

US EPA ARCHIVE DOCUMENT

## EXECUTIVE SUMMARY – THE CLEAR SKIES INITIATIVE

*February 14, 2002*

Today, President Bush proposed the most significant step America has ever taken to cut power plant emissions, the Clear Skies Initiative. This new proposal will aggressively reduce air pollution from electricity generators and improve air quality throughout the country. The Clear Skies Initiative will cut air pollution 70 percent, using a proven, market-based approach that will save American consumers millions of dollars.

America needs a clean, secure, affordable, reliable energy supply in the years ahead. President Bush has often said that environmental protection and energy production are not competing priorities. This progressive plan shows how that objective can be reached. We can meet our environmental goals while providing affordable electricity for American consumers and American businesses.

America has made great progress in reducing air pollution. Over the last three decades, air pollution has declined by 29 percent, while our economy has grown nearly 160 percent. These gains have provided cleaner air for millions of people. Our understanding of science, technology, and markets has improved since the Clean Air Act was passed in 1970. We know more about the best way to reduce pollution, and how to do it cost effectively. The acid rain cap and trade program created by Congress in 1990 reduced more pollution in the last decade than all other Clean Air Act command-and-control programs combined, and achieved significant reductions at two-thirds of the cost to accomplish those reductions using a “command-and-control” system. It’s time to take the best of what we have learned and modernize the Clean Air Act. That’s why President Bush is proposing a new Clean Air Act for the 21<sup>st</sup> century.

The Clear Skies Initiative will:

### **Dramatically Cut Power Plants’ Emissions of Three of the Worst Air Pollutants.**

- ✓ Cut sulfur dioxide (SO<sub>2</sub>) emissions by 73 percent, from current emissions of 11 million tons to a cap of 4.5 million tons in 2010, and 3 million tons in 2018.
- ✓ Cut emissions of nitrogen oxides (NO<sub>x</sub>) by 67 percent, from current emissions of 5 million tons to a cap of 2.1 million tons in 2008, and to 1.7 million tons in 2018.
- ✓ Cutting mercury emissions by 69 percent, – the first-ever national cap on mercury emissions. Emissions will be cut from current emissions of 48 tons to a cap of 26 tons in 2010, and 15 tons in 2018.
- ✓ Emission caps will be set to account for different air quality needs in the East and the West.

### Use A New, Market-Based Approach To Clean Air:

- ✓ Protect Americans from respiratory and cardiovascular diseases by dramatically reducing smog, fine particulate matter, regional haze; and protect wildlife habitat and ecosystem health from acid rain, nitrogen and mercury deposition. NO<sub>x</sub> and SO<sub>2</sub> emissions both contribute to fine particulate matter emissions and NO<sub>x</sub> also contributes to ground-level ozone or smog.
- ✓ Save Americans as much as \$1 billion annually in compliance costs that are passed along to American consumers, while improving air quality and protecting the reliability and affordability of electricity for consumers.
- ✓ Cut pollution further, faster, cheaper – and with more certainty – eliminating the need for expensive and uncertain litigation as a means of achieving clean air.
- ✓ Build upon the 1990 Clean Air Act’s acid rain program, America’s most successful clean air law in the last decade, and encourage the use of new pollution control technologies.

President Bush has a strong track record on enacting far-reaching clean air initiatives. In 1999, then-Governor Bush signed legislation that permanently caps NO<sub>x</sub> and SO<sub>2</sub> emissions from older power plants in Texas starting in 2003. The legislation was widely hailed as a model for the country. The Texas program is designed to reduce NO<sub>x</sub> emissions by 75,000 tons per year, and SO<sub>2</sub> emissions by 35,000 tons per year, while giving utilities flexibility in determining how and where to achieve the reductions.

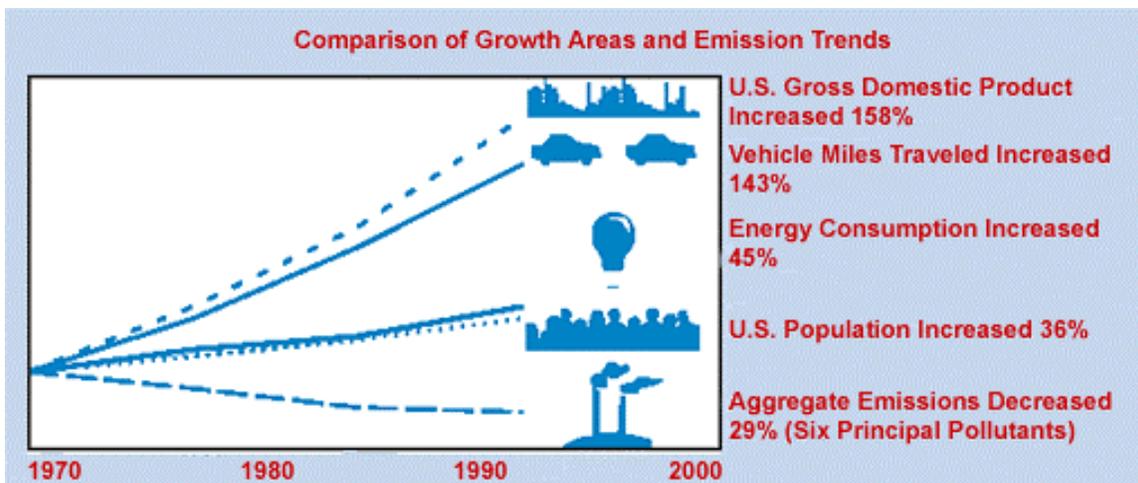
#### ***This approach enjoys strong, bipartisan support throughout the country:***

“Congress should pass legislation to establish a flexible, market-based program to significantly reduce and cap emissions of sulfur dioxide, nitrogen oxides, mercury and voluntary reductions of carbon dioxide from electric power generators. The legislation should provide regulatory certainty by establishing reduction targets for emissions, phasing in reductions over a reasonable period of time and providing market-based incentives such as emissions-trading credits to help achieve the required reductions.”

—Unanimous Resolution of the National Governors Association, August, 2001.

The Environmental Council of the States approved a resolution in February, 2001, supporting a cost-effective, efficient and environmentally protective multi-pollutant proposal.

## BACKGROUND <sup>3</sup>/<sub>4</sub> THE SUCCESS OF THE CLEAN AIR ACT



**POLLUTION HAS DECLINED BY 29 PERCENT WHILE OUR ECONOMY HAS GROWN NEARLY 160 PERCENT**

In the U.S., power plants emit significant amounts of air pollution: 67 percent of all sulfur dioxide (SO<sub>2</sub>) emissions, 37 percent of mercury emissions, and 25 percent of all nitrogen oxide (NO<sub>x</sub>) emissions. These pollutants contribute to a variety of health and environmental problems, such as smog, acid rain, nitrogen deposition and visibility impairment.

Current law addresses each of these pollutants independently, on different timetables, through several different programs. These laws are uncoordinated and often inconsistent. Power plants might install equipment one year that is rendered obsolete the next. Implementation and enforcement usually requires years of litigation, leaving the fate of America's air to the uncertainties of the courtroom.

After 30 years of experience in regulating air pollution, America has proved that there is a better way to accomplish our clean air goals.

The 1990 Clean Air Act Amendments, proposed and signed into law by President George H.W. Bush, have significantly reduced air pollution, especially through the innovative "cap-and trade" acid rain control program. The acid rain program has been a resounding success, cutting annual sulfur dioxide emissions in the first phase by 50 percent below allowed levels. Emissions were reduced faster than required, and at far less cost. Industry compliance has been nearly 100 percent, and the program only requires a handful of EPA employees to operate. This approach is vastly more effective, and cheaper – two-thirds cheaper – than the traditional "command-and-control" approach.

This program is clearly a model for success. President Bush wants to expand this program to include two new pollutants – nitrogen oxides and mercury – while also dramatically reducing the SO<sub>2</sub> emissions allowed by current law.

## **THE CLEAR SKIES INITIATIVE <sup>3</sup>/<sub>4</sub> BUILDING ON THE CLEAN AIR ACT**

The President's Clear Skies Initiative is designed to help us meet our national air quality goals. A new Clean Air Act for the 21<sup>st</sup> century must build on this founding principle – modernization and better technology will mean a progressive new way to accomplish these long-standing environmental goals. The Clear Skies Initiative will continue to bring Americans:

- **Improved Air Quality:** Reducing air pollution will bring clean air to tens of millions of people, saving them from smog (ground-level ozone) and fine particulate matter (dust) that cause respiratory and cardiovascular distress.
- **Improved Health:** Reducing emissions of fine particulate matter will prolong thousands of lives and prevent thousands of new cases of chronic bronchitis, hospitalizations and emergency room visits. Reducing the formation of ground-level ozone, or smog, will bring healthier air to tens of millions of people, and reduce the number of ozone-related health problems such as respiratory infection, asthma attacks, and chronic lung damage. Reducing mercury emissions will reduce the risk of toxic effects from mercury exposure to children exposed during their mother's pregnancy.
- **Better Environmental Protection from Acid Rain, Smog, Haze, Mercury and Nitrogen Deposition:** Reducing SO<sub>2</sub> and NO<sub>x</sub> emissions will save hundreds of northeastern lakes and hundreds of thousands of acres of forests from acid rain, particularly in the Adirondacks and other parts of the Appalachian Mountains. It will also improve visibility over much of the country, particularly the scenic vistas in national parks such the Grand Canyon. Reducing emissions of nitrogen oxides will also reduce nitrogen deposition in water, improving coastal ecosystem health along the East and Gulf coasts. Reducing mercury emissions will reduce mercury deposition in lakes and streams.
- **Secure, Affordable Power:** The Clear Skies Initiative will keep electricity costs low for consumers by saving as much as \$1 billion each year in compliance costs. Power generators will have the flexibility to reduce emissions in the most cost-effective way. It will also encourage the continual improvement in technology to reduce emissions from coal-fired power plants in concert with the Department of Energy's Clean Coal Technology program and incentives for power plants that install "scrubbers" early in the program. Under the Clear Skies Initiative, America will continue to have a diverse fuel mix that ensures a reliable, affordable energy supply.

## HOW THE CLEAR SKIES INITIATIVE WORKS

To improve air quality for millions of Americans, the Clear Skies Initiative will adopt the lessons learned from 30 years of environmental regulation by:

1. **Establishing Emission Reduction Targets, Based on Sound Science, That Will Significantly Improve Air Quality, Protecting Human and Environmental Health:** By reducing air pollution, and conducting constant monitoring of emissions, the Clear Skies Initiative guarantees that America's power plants will meet ambitious air quality goals, even as they bring new power plants on line to meet growing demand. During the first phase, the EPA Administrator will review new scientific, technology and cost information and, if necessary, adjust the phase two targets. This will include a vigorous research program to further understand the fate and transport of pollutants in the atmosphere.
2. **Adopting a Comprehensive, Integrated, Multi-Pollutant Approach:** By reducing emissions of the three key sources of air pollution at the same time, the Clear Skies Initiative will produce environmental results more effectively and efficiently than the current labyrinth of overlapping and uncoordinated single-pollutant requirements. The current approach is inefficient and ineffective, imposing unnecessarily high costs due to: (1) stranded capital investments from the installation of controls that later become obsolete when additional requirements are promulgated; (2) reduced lead time for complying with those requirements; (3) limited or non-existent flexibility for emissions trading to allow cost-efficient control options; and (4) a reliance upon lengthy, expensive, and uncertain litigation to sort out regulatory ambiguity and compliance with the law.
3. **Improving Environmental Performance at Lower Cost Using Market-Based Mechanisms That Create Incentives for Innovation:** Using the market-based mechanism of a cap-and-trade program, the Clear Skies Initiative will establish national, federally enforceable emissions limits for each pollutant. Allowances are distributed to electricity generators, and the cap declines at specific intervals, 2010, and then again in 2018. Generators respond by gradually reducing their emissions – reducing more than the cap requires early in the program in order to save allowances for use later in the program when the caps decline. That is, generators respond to declining allowance caps just like people respond to declining income when they're planning for retirement: they do more now, investing and saving for the future. Individual generators can choose when to reduce their emissions in response to their particular circumstances and the price of allowances they see in the market. This encourages the least expensive reductions over time as well as across facilities.

At this point, the government only has to enforce the emission limits, distribute allowances and verify that each facility has sufficient allowances for their annual emissions. There's no need for lengthy, costly, uncertain litigation to enforce the law. Creative, innovative strategies to reduce emissions are immediately rewarded: facilities save money by finding innovative ways to reduce emissions more than a command-and-control law would require. This creates an incentive for continual improvement in environmental performance.

The flexibility in the process of allocating emission credits or allowances will also accommodate the different air quality needs in the East and the West while preserving fair competition. Western states have already made significant headway in identifying future SO<sub>2</sub> reductions necessary to meet air quality goals in the Western Regional Air Partnership (“WRAP”) agreement between EPA, Western states, tribes, industry and environmental groups. SO<sub>2</sub> allocations will track this agreement. NO<sub>x</sub> reduction caps for the East and West will also be set to accommodate these different needs, and separate East and West trading regions will be created.

4. **Ensuring a secure, affordable energy supply:** By setting firm caps while offering flexibility in how utilities can meet those caps, the Clear Skies Initiative preserves a diverse fuel mix that supports economic growth with reasonably priced energy. The firm caps and the adequate lead time create a predictable climate for long-term planning and capital investment in power generation, which will ensure an adequate energy supply. This will also create substantial cost savings to consumers.

# THE CAP AND TRADE SYSTEM IN THE CLEAR SKIES INITIATIVE

## HOW DOES IT WORK?

The Clear Skies Initiative will deliver substantial health and environmental benefits through a market-based approach that rewards innovation, reduces costs, and ensures results. Instead of the government telling electricity generators precisely where and how to reduce their emissions – the old command-and-control approach – this market-based program tells them when and how much to reduce pollution by establishing a firm, maximum “cap” on emissions. The trading program creates incentives for electricity generators to reduce their emissions even more than the law requires, and more quickly than required. Electricity generators must hold an “allowance” for each ton of pollution they emit – one ton, one allowance. The government controls the number of allowances that are distributed and reduces them over time. Electricity generators must continually monitor and report their emissions.

Most importantly, these allowances can be traded freely. That means that if you're smart and creative, and you figure out a better way to reduce emissions, you get rewarded by making those reductions and selling unneeded allowances in the market. And, if you unexpectedly can't reduce emissions as much as planned, you have the flexibility to go out and buy more allowances in the market – all without any government interference, and without undermining air quality. This flexibility lets businesses figure out the cheapest way to reduce emissions while government sticks to setting the overall emission cap at a level that guarantees that industry meets ambitious air quality goals.

## WHY DOES IT WORK?

The cap ensures that the reductions in SO<sub>2</sub>, NO<sub>x</sub> and mercury required by the Clear Skies Initiative are achieved and maintained over time even as new power plants are built. The open trading program gives power plants the flexibility to choose how they meet their target emission reductions, which minimizes compliance costs and lowers consumer electricity prices.

## WHAT ARE THE RESULTS?

Cost savings – The acid rain cap and trade program passed by Congress in 1990 achieved reductions at two-thirds the cost of achieving the same reductions under a command-and-control system. This program reduced more pollution in the last decade than all other Clean Air Act command-and-control programs combined during the same period.

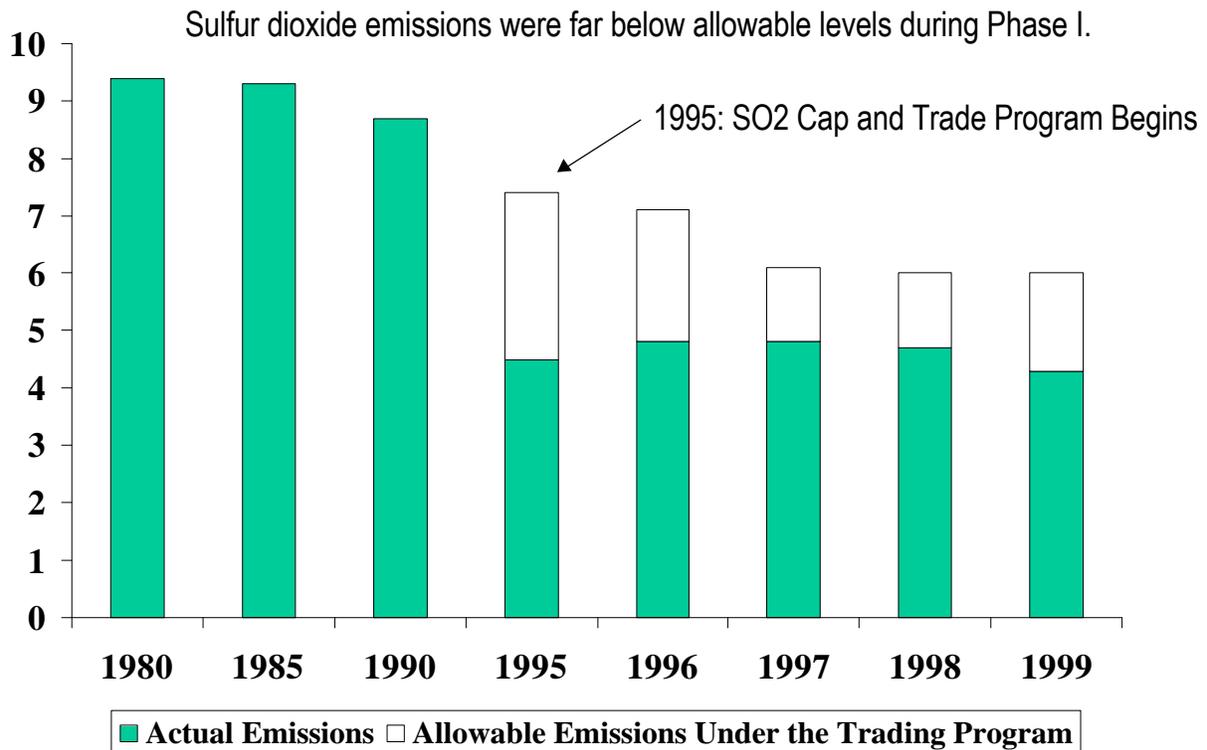
Innovation – Trading under the acid rain program created financial incentives for electricity generators to look for new and low-cost ways to reduce emissions and to do so early.

Integrity –The acid rain cap and trade program has high accountability and transparency. Electricity generators must install monitors to prove that they have sufficient allowances to match their actual emissions.

Regional Effect – The acid rain program resulted in emission reductions well below the cap in the areas that contribute most of the sulfur in acid rain. Comparing emissions from the 263 power plants regulated in the first phase of the program in 1999 with those in 1990, the North Central, Southeast and Mid-Atlantic regions achieved 49 percent, 48 percent and 43 percent reductions in SO<sub>2</sub> respectively. Several analyses of trading under the acid rain program have concluded that the program did not result in local areas with higher emission levels (“hot spots”).

Guaranteed Results – The Acid Rain program enjoys nearly 100 percent compliance and only takes 75 EPA employees to run – a track record no command-and-control program can meet. Reductions in the early years averaged 25 percent below the required cap. Emission cuts resulted in air quality improvements over a broad area of the U.S. and significant reductions in acid rain.

**Emissions From Power Plants in the First Phase of the Acid Rain Program**



## WHAT THE EXPERTS SAY ABOUT THE ACID RAIN CAP AND TRADE PROGRAM

*“The data confirm a general prediction about cap-and-trade programs, that they will tend to create incentives for the dirtiest plants to clean up the most, as the per-ton cost of emissions reductions may be expected to be the least. ...The data show that, if anything, trading may be expected to cool hot spots and not create them.”*

*-- Byron Swift, Environmental Law Institute, “Allowance Trading and Potential Hot Spots – Good News from the Acid Rain Program” 31 Environment Reporter, pp. 954-959, May 12, 2000.*

*“The superior environmental and economic results of ...the Program are precisely what should have been expected of a program that matched an explicit emissions limit with a market that turned pollution reductions into marketable assets.”*

*-- From “Obstacle to Opportunity: How Acid Rain Emissions Trading is Delivering Cleaner Air”, Environmental Defense, September 2000, p. 2.*

*“The flexibility of the trading program has encouraged utilities to capitalize on advantageous trends, such as changing fuel prices and technological innovation that might have been delayed or discouraged by traditional regulatory approaches.”*

*-- Curtis Carlson, Dallas Burtraw, et al., “Sulfur Dioxide Control By Electric Utilities: What are the Gains from Trade?” Resources for the Future, July 1998, Revised April 2000.*

*“[The] simplicity [of the Program] has kept transaction costs low and helped to create efficiencies that might otherwise not exist.”*

*-- Daniel Chartier, Former Emission Trading Manager, Wisconsin Electric, Congressional Testimony, July 1997.*

*“This grand experiment [emissions trading under the Acid Rain Program] has demonstrated that the government can be effective and non-intrusive.”*

*-- Danny Ellerman, Executive Director, Massachusetts Institute of Technology Center for Energy and Environmental Policy Research, remarks at the 21<sup>st</sup> Conference of the International Association for Energy Economics, Quebec City, Canada, May 1998.*