

Midwest Has 'Coal Rush,' Seeing No Alternative Energy Demand Causes Boom in Plant Construction

By Steven Mufson
Washington Post Staff Writer
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COUNCIL BLUFFS, Iowa -- From the top of a new coal-fired power plant with its 550-foot exhaust stack poking up from the flat western Iowa landscape, MidAmerican Energy Holdings chief executive David L. Sokol peered down at a train looping around a sizable mound of coal.

At this bend in the Missouri River, with Omaha visible in the distance, the new MidAmerican plant is the leading edge of what many people are calling the "coal rush." Due to start up this spring, it will probably be the next coal-fired generating station to come online in the United States. A dozen more are under construction, and about 40 others are likely to start up within five years -- the biggest wave of coal plant construction since the 1970s.

The coal rush in America's heartland is on a collision course with Congress. While lawmakers are drawing up ways to cap and reduce emissions of greenhouse gases, the Energy Department says as many as 150 new coal-fired plants could be built by 2030, adding volumes to the nation's emissions of carbon dioxide, the most prevalent of half a dozen greenhouse gases scientists blame for global warming.

Even after a pledge last month by a consortium of private equity firms to shelve eight of 11 planned coal plants as part of their proposed \$45 billion buyout of TXU, the largest utility in Texas, many daunting projects remain on drawing boards. Any one of the three biggest projects could churn out more carbon dioxide than the savings that a group of Northeast states hope to achieve by 2018.

Utility executives say that the coal expansion is needed to meet rising electricity demand as the U.S. population and economy grow. Coal-fired plants provide half the electricity supply in the country.

"A lot of congressmen ask me, 'Dave, why are you building that coal plant?' " says MidAmerican's Sokol. "And I say, 'What are my options?' "

Sokol says he wants to help customers improve efficiency by 10 percent. His holding company, which is more than 80 percent owned by Berkshire Hathaway, includes the utility PacifiCorp in the Northwest and Rocky Mountains as well as MidAmerican; together they generate 16.7 percent of their power from renewable resources. The Iowa subsidiary alone gets 10 percent from renewables. Between 2000 and 2005, the company cut the amount of carbon emitted for every unit of energy generated by 9 percent.

But half of that reduction in the rate of emissions was offset by higher overall output. Electricity demand in Iowa is growing at a rate of 1.25 percent a year, and Sokol says that until new



MidAmerican Energy Holdings chief executive David L. Sokol says coal is the only way to meet Iowa's growing demand for electricity in the near term.

technologies become commercial or nuclear power becomes more accepted, coal is the way to meet that demand.

It remains unclear how Congress will cope with this problem. Although climate-change experts hope that new technology will deliver a way to capture and store carbon dioxide produced by coal plants, that technology remains in the pilot stage; it could take another decade before it is proven.

Companies say the new coal plants are better than old ones, though both use the same approach: pulverizing coal, then burning it in huge boilers to power giant turbines. The new \$1.1 billion MidAmerican facility will be one of the nation's biggest, with 790 megawatts of capacity. Its boilers and pulverizers will devour 400 tons of coal every hour, 3.5 million tons a year, Sokol says. Combined with an existing plant next door, it will require a fresh train of coal every 16 to 17 hours; each train will be nearly 1.5 miles long and lug 135 cars about 650 miles from Wyoming's Powder River Basin.

While newly constructed plants cough up a tiny fraction of the pollutants environmental regulators have focused on in the past -- sulfur dioxide, mercury and nitrogen oxides -- they emit only 15 percent less carbon dioxide. They do that simply by being more efficient. Scrubbers like those used to extract other pollutants from a plant's exhaust don't exist for carbon dioxide.

Environmentalists worry that the new pulverized-coal plants, built to last 40 to 50 years, will saddle the country with high greenhouse-gas emissions for decades. Peabody Energy, for instance, has proposed two giant 1,500 megawatt plants, one for western Kentucky and one for southern Illinois.

"Each of these coal plants is making bad global-warming policy, project by project," says Bruce Nilles, a Madison, Wis.-based Sierra Club lawyer who is fighting the Midwest plants. "It's a high priority to convert these investments in coal plants into something cleaner and smarter."

If coal plants must be built, environmentalists prefer integrated gasification combined cycle (IGCC) plants that they say will make it easier later to capture carbon dioxide and store it underground. Only a handful of those are being planned.

"We're making investment decisions today that will make it impossible in 2020 to get the next increment of [greenhouse gas] reduction," Nilles says.

But the IGCC plants can add as much as \$200 million to construction costs; only two are operating today. Companies that make the plants, such as Siemens and General Electric, aren't willing to guarantee certain levels of performance, utility executives say. Referring to GE's chief executive Jeffrey R. Immelt and GE's "ecomagination" ad campaign, one utility executive who spoke on condition of anonymity because his company might still do business with GE said, "I think Immelt's ecomagination got away from him."

State regulators, who give thumbs up or down to coal plant proposals, worry mostly about reliability and costs to consumers. In the 1990s, many utilities built natural-gas-fired plants, but in the past two years gas prices have soared. Now, coal backers say that coal is cheaper than other fuels such as natural gas.

One wrinkle: The cost of building coal plants is climbing as demand for engineers and equipment rises. In December, Westar Energy, the largest electric utility in Kansas, shelved its plan to add a

600- to 800-megawatt coal-fired plant. Greg A. Greenwood, vice president of generation construction at Westar, said that in the previous 18 months the estimated construction cost had soared \$400 million.

Environmentalists and many economists argue that the price of coal plants is higher when environmental costs are included.

One of the Sierra Club's targets has been a \$2.2 billion project belonging to We Energies, part of Wisconsin Energy. In the town of Oak Creek, just south of Milwaukee, the company has carved 6 million cubic yards of earth from a bluff along Lake Michigan to create a bowl for two 615-megawatt coal-fired power plants, the first due to open in 2009. Trucks and workers are crawling over the site; five enormous boilers stand side by side, waiting for duty. Cranes lean in over the steel scaffolding, and a completed exhaust stack points into the winter sky.

The plan for the plants was hatched after a hot 1997 summer, when the utility came close to ordering rolling blackouts to deal with heavy electricity demand. The state had not built a new power plant since 1984, and the crisis helped ensure a unanimous vote by the Wisconsin Public Service Commission for more coal plants.

But the Oak Creek project sparked a range of protests that landed it before the state Supreme Court, which ruled 4 to 3 in favor of the plant. Construction began the next day.

We Energies chief executive Gale E. Klappa says the trimming of greenhouse gas emissions is a worldwide problem and asks why We Energies should voluntarily shoulder the burden. "You could black out the state of Wisconsin . . . and it would not make a difference in the CO2 levels of the world," he says.

Klappa says new coal plants have benefits. He spreads a piece of paper on his conference table. It shows the amount of carbon dioxide emitted for each megawatt-hour of energy dropping by 12.5 percent from 1990 through 2011 after the new coal plants come online. Another sheet of paper, however, shows that with higher electricity output, We Energies' total emissions of carbon dioxide will grow 76.6 percent.

"With significant investment and technology, we can bend the line down, but getting the level down to 1990 levels is a huge challenge not only for us, but for society as a whole," Klappa says.

Nilles says that We Energies has made only a feeble attempt to slow the 2 percent a year growth in energy demand. Klappa says that he aims to reduce demand by 55 megawatts, just 1 percent.

Nilles says that the model for electricity expansion is the municipal utility in Springfield, Ill., which negotiated a plan with the Sierra Club after the group had stopped three coal plants in the state. Under the plan, the utility will increase the money spent on energy efficiency tenfold, shut down two old coal plants, improve pollution controls at three others, buy enough wind-powered energy to meet 20 percent of its needs, and build a new cleaner coal plant. However, its capacity -- and thus its carbon dioxide emissions -- will increase.

While some of the Sierra Club members in Springfield weren't satisfied, Nilles says "for a state capital in the middle of coal country, the symbolism [of the agreement] is huge. How do you quantify that?"