

# The Future of FutureGen

COAL GENERATION STUDY FACES CHALLENGES

BY LEE BUCHSBAUM

**LEADERS IN THE POWER INDUSTRY** are wondering and worrying about the future of FutureGen and the hugely important role of coal in generating electricity.

After five years of planning, study and fierce politicking, the U.S. Department of Energy in late January decided to scale down and redefine the project, which has nearly doubled in cost to \$1.8 billion. FutureGen was launched to build and operate a 275-megawatt advanced integrated gasification combined cycle power plant that would convert coal to hydrogen for electricity generation. The plant would be designed to create a stream of carbon dioxide that could be readily captured and sequestered underground. Now, the government wants to limit its support to the capture and burial of carbon dioxide emitted by power plants.

With public sentiment rising against the construction of new coal fired power plants of any kind, coal's future use in electrical generation has reached an unexpected crossroads.

"We're headed for policy decisions for which there are, as of yet, no proven technological answers," said Chris Hobson, Southern Co.'s senior vice president for research and environmental affairs. "The development of CC&S is a critical path item for future generation. Gasification and IGCC are currently critical as is carbon sequestration. What FutureGen offered is a project that brought those three elements together."

The debate "is not really about FutureGen, but the future of coal," said Michael J. Mudd, FutureGen Alliance

chairman and American Electric Power manager of new generation development. "The eroding support from the Bush Administration is cause for alarm because coal is under attack like never before," Mudd told *EnergyBiz* in an exclusive interview.

In late 2005, the government signed an agreement with the FutureGen Alliance, a nonprofit consortium of leading international coal producers and energy producers. The group initially pledged to pay 24 percent of the construction and development costs of the plant with the government picking up the rest of the tab. The

data that FutureGen was designed to collect was to be openly shared so that international teams of scientists and engineers could determine how to build upon the plant's initial tests and adapt those lessons to new coal fired power plants. "FutureGen was not to be a static project," Hobson said. "Pushing the technology envelope is a key element to its design." Facility construction was to begin in 2010, with full-scale operation beginning in 2013.

As of late November, the federal government had publicly maintained support of the project. By this point, following two years of study and political wrangling, sites for the proposed plant had been whittled down to four. Two were in Texas and two in Illinois. In December, the FutureGen Alliance said it would site the plant in Mattoon, Ill.

A federal official refused to sign off on the FutureGen site selection and began calling for a restructuring of the project to "maximize the role of private sector innovation, facilitate the most productive public-private partnership and prevent further cost escalation."

In January, Alliance officials offered to assume a greater share of the project's costs through the sale of power produced by the plant. Under the group's proposal, the Department of Energy's obligation would drop to \$800 million – roughly what it was at the outset. "We proposed to the DOE that we'd be willing to take future revenue from the plant and use it as a repayment back to them," Mudd said. "They never responded to this offer."

Looking to the future, the department requested \$241 million for the fiscal year starting in October to demonstrate technologies for cost-effective carbon capture and storage for coal-fired power plants – including \$156 million for the restructured FutureGen approach aimed at commercializing the technology by 2015 and \$85 million for a Clean Coal Power Initiative.

The government's revised approach is to extend research offers to commercial plants and determine to what extent the government could cost-share in the sequestration projects.

"We contend that a rational path forward is to get this project built and get the data and knowledge and then use the DOE's current plan as the next step toward commercialization," Mudd said. Given that FutureGen was designed to prove "what can be done without being hampered by the economic pressures of private industry, if you bypass that step and go right into the commercial reality, you may end up with nothing at all," Mudd warned.

The Alliance, the Illinois Congressional delegation, along with Democratic presidential candidate Barack Obama, and other supporters intend to press for continuing FutureGen. Mudd said, "We never want to close the door with this administration. If they're willing to move

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