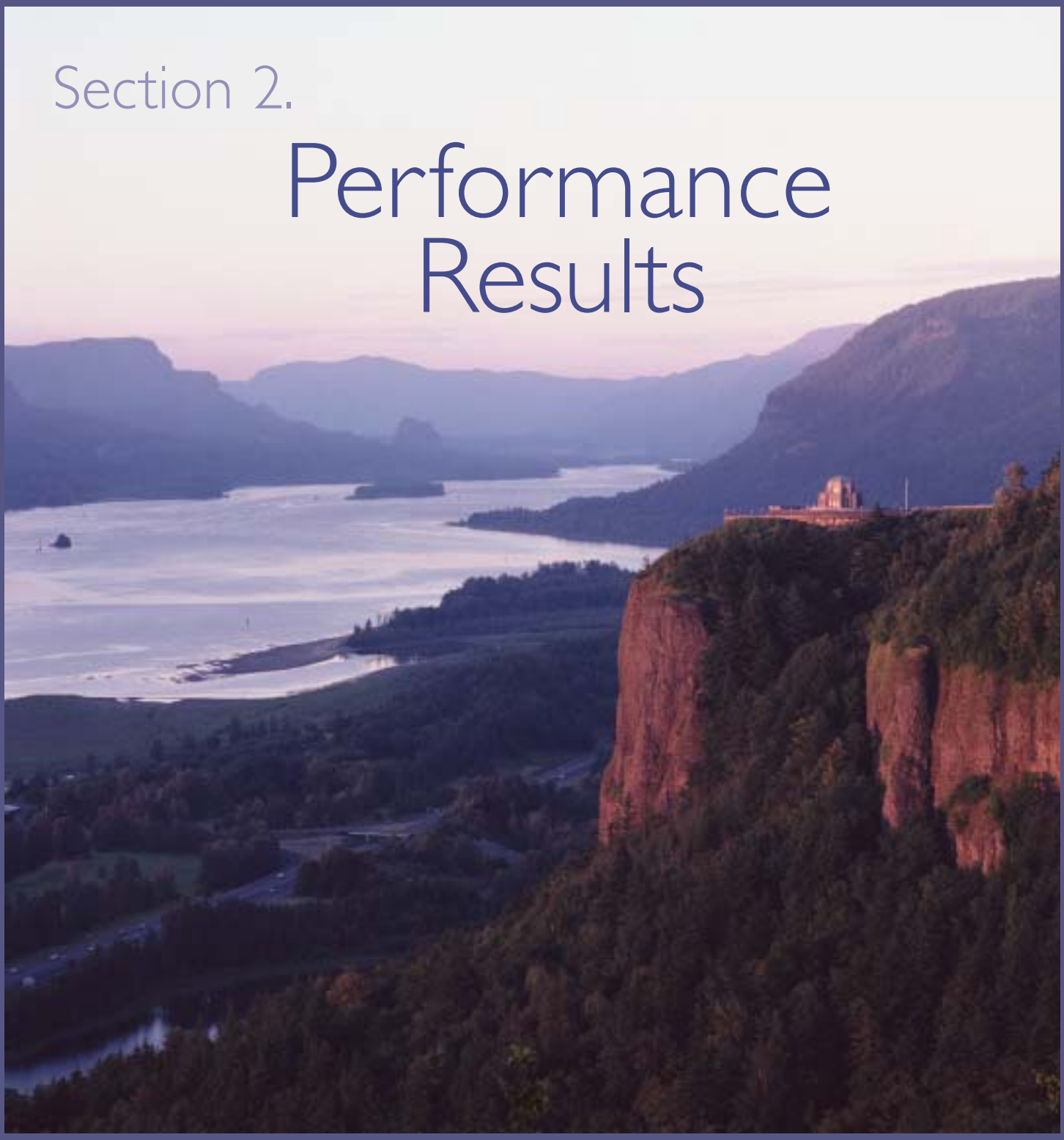
Section 2.

Performance Results



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Goal 1: Clean Air and Global Climate Change

Protect and improve the air so it is healthy to breathe and risks to human health and the environment are reduced. Reduce greenhouse gas intensity by enhancing partnerships with businesses and other sectors.

Progress Toward the Strategic Goal and Objectives

EPA and its partners and stakeholders have made steady progress toward clean air during a period of economic growth. Since 1970, their combined efforts have reduced by 48 percent[1] the aggregate emissions of the six principal pollutants covered by National Ambient Air Quality Standards (NAAQS) set to protect human health and the environment. During the same period, the U.S. gross domestic product has increased by 164 percent; vehicle miles traveled, by 155 percent; energy consumption, by 42 percent; and population by 38 percent (see Figure 1-1).[2]

In reducing emissions, EPA has focused on programs that have broad nation-wide or global impact for protecting human health and the environment. Recent examples include:

Six Principal Pollutants

Ozone (O_3)
Particulate Matter (PM)
Carbon Monoxide (CO)
Nitrogen Dioxide (NO_2)
Sulfur Dioxide (SO_2)
Lead (Pb)

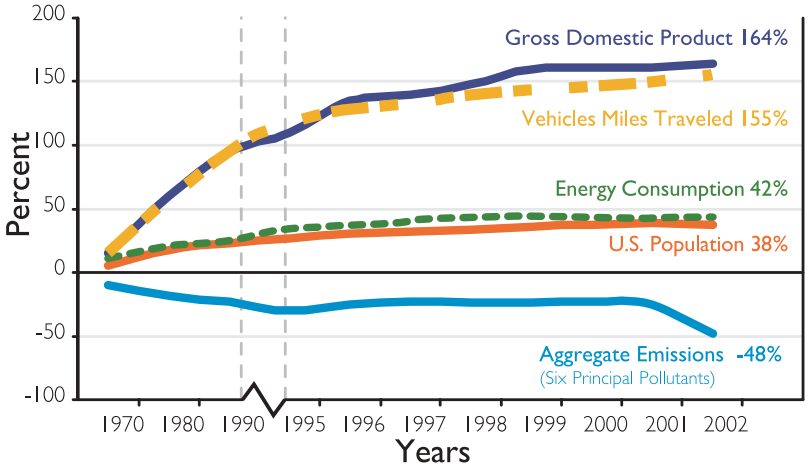
- EPA's regulatory programs for highway and non-road mobile sources and fuels have contributed significantly to cleaner air. For example, in FY 2000, EPA issued the second round of automobile and light truck standards called for by the Clean Air Act (CAA). Tier 2 standards for automobiles and light trucks will reduce nitrogen oxide (NO_x) emissions by 74 percent. And in FY 2001, EPA issued new engine and fuel standards that will make highway diesel trucks and buses 90 percent cleaner than current models. When fully implemented, these standards will result in a daily reduction of about 30 premature deaths, 20 cases of chronic bronchitis, and 5,600 lost workdays.[3]
- Agency rules for stationary sources, vehicles, fuels, and engines have reduced toxic air pollutants by close to 35 percent from a 1993 baseline of 6 million tons. EPA estimates that annual emissions of toxic air pollutants from stationary sources were nearly 1.5 million tons less in FY 2002 than in 1993 as a result of implementing Maximum Achievable Control Technology (MACT) standards, and 500,000 tons less than in 1993 as a result of implementing federal mobile source rules.[4]
- EPA's Acid Rain Program continues on course to meet its FY 2010 objective. The market-based program permanently caps nation-wide power plant emissions of sulfur dioxide (SO_2) and limits the rate of NO_x emissions. As a result of efforts by utilities covered under this program, SO_2 emissions continued to decline from 17.5 million tons in 1980 (baseline) to 10.2 million tons through 2002, while NO_x emissions were reduced by 33 percent from 1990 emissions levels.[5]

This progress toward cleaner air has been significant, not only because of the tons of pollution reduced or prevented, but also because the results have been achieved cost-effectively, with the monetized benefits outweighing the economic impacts. The extent of the public health benefits is particularly striking. On a daily basis, the results of programs established under the 1990 amendments to the CAA, in combination with the results of the 1977 amendments, have prevented an estimated 600 premature deaths, 2,000 chronic illnesses, and 75,000 lost workdays.[6] In a September 2003 report to the Congress, the Office of Management and Budget (OMB) reported the results of a review of the costs and benefits of 107 major federal rulemakings completed during the last decade. OMB found that the overall benefits of the rulemakings are four to five times their costs, and that "the majority of the quantifiable benefits are attributable to a handful of clean-air rules issued by EPA."[7]

In spite of the successes of EPA and its partners, utility, industry, transportation, and other sources still emit more than 160 million tons of pollution into the air each year in the United States. About 146 million Americans live in counties where monitored air quality in 2002 was at times unhealthy because of high levels of at least one of the six principal pollutants for which EPA has set NAAQS. The vast majority of areas that experienced unhealthy air did so because of one or both of two pollutants—tropospheric ozone and particulate matter (PM).[8]

EPA's strategy to address the most persistent remaining challenges posed by air pollution in the 21st century includes a combination of regulatory, market-based, and voluntary programs. EPA will carry out those components of the strategy that address emissions from entire industries or from major source categories, such as power plants or motor vehicles, while state, tribal, and local partners will focus on more area-specific problems. In implementing the strategy, EPA will set priorities among activities based on health and environmental risk and will seek cost-effective, flexible solutions to reduce risks. Using information from peer-reviewed research, regulatory impact assessments, and program evaluations EPA determines program risk and sets priorities based on that risk. EPA addresses those areas such as PM, ozone, and toxics that have a high health risk first and then addresses the lower risk areas. In developing these solutions, EPA will use an active consultative process that allows the Agency to identify the solutions that best meet the collective needs of its partners and stakeholders.

Figure 1-1: Comparison of Growth Areas and Emission Trends



The cornerstone of EPA's strategy for cleaner air is President Bush's multipollutant Clear Skies initiative.[9] The proposed legislation, re-introduced in Congress in February 2003, would create a mandatory program that is designed to reduce power plant emissions of SO_2, NO_x, and mercury by about 70 percent from emission levels during 2000.[10] EPA projects that

Air Quality Index

In a continuing effort to protect people's health, EPA now provides daily forecasts of particulate pollution in more than 100 cities. The Air Quality Index, or AQI, is a color-coded system designed to inform the public about daily air pollution levels in their communities. During the summer months, local broadcast meteorologists in nearly 300 U.S. cities use the AQI to provide daily ozone forecasts as part of their weather casts. The AQI has been expanded to include daily, year-round forecasts for particulate pollution. The expanded AQI forecasts give people the information they need to protect their health all year.

Air quality forecasts are available on local television stations, on state and local air quality agency websites, on USA Today's weather page and on The Weather Channel. Forecasts, health information, and maps showing real-time particle levels also are available on EPA's AIRNow website at www.epa.gov/airnow.

Air Quality Index Levels of Health Concerns	Numerical Value	Meaning
Good	0-50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51-100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101-150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151-200	Everyone may begin to experience health effects: members of sensitive groups may experience more serious health effects.
Very Unhealthy	201-300	Health alert: everyone may experience more serious health effects.
Hazardous	>300	Health warning of emergency conditions. The entire population is more likely to be affected.

by 2020, Americans would experience 14,100 fewer premature deaths, 8,800 fewer cases of chronic bronchitis, and 30,000 fewer hospital and emergency room visits for cardiovascular and respiratory symptoms. The monetized health benefits from Clear Skies would total about $110 billion. Early human health benefits are expected to be significant, including $54 billion in annual benefits by 2010, and 7,900 fewer premature deaths. Visibility benefits in national parks and wilderness areas are projected to be $3 billion annually.[11]

EPA also implements strategies for improving indoor air quality, restoring the stratospheric ozone layer, and addressing global climate change. Indoor air can be more polluted than outdoor air in the largest and most industrialized cities. EPA develops and implements voluntary outreach and partnership programs that inform and educate the public about indoor air quality and actions that they can take to reduce potential health risks in homes, schools, and workplaces. In carrying out these programs, EPA places a high priority on reducing the exposure of a particularly vulnerable population—children with asthma—to indoor environmental triggers and secondhand smoke.[12]

Increased levels of ultraviolet (UV) radiation due to depletion of stratospheric ozone can lead to increased exposure to UV radiation and result in skin cancer, cataracts, and other illnesses. The United States have met all the requirements for addressing ozone depletion in the CAA and the Montreal Protocol on Substances That Deplete the Ozone Layer. Scientists believe that recovery of the ozone layer is under way, but that full recovery will not occur until the middle of this century at the earliest. EPA will continue its education and outreach efforts to encourage behavioral changes that will reduce UV-related health risks.

In February 2002, President Bush committed America to a global climate change strategy that will cut greenhouse gas intensity by 18 percent by 2012. EPA's voluntary climate programs reduce greenhouse gas intensity by working in partnership with businesses and other sectors through programs that deliver multiple benefits—from cleaner air to lower energy bills—while improving overall scientific understanding of climate change and its potential consequences. Overall, EPA's climate protection programs are on track to prevent 185 million metric tons of carbon equivalent (MMTCE) annually by FY 2012, up from 65 MMTCE in FY 2001.

FY 2003 Performance

Working with its state, local, and tribal partners, along with industry, small businesses, and other federal agencies, EPA made significant progress in FY 2003 toward achieving the annual goals for Clean Air and Global Climate Change.

Clean Air

While EPA implemented the market-based Acid Rain Program and federal regulations for stationary sources, mobile sources, and fuels, its state, tribal, and local partners carried out local programs to help achieve or maintain the NAAQS and reduce exposure to toxic air pollutants. In FY 2003, state and local efforts contributed to helping additional areas with a combined population of 6.8 million people meet the NAAQS. States also have prepared and submitted to EPA requests to formally designate another 16 areas as having met the NAAQS.

EPA's partners also identify and implement innovative ways to help achieve cleaner air faster. In FY 2003, 34 communities around the country pledged to reduce air pollution ahead of deadlines in the CAA, thereby bringing substantial and sustainable health and environmental improvements to their residents much sooner.

Also during FY 2003, EPA began certifying motor vehicles to meet the Tier 2 light-duty vehicle standards. The Tier 2 Program, a comprehensive regulatory initiative established in 2000, treats vehicles and fuels as a system, combining requirements for much lower-emitting vehicles with requirements for much lower levels of sulfur in gasoline. The implementation of the standards is expected to significantly reduce emissions from new passenger cars and light trucks, including pickup trucks, vans, mini-vans, and sport-utility vehicles (SUVs). For the first time, light-duty trucks must meet the same emission standards as cars. Once the entire automotive fleet is in full compliance with Tier 2 standards (in 2030), tailpipe levels of NO_x will be reduced by about 74 percent, and the sulfur content of gasoline will be reduced by about 90 percent from current levels. These reductions will result in cleaner air and greater public health protection, primarily by reducing tropospheric ozone and particulate matter.

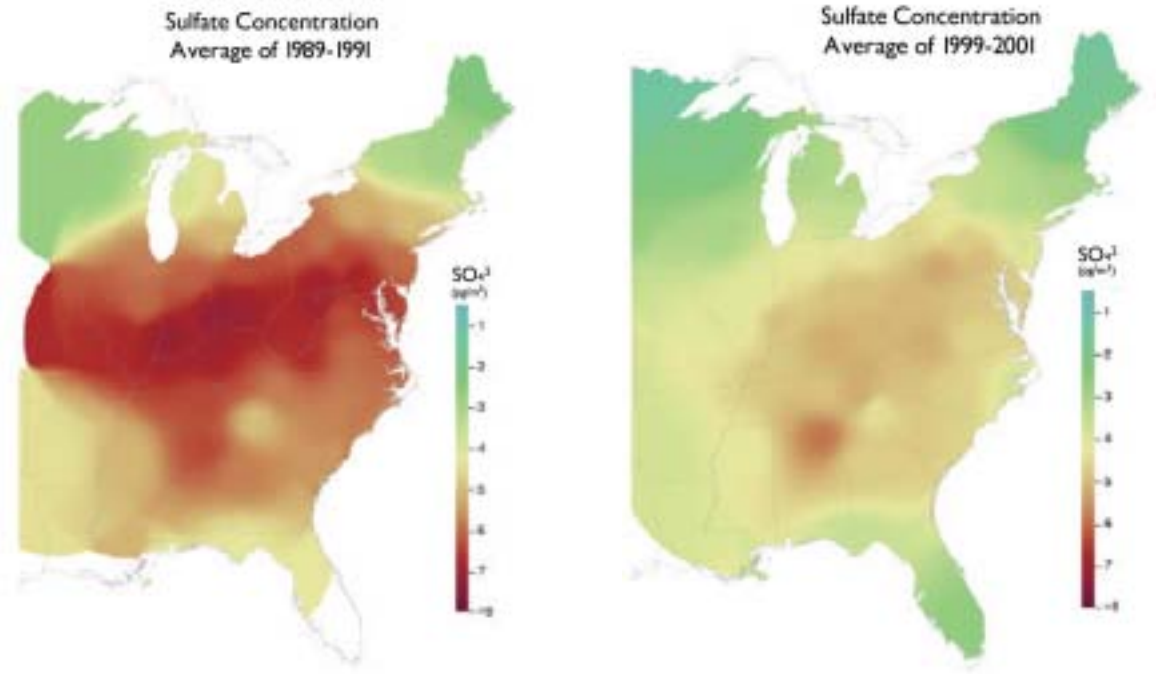
EPA proposed standards for heavy-duty, non-road diesel sources in FY 2003, including construction, mining, industrial, agricultural, and airport equipment. The resultant reduction in pollution will provide important health benefits and emission reductions similar to those of the recent on-highway, heavy-duty diesel rule. Also in FY 2003, EPA began certifying heavy-duty engines that meet the 2004 engine standards. These engines—from all manufacturers—were certified early in response to the requirements of the Heavy-duty Engine Consent Decree, and are approximately 30 to 45 percent cleaner than previous engines of the same model.

In addition, EPA completed emission standards for new marine diesel engines that will be installed in vessels flagged or registered in the United States. These standards are equivalent to the internationally negotiated emission limits for NO_x adopted by the International Maritime Organization[13] and will help to reduce the approximately 1 million tons of hydrocarbons, NO_x, and 30,000 tons of PM emitted from marine diesel engines in the United States every year.

In FY 2003, EPA's PM research program provided updated data on sources of PM emissions, the costs and performance of PM control technologies, and PM air quality models. When complete and fully analyzed, this information will help states, tribes, and others target the sources that are contributing to fine particulate ($PM_{2.5}$) concentrations, and thus, meet the NAAQS. The data will also allow regulators and the regulated community to better estimate the costs of controlling $PM_{2.5}$ emissions using alternative methods, leading to the most cost-effective PM control strategy for a given location.[14]

Results available in FY 2003 from long-term measurements and studies on acid deposition and surface water acidity provide demonstrable evidence of positive environmental outcomes attributable to emission reductions under the Acid Rain Program. A comparison of maps of average annual wet sulfate deposition for 1989-1991 and for 1999-2001 (see Figure 1-2) shows that reductions of up to 30 percent have occurred over a large area of the eastern United States. EPA's report *Response of Surface Water Chemistry to the Clean Air Act Amendments of 1990*, released in January 2003, concludes that measurable improvements in surface water chemistry (lower sulfate concentrations and decreases in acidity) have resulted from reductions in emissions and wet sulfate deposition under the Acid Rain Program. Results indicate that in three of five geographic areas studied, one-quarter to one-third of the lakes and streams previously affected by acid rain are no longer acidic, although they remain highly sensitive to future changes in deposition. In the other two areas, signs of recovery are not yet evident, suggesting that further reductions, such as

Figure 1-2: Trends in Sulfur: Average Yearly Sulfate Concentrations 1989-1991 vs. 1999-2001*



* Note: Data are presented for the eastern United States only because there are not enough CASTNet monitoring sites in the West to support this type of analysis. Map colors represent relative concentrations and do not imply ecological or human health status.

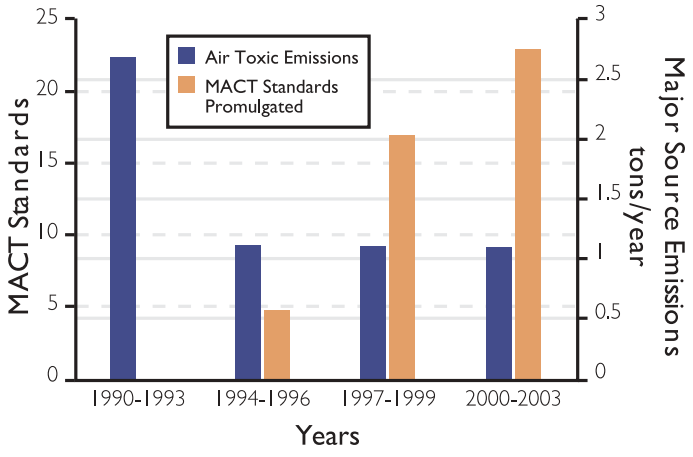
those proposed in the Clear Skies Act, are needed for ecosystem recovery.[15]

EPA has made significant progress in meeting statutory deadlines for its air toxics regulatory/residual risk program. The Agency is on target to complete all of its 10-year MACT standards by February 27, 2004[16] (refer to Sustained Progress in Addressing Management Issues available at http://www.epa.gov/ocfo/finstatement/2003ar/2003ar.htm for further discussion). When all the MACT standards are fully implemented, emissions of toxic air pollutants from large industrial facilities will decrease by 1.7 million tons per year, or 63 percent from 1993 baseline levels (see Figure 1-3). This reduction does not include the results of additional efforts by states and industry.

EPA has developed a comprehensive, integrated air toxics program that better meets long-term goals by addressing risks from all sources of toxic air pollutants—major, area, mobile, and indoor sources. The Agency continues to shift the emphasis of its air toxics program to a risk-based approach that addresses specific needs of the various categories of residual risk and their special handling in the CAA. EPA is evaluating ways to allow a facility to demonstrate whether the health risks it poses to the surrounding community are low enough to comply with the residual risk standards. The Agency also is continuing to analyze the risks presented by the remaining 2-year, 4-year, and 7-year MACT source categories.

To further reduce toxic air emissions and health risks, EPA has begun to focus increasingly on related community-specific problems, working with partners and stakeholders to identify and address the risk reductions that are most important to local citizens. *The National Air Toxics Assessment*, published by EPA in FY 2002, provides information on population exposure to guide efforts on community-based risk reduction activities.[17]

Figure 1-3: Maximum Achievable Control Technology (MACT) Issuance and Emission Reductions



EPA has been working with state and local agencies in a joint Air Toxics Monitoring Steering Committee to design a national network for monitoring toxic air emissions. The National Air Toxic Trend Site network, launched in early 2003, will help provide population exposure information for EPA and communities as they develop risk reduction strategies and programs. The Science Advisory Board has expressed clear support for the Agency's approach to the design, which includes pilot monitoring studies and analysis of existing monitoring data. EPA completed the initial data analysis and a 10-city air toxics monitoring pilot project in mid-2003,[18] and is using the data from this effort to help complete the design of a network by early calendar year 2004.

In FY 2003, EPA initiated the Clean School Bus USA Program—an outgrowth of EPA's Voluntary Diesel Retrofit Program. The program's goal is to reduce both children's exposure to diesel exhaust and the amount of air pollution created by diesel school buses. Toward this end, EPA ran a competitive nation-wide process to award $5 million to school districts around the country. The Agency announced the selected areas in early FY 2004. School districts will use the funds to retrofit buses with improved emission controls; to fuel

Responding to Hurricane Isabel

After a hurricane, failure to remove contaminated materials and to reduce moisture and humidity can present serious long-term health risks. Standing water and wet materials are a breeding ground for microorganisms, such as viruses, bacteria, and mold. They can cause disease, trigger allergic reactions, and continue to damage materials long after the flood. In the aftermath of Hurricane Isabel, EPA released a fact sheet discussing steps to lessen the effects of water damage on long-term indoor air quality in residential buildings.

EPA's fact sheet provided timely advice to the public on the following topics:

- Preparing for cleanup.
- Avoiding problems from microbial growth.
  - —Removing standing water.
  - —Drying out your home.
  - —Removing wet materials.
- Avoiding problems from the use of cleaners and disinfectants.
- Avoiding carbon monoxide poisoning.
- Avoiding problems from airborne asbestos and lead dust.

buses with cleaner fuels; and to replace the oldest buses with new, less polluting buses. Since 2000, when EPA launched the Voluntary Diesel Retrofit Program addressing older vehicles on the road, more than 130,000 vehicles and engines have been retrofitted.

In FY 2003, EPA and the Advertising Council launched an aggressive nation-wide English and Spanish language media campaign to heighten awareness of asthma as a chronic disease afflicting about 20 million people, including 6.3 million children.[19] In 2000, there were nearly 2 million emergency room visits and nearly half a million hospitalizations of children and adults due to asthma, at a cost of almost $2 billion and 14 million missed school days.[20] For the next 3 years, this public service campaign will continue to educate the public about indoor environmental triggers of asthma attacks, such as mold and secondhand smoke, and how to prevent them.

Children who are exposed to environmental tobacco smoke (ETS) are at an increased risk for a number of adverse health outcomes, including lower respiratory tract infections, bronchitis, pneumonia, fluid in the middle ear, and sudden infant death syndrome (SIDS). ETS can also play a role in the development and exacerbation of asthma, particularly for children under 6 years old. Cotinine, which is a breakdown product of nicotine in blood, can be measured as a marker for exposure of children to ETS in their homes or in places where people are allowed to smoke, such as some restaurants. In 1999-2000, median (50th percentile) levels of cotinine measured in children were 56 percent lower than they were in 1988-1991. Cotinine values at the 90th percentile, representing the most highly exposed 10 percent of children, declined by 18 percent between 1988-1991 and 1999-2000.[21] In 2003, EPA, the Consumer Federation of America, and the American Medical Association launched the third wave of the My Mom's My Hero media campaign, designed to help protect the more than 5 million children ages 6 and under exposed to secondhand smoke in the home.[22]

The latest quadrennial assessment of the state of the protective stratospheric ozone layer indicates that restraints on production of ozone-destroying chemicals, such as chlorofluorocarbons, are having the intended effect. The concentration of the prime offender, chlorine, is at or near its peak in the stratosphere. An improved scientific understanding of stratospheric ozone indicates that the worst ozone loss has already occurred, with improvements predicted for the future. Sustained efforts by the United States and other parties to carry out the Montreal Protocol will restore the stratospheric ozone layer to pre-Antarctic hole levels by the middle of the 21st century.

EPA is making steady progress to reduce UV exposure, particularly among children, through the voluntary SunWise School Program. In FY 2003, EPA directly reached 388,000 students in 7,746 schools, an increase of 61 percent since 2002. Understanding the risks of UV radiation overexposure is important; major health problems linked to such increased exposure include skin cancer, premature aging of the skin, cataracts, and suppression of the immune system.

EPA has developed a multi-year plan to upgrade the Environmental Radiation Ambient Monitoring System (ERAMS). EPA has operated ERAMS for more than 30 years. The current system covers about 24 percent of the total U.S. population. EPA plans to upgrade ERAMS to a real-time system covering 70 percent of the U.S. population. In FY 2003, EPA purchased and deployed four prototype real-time radiation monitors as the first step of its multi-year plan. The prototypes are located in New York City; Washington, DC; Las Vegas; and Montgomery, Alabama.

Global Climate Change

The core of EPA's climate protection efforts is voluntary partnership programs designed to capitalize on the opportunities that consumers, businesses, and organizations have for making sound investments in efficient equipment, better policies and practices, and sound transportation choices. A 2003 analysis of actions that EPA's partners have taken through the end of 2002[23] showed the following results:

- Prevented greenhouse gas emissions of 71 MMTCE—equivalent to eliminating emissions from more than 28 million cars.

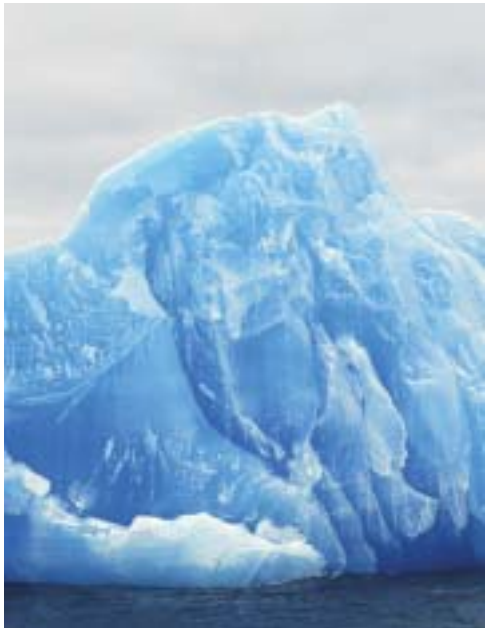
Best Workplaces for Commuters℠—A Voluntary Climate Protections Partnership Program

In FY 2003, more than 1,200 partner organizations representing 1.1 million employees nation-wide have become Best Workplaces for Commuters℠. EPA created Best Workplaces for Commuters℠ (formerly known as the Commuter Choice Leadership Initiative) to encourage and provide incentives to employers to offer their employees outstanding commuting benefits that can help ease local traffic congestion, clean the air, and reduce greenhouse gas emissions, while reducing employee stress and helping employees save on fuel costs. These benefits also help employers attract and retain the best employees, solve parking challenges and allow employers to enjoy tax and cost savings. Best Workplaces for Commuters℠ represent a broad range of business sectors and sizes, including small businesses and Fortune 1000 companies.

Since 2001, employers in the Best Workplaces for Commuters℠ Program and their employees have been reducing miles driven by more than 3 million people per day, saving more than 35 million gallons of gasoline per year, and preventing the release of more than 150,000 tons of greenhouse gas emissions per year. For more information, see http://www.bwc.gov.

- Prevented NO_x emissions of about 150,000 tons.
- Reduced energy consumption by more than 100 billion kilowatt hours, providing more than $70 billion in savings to consumers and businesses on their energy bills.
- Offset more than 15,000 megawatts of peak power—the amount of energy required to power more than 15 million homes.
- Are forecasted to prevent greenhouse gas emissions by more than 100 MMTCE through 2012.

EPA's Clean Automotive Technology (CAT) Program supports the development of technology that satisfies stringent emission requirements and that achieves up to twice the fuel efficiency of personal vehicles, such as SUVs, pickups, and urban delivery vehicles, while simultaneously meeting the more demanding size, performance, durability, and power requirements of these vehicles. For a large SUV with a baseline



fuel economy of 17 miles per gallon (mpg), the resulting potential fuel economy levels would be 25.5-28.9 mpg in 2006 and up to 34 mpg by 2010. Expanding this technology to 50 percent of new light trucks by 2020 would generate annual fuel savings of 8 billion gallons, while tailpipe carbon emissions would fall by 20 MMTCE.

Assessment of Impacts of FY 2003 Performance on FY 2004 Annual Plan

Based on the results of FY 2003 performance, some modifications will be made to the FY 2004 performance measure targets for the NAAQS. Specifically, one carbon monoxide and one SO_2 area planned for redesignation in FY 2003 will move to FY 2004. Two PM_{10} areas and one 1-hour ozone area will also move from FY 2003 to FY 2004. Based on Department of Energy (DOE) performance between 1998 and 2002, EPA is re-evaluating its goals for the Waste Isolation Pilot Plant Program and will revise the targets for 2004 and beyond based on updated projections from DOE. No other changes to FY 2004 annual performance goals are expected based on the results of FY 2003 performance.

Annual Performance Goals (APG) and Measures

Goal 1: Clean Air and Global Climate Change

Summary of Results—Goal 1

Number of Goals Met:	2
Number of Goals Not Met:	3
Number with Data Lag:	8

APG 1	Reduce Ozone and Ozone Precursors	Planned	Actual
FY 2003	Maintain healthy air quality for approximately 42 million people living in monitored areas attaining the ozone standard; certify 7 areas of the remaining 54 nonattainment areas have attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 5.1 million. Goal Not Met.	42 M 7 areas 5.1 M	47.8 M 5 areas 5.8 M
	Performance Measures		
	—Cumulative percent increase in the number of people who live in areas with ambient 1-hour ozone concentrations below the level the NAAQS as compared to 1992.	19%	data available in 2004
	—Cumulative percent increase in the number of areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.	31%	data available in 2004
	—Tons of VOCs reduced from mobile sources.	1.9 M	1.9 M
	—Tons of NO_X reduced from mobile sources.	1.4 M	1.4 M
FY 2002	Same goal, different targets. Goal Not Met.	41.7 M 10 areas 2.5 M	41.7 M 1 area 326,000
	Performance Measures		
	—Tons of VOCs reduced from mobile sources.	1.8 M	1.8 M
	—Tons of NO_X reduced from mobile sources.	1.3 M	1.3 M
FY 2001	Same goal, different targets. Goal Not Met.	35.1 M 5 areas 1.9 M	38.2 M 3 areas 3.5 M
FY 2000	Maintain healthy air quality for 33.4 million people living in 43 areas attaining the ozone standard. Goal Met.	33.4 M	33.4 M

FY 2003 Result: EPA maintained healthy air quality for 41.7 million people living in areas designated as attaining the 1-hour ozone standard and certified that five of the remaining non-attainment areas have attained the 1-hour NAAQS for ozone, thereby increasing the number of people living in areas with healthy air by 5.8 million. In FY 2004, EPA will make attainment designations for areas for the 8-hour standards. Many areas are awaiting the 8-hour designation decisions to develop clean air plans to meet attainment. These same measures will also help areas meet the 1-hour standard. In the last quarter of 2004, EPA will have information to determine how many areas are monitoring clean air under the 1-hour ozone standard. Areas may monitor for clean air but not meet the procedural requirements for formal redesignation to attainment of 1-hour. Completion of the air quality monitoring data review, in 2004, will provide more information on percentage of people who live in areas and the number of areas that meet the 1-hour ozone standard and thus allow EPA to have a more complete picture of air quality.

APG 2	Reduce CO, SO_2, NO_2, Lead	Planned	Actual
FY 2003	Maintain healthy air quality for 53 million people living in monitored areas attaining the carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead standards; increase by 1.1 million the number of people living in areas with healthy air quality that have newly attained the standard. Goal Not Met.	53.0 M 1.1 M	53.7 M .74 M
FY 2002	Same goal, different targets. Goal Met.	36.7 M 16.0 M	36.7 M 16.5 M
FY 2001	Same goal, different targets. Goal Not Met.	31.1 M 13.2 M	36.3 M 0.4 M
FY 2000	Same goal, different targets. Goal Met.	27.7 M 1.1 M	27.7 M 3.41 M

FY 2003 Result: EPA maintained healthy air quality for 53 million people living in monitored areas attaining the CO, SO_2, NO_2, and lead standards and certified that 4 of the 35 remaining non-attainment areas have attained the NAAQS. EPA increased the number of people living in areas with healthy air by 740,000 but missed the target of 1.1 million. This occurred because one area each for CO and SO_2 did not meet the requirements for attainment in FY 2003 and thus delayed the redesignation to attainment request to the last quarter of 2004. EPA is working with these areas to ensure that these requests are complete and submitted to EPA in a timely way in FY 2004.

APG 3	Reduce Particulate Matter	Planned	Actual
FY 2003	Maintain healthy air quality for 6.1 million people living in monitored areas attaining the particulate matter (PM) standards; increase by 81 thousand the number of people living in areas with healthy air quality that have newly attained the standard. Goal Met.	6.1 M 81,000	6.2 M 228,000
	Performance Measures		
	—Cumulative percent increase in the number of people who live in areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.	10%	data available in 2004
	—Cumulative percent increase in the number of areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.	45%	data available in 2004
	—Areas redesignated to attainment.	8 areas	3 areas
	—Tons of PM_{10} reduced from mobile sources.	25,000	25,000
	—Tons of NO_X reduced from mobile sources.	18,000	18,000
FY 2002	Same goal, different targets. Goal Not Met.	3.4 M 3.7 M	3.4 M 2.7 M
	Performance Measures		
	—Areas redesignated to attainment.	6 areas	4 areas
	—Tons of PM_{10} reduced from mobile sources.	23,000	23,000
	—Tons of NO_X reduced from mobile sources.	17,250	17,250

APG 3	Reduce Particulate Matter *(continued)*	Planned	Actual
FY 2001	Same goal, different targets. Goal Met.	1.276 M 60,000	1.189 M 2.249 M
FY 2000	Same goal, different targets. Goal Met.	1.2 M 60,000	1.2 M 75,800

FY 2003 Result: EPA maintained healthy air quality for 6.1 million people living in areas designated as attaining the PM10 standard and certified that 3 of the 59 remaining non-attainment areas have attained the NAAQS thereby increasing the number of people living in areas with healthy air by 228,000. In the last quarter of 2004, EPA will have information to determine how many areas are monitoring clean air under the PM standard. Areas may monitor for clean air but not meet the procedural requirements for formal redesignation to attainment. Completion of the air quality monitoring data review, in 2004, will provide more information on percentage of people who live in areas and the number of areas that meet the PM standard and thus allow EPA to have a more complete picture of air quality.

APG 4	Reduce SO_2 Emissions	Planned	Actual
FY 2003	**Maintain or increase annual SO_2 emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress toward achievement of Year 2010 SO_2 emissions cap for utilities.** Data Lag.	**5 M**	data available in 2004
FY 2002	Same goal. Goal Met.	5 M	7 M
FY 2001	Same goal. Goal Met.	5 M	6.7 M
FY 2000	Five million tons of SO_2 emissions from utility sources will be reduced from the 1980 baseline. Goal Met.	5 M	6.3 M

FY 2003 Result: End of year 2003 data will be available in the last quarter of 2004 to verify that annual emissions reduction of approximately 5 million tons from utility sources were maintained or increased during 2003.

FY 2002 Result Available in FY 2003: SO_2 emissions were reduced by 35% from the 1990 level of 15.9 million tons, and approximately 40% from the 1980 level of 17.5 million tons, approaching the 50% reduction goal from 1980 level by 2010. Unit-level SO_2 emissions data for all sources covered by the Acid Rain Program are available on EPA's website at www.epa.gov/airmarkets.

APG 5	Reduce Nitrogen Oxide (NO_x) Emissions	Planned	Actual
FY 2003	**Two million tons of NO_x from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.** Data Lag.	**2 M**	data available in 2004
FY 2002	Same goal. Goal Met.	2 M	3.5 M
FY 2001	Same goal. Goal Met.	2 M	3.4 M*

APG 5	Reduce Nitrogen Oxide (NOx) Emissions *(continued)*	Planned	Actual
FY 2000	Two million tons of NO_x emissions from coal-fired utility sources will be reduced from the levels before implementation of Title IV of the Clean Air Act Amendments. Goal Met.	2 M	2.0 M

FY 2003 Result: End of year 2003 data will be available in Summer 2004 to verify that the Agency has achieved the annual emission reduction goal.

FY 2002 Result Available in FY 2003: EPA achieved its goal of reducing annual NO_x emissions from coal-fired utility sources by 3.5 million tons from the modeled projection of NO_x emissions that would have been emitted in 2000 without implementation of Title IV of the Clean Air Act Amendments. NO_x emissions have been reduced from 1990 levels by 27% from NO_x program affected sources and by 33% for all acid rain affected sources. Reductions since 1999 are due in part to implementation of the Ozone Transport Commission NO_x Budget Trading Program and in anticipation of the NO_x SIP call.

* **NOTE:** Based on reviews of prior year estimates, EPA revised its FY 2001 emission reductions to 3.4 million tons.

APG 6	Increase Tribal Air Capacity	Planned	Actual
FY 2003	**Increase the number of tribes monitoring air quality for ozone and/or PM from 37 to 42 and increase the percentage of tribes monitoring clean air for ozone from 62% to 64% and PM from 68% to 71%. Goal Not Met.**	**42 tribes* 64 % 71%**	**39 tribes 66% 68%**

FY 2003 Result: EPA is currently working with 39 tribes on monitoring for clean air. The tribes work with state and local air managers to jointly solve local air quality problems. In FY 2003, 15 tribes monitored their air sheds for ozone, 10 of which recorded clean air. Thirty seven tribes monitored for PM, 25 of which recorded clean air. The Agency will continue to work with tribes to increase the number of tribes that monitor for air quality.

*NOTE: Based on a review of tribal information, the targeted number of tribes was revised to 41.

APG 7	Reduce Air Toxic Emissions	Planned	Actual
FY 2003	**Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 1% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 35%. Data Lag.**	**5%**	**data available in 2009**
FY 2002	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2001 (for a cumulative reduction of 40% from the 1993 level of 4.3 million tons per year.) Data Lag.	5%	data available in 2006
FY 2001	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2000 (for a cumulative reduction of 35% from the 1993 level of 4.3 million tons per year). Data Lag.	5%	data available in 2006

APG 7	Reduce Air Toxic Emissions *(continued)*	Planned	Actual
FY 2000	Air toxic emissions nationwide from both stationary and mobile sources combined will be reduced by 3% from 1999 (for a cumulative reduction of 30% from the 1993 levels of 4.3 million tons). Data Lag.	3%	data available in 2006
FY 1999	Reduce air toxic emissions by 12% in FY 1999, resulting in cumulative reduction of 25% from 1993 levels. Data Lag.	12%	data available in 2004*

FY 2003 Result: The National Toxics Inventory (NTI) is scheduled to be completed every 3 years. The Agency is currently working on the updated NTI and expects to have FY 2003 results in the last quarter of 2009 and FY 2000, 2001, and 2002 results in the last quarter of FY 2006.

* **NOTE:** The Agency is currently working on the updated NTI and expects to have the results in early calendar year 2004 which will provide data for FY 1999.

APG 8	Healthier Indoor Air in Schools	Planned	Actual
FY 2003	**1,050,000 students, faculty and staff will experience improved indoor air quality (IAQ) in their schools. Data Lag.**	**1.05 M**	**data available in 2004**
FY 2002	1,228,500 students, faculty and staff will experience improved indoor air quality in their schools. Goal Met.	1.2 M	1.2 M
FY 2001	Same goal, different targets. Goal Met.	1.9 M	1.9 M
FY 2000	Same goal, different targets. Goal Met.	2.5 M	2.6 M

FY 2003 Result: EPA gathers information on the number of schools and school systems/districts that receive Tools for Schools (TfS) kits and makes assumptions about adoption rates at each school. Based on preliminary data, the Agency expects 2000 schools with an average of approximately 525 students/staff per school will adopt an indoor air quality management plans. EPA is currently reviewing this preliminary data and expects to have final FY 2003 results in late 2004.

FY 2002 Result Available in FY 2003: Based on information gathered on the number of schools and school systems/districts that receive TfS kits, EPA met the goal of approximately an additional 1.2 million students, faculty, staff experienced improved indoor air quality.

APG 9	Healthier Residential Indoor Air	Planned	Actual
FY 2003	**834,400 additional people will be living in healthier residential indoor environments. Data Lag.**	**834,400**	**data available in 2004**
FY 2002	834,400 additional people will be living in healthier residential indoor environments. Goal Met.	834,400	834,400
FY 2001	Same goal, different targets. Goal Met.	890,000	890,000
FY 2000	Same goal. Goal Met.	890,000	1.03 M

FY 2003 Result: EPA gathers information from an annual National Association of Home Builders Survey, the number of sales of radon fans, estimates of the annual number of kids not exposed to ETS, and estimates of the number of people made aware of EPA's outreach efforts via direct outreach, grant awards, public service announcements, and partnerships efforts. EPA is currently analyzing the results of this data and expects to have final FY 2003 results in late 2004.

FY 2002 Result Available in FY 2003: Based on information gathered from homebuilders and manufacturers and outreach efforts, EPA met the goal of 834,400 additional people living in healthier residential indoor air environments.

APG 10	Reduce Greenhouse Gas Emissions	Planned	Actual
FY 2003	Greenhouse gas (GHG) emissions will be reduced from projected levels by approximately 72.2 million metric tons of carbon equivalent (MMTCE) per year through EPA partnerships with businesses, schools, state and local governments, and other organizations. Data Lag.		
	Performance Measures		
	—Annual GHG Reductions—All EPA Programs.	72.2 M	data available in 2004
	—GHG Reductions from EPA's Buildings Sector Programs (ENERGY STAR).	19.2 M	
	—GHG Reductions from EPA's Industrial Efficiency/Waste Management Programs.	6.7 M	
	—GHG Reductions from EPA's Industrial Methane Outreach Programs.	17.0 M	
	—GHG Reductions from EPA's Industrial HFC/PFC Programs.	24.9 M	
	—GHG Reductions from EPA's Transportation Programs.	2.4 M	
	—GHG Reductions from EPA's State and Local Programs.	2.0 M	
FY 2002	GHG emissions will be reduced from projected levels by approximately 65.8 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG above 1990 levels by about 20%. Goal Met.	65.8 M	71 M
FY 2001	GHG emissions will be reduced from projected levels by approximately 66 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG above 1990 levels by about 20%. Goal Met.	66 M	65 M
FY 2000	GHG emissions will be reduced from projected levels by more than 58 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG emissions above 1990 levels by about 20%. Goal Met.	58 M	59.3 M

FY 2003 Result: Final data for this performance goal will be available in mid-2004. Data collected by EPA's voluntary programs include partner reports on facility-specific improvements (e.g. space upgraded, kilowatt-hours reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns. The information collected is then converted to GHG emissions reduced.

FY 2002 Result Available in FY 2003: EPA's Climate Change programs reduced GHG emissions by 71 MMTCE in 2002 which is the equivalent of eliminating emissions from more than 28 million cars.

APG 11	Reduce Energy Consumption	Planned	Actual
FY 2003	**Reduce energy consumption from projected levels by more than 95 billion kilowatt-hours (kWh), contributing to over $6.5 billion (B) in energy savings to consumers and businesses. Data Lag.**	**95 B**	**data available in 2004**
FY 2002	Reduce energy consumption from projected levels by more than 85 billion kilowatt-hours, contributing to over $10 billion in energy savings to consumers and businesses. Goal Met.	85 B	100 B
FY 2001	Same goal, different targets. Goal Met.	75 B	84 B
FY 2000	Same goal, different targets. Goal Met.	60 B	74 B

FY 2003 Result: Final data for this performance goal will be available in mid-2004. Data collected by EPA's voluntary programs include partner reports on facility specific improvements (e.g. space upgraded, kWh reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns. The information collected is then converted to energy and related cost savings.

FY 2002 Result Available in FY 2003: Through the end of 2002, EPA's Climate Change Programs reduced energy use by 100 billion kWh hours. EPA estimates that from investments made due to EPA's technology deployment programs, businesses and consumers across the country will realize energy bill savings of more than $70 billion through 2012 (net of investment in energy-efficient technologies).

APG 12	Restrict Domestic Consumption of Class II HCFCs	Planned	Actual
FY 2003	**Restrict domestic consumption of class II hydrochlorofluorocarbons (HCFCs) below 9,906 ozone depletion potential-weighted metric tons (ODP MTs) and restrict domestic exempted production and import of newly produced class I chlorofluorocarbons (CFCs) and halons below 10,000 ODP MTs. Data Lag.**	**<9,906 <10,000**	**data available in 2004**
FY 2002	Restrict domestic consumption of class II HCFCs below 15,240 ozone depletion potential-weighted metric tons and restrict domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs. Data Lag.	<15,240 <60,000	data available in 2004*
FY 2001	Same goal. Goal Met.	<15,240 <60,000	12,807 3,062
FY 2000	Same goal. Goal Met.	<15,240 <60,000	13,180 462

FY 2003 Result: Data for this performance goal will be available in the last quarter of 2004 to verify restriction of domestic consumption of HCFCs. Progress on restricting domestic exempted consumption of Class I CFCs and halons is tracked by monitoring industry reports of compliance with EPA's CAA phase out regulations and U.S. obligations under the Montreal Protocol. Data are provided by U.S. companies producing, importing, and exporting Ozone Depleting Substances.

* **NOTE:** FY 2002 data will be available in the last quarter of 2004 to verify restriction of domestic consumption of HCFCs.

APG 13	Ensure WIPP Safety	Planned	Actual
FY 2003	Certify that 12,000 55-gallon drums of radioactive waste (containing approximately 36,000 curies) shipped by the Department of Energy (DOE) to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards. Goal Met.	12,000	36,041
FY 2002	Same goal, different targets. Goal Met.	6,000	22,800

FY 2003 Result: EPA substantially exceeded the goal of ensuring the safe characterization and disposal of drums of transuranic waste because the DOE increased their shipment rate to reduce the risk associated with temporarily storing transuranic radioactive waste above ground. Based on DOE performance between 1998 (beginning) and 2002, EPA is re-evaluating its goals for the WIPP program and will revise the targets for 2004 and beyond based on updated projections from DOE.

FY 2002 Annual Performance Goals

(No Longer Reported for FY 2003)

- Provide data on the health effects and exposure to particulate matter (PM) and provide methods for assessing the exposure and toxicity of PM in healthy and potentially susceptible subpopulations to strengthen the scientific basis for reassessment of the NAAQS for PM.
- Provide assistance to at least 60 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol.
- Produce a report on trends in acid deposition and the acidity of lakes and streams to assess progress toward reducing the impacts of acid rain.

Notes

1. US EPA, *Latest Findings on National Air Quality: 2002 Status and Trends Report*, 454/K-03-001 (August 2003), available at http://www.epa.gov/airtrends/.
2. Ibid.
3. US EPA, *Tier 2 / Gasoline Sulfur Final Rulemaking*, EPA-420-R-99-023 (February 10, 2000). US EPA, Regulatory Impact Analysis, "Chapter VII: Benefit-Cost Analysis," EPA 420-R-99-023 (December 22, 1999), available at http://www.epa.gov/otaq/regs/ld-hwy/tier-2/frm/ria/chvii.pdf. See also US EPA, *Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements* (December 21, 2000) and US EPA, *Regulatory Impact Analysis*, "Chapter VII: Benefit-Cost Analysis," EPA-420-R-00-026 (December 2000), available at http://www.epa.gov/otaq/regs/hd2007/frm/ria-vii.pdf. Based on current rates of fleet turnover, all vehicles will meet the new standards by about 2030.
4. US EPA, *Latest Findings on National Air Quality: 2002 Status and Trends Report*, 454/K-03-001 (August 2003), available at http://www.epa.gov/airtrends/.
5. Ibid.
6. US EPA, Office of Air and Radiation, Office of Policy, Planning and Evaluation, *The Benefits and Costs of the Clean Air Act: 1970 to 1990 EPA Report Congress*, EPA-410-R-97-002 (October 1997). See also US EPA, Office of Air and Radiation, Office of Policy, *The Benefits and Costs of the Clean Air Act: 1990 to 2010; EPA Report to Congress*, EPA-410-R-99-001 (November 1999).
7. Office of Management and Budget, *Final 2003 Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local and Tribal Entities* (September 2003).
8. Ibid. Also, ozone is a naturally occurring gas that is found in two layers in the atmosphere. In the layer surrounding the Earth's surface, the troposphere ground-level or bad ozone is an air pollutant that is the key ingredient to urban smog. The troposphere extends up to the stratosphere, which is where good ozone protects life on Earth by absorbing some of the sun's UV rays. Stratospheric ozone is most concentrated between 6 and 30 miles above the Earth's surface.
9. The White House Office of the Press Secretary, "President Announces Clear Skies & Global Climate Change Initiatives" (February 14, 2002), available at http://www.whitehouse.gov/news/releases/2002/02/20020214-5.html.
10. Senate and House of Representatives, Clear Skies Legislation Act of 2002, S. 2815 (July 29, 2002) and H.R. 5266 (July 26, 2002), available at http://www.epa.gov/clearskies/bill.pdf.
11. US EPA, Human Health and Environmental Benefits Achieved by the Clear Skies Initiative (July 1, 2003), available at http://www.epa.gov/clearskies/03technical_package_sectionb.pdf, p.B3. US EPA, *Technical Addendum: Methodologies for the Benefit Analysis of the Clear Skies Initiative* (July 2003), available at http://www.epa.gov/air/clearskies/tech_addendum.pdf. Additional information about Clear Skies, including legislative language and region-specific information about air quality and health benefits is available at http://www.epa.gov/air/clearskies.
12. Institute of Medicine, *Clearing the Air: Asthma and Indoor Air Exposures* (Washington, DC: The National Academy Press, 2000). Available at http://books.nap.edu/books/0309064961/html/R1.html.
13. US EPA, *Emission Standards Adopted for New Marine Diesel Engines*, 420-F-03-001, January 2003. Available at http://www.epa.gov/otaq/regs/nonroad/marine/ci/f03001.pdf.
14. Fine Particulate Matter Control: A review of the Cost and Performance of Conventional and Emerging Technology", EPA# 600R-03/098. Plane Integrated Open-Path Fourier Transform Infrared Spectrometry Long Term Hog Farm Lagoon Cover Performance", submitted to Applied Engineering in Agriculture in the 4th quarter (not yet in print). Source Sampling Fine Particulate Matter: A Kraft Process Recovery Boiler at a Pulp and Paper Facility, EPA #600R-03/099; Source Sampling Fine Particulate Matter: A Kraft Process Hogged Fuel Boiler at a Pulp and Paper Facility, EPA#600R-03/100; Source Sampling Fine Particulate Matter: Smelt Dissolving Tank Vent at a Pulp and Paper Facility, EPA #600R-03/101.
15. More information available at http://www.epa.gov/ord/htm/CAAA-2002-report-2col-rev-4.pdf.
16. US EPA, *National Emission Standards for Hazardous Air Pollutants* available at http://www.epa.gov/ttn/oarpg/t3pfpr.html.

17. US EPA, *National Air Toxics Assessment* (May 31, 2000), http://www.epa.gov/ttn/atw/nata. Scientific Peer Review of the National-Scale Assessment available at http://www.epa.gov/ttn/atw/nata/peer.html.

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