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Challenges on the rise for Wyoming coal

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CASPER, Wyo. — Despite strong profits, it has been a bruising 12 months for the U.S. coal industry, which came under fire for mountaintop removal mining and coal ash waste in the eastern half of the country.

Wyoming's major coal operators avoided those hot-button environmental issues and weathered softening demand by having most — if not all — 2009 production already under contract for favorable prices.

But the industry faces a multitude of mounting challenges, from the cost of production and transportation to more stringent pollution controls and a more competitive international market. That means utilities are constantly flirting with a switch to natural gas, energy efficiency and renewables.

"We're definitely in competition. But I don't feel threatened by natural gas because I feel we can compete with them," said Marion Loomis, executive director of the Wyoming Mining Association.

Pollution actions

While some Republicans hailed the election of Massachusetts' Scott Brown to a U.S. Senate seat as the eventual death knell to climate change regulation in Congress, President Barack Obama is forging ahead with several administrative actions that could ultimately be much more significant for coal.

The Environmental Protection Agency is considering new rules to limit emissions of mercury, carbon dioxide, sulfur dioxide and ozone under the Clean Air Act. Many of the rule-making actions stem from EPA findings and U.S. Supreme Court rulings during the Clinton and Bush administrations.

And some believe it is the EPA's proposed rule change for sulfur dioxide that could be most significant to the coal industry in the short term.

In November, the EPA proposed to replace 38-year-old standards for SO2 emissions with a new, one-hour standard of up to 150 parts per billion and perhaps as low as 50 ppb, representing a major cut in SO2 emissions.

Sulfur dioxide can cause upper-respiratory health problems and contributes to acid rain.

Ned Ford, energy chairman of the Sierra Club's Ohio chapter, said the cost to meet the proposed SO2 emissions at coal-burning power plants could force many utilities to switch to energy efficiency and "real" renewable sources of energy.

"Retrofitting an old plant would just about double its cost of operation, not to mention that scrubbers reduce efficiency and increase fuel use," Ford told the Star-Tribune.

Ford argues that the average cost of efficiency is about half the cost of using an old coal plant that needs a new scrubber. Even power plants that currently burn low-sulfur Powder River Basin coal would still have to add scrubbers, if the new SO2 standard is implemented, Ford said.

He said the Powder River Basin might maintain only a "marginal" advantage over higher-sulfur, Eastern bituminous coals.

However, "That could be wiped out in a heartbeat by transportation costs when oil prices rise," Ford warned.

Mining logistics

Each day, some 75 of the nation's longest trains roll empty into the Powder River Basin and squeeze under silos to take on

18,000 tons of subbituminous coal each. Most disperse south to Texas and eastward across the nation, delivering their payloads to power plants, electrifying nearly a quarter of the nation.

With more than 100 square miles of some of the thickest coal seams on earth, it's hard not to compare the Powder River Basin to Saudi Arabia's oil wealth.

"At current rates of roughly 450 million tons per year, Powder River Basin reserves would support over 400 years of continuous coal production," University of Wyoming economics professor Tim Considine wrote in his recent study, "Powder River Basin Coal: Powering America."

Yet, some believe such statements obscure the down-to-earth logistics of such a feat, and leave a false impression that relying on Powder River Basin coal for the next 400 years is a simple a matter of choice.

"Hoping that (Powder River Basin) coal will continue to power our country as it has increasingly from 1980 to the present, without doing a rigorous analysis of the geologic, economic, legal and transportation constraints, is not doing the industry or our country a favor," said Leslie Glustrom of the Clean Energy Action group in Boulder, Colo.

Rather, Glustrom argues, it leaves the U.S. vulnerable to being blind-sided by coal supply constraints much like China is now experiencing, forcing that country to idle plants and ramp up coal imports.

She said production in all of the top 15 coal states has peaked, except for Wyoming and Montana. Beyond 10 years in Wyoming, the big-producer mines in the southern Powder River Basin face significant geologic and economic constraints, not the least of which is the need to remove more overburden to chase downward-sloping coal seams.

The Black Thunder mine, now mining 282 feet of overburden, according to the Bureau of Land Management, will move to a lease sometime around 2020 where the top of coal is 428 feet down. The North Antelope Rochelle mine, in roughly the same period, will move from about 211 feet of overburden to about 347 feet.

"This means that future supplies of coal from the (Powder River Basin) are not likely to be as cheap as those that have been accessed over the last three decades," Glustrom said.

Passing on costs

Considine's own study confirms that labor productivity is on the decline in the Powder River Basin. In fact, Powder River Basin coal mines actually added miners in 2009 while production declined, according to figures from the Mine Safety and Health Administration.

Aside from taxes, royalties and payroll, the largest mining expense reported by Powder River Basin mines in 2008 was "fuel supplies and services" to the tune of $538.5 million, according to Considine.

The same is true of all the nation's coal resources. The cheap and easy stuff has already been had, Glustrom said. And the expenses are passed on to the customer.

In South Dakota, Black Hills Power is asking for a 26.6 percent rate increase. A big portion of that would go to pay for about half of the cost — $128.5 million — of the new WyGen coal-fired power plant in Gillette.

Increased fuel prices were listed as a significant factor in Rocky Mountain Power's 2010 filing for a 13.7 percent rate hike for its Wyoming customers.

"The largest increase in fuel cost is for coal," said Rocky Mountain Power spokesman Jeff Hymas.

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