion. It consists of 22 nationwide field tests conducted in saline formations, depleted oil and gas fields, and unmineable coal seams. At present, five field tests have completed injection operations and seven are currently in the injection phase. The remaining projects will initiate injection operations before the end of 2009.