

Retrofit or Retire Coal Plants

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To Retrofit or Retire Coal Plants

Regulations go forth

Ken Silverstein | Jan 05, 2011



Coal's future is directly correlated to the development of new technologies that scrub it of all harmful emissions as well as those that would capture and bury carbon emissions. That's what a broad task force has concluded.

The findings, spearheaded by the [Environmental Protection Agency and the Department of Energy](#), say that [carbon capture and sequestration is possible within a decade](#). That, in turn, will help coal maintain relevance. The tools to allow for such advancement, however, will remain elusive unless federal lawmakers act to price carbon emissions and commit to 5 demonstration projects in the coming years.

"Around the world countries are moving aggressively on investing in clean energy," says Energy Secretary Steven Chu. "The U.S. has the ability to develop clean energy innovation here at home. Rather than sending billions overseas to pay for clean technologies, we should invest these dollars here - in America's workers, industries, and innovations." Fourteen federal agencies and hundreds stakeholders participated.

The energy secretary has said publicly that the technologies to clean coal and to bury it forever underground are real - and that they would not substantially increase the price of energy. The alternative, he has said, is to pretend the issue of global warming does not exist and to bear the ultimate consequences.

According to the Congressional Research Service, coal is responsible for about a third of all carbon dioxide emissions. It also releases double the other pollutants regulated by the Clean Air Act that include sulfur dioxide and nitrogen oxide. The immediate goal is to perfect the coal gasification technologies -- the ones that convert coal to fuel gases before the sulfur, mercury and carbon would be removed.

Next, the objective is to concentrate the carbon so that it can be easily captured before it would be permanently buried. Globally, four such trials are taking place while in the United States smaller demonstrations have gotten underway. The Government Accountability Office has said that the technologies could become commercial within 10-15 years but that it would increase the cost of power by 30 percent to 80 percent.

Already, the United States has invested heavily in carbon capture and storage. That, in turn, has prompted private investors to join the cause. The Energy Department is currently pursuing multiple demonstration projects using close to \$4 billion in federal funds, matched by more than \$7 billion in private investments. That will begin to pave the way for widespread deployment of advanced carbon capture and sequestration technologies within a decade, the agency says.

Delays Possible

First up: FutureGen 2.0, which is a \$1 billion public-private initiative to create the world's first "zero-emissions" power plant that can capture and store the carbon. It is the second iteration of the concept - one that intends on retrofitting an existing facility in Illinois rather than building a new one from scratch.

The U.S. government is hoping that this facility can be replicated around the world. But the task force says that the private sector must be motivated to do so. And that's something that can be accomplished by establishing a price on carbon and by creating a federal committee to ensure that demonstration projects soon get built. Concerns over long-term liabilities should also be addressed, it adds, or ones that would transfer any cause of action to the federal government if an underground project would fail.

Because the EPA has been given the right by the U.S. Supreme Court to regulate carbon emissions, it is not waiting to do so. Existing facilities that now release 75,000 tons of carbon dioxide per year are required to get greenhouse gas permits to operate. In the second half of the year, regulators will enhance the rules to affect any new facility that will emit 100,000 tons. By 2012, it is expected that the rules will impact those plants releasing 50,000 tons of carbon a year. About 550 units are currently affected.

The combination of all pending regulations are expected to force coal plants to decide between retiring existing generators or installing expensive control equipment, says the [Brattle Group](#). Such technologies would not just cut carbon emissions but also reduce those tied to sulfur dioxide, nitrogen oxide, particulates and mercury, as well as cooling towers to reduce the use of cooling water.

That could result in the withdrawal of 50,000 megawatts of coal-fired generation, the consultancy says. Those choosing to implement "best available technologies" will spend between \$100 billion and \$180 billion to comply with the laws, it adds. That then would reduce coal demand by 15 percent while increasing the need for natural gas by 10 percent, all by 2020 - a move that would cut carbon emissions by 7 percent.

"In contrast to other studies projecting that mostly old and small coal units are at risk for retirement, our analysis finds that roughly one-third of the retirements will be from power plants that are less than 40 years old and larger than 500 megawatt, resulting in significant challenges for the coal industry," says Brattle's Metin Celebi.

EPA's rules are now in effect. But with a more conservative Congress in place, the possibility for change is real. Lawmakers from coal producing states are already working to delay those regulations for at least two years, although many of the Democratic ones say that such laws restricting carbon emissions are inevitable.

Indeed, without that pressure, coal producers would have little incentive to implement the latest and greatest technologies. As markets evolve and sustainable fuels mature, however, consumers could choose the cleaner alternatives. That's why well-considered regulations will actually help keep coal viable.

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