

The Coal Industry's Season of Uncertainty: Four Things to Watch on the Environmental Regulation Landscape

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As the debate heats up over global warming and pollution, governments worldwide are considering drastic measures to regulate the energy business. No other part of the industry will be affected more by these regulations than coal-fired plants, the No. 1 source of carbon emissions and mercury releases in the United States. As a result, coal industry investors and stakeholders are faced with unprecedented uncertainty. They know tighter environmental restrictions are coming. But investors don't know—no one does actually—when these restrictions are coming or how tight they actually will be.

There are environmental compliance issues, however, that stakeholders can watch during the second half of 2008. They include:

1. The Clean Air Interstate Rule.
2. Mercury compliance.
3. Global warming legislation.
4. Where the presidential candidates stand on the environment.

Until recently, utilities, mining companies and the rest of the energy industry had one rule to focus on, the Clean Air Act. Now, due to increased dialogue on climate change, there are numerous state, regional and federal regulations that have recently been passed or are in consideration. Never have there been so many aggressive changes proposed at once, from mandating that plants run Selective Catalytic Reduction (SCR) units year-round to legislating the first-ever federal cap on greenhouse gas emissions.

Here's what's blowing in the wind:

1. THE CLEAN AIR INTERSTATE RULE

Starting in January 2009, the Clean Air Interstate Rule's nitrogen oxides trading program is scheduled to go into effect. And in 2010, CAIR's sulfur dioxide trading program begins. CAIR, established by the Environmental Protection Agency in 2005, mandates the largest reduction of air pollution in more than a decade. It permanently caps emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) in 28 Eastern states and offers power plants options to buy allowances from other utilities with fewer emissions.

Both emissions contribute to the formation of fine particles in the air. NO_x, meanwhile, also contribute to the formation of ground-level ozone. Fine particles and ozone are associated with thousands of illnesses every year and can harm sensitive ecosystems. The EPA says the rule by 2015 will prevent 17,000 premature deaths.

This SO₂ cap-and-trade system, a more stringent version of the Clean Air Act's acid rain program, allows plants to choose alternatives ranging from installing pollution control equipment to buying extra allowances from other utilities.

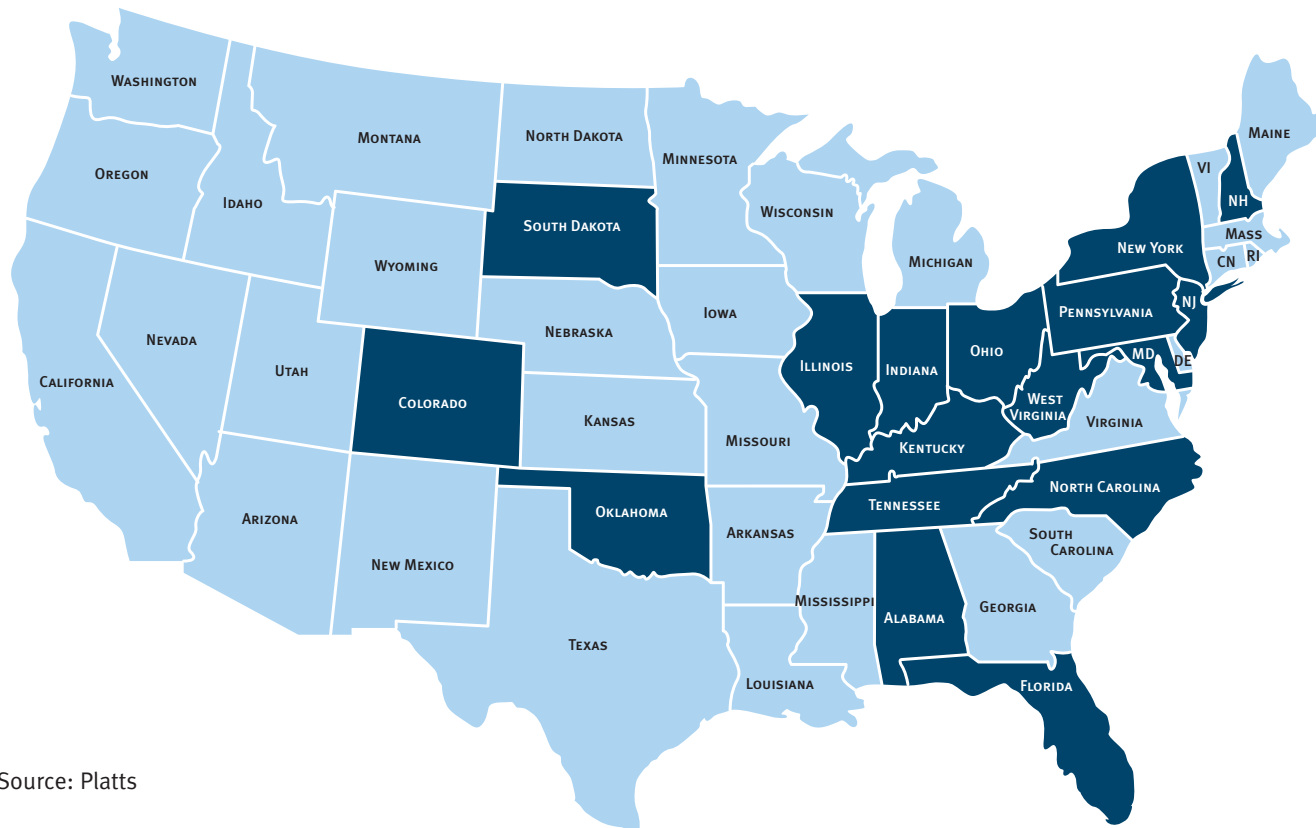
In 2010, CAIR will reduce SO₂ emissions by 4.3 million tons, 45 percent lower than 2003 levels. By 2015, the rule will reduce SO₂ emissions by 5.4 million tons. During the first phase of implementation, CAIR doubles the number of SO₂ allowances required to offset one ton of emissions, basically increasing the current cost by two. During the second phase, utilities will have to surrender 2.86 allowances for every ton of emissions.

What does this mean in dollars? In 2010, a coal-fired plant emitting 700 tons of SO₂ yearly would face a potential increased operating cost of \$1.4 million to purchase more allowances, according to the Environmental Markets Association, a group that promotes market-based trading solutions for environmental control.

As for NO_x, CAIR will reduce these emissions by 1.7 million tons, 53 percent lower than 2003 levels. In 2015, CAIR will reduce NO_x emissions by 2 million tons, a 61 percent reduction. The NO_x trading system will work the same way as the SO₂ system.

Another facet of CAIR is that many coal-fired plants will have to run some of the pollution controls year-round, as opposed to just the summer months, in order to cut emissions. However, some of the technology wasn't meant to be run constantly and may require substantial upgrades, costing \$800 million or more apiece. From 2008 until 2012, an estimated 41 new pollution control installations are scheduled to come online in the Eastern states including Florida and New York.

EIGHTEEN STATES HAVE PROPOSED POLLUTION CONTROL UPGRADES



Source: Platts

TYPES OF POLLUTION CONTROL UPGRADES UNDER CONSIDERATION

State	Control Type	Emission	No. of Installations
Alabama	FGD scrubber	SO ₂	2
Colorado	FGD scrubber	SO ₂	1
Florida	FGD scrubber	SO ₂	2
Illinois	FGD scrubber	SO ₂	2
Indiana	FGD scrubber	SO ₂	3
Kentucky	FGD scrubber	SO ₂	1
Maryland	FGD scrubber	SO ₂	2
Michigan	FGD scrubber	SO ₂	3
New Hampshire	Wet scrubber	SO ₂	1
New Jersey	FGD scrubber	SO ₂	1
New York	SCR, dry scrubber	SO ₂ , NO _x	2
North Carolina	FGD scrubber	SO ₂	1
Ohio	SCR, FGD scrubber	SO ₂ , NO _x	4
Oklahoma	SCR, FGD scrubber	SO ₂ , NO _x	4
Pennsylvania	FGD scrubber	SO ₂	6
South Dakota	SCR, Baghouse, FGD	SO ₂ , NO _x , Pb	3
Tennessee	FGD scrubber	SO ₂ , NO _x	2
West Virginia	FGD scrubber	SO ₂	1

Total: Dec. 2008 - Jan 2012

Source: Platts Energy Advantage

There are substantial objections to CAIR. Shortly after the introduction of the rule in 2005, 14 utilities filed complaints in the U.S. Court of Appeals for the District of Columbia.

Major objections include:

- **The Attainment issue.** The EPA has determined that plants in some states contribute to bad air quality in other states. CAIR's SO₂ program mandates substantial reductions in these emissions in states where the EPA has concluded that upwind areas are contributing to the non attainment status in downwind areas. For example, the EPA says that Florida's emissions affect Atlanta and that Minnesota's emissions affect Chicago. However, these "source" states claim EPA's modeling is inaccurate and that they do not contribute to the nonattainment status of neighboring states. In addition, states such as Florida, Texas and Minnesota have filed complaints saying it is unfair to put an entire state under jurisdiction of CAIR, as opposed to just certain areas. The EPA, however, is wary that utilities would just shift energy generation to non-regulated areas.
- **Exemption status.** Some utilities such as waste coal plants say they should remain exempt from CAIR because their facilities emit relatively small amounts of SO₂ and NO_x. In addition, some utilities that were exempt under the old Clean Air Act are upset that they are not exempt under CAIR, a fact that may require higher costs than average.
- **Oil and gas vs. coal.** States such as California, which have few or no coal-fired plants, complain that CAIR unfairly penalizes them. Under CAIR, natural gas- and oil-fired plants will have fewer NO_x trading allowances than coal-fired plants.

In March 2008, the court heard the EPA's rationale for the more stringent allocation system. A ruling against EPA could cause emissions traders to regret not selling SO₂ allowances currently assessed at \$305 per short ton. But if the court upholds the new allocation system, then utilities would question the wisdom of having sold the allowances. It's expected that the court will rule on this issue sometime this summer.

2. MERCURY COMPLIANCE

Coal-fired plants are the No. 1 source for releases of mercury, a dangerous neurotoxin that is emitted into the environment in the process of breaking down coal.

In a move to make mercury reduction as flexible as possible, the EPA introduced in 2005 a similar cap-and-trade program for

mercury as it had for SO₂ and NO_x. Called the Clean Air Mercury Rule, this first-ever federally-mandated regulation aimed at reducing mercury emissions at coal-fired plants was struck down in February by the U.S. Court of Appeals for the District of Columbia. The court ruled the EPA cannot take power plants off the list of hazardous pollution sources. The court also said the Clean Air Mercury Rule violates the Clean Air Act by evading mandatory cuts in toxic mercury pollution from power plants that burn coal and oil.

In May, the court struck down an appeal filed by the Bush Administration, which argued that the Clean Air Mercury Rule would reduce mercury as well as provide much-needed flexibility for utilities. The administration also said technology wasn't widely available to reduce substantial amounts of mercury in a cost-effective way. Due to the May ruling, the mercury cap-and-trade proposal is for all intents and purposes dead.

So what's next? State mercury regulations are still in place. There are at least 22 states that have instituted their own mercury requirements that are stricter than the Clean Air Mercury Rule. Unlike the Clean Air Mercury Rule, some state regulations don't allow trading of mercury emissions. Instead, the regulations mandate that plants have to reduce emissions using mercury control technology. In North Carolina, for instance, 14 coal-fired plants have to install pollution controls by 2018 to avoid facing closure.

The hodgepodge of state regulations only adds to the confusion. And many utilities are pushing for a unified federal rule that makes doing business easier. In the meantime, the EPA has not said if and when they would issue a new rule. The federal agency now has two years to develop these standards for existing power plants.

3. GLOBAL WARMING LEGISLATION

In early June, the Senate ruled to debate the landmark America's Climate Security Act, which was introduced in 2007 by senators Joseph Lieberman (I-Connecticut) and John Warner (R-Virginia). The bill instituted a market-based carbon cap-and-trade system that would eventually make deep cuts in greenhouse gas emissions.

It died quickly, though, with proponents failing to get enough votes to consider the legislation. The bill from the beginning faced opposition from a variety of groups including the Bush Administration. Critics said the bill would harm the economy by cutting jobs, force utilities to switch to natural gas, and would actually do nothing to improve the environment as long as developing nations like China and India failed to make similar cuts.

The original bill was considered by some congressional leaders as too harsh to pass. In May, Sen. Barbara Boxer (D-California) introduced a substitute bill that was considered more palatable to the Senate. The bill would cap greenhouse gas levels at 2005 levels in 2012, increasing the cap to 19 percent below 2005 levels in 2020 and then to 71 percent below 2005 levels by 2050. The most significant change to the bill included using \$7 trillion of allowance proceeds to start a green energy fund and tax cuts to help deal with higher energy costs.

The hearing on June 6 faced a hostile filibuster, including a requirement that the 400-page bill be read word for word. On June 8, the Senate voted 48-36 on the bill, 12 votes shy of the required number to proceed.

While this Lieberman-Warner-Boxer bill is squelched, some form of global warming legislation will undoubtedly be passed... someday.

In the House of Representatives, a new bill has been introduced called the Investment in Climate Action and Protection Act. The bill, introduced by Rep. Ed Markey (D-Massachusetts) in early June, proposes to cut greenhouse gas emissions to 85 percent below 2005 levels by 2050, which is even more stringent than the Senate version. Markey aims to create a carbon market in 2012, selling 94 percent of the allowances and then going to a 100 percent solution in 2020. He hopes to raise nearly \$8 trillion from the allowances—\$1 trillion more than Boxer’s proposal—which would be used to develop green technologies.

It’s expected that the House Energy and Commerce Committee will hold hearings soon on the various carbon cap bills, including the failed Lieberman-Warner-Boxer bill.

4. WHERE THE CANDIDATES STAND

Presidential politics will undoubtedly influence what legislation will be passed by Congress in the next administration. As a result, stakeholders are paying close attention to what the top presidential candidates are saying about the environment.

Sen. John McCain (R-Arizona) has come out in favor of mandating greenhouse gas reductions. McCain proposes to create a carbon trading program requiring 2005-like emission levels in 2012 and 1990-like levels in 2020. His plan calls for incremental increases culminating in reducing emissions 60 percent below 1990 levels by 2050. McCain’s climate change proposal covers all facets of the economy except the agriculture industry. He’s also a strong supporter of bringing new nuclear power generation to the grid.

Sen. Barack Obama (D-Illinois), meanwhile, proposes an economy-wide cap-and-trade system that would reduce greenhouse gas emissions 80 percent below 1990 levels by 2050. To achieve that goal, he supports requiring all credits to be auctioned and to use that money to invest in new green technologies. He also supports ramping up the research and development of clean coal technology and is in favor of building new nuclear reactors.

Candidate	New Nuclear Reactors?	Industries impacted by candidate’s global warming plan	Market-based carbon cap-and-trade?	Specifics of plan	Additional Info
McCain	Y	Agriculture not affected	Y	2005-like levels in 2012; 1990-like levels in 2020; 60 percent below 1990 levels in 2050	Some allowances given away, others auctioned. Eventually, moving to full auction
Obama	Y	All industries	Y	80 percent below 1990 levels by 2050	Would mandate all credits to be auctioned

Source: Platts

WHERE DO WE GO FROM HERE?

The summer and fall of 2008 are probably the two most important quarters ever for coal stakeholders to watch concerning environmental compliance. Not only is there an unprecedented amount of federal and state regulations colliding at once, but nobody knows how these proposals

will end up in their final forms. As a result, investors need to pay close attention to the goings-on in Congress, the White House and state legislatures in order to make wise decisions.



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