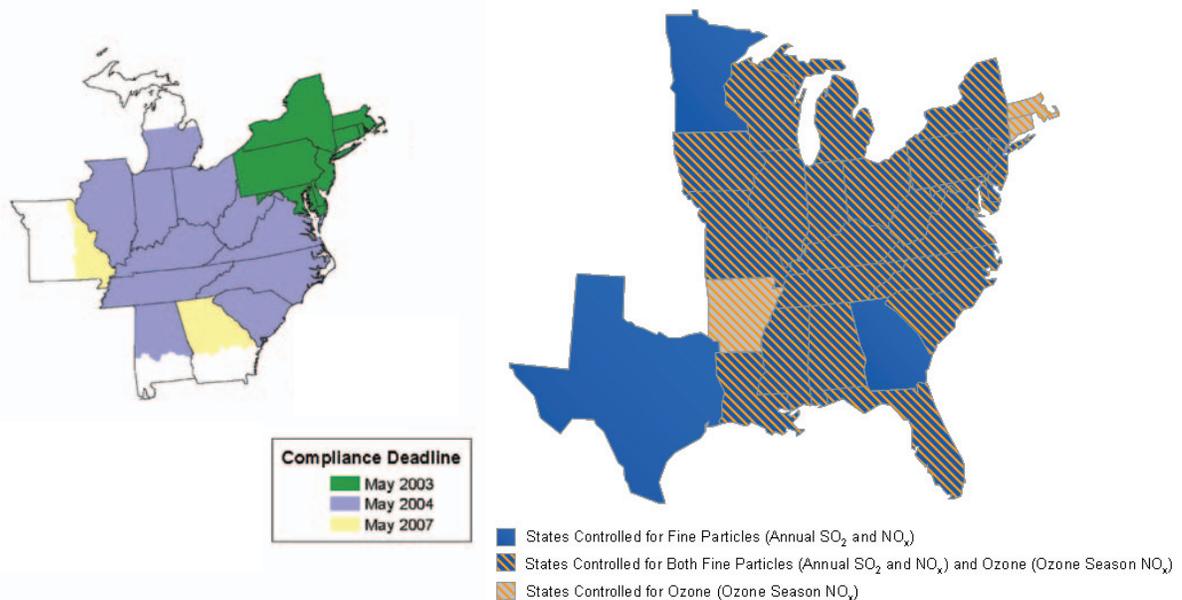


## Section 5 — Future NO<sub>x</sub> Reductions and Ozone Improvements: Transition to the Clean Air Interstate Rule

**B**uilding upon the nitrogen oxides (NO<sub>x</sub>) emission reductions of the NO<sub>x</sub> Budget Trading Program (NBP) and the Acid Rain Program, the Clean Air Interstate Rule (CAIR), issued March 10, 2005, will permanently lower power industry emissions of sulfur dioxide (SO<sub>2</sub>) and NO<sub>x</sub> in the eastern United States, achieving significant reductions of these pollutants. In addition to addressing ozone attainment, CAIR assists states in attaining the PM 2.5 National Ambient Air Quality Standards (NAAQS) by reducing transported precursors, SO<sub>2</sub> and NO<sub>x</sub>. CAIR accomplishes this by creating three separate programs: an ozone season NO<sub>x</sub> program and annual NO<sub>x</sub> and SO<sub>2</sub> programs. Each of the three programs

uses a two-phased approach, with declining emission caps in each phase based on highly cost-effective controls on power plants. The first phase will begin in 2009 for the NO<sub>x</sub> ozone season and annual programs and 2010 for the SO<sub>2</sub> annual program. The second phase for all three programs will begin in 2015. Similar to the NO<sub>x</sub> SIP Call, CAIR gives states the flexibility to reduce emissions using a strategy that best suits their circumstances and provides an EPA-administered, regional cap and trade program as one option. States are now choosing the strategy that best enables them to achieve these mandated reductions and plans are due to be submitted to EPA for approval by the fall of 2006.

**Figure 22:** Transition from the NO<sub>x</sub> Budget Trading Program to the Clean Air Interstate Rule



**Note:** The affected portions of Missouri and Georgia are required to comply with the NO<sub>x</sub> SIP Call as of May 1, 2007. However, EPA has stayed the NO<sub>x</sub> SIP Call requirements for Georgia while it responds to a petition to reconsider Georgia's inclusion in the NO<sub>x</sub> SIP Call.

**Source:** EPA

## How CAIR Affects NO<sub>x</sub> Budget Trading Program States

In 2009, NBP states affected under CAIR will transition to the CAIR annual and/or ozone season programs. All NBP states, with the exception of Rhode Island, are included in the CAIR NO<sub>x</sub> ozone season program (see Figure 22). States can meet their NBP obligations using the CAIR NO<sub>x</sub> ozone season program and, as a result, CAIR allows states to include all of their NBP sources in the CAIR NO<sub>x</sub> ozone season program. EPA also will allow Rhode Island to opt into the CAIR NO<sub>x</sub> ozone season program so that it can continue to participate in an interstate trading program. The 2009 CAIR NO<sub>x</sub> ozone season emission caps for electric generating units are at least as stringent as the NBP, and in some states are tighter. If a state includes industrial units, the trading budget for those units remains the same as the NBP. CAIR also allows sources to bank and use pre-2009 NBP allowances for the CAIR NO<sub>x</sub> ozone season program compliance on a 1:1 basis, there-

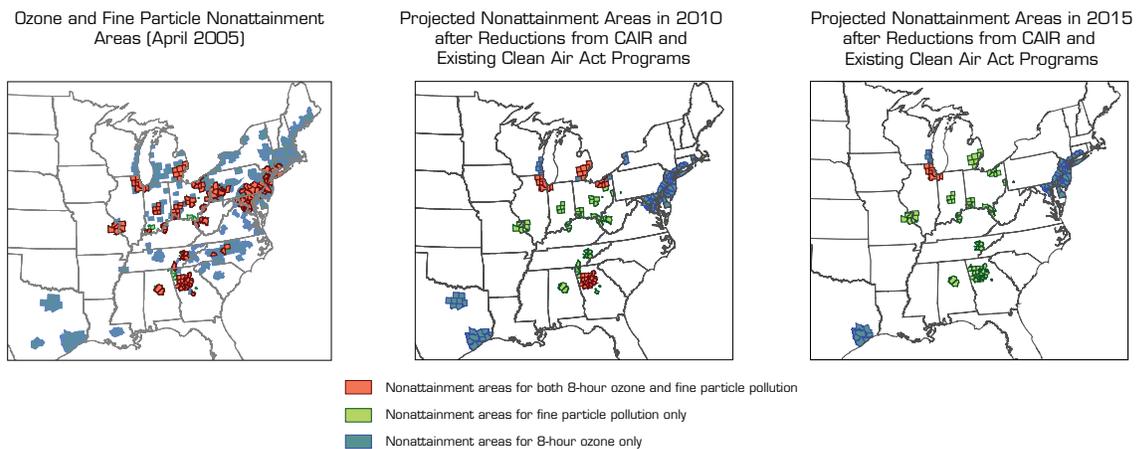
by giving sources the incentive to begin reducing their emissions now. Progressive flow control will be eliminated as of 2009 with the start of the CAIR program.

## CAIR Benefits

In 2004, EPA officially designated 103 areas in the eastern United States as 8-hour ozone "nonattainment areas". Based on 2003 to 2005 air monitoring data, nearly 70 percent of them (68 areas home to about 20 million people) now have air quality that is better than the level of the standard. In 2005, however, there were still 31 areas (home to about 80 million people) that are not meeting the 8-hour ozone standard. CAIR will help bring the remaining 31 areas in this part of the eastern United States into attainment with the ozone standard.

EPA projects that in 2015, CAIR, the NBP, and other programs in the CAIR region will reduce power industry ozone season NO<sub>x</sub> emissions by about 40 percent and annual NO<sub>x</sub> emissions by

**Figure 23: Ozone and Particle Pollution in the Future**



**Note:** Projections concerning future levels of air pollution in specific geographic locations were estimated using the best scientific models available. They are estimations, however, and should be characterized as such in any description. Actual results may vary significantly if any of the factors that influence air quality differ from the assumed values used in the projections shown here.

**Source:** EPA

about 55 percent from 2005 levels. EPA also projects that CAIR and existing federal and state programs will reduce the number of 8-hour ozone nonattainment areas in the East to six by 2015 (see Figure 23). The phase in of clean diesel engines and low sulfur fuel requirements will further reduce ozone and fine particle pollution throughout the United States. Additionally, states are working to identify and implement local controls to move these remaining six areas into attainment.

By 2015, the air quality improvements under CAIR are projected to result in:

- \$85 to \$100 billion in annual health benefits, annually preventing 17,000 premature deaths, millions of lost work and school days, and tens of thousands of non-fatal heart attacks and hospital admissions.
- Nearly \$2 billion in annual visibility benefits in southeastern national parks, such as Great Smoky and Shenandoah.
- Significant regional reductions in sulfur and nitrogen deposition, reducing the number of acidic lakes and streams in the eastern United States.

For more information, visit <[www.epa.gov/CAIR](http://www.epa.gov/CAIR)>.



# Online Resources

## General Information:

- Office of Air and Radiation: [www.epa.gov/oar](http://www.epa.gov/oar)
  - Office of Atmospheric Programs: [www.epa.gov/air/oap.html](http://www.epa.gov/air/oap.html)
  - Office of Air Quality Planning and Standards: [www.epa.gov/oar/oaqps](http://www.epa.gov/oar/oaqps)
- Mobile Sources: [www.epa.gov/otaq](http://www.epa.gov/otaq)
- Cap and Trade and Related Programs: [www.epa.gov/airmarkt](http://www.epa.gov/airmarkt)
- Air Trends: [www.epa.gov/airtrends](http://www.epa.gov/airtrends)

## NO<sub>x</sub> Control Programs:

- Acid Rain Program: [www.epa.gov/airmarkets/arp](http://www.epa.gov/airmarkets/arp)
- Ozone Transport Commission (OTC) NO<sub>x</sub> Budget Program: [www.epa.gov/airmarkets/otc](http://www.epa.gov/airmarkets/otc)
- NO<sub>x</sub> Budget Trading Program (NBP): [www.epa.gov/airmarkets/fednox](http://www.epa.gov/airmarkets/fednox)
- Clean Air Interstate Rule (CAIR): [www.epa.gov/cair](http://www.epa.gov/cair)

## Ozone Information:

- General Information: <http://www.epa.gov/air/urbanair/ozone>
- USDA Forest Service, Forest Health Monitoring Program <http://fhm.fs.fed.us/pubs>

## Emission Data and Monitoring Information:

- National Emissions Inventory (NEI): [www.epa.gov/ttn/chief/net](http://www.epa.gov/ttn/chief/net)
- Clean Air Markets Data and Maps: <http://cfpub.epa.gov/gdm>

## Ozone Monitoring Networks and Data:

- Clean Air Status and Trends Network (CASTNET): [www.epa.gov/castnet](http://www.epa.gov/castnet)
- Air Quality Systems (AQS): [www.epa.gov/ttn/airs/airsaqs](http://www.epa.gov/ttn/airs/airsaqs)

## Other Emission and Air Quality Resources:

- General Information on EPA Air Quality Monitoring Networks: [www.epa.gov/ttn/amtic](http://www.epa.gov/ttn/amtic)
- Clean Air Mapping and Analysis Program (CMAP): [www.epa.gov/airmarkets/cmap](http://www.epa.gov/airmarkets/cmap)
- The Emissions and Generation Resources Integrated Database (eGRID): [www.epa.gov/cleanenergy/egrid](http://www.epa.gov/cleanenergy/egrid)
- AIRNow: [www.epa.gov/airnow](http://www.epa.gov/airnow)





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