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The Coal Age Nears Its End

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Cinergy Corp.' s W.C. Beckjord Generating Station

After burning coal to light up Cincinnati for six decades, the Walter C. Beckjord Generating Station will go dark soon—a fate that will be shared by dozens of aging coal-fired power plants across the U.S. in coming years.

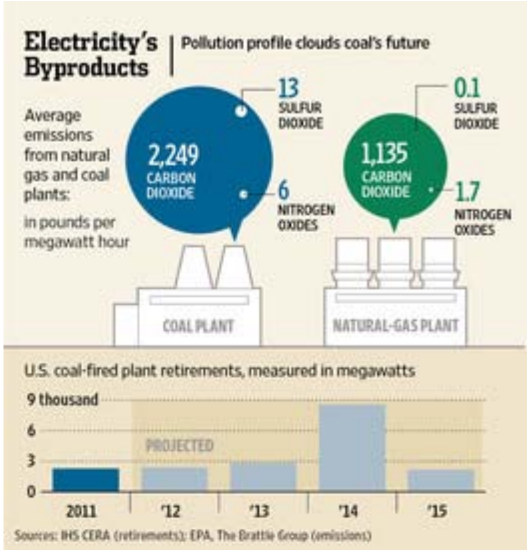
Their owners cite a raft of new air-pollution regulations from the Environmental Protection Agency, including a rule released Wednesday that limits mercury and other emissions, for the shut-downs.

But energy experts say there is an even bigger reason coal plants are losing out: cheap and abundant natural gas, which is booming thanks to a surge in production from shale-rock formations in the U.S.

"Inexpensive natural gas is the biggest threat to coal," says Jone-Lin Wang, head of global power research for IHS CERA, a research company. "Nothing else even comes close."

For decades, coal produced more electricity than all other fuels combined, and as recently as 2003 accounted for almost 51% of net electricity generation, according to the U.S. Energy Information Administration.

But its share has dropped sharply in the last couple of years. It fell to 43% for the first nine months of 2011, as natural gas's share has jumped to almost 25% from under 17% in 2003. Meanwhile, gas



prices, on average, have fallen 37 cents to $4.02 per million British thermal units so far this year.

Many big utilities have announced retirements of coal-burning power plants, including Southern Co., Progress Energy Inc., First Energy Corp., Xcel Energy Inc., Ameren Corp. and the Tennessee Valley Authority.

Coal consumption by the power sector is expected to fall 2% this year and 4% next year; even small movements are important because utilities burned 92.4% of the 1,071 millionshort tons of coal distributed last year in the U.S.

American Electric Power Co., the biggest user of coal in the U.S., expects to burn 67 million tons of coal this year but anticipates its consumption will drop to 50 million tons after it retires 25 coal-burning generating units in six states by 2015.

Experts think 10% to 20% of U.S. coal-fired generating capacity will get shut down by 2016.

Some of the soon-to-be-defunct plants have been operating only sporadically because they are old, inefficient and expensive to operate; Duke Energy Corp.'s Beckjord plant in Ohio, for example, didn't even run three of its six generating units in 2010.

Market and regulatory forces are "sounding a death knell for many an older coal-fired power plant," says Hugh Wynne, senior research analyst for Sanford C. Bernstein & Co. in New York.

John Stowell, vice president of energy and environmental policy atCharlotte, N.C.-based Duke, says the EPA rules are triggering "an aging baby-boomer-type situation," that will force a record number of retirements —and soon.

The coal and mining industries have opposed the new EPA regulations as job-killers, though some coal companies have job openings they can't fill. The communities that are home to the closing plants will lose jobs and tax revenues.

Closing Beckjord, for example, will eliminate as many as 120 jobs at the plant, according to Duke. The loss of tax revenues will cost the local school district in New Richmond, Ohio, about $2 million a year, says Teresa Napier, the district's chief financial officer. People are sorry to see the jobs go, but they understand why it is happening, she says, because "people want clean air."

Meanwhile, natural-gas plants are springing up around the country, from Connecticut to California. More are expected to crop up along natural-gas pipelines, especially in places like Texas where demand for power is outstripping supplies.

Duke, for example, is building four big power plants. Two, in the Carolinas, will burn natural gas. One, in Indiana, will convert coal to a cleaner, combustible gas. Only one, in North Carolina, will burn coal.

Cost is a big reason for the shift away from coal. Coal prices have jumped an average of 6.7% a year for the past decade, according to the U.S. Energy Information Administration. Coal cost $12 to $75 per short ton in early December, depending on where it was mined and how hot it burns.

And with energy markets flooded with cheap natural gas from shale rock, utilities have been idling coal capacity and running gas-fired plants harder. Fitch Credit Ratings estimates this is whittling coal sales by 63 million tons a year, equivalent to 6% of 2010 U.S. coal consumption. Fitch says the new EPA regulations could reduce coal sales by another 55 million tons a year, or 5% by 2016, due to plant retirements. Hardest hit: central Appalachian coal, due to its emissions profile.

Coal-firm shares have shown the strain. Peabody Energy Corp.'s stock has dropped by half since April, to $34.54 from a 52-week high of $73.95 set that month, and Consol Energy Inc.'s stock is off by a third since March to $38.38 from a 52-week high of $56.32 set that month.

But the new EPA rules are also significant. On Wednesday, the agency released its latest rule, requiring power plants to slash emissions of mercury, arsenic and other toxic pollutants within three to four years.

Last July, the agency released its final Cross-State Air Pollution Rule, which requires reductions of sulfur-dioxide and nitrogen-oxide emissions in 23 Eastern and Midwestern states beginning next year, as well as seasonal ozone reductions in 28 states.

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The EPA also is working on rules to limit the amount of water drawn from natural waterways by power plants for cooling purposes and to control the handling and storage of coal waste. Many state utility commissioners say they fear the agency's recent rules will push up electricity prices or could even hurt electric-system reliability if too many power plants are shut down.

Stan Wise, an elected utility commissioner in Georgia, says "implementation of the rules has got us in a tizzy." He has written the EPA to express his objections.

EPA Administrator Lisa Jackson said the new mercury and toxics rule will deliver $37 billion to $90 billion in health benefits, per year, when fully implemented after 2016. "These are not abstract statistics or numbers," she said on Wednesday, but mean better health for millions of Americans.

Some utility executives have joined the chorus calling for a slowdown. Nick Akins, chief executive of Ohio-based American Electric Power, says his company needs until 2020 to make a graceful transition to a cleaner fleet of plants. A senior EPA official, who spoke on condition he not be identified, said the agency doesn't order plants to shut down—they are fined for noncompliance, instead, when not meeting emissions standards—so "making a decision not to retrofit a plant is really a business choice by the owner."

"We have to stage the work," he says, adding that the EPA doesn't understand how hard it is to find skilled workers to install pollution-control equipment. The agency assumes his company can add a scrubber to a plant in three years, he says, but "it's more like five years." Retrofit costs at larger plants could be hundreds of millions of dollars.

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