FACT SHEET
The Cross-State Air Pollution Rule:
Reducing the Interstate Transport of Fine
Particulate Matter and Ozone

ACTION

On July 6, 2011, the US Environmental Protection Agency (EPA) finalized a rule that protects the health of millions of Americans by helping states reduce air pollution and meet Clean Air Act standards. This final rule replaces EPA's 2005 Clean Air Interstate Rule (CAIR). A December 2008 court decision found flaws in CAIR, but kept CAIR requirements in place temporarily while directing EPA to issue a replacement rule. In order to replace CAIR as quickly as possible, addressing the problem of air pollution that is transported across state boundaries, EPA is adopting federal implementation plans, or FIPs, for each of the states covered by this rule. This final Cross-State Air Pollution Rule meets the Clean Air Act requirements and responds to the court's concerns.

The Cross-State Air Pollution Rule requires 27 states in the eastern half of the United States to significantly improve air quality by reducing power plant emissions that cross state lines and contribute to ground-level ozone and fine particle pollution in other states. This action builds on more than fifteen years of progress in implementing Clean Air Act reductions of sulfur dioxide (SO_2) and nitrogen oxides (NO_X).

At the same time, the Agency also issued a supplemental proposal that would require six states — Iowa, Kansas, Michigan, Missouri, Oklahoma, and Wisconsin — to make summertime NO_X reductions under the Cross-State Air Pollution Rule ozone-season control program. Five of those states are already covered in the final rule for interstate fine particle pollution ($PM_{2.5}$). Finalizing this supplemental proposal would bring the total number of covered states under the Cross-State Air Pollution Rule to 28.

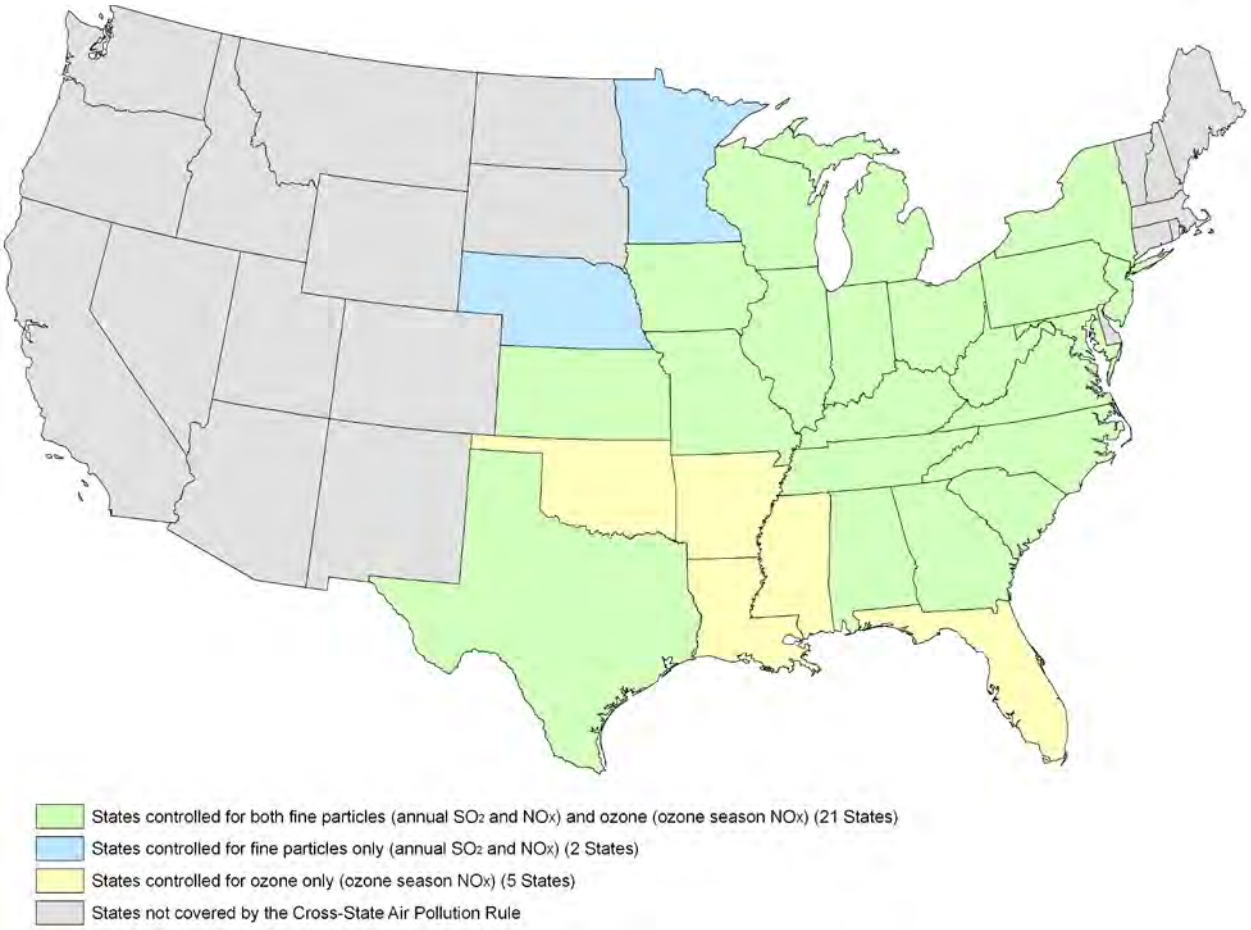
The $800 million spent annually on this rule in 2014, along with the roughly $1.6 billion per year in capital investments already under way as a result of CAIR, are improving air quality for over 240 million Americans and will result in $120 to $280 billion in annual benefits, including the value of avoiding 13,000 to 34,000 premature deaths each year. These estimates include the costs and benefits of the supplemental proposal. Moreover, states where investments in control technology are required also receive large benefits.

This final rule requires significant reductions in SO_2 and NO_X emissions from power plants in the eastern half of the United States. These pollutants react in the atmosphere to form $PM_{2.5}$ and ground-level ozone and are transported long distances, making it difficult for a number of states to meet the national clean air standards that Congress directed EPA to establish to protect public health.

Emission reductions under the Cross-State Air Pollution Rule will begin to take effect quickly. The first phase of compliance begins January 1, 2012 for SO_2 and

annual NO_X reductions and May 1, 2012 for ozone season NO_X reductions. The second phase of SO_2 reductions begins January 1, 2014. By 2014, the Cross-State Air Pollution Rule and other final state and EPA actions will reduce power plant SO_2 emissions by 73 percent from 2005 levels. Power plant NO_X emissions will drop by 54 percent.

Cross-State Air Pollution Rule Region



This rule also lays out a process for determining each upwind state's responsibility to protect downwind air quality. Each time the NAAQS are changed, EPA can apply this process and determine if interstate pollution transport contributes to exceedances of the new standard and whether new emission reductions should be required from upwind states. For example, additional emission reductions from power plants or other sources in upwind states – in addition to actions taken in downwind states – may be needed in order for many areas to meet future ozone or $PM_{2.5}$ standards. EPA will work expeditiously with states to meet these future challenges using as a precedent the Cross-State Air Pollution Rule's approach to determining upwind responsibility.

KEY FEATURES OF THE CROSS-STATE AIR POLLUTION RULE

Of the states affected by the final Cross-State Air Pollution Rule:

- Twenty-three states are required to reduce both annual SO_2 and NO_X emissions. By reducing emissions in upwind states, the rule improves $PM_{2.5}$ air quality in downwind states and helps them attain and maintain the 24-hour $PM_{2.5}$ air quality standards established in 2006 and the 1997 annual $PM_{2.5}$ standards.

- Twenty states are required to reduce NO_X emissions during the ozone season (May through September) because they contribute to downwind states' ozone pollution. By reducing emissions in upwind states, the rule improves ozone air quality in downwind states and helps them attain and maintain the 1997 8-hour ozone standard.

Additionally, EPA is issuing a proposed rule requesting comment on inclusion of the following six states in the Cross-State Air Pollution Rule ozone season program: Iowa, Kansas, Michigan, Missouri, Oklahoma, and Wisconsin. The final Cross-State Air Pollution Rule does not include ozone season NO_X reduction requirements for these six states. However, all of these states, except for Oklahoma, are included in the final Cross-State Air Pollution Rule annual NO_X program for $PM_{2.5}$ that begins January 1, 2012. EPA intends to finalize the supplemental proposal as soon as possible. Once final, it would increase the total number of covered states in the Cross-State Air Pollution Rule region to 28 and the number required to reduce ozone season NO_X emissions to 26.

The table at the end of this fact sheet identifies the states covered by the final rule and the emissions they will need to control, including the six states proposed in the supplemental notice of proposed rulemaking to be included for ozone season NO_X emission reductions.

EPA carefully considered the court's direction in developing the Cross-State Air Pollution Rule. The rule defines what portion of an upwind state's emissions "significantly contribute" ozone or $PM_{2.5}$ pollution to nonattainment or maintenance areas in downwind states. This definition considers the magnitude of a state's contribution, the air quality benefits of reductions, and the cost of controlling pollution from various sources. Once these obligations are determined, the rule requires states to eliminate the portion of their emissions defined as their "significant contribution" by setting a pollution limit (or budget) for each covered state.

The rule allows air-quality-assured allowance trading among covered sources, utilizing an allowance market infrastructure based on existing, successful allowance trading programs. The final Cross-State Air Pollution Rule allows sources to trade emissions allowances with other sources within the same program (e.g., ozone season NO_X) in the same or different states, while firmly constraining any emissions shifting that may occur by requiring a strict emission ceiling in each state (the budget plus variability limit). It also includes assurance

provisions that ensure each state will make the emission reductions necessary to fulfill the "good neighbor" provision of the Clean Air Act.

In response to the court's direction to replace CAIR as quickly as possible, EPA is adopting federal implementation plans, or FIPs, for each of the states covered by this rule; states may replace the FIPs with State Implementation Plans (SIPs).

- The Cross-State Air Pollution Rule includes an expedited process for states to adjust specific aspects of the FIP, such as allowance allocations, as early as 2013, including crediting sources for NO_X allowances banked under earlier programs.
- A state also may choose to develop a state plan (SIP) to achieve the required reductions, replacing its federal plan, and may choose which types of sources to control by 2014.

EMISSION REDUCTIONS AND COMPLIANCE WITH THE CROSS-STATE AIR POLLUTION RULE

Compared to 2005, EPA estimates that by 2014 this rule and other federal rules will lower power plant annual emissions in the Cross-State Air Pollution Rule region by:

- 6.4 million tons per year of SO_2 (2005 emissions were 8.8 million tons)
- 1.4 million tons per year of NO_X (2005 emissions were 2.6 million tons)
    - Including 340,000 tons per year of NO_X during the ozone season.

The Cross-State Air Pollution Rule, including states proposed for inclusion in the supplemental notice of proposed rulemaking, covers 3,642 electric generating units at 1,081 coal-, gas-, and oil-fired facilities in 28 states. EPA's modeling projects that by 2014, in the states covered by the Cross-State Air Pollution Rule:

- Approximately 70 percent of the power generated from coal-fired power plants will come from units with state-of-the-art SO_2 controls (such as scrubbers).
- Approximately 50 percent of the power generated from coal-fired power plants will come from units with state of the art NO_X controls (such as SCR).

EPA modeling shows that coal use will continue to grow under the Cross-State Air Pollution Rule and power plants may achieve the necessary emission reductions by:

- Maintaining effective and frequent operation of already installed control equipment,
- Using low sulfur coal,
- Increasing generation from relatively cleaner units, and/or
- Installing existing, commercially proven technologies that are widely available and frequently used in this industry, such as low NO_X burners, scrubbers (flue gas desulfurization), or dry sorbent injection.

AIR QUALITY IMPROVEMENTS UNDER THE CROSS-STATE AIR POLLUTION RULE

The Cross-State Air Pollution Rule will improve air quality in thousands of counties throughout the eastern, central, and southern U.S. – counties that are home to over 75% of the U.S. population. State, local and federal actions have already improved air quality so that many counties meet the National Ambient Air Quality Standards for ozone and fine particle pollution. Many areas have already been brought into attainment with these standards, this rule will help to bring several more areas into attainment and help many more areas continue to meet the level of the standards.

BENEFITS AND COSTS OF THE CROSS-STATE AIR POLLUTION RULE

The emission reductions from this final rule will have significant and immediate public health benefits. By 2014, this rule will annually prevent:

- 13,000 to 34,000 premature deaths,
- 19,000 cases of acute bronchitis,
- 15,000 nonfatal heart attacks,
- 19,000 hospital and emergency room visits,
- 1.8 million days when people miss work or school,
- 400,000 cases of aggravated asthma, and
- 420,000 cases of upper and lower respiratory symptoms.

These emission reductions will also improve visibility in national and state parks, and increase protection for sensitive ecosystems including Adirondack lakes and Appalachian streams, coastal waters and estuaries, and forests.

The $800 million spent annually on this rule in 2014, along with the roughly $1.6 billion per year in capital investments already under way as a result of CAIR, are improving air quality for over 240 million Americans and will result in $120 to $280 billion in annual benefits. These estimates include the costs and benefits of the supplemental proposal.

The employment effects of this rule are modest, but by our analysis positive. EPA examined some employment impacts using two methodologies which are detailed in the RIA. Both show that some jobs are lost, but more are gained as some companies construct and operate pollution control equipment to comply with the rule.

BACKGROUND

This Cross-State Air Pollution Rule replaces the 2005 Clean Air Interstate Rule (CAIR) starting January 1, 2012. EPA issued CAIR on May 12, 2005 and the CAIR federal implementation plans (FIPs) on April 26, 2006. In 2008, the US Court of Appeals for the DC Circuit remanded CAIR to the Agency, leaving existing CAIR programs in place while directing EPA to replace them as rapidly as possible with a new rule consistent with the Clean Air Act.

The Cross-State Air Pollution Rule was proposed July 6, 2010. EPA held three public hearings on the proposed rule during the 60-day comment period. EPA also issued three notices of data availability (NODAs) to provide additional opportunities for public comment on data, modeling, and other key aspects of the rule. The Agency received hundreds of detailed comments from states, environmental and public health groups, industry, and other stakeholders during the comment periods for the proposed rule and NODAs.

FOR MORE INFORMATION

To see or download a copy of the final rule, go to www.epa.gov/airtransport.

For more information, call Meg Victor of EPA's Office of Atmospheric Programs at 202-343-9193 or email at victor.meg@epa.gov.

State	Reducing Emissions of NO_X during the Ozone Season (1997 Ozone NAAQS)	Reducing Annual Emissions of SO_2 and NO_X (1997 Annual $PM_{2.5}$ NAAQS)	Reducing Annual Emissions of SO_2 and NO_X (2006 24-Hour $PM_{2.5}$ NAAQS)
Alabama	X	X	X
Arkansas	X		
Florida	X		
Georgia	X	X	X
Illinois	X	X	X
Indiana	X	X	X
Iowa	X (proposed)	X	X
Kansas	X (proposed)		X
Kentucky	X	X	X
Louisiana	X		
Maryland	X	X	X
Michigan	X (proposed)	X	X
Minnesota			X
Mississippi	X		
Missouri	X (proposed)	X	X
Nebraska			X
New Jersey	X		X
New York	X	X	X
North Carolina	X	X	X
Ohio	X	X	X
Oklahoma	X (proposed)		
Pennsylvania	X	X	X
South Carolina	X	X	
Tennessee	X	X	X
Texas	X	X	
Virginia	X		X
West Virginia	X	X	X
Wisconsin	X (proposed)	X	X
Number of States	**20 (excludes proposed states)**	**18**	**21**