

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Strategic Goal: The United States will lead other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion and other hazards of international concern.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduction of Global and Cross-border Environmental Risks	\$216,575.3	\$269,727.2	\$263,847.5	(\$5,879.7)
Reduce Transboundary Threats to Human and Ecosystem Health in North America.	\$33,693.5	\$98,185.9	\$89,394.6	(\$8,791.3)
Reduce Greenhouse Gas Emissions.	\$146,393.0	\$136,953.4	\$138,105.8	\$1,152.4
Reduce Stratospheric Ozone Depletion.	\$14,749.8	\$15,813.3	\$17,540.3	\$1,727.0
Protect Public Health and Ecosystems from PBTs and other Toxics.	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.	\$16,347.9	\$12,601.0	\$12,126.1	(\$474.9)
Total Workyears	530.4	504.7	502.3	-2.4

Background and Context

Many serious environmental risks transcend political boundaries. Consequently, protecting human health and the environment in the United States requires coordination and cooperation at a multinational level. Ecosystems, such as the Great Lakes, are essential to the health and welfare of U.S. citizens; they are shared by neighboring countries and can be preserved only through joint action. Other environmental risks- related to climate change, arctic environments, and biodiversity- are global in scope and can affect the health and welfare of all those who live in the United States both directly and indirectly. These and other threats, unbounded by national borders, need to be addressed on an international scale.

International environmental management programs provide important political and economic benefits. A significant portion of EPA's international work fulfills legally binding treaties, conventions and other international statutory mandates. Sharing regulatory and technological expertise helps the United States, other industrialized nations, and developing nations achieve development consistent with the goals of protecting human health and the environment. As developing nations progress economically, their use of sound environmental practices will prevent the need for costly cleanup and restoration in the future. In addition, the development of effective environmental management practices worldwide, both binding and non-binding, ensures that developing nations that otherwise may opt for growth at the expense of the environment do not competitively disadvantage U.S. companies.

Means and Strategy

To reduce environmental and human health risks along the U.S./Mexico Border and the Great Lakes, EPA employs both voluntary and regulatory measures. Efforts in the U.S./Mexico Border Area utilize a series of workgroups that focus on priority issues ranging from water infrastructure and hazardous waste to outreach efforts focusing on communities and businesses in the border area. The programs were initially conceived in a Federal-to-Federal context. Today, it is clear that in both countries, non-Federal governments are the appropriate entities for developing and carrying out much of the work of protecting the border environment. The experience of the last six years has shown U.S. Border States as key participants in workgroup activities with similar experience on the Mexico side. In the past year all border states have stressed the need for greater decentralization of environmental authority, and in FY 1999, states and the Federal governments agreed to a set of principles that clarify the roles of the governments and advance state and Tribal participation. Under the new Border 2012 Plan, which was developed with SEMARNAP (EPA's Mexican counterpart), the states and tribes will play a more substantial and meaningful role in:

- Determining how Federal border programs are developed and funded;
- Focusing on developing regional workgroups that empower border citizens; and
- Ensuring that programs devolve from Mexico's Federal government to the Mexican states, with corresponding funding.

Great Lakes Strategy 2002, developed by EPA's Great Lakes National Program Office (GLNPO) and Federal, state, and Tribal agencies in consultation with the public, advances U.S. Great Lakes Water Quality Agreement implementation. Its long-range vision for a healthy natural environment where all beaches are open for swimming, all fish are safe to eat, and the Lakes are protected as a safe source of drinking water is supported by Lakewide Management Plans (LaMPs) and Remedial Action Plans (RAPs) for Areas of Concern (AOCs). Progress is measured through the Integrated Atmospheric Deposition Network and GLNPO's open water, fish, and sediments monitoring.

EPA will meet its climate change objectives by working with both business and other sectors to deliver multiple benefits - from cleaner air to lower energy bills - while continuing to improve overall scientific understanding of climate change and its potential consequences. The

core of EPA's climate change efforts are voluntary government/industry partnership programs designed to capitalize on the tremendous opportunities available to consumers, businesses, and organizations to make sound investments in efficient equipment and practices. These voluntary programs remove barriers to existing and emerging technologies in the marketplace, resulting in faster deployment of energy efficient technology into the residential, commercial, transportation, and industrial sectors of the economy. Through its Clean Automotive Technology program, EPA develops unique new technologies with high potential for improving air quality and reducing energy consumption. The Agency is working in partnership with industry to make some of these technologies commercially available before the end of the decade. In addition, EPA works with other key stakeholders in promoting the development of fuel cell technology for transportation.

To restore and protect the earth's stratospheric ozone layer, EPA works both domestically and internationally to limit the production and use of ozone-depleting substances and to develop safe alternative compounds. EPA also provides education about the risk of environmental and health consequences of overexposure to ultraviolet (UV) radiation.

To address the potential risks associated with persistent and bioaccumulative substances and other toxics, the Agency employs two fundamental approaches. The first approach seeks to minimize the potential harmful impacts of circulating toxic substances through the negotiation and implementation of specific treaties. The second approach focuses on the cooperative efforts of the Organization for Economic Cooperation and Development (OECD) and other international organizations working to develop harmonized methods for testing and assessing the toxicity of chemicals, and for measuring the effects of chemicals to humans and the environment.

In addition to the specific strategies noted above, the Agency employs a variety of means to achieve the environmental objectives outlined in this goal. These include:

- Implementing formal bilateral and multilateral environmental agreements with key countries, executing environmental components of key foreign policy initiatives, and, in partnership with the Department of State, engaging in regional and global negotiations aimed at reducing risks via formal and informal agreements.
- Working with other countries to ensure that domestic and international environmental laws, policies, and priorities are recognized and implemented.
- Partnering with other Federal agencies, states, business, and environmental groups to promote environmentally sustainable technologies and services worldwide.

Research

EPA's Global Change Research Program provides the knowledge to allow policy makers to find the most appropriate, science-based solutions to reduce the potential risks to human health and ecosystems posed by climate change. EPA coordinates closely with the interagency Climate Change Science Program (CCSP) and the National Oceanic and Atmospheric Administration's (NOAA) Regional Integrated Science and Assessment Program.

Several mechanisms are in place to ensure a high-quality Global Change Research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. EPA's scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Strategic Objectives

- Reduce Transboundary Threats to Human and Ecosystem Health in North America
- Reduce Greenhouse Gas Emissions
- Reduce Stratospheric Ozone Depletion
- Protect Public Health and Ecosystems from PBTs and other Toxics
- Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies

Highlights

In FY 2004, EPA will use a variety of approaches to build international cooperation and technical capacity and to prevent harm to the global environment and ecosystems we share with other nations.

The Agency will host representatives of foreign governments, industry, and Non-governmental Organizations (NGOs) at the Agency's Headquarters, Regions, and labs. The Agency will also share technical publications and CD-ROMs with developing countries and provide access to additional information through technical training courses, the EPA website, the Spanish Language Resources site, and other services.

EPA will work directly with other countries and through multilateral organizations to share innovative practices for environmental management and to share environmental information. These programs help build environmental management capacity of developing countries while also providing reciprocal benefits to U.S. citizens. These benefits may include: the introduction of new techniques for managing urban environments, reduced environmental damage to the global commons, reduced costs and effort through data sharing, an increased demand for U.S. environmental technologies and services, and the implementation of more transparent enforcement and permitting regimes.

U.S./Mexico Border

In FY 2004, EPA, in partnership with the Mexican Government, state and local governments, and community organizations, will implement the Border 2012: US-Mexican Environment Program that will focus resources in areas that can most directly lead to improvements in public health and environmental conditions in this area. The Border 2012 Program will transfer to the states and local communities substantial responsibility to set priorities and manage program implementation based on explicit environment and public health goals and objectives with measurable outcomes.

Specifically, the Border 2012 Program will focus on the following: 1) reducing the effects of the environment on human health; 2) improving air quality; 3) funding wastewater and drinking water infrastructure investments in under-served communities; 4) managing chemical accidents; 5) supporting pollution prevention programs that will, over the long term, reduce the adverse health and environmental effects of pollutants; 6) reducing and effectively managing hazardous and solid waste; 7) strengthening bi-national cooperation between institutions responsible for enforcing their respective country's environmental laws; and 8) strengthening coordination on pesticide activities linking the work on regulatory harmonization with field implementation projects to protect field workers and assure safe food supplies.

Great Lakes

EPA, through the GLNPO, will coordinate among state, Tribal, and Federal agencies to implement the Great Lakes Strategy and measure progress against quantitative environmental objectives in areas such as clean-up of AOCs, reduction of fish contaminants, beach closures, sediment remediation, wetland restoration, and invasive species. In FY 2004, if long-term trends continue, EPA will report a 5 percent decline in toxics (polychlorinated biphenyls or PCBs) in lake trout and a 7 percent reduction in air toxic concentrations. EPA will also lead development of management recommendations to address Lake Erie dissolved-oxygen levels, which are inexplicably low despite U.S. and Canadian success in achieving phosphorus targets.

In FY 2004, EPA is proposing to increase funding for sediment clean-up activities in the Great Lakes by \$15 million. Some of these funds will be needed for assessment and analysis, which will result in subsequent cleanups. This first year of funding will also enable EPA to begin cleanup on two to three new sites and will lead to the remediation of over 100,000 cubic yards of contaminated sediments.

Longer-term objectives in the Great Lakes Strategy include:

- By 2005, clean up and de-list 3 Areas of Concern, with a cumulative total of 10 by 2010 out of 43 that have been identified.
- By 2007, reduce concentrations of PCBs in lake trout and walleye by 25 percent.
- By 2010, 90 percent of monitored Great Lakes beaches will meet bacteria standards more than 95 percent of the swimming season.

- By 2010, substantially reduce further introductions of invasive species.
- By 2010, restore, enhance, or rehabilitate 100,000 acres of wetlands in the Basin.
- Accelerate the pace of sediment remediation, leading to the clean up of all known sites by 2025.

Climate Change

The President's climate change program builds on the accomplishments of EPA's voluntary climate programs. EPA's voluntary climate change programs have made significant progress to date. However, the opportunities remain to achieve further pollution reductions and energy bill savings from energy efficiency programs and greater use of cost-effective renewable energy. In the U.S., energy consumption causes more than 85 percent of the major air emissions such as NO_x, SO₂, and CO₂. At the same time, American families and businesses spend over \$600 billion each year on energy bills- more than we spend on education.

In FY 2004, EPA will continue to build upon its voluntary government/industry partnership efforts to achieve even greater greenhouse gas (GHG) reductions by taking advantage of additional opportunities to simultaneously reduce pollution and energy bills. EPA's climate programs help break down market barriers and foster energy efficiency programs, products and technologies, cost effective renewable energy, and greater transportation choices. A key example is within the Buildings Sector, which represents one of the largest areas of potential emission reduction, and at the same time is one of its most successful. EPA will continue to build upon the successful ENERGY STAR partnerships (including ENERGY STAR Labeling and the ENERGY STAR Buildings Program) and work toward the goal of offsetting about 24 percent of the growth in GHG emissions above 1990 levels expected by 2010 in this sector.

In FY 2004, in the voluntary transportation sector, EPA will further build the Green Transport Partnership which works with the trucking and railroad industries to achieve cleaner and more efficient vehicles and locomotives by adopting pollution control and energy saving technologies. This partnership program is a voluntary effort aimed at reducing CO₂, NO_x, and PM emissions, and conserving diesel fuel.

In FY 2004, EPA will continue its successful development of new transportation technologies that promise even more dramatic energy-savings. By applying EPA's patented hydraulic hybrid drivetrain components to a midsize-car research chassis, the Agency's Clean Automotive Technology (CAT) program already has attained a fuel economy efficiency of more than 80 miles per gallon (gasoline equivalent). During FY 2002, the CAT program achieved double-digit efficiency improvements from hydraulic hybrid related technologies on a full-size domestic pickup truck. The urgent focus continues to be on developing cost effective, innovative, clean engine and drivetrain technology for personal vehicle and commercial trucks and on demonstrating the application of these ultra-efficient hydraulic powertrains to personal vehicles such as Sport Utility Vehicles (SUVs), pickups, and urban delivery vehicles. By combining these hydraulic hybrid drivetrain innovations with developments in engine technology, EPA anticipates demonstrating 50-70 percent improvement in the fuel efficiency of a large SUV or urban delivery truck by 2006, and up to 100 percent improvement by 2010. With

a predicted market penetration into as much as 50 percent of new light trucks (including SUVs) by 2020, annual fuel savings would reach at least 8 billion gallons. In 2020, emissions from this sector alone would fall by 25 MMTCE.

EPA will continue to work closely with state and local partners to assess the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. EPA will also establish international partnerships that will link industrial efficiency, transportation improvements, reduction of greenhouse gases, and sustainable development.

Stratospheric Ozone

To protect the earth's stratospheric ozone layer in accordance with the United States' commitment to the Montreal Protocol, EPA will continue to regulate ozone-depleting compounds, foster the development and use of alternative chemicals in the U.S. and abroad, inform the public about the dangers of overexposure to UV radiation, and use pollution prevention strategies to require the recycling of ozone-depleting substances (ODS) and hydroflourocarbons.

Toxics and Pollutants

Reduced risks from toxics, especially persistent organic pollutants (POPs) and selected metals that circulate in the environment at global and regional scales, will be achieved by working with other countries, within the frameworks established by international instruments, to control the production or phase-out from the use of targeted chemicals. EPA is also working to reach agreement on import and export requirements applicable to certain chemicals, an expansion of pollutant release and transfer registers and the harmonization of chemical testing, assessment and labeling procedures. The goal of international harmonization of test guidelines is to reduce the burden on chemical companies of repeated testing in satisfying the regulatory requirements of different jurisdictions both within the United States and internationally. Harmonization also expands the universe of toxic chemicals for which needed testing information is available, and fosters efficiency in international information exchange and mutual international acceptance of chemical test data. EPA will continue to cooperate closely with other Federal agencies and with other industrialized nations within the program framework of the OECD in harmonizing testing guidelines.

The U.S. is working with other OECD member countries to implement the International Screening Information Data Set (SIDS) program, a voluntary international cooperative testing program begun in 1990. The program focuses on developing base-level test information (including data on basic chemistry, environmental fate, environmental effects and health effects) for international high production volume (HPV) chemicals, which are chemicals that are manufactured at one million tons, or 2.2 million pounds, annually. SIDS data for HPV chemicals will be made available to the public. SIDS data will also be used to screen chemicals and to set priorities for further testing and/or assessment. The Agency will review testing needs for 75 SIDS chemicals in FY 2003.

POPs Implementation

In FY 2004, EPA will target resources to: 1) provide technical and financial assistance to key countries/regions, with an emphasis on those whose releases most directly affect the U.S. (e.g., Russia, Central America, and the Caribbean); 2) address key priorities/areas of need for each country as well as gaps in technical and financial assistance; 3) maximize use of existing bilateral and regional partnerships, such as the North American Center for Emergency Communications (NACEC) and the Arctic Council, to achieve efficiencies and leverage funding; and 4) support international cooperative efforts, such as monitoring and assessment, to identify trends and establish priorities. To manage these activities, EPA has developed an international POPs Implementation Plan and will continue working with UNEP in an Internet Access Project to train officials of developing countries on accessing information necessary for sound management of chemicals.

Research

EPA's Global Change Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities - Climate Change Science and Technology. All activities to assess potential impacts of global climate change will be developed and coordinated with the Climate Change Science Program. Attention is expected to be given to assessing the potential consequences of global change – including climate variability and change, land use changes, and UV radiation – on air quality, water quality, ecosystem health, and human health. The Agency will also assess potential adaptation strategies for building resilience to global change, while responding to both risks and opportunities.

External Factors

EPA's work to reduce global and cross-border environmental risks requires the cooperation of numerous governments and agencies around the world as well as non-governmental organizations and private sector parties. Accordingly, the level of success and the speed at which our objectives are achieved is highly influenced by external factors and events.

While many factors outside of EPA or U.S. control determine a Nation's willingness to participate in international environmental protection efforts (e.g., economic or political considerations within the country), EPA's international policy and technical exchange programs can play an important role in convincing particular nations of both the need and feasibility of participating. Other factors affecting EPA's programs include continued Congressional and public support; cooperation with other Federal agencies, such as the State Department and the U.S. Agency for International Development; and collaboration with state and local groups, business and industry groups, and environmental organizations.

Reduction of air, water, wastewater and solid waste problems along the U.S. border with Mexico will require continued commitment by national, regional and local environmental officials in that country.

Progress on Great Lakes goals and measures is dependent on actions of others, both within and outside of the Great Lakes. Key Great Lakes partners, including Canada, state

regulatory agencies, the Corps of Engineers, the National Oceanic and Atmospheric Administration (NOAA), the Fish and Wildlife Service (USFWS), and the Natural Resources Conservation Service (NRCS) must act together to continue environmental progress.

The U.S. Global Change Research Program (USGCRP) was established in 1990 by the U.S. Global Change Research Act. The 1990 Act mandates that the USGCRP conduct periodic assessments of the consequences of global change for the U.S. EPA is one of ten member agencies of the USGCRP. The EPA program relies on partnerships with academic institutions to fulfill its obligations to the USGCRP National Assessment effort.

EPA's efforts to reduce global and regional threats to oceans and the atmosphere require the active cooperation of other countries. Health and environmental benefits resulting from the multi-billion dollar investment by U.S. companies to reduce emissions of stratospheric ozone-depleting compounds could be completely undone by unabated emissions of these chemicals in other countries. Fortunately, the Montreal Protocol on Substances that Deplete the Ozone Layer has secured the participation of most countries, including major producers and consumers of these chemicals. Recovery of the stratospheric ozone layer is contingent upon international adherence to the commitments made under the Montreal Protocol. UV risk-reduction efforts are impacted by the rate of recovery of the ozone layer and socio-behavioral norms and attitudes regarding sun protection.

The success of international agreements on toxic substances is contingent on the developed world providing adequate levels of funding and timely technical assistance to developing countries, especially key source countries. Such funding and technical assistance is necessary in order for these countries to develop the necessary skill levels and infrastructure for implementing these environmental agreements. The ultimate success of these international efforts is contingent on not only the provision of policy and technical leadership by EPA and other Federal government entities, but also the ability to lead through the provision and leveraging of financial and technical assistance.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Transboundary Threats to Human and Ecosystem Health in North America.

By 2005, reduce transboundary threats to human health and shared ecosystems in North America, including marine and Arctic environments, consistent with our bilateral and multilateral treaty obligations in these areas, as well as our trust responsibility to tribes.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Transboundary Threats to Human and Ecosystem Health in North America.	\$33,693.5	\$98,185.9	\$89,394.6	(\$8,791.3)
Environmental Program & Management	\$23,988.9	\$23,185.9	\$39,394.6	\$16,208.7
State and Tribal Assistance Grants	\$9,704.6	\$75,000.0	\$50,000.0	(\$25,000.0)
Total Workyears	81.3	80.8	85.8	5.0

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$1,082.2	\$1,127.7	\$1,188.6	\$60.9
Great Lakes Legacy Act	\$0.0	\$0.0	\$15,000.0	\$15,000.0
Great Lakes National Program Office	\$14,929.7	\$15,128.2	\$15,392.0	\$263.8
Legal Services	\$443.1	\$476.2	\$496.9	\$20.7
Management Services and Stewardship	\$333.4	\$373.7	\$32.7	(\$341.0)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regional Management	\$0.0	\$0.0	\$88.7	\$88.7
Regional and Global Environmental Policy Development	\$931.5	\$715.5	\$711.3	(\$4.2)
U.S. - Mexico Border	\$4,149.5	\$5,364.6	\$6,484.4	\$1,119.8
Water Infrastructure:Mexico Border	\$75,000.0	\$75,000.0	\$50,000.0	(\$25,000.0)

FY 2004 Request

EPA's activities under this objective address transboundary environmental threats along the U.S. border areas, in shared North American ecosystems, as well as in the Great Lakes. Activities focus on the U.S.-Mexico Border, the U.S.-Canada Border, the Great Lakes Program, and marine and Arctic environments.

U.S./Mexico Border

Communities along the 2,000 mile U.S.-Mexico border are experiencing rapid economic and population growth, as well as environmental problems, much of it driven by increased trade between the countries. The Border population, which has doubled in the last 15 years, is now at 12.6 million and is expected to double again in the next 20 years. The development of new environmental infrastructure has not kept pace with this growth and as a result the area is experiencing water scarcity, serious gastrointestinal and respiratory illness, and hazardous and non-hazardous waste disposal problems.

Based on the results of the "U.S.-Mexico Border XXI Program: Progress Report 1996-2000" and public comments, EPA developed the Border 2012: US-Mexican Environment Program, that will focus limited resources in areas which can most directly lead to improvements in public health and environmental conditions in this area. The Border 2012 Program will transfer to the states and local communities substantial responsibility to set priorities and manage program implementation based on explicit environment and public health goals and objectives with measurable outcomes.

The Border 2012 Program will focus on the following: 1) reducing the effects of the environment on human health; 2) improving air quality through monitoring and control strategies; 3) funding wastewater and drinking water infrastructure investments in under-served communities; 4) managing chemical accidents through completing joint chemical accident contingency plans; 5) supporting pollution prevention programs that will, over the long term, reduce the adverse health and environmental effects of pollutants; 6) reducing and effectively managing hazardous and solid wastes through using tracking mechanisms; 7) strengthening

binational cooperation between institutions responsible for enforcing their respective country's environmental laws; and 8) strengthening coordination of pesticide activities linking the work on regulatory harmonization with field implementation projects to protect field workers and assure safe food supplies.

A significant number of residents along the U.S.-Mexico border area are without basic services such as potable water and wastewater treatment and the problem has become progressively worse in the last few decades. In January 2001, EPA estimated water and wastewater infrastructure needs along the U.S.-Mexico border at \$4.5 billion. For FY 2004, the Agency has established a goal that cumulatively 990,000 people will be protected from health risks because of the construction of adequate water and wastewater sanitation systems. To respond to serious health threats due to environmental infrastructure deficits, EPA will work with two key partners, the Border Environment Cooperation Commission (BECC) and the North American Development Bank, which manages the Border Environmental Infrastructure Fund (BEIF), to support the financing and construction of water and wastewater treatment. The United States Government committed to funding \$700 million towards the Mexico Border project. Between FY 1994 and FY 2002, \$682.6 million has been appropriated. However, in recognition of the area's continuing environmental and public health needs, in FY 2004, EPA is proposing \$50 million for infrastructure funding for the U.S.-Mexico border.

Great Lakes

The Great Lakes National Program Office (GLNPO) will coordinate implementation of a community-based approach in the Great Lakes by its Federal, state, Tribal, and local partners. GLNPO will lead partners in meeting objectives in the 2002 Great Lakes Strategy.

EPA will assess and report on the state of key Great Lakes ecosystem components, make status and trend information available to Great Lakes environmental managers, and coordinate measurement of a limited number of environmental indicators applicable to the entire Great Lakes Basin including trends in toxics in air and fish; beach closings; trophic status; phosphorus; and contaminated sediment remediation. Great Lakes fish toxic concentrations (PCBs in Lake trout) are expected to be 5 percent lower than the previous year, but will still be far above levels at which fish advisories can be removed. Great Lakes toxics have been associated with disturbed reproductive function, developmental disorders, impairments in memory and learning, and increased cancer risk. GLNPO will also monitor chemicals of emerging concern that are increasing in Great Lakes sediment and biota, such as brominated flame retardants and perfluorooctane sulfate.

GLNPO will monitor Great Lakes indicators with the research vessel Lake Guardian (open lake monitoring), the research vessel Mudpuppy (nearshore sediments monitoring), and the joint GLNPO/Environment Canada Integrated Atmospheric Deposition Network (including air monitoring stations on each Great Lake) consistent with the 2002 Great Lakes Strategy and the biennial State of the Lakes Ecosystem Conference (SOLEC - a biennial conference bringing together representatives of the public and private sectors to facilitate decision making based upon sound environmental information). Management adjustments based on monitoring results can facilitate cost-effective pollutant reductions by the Agency and its State and other partners and will provide trend and baseline data to support and target remedial efforts and measure

environmental progress under Remedial Action Plans (RAPs) and Lakewide Management Plans (LaMPs). GLNPO will lead development of management recommendations to address the inexplicably low dissolved-oxygen levels in Lake Erie, which have resulted in an increasing “dead zone,” despite U.S. and Canadian success in achieving total phosphorus targets. EPA will also expand access to Great Lakes environmental information via the Internet.

EPA will work with Environment Canada and lead domestic partners in implementing the Great Lakes Binational Toxics Strategy. The Strategy, a groundbreaking international toxics reduction effort, targets a common set of persistent, toxic substances for reduction and virtual elimination. It focuses on pollution prevention, using voluntary and regulatory tools to achieve reductions, and contains reduction challenges for a targeted set of substances, e.g., mercury, PCBs, dioxins/furans, and certain canceled pesticides. Through grants and technical support to ten or more stakeholders (such as the Great Lakes States, Tribes, environmental groups, and industrial or municipal sectors), EPA will stay on target for meeting goals for 2006 established in the Great Lakes Strategy and the Binational Toxics Strategy: PCBs (90 percent use reduction), Mercury (50 percent use and release reduction), and dioxins and furans (75 percent release reduction). Implementation of the Binational Toxics Strategy outside of the Great Lakes Basin will be augmented through cross-Agency support and activities relating to EPA’s Persistent Bioaccumulative Toxics (PBT) Initiative. Toxics highlighted in the Strategy were chosen as the initial set of toxics targeted under the PBT Initiative.

EPA, with its Great Lakes partners, will accelerate the pace at which contaminated sediments are addressed. Contaminated sediments pollute the rivers and harbors of the Great Lakes, including the 31 U.S. and/or bi-national Areas of Concern (AOCs) and are currently addressed through various programs. Since 1989, GLNPO has assisted sediment remediation with technical expertise, financial support, and the use of its sediment-sampling vessel, the R/V Mudpuppy, to support sediment assessments at three to four contaminated sites annually. If a community chooses to remediate the sediments, GLNPO has also provided limited financial support to demonstrate sediment site cleanup. Over the past five years, GLNPO and partners have remediated 100,000 to 400,000 cubic yards of contaminated sediments annually, in order that persistent toxics, which could adversely affect human health will no longer be biologically available through the food chain.

EPA is requesting \$15 million in support of the Great Lakes Legacy Act. The Agency will increase the number of new remedial action starts in the Great Lakes by all partners from three annually to five to six annually. Enacted in November, 2002, the Great Lakes Legacy Act authorizes \$270 million over five years from Fiscal Years 2004-2008 for Great Lakes projects to remediate contaminated sediments, research, and public information. Legacy Act implementation builds upon previous sediment assessment work by GLNPO. It will advance progress under the Great Lakes Strategy by accelerating the pace of contaminated sediment remediation and, long term results will include completing cleanup of all known sites in the Basin before 2025 and potentially accelerating the time required to de-list Areas of Concern.

EPA is working with states and local groups from the AOCs to expedite de-listing of those AOCs. EPA, states, and local communities will strategically target reductions of critical pollutants and restoration of impaired beneficial uses through RAPs for AOCs and through LaMPs for Lakes Ontario, Michigan, Superior, and Erie. The Agency will continue to report to

Congress and the International Joint Commission regarding progress under the Great Lakes Water Quality Agreement.

The Agency will support the efforts of states, tribes, and local communities to protect and restore important habitats, emphasizing habitats important for biodiversity and ecological integrity, such as those necessary for endangered and threatened species. Cooperative efforts initiated with other Great Lakes Wetland Consortium members to implement the only basin-wide monitoring of Great Lakes coastal wetlands will continue. GLNPO will contribute its share towards the Great Lakes Strategy objective of protecting/restoring 100,000 acres of coastal and inland wetlands by 2010. In support of the Strategy's Invasive Species objectives, GLNPO will work with partners to enhance and monitor the effectiveness of the Chicago River Invasive Species barrier, report on results of a joint "No Ballast on Board" study, and finalize a plan for a rapid response to the introduction of invasive species.

Marine and Arctic Environments

Through incremental steps necessary to achieve longer-term objectives of preventing further degradation of the Wider Caribbean and Arctic Ocean, as well as the marine environment more generally, EPA's negotiating efforts, through the International Maritime Organization, are aimed at mitigating marine pollution at a global scale. Regional and global efforts are specifically designed to enhance the effectiveness of existing domestic environmental controls to reduce pollution of U.S. waters resulting from international shipping and other transboundary vectors and thereby protect important natural resources as well as the public health of Arctic Rim populations.

More specifically, programs will prevent or reduce environmental damage associated with tributyltin, vessel discharges, invasive species, and ocean dumping. Specific projects aimed at protection of the Arctic ecosystem are focused on preventing and reducing environmental contamination from spent nuclear fuel, PCBs, and dioxins in Northwest Russia. In addition, ongoing efforts to address land-based sources of marine pollution in the Wider Caribbean should result in Regional water quality and marine habitat improvements that include economic benefits. Finally, our involvement in global negotiations is critical to maintain needed flexibility in domestic rulemaking and other environmental policy mechanisms.

FY 2004 Change from FY 2003 Request

EPM

- (+\$15,000,000) This investment will allow for an increase in sediment clean-up activities in the Great Lakes. These funds will be used to begin cleanup on two to three new contaminated sites and to assess and analyze other sites to prepare for future cleanups.
- (+\$1,115,600, +8.0 FTE) Redirection of resources to give greater emphasis to Mexico Border from International Capacity Building programs (objective 5). The shift to Mexico Border is to provide needed FTE resources in the development, coordination and implementation of a new Border XXII Plan.

- (-\$236,700, -3.1 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

STAG

- (-\$25,000,000) This reduction in U.S.-Mexico border grant funding will adequately fund border infrastructure construction at its current pace.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE TRANSBOUNDARY THREATS TO HUMAN AND ECOSYSTEM HEALTH IN NORTH AMERICA.

Annual Performance Goals and Measures

U.S. - Mexico Border Water/Wastewater Infrastructure

- In 2004 Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2003 Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2002 Increase the number of residents to 720,000 in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of additional people in Mexico border area protected from health risks, because of adequate water & wastewater sanitation systems funded through border environmental infrastructure funding.	720,000	900,000	990,000	People

Baseline: There are approximately 11 million residents in the border area.

Great Lakes: Ecosystem Assessment

- In 2004 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.
- In 2003 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.

In 2002 By removing or containing contaminated sediments, 100,000-200,000 pounds of persistent toxics which could adversely affect human health will no longer be biologically available through the food chain. This contributes to decreasing fish contaminants and advances the goal of removing fish advisories

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Long-term concentration trends of toxics (PCBs) in Great Lakes top predator fish.	Declining	5%	5%	Annual decrease
Long-term concentration trends of toxic chemicals in the air.	Declining	7%	7%	Annual decrease
Total phosphorus concentrations (long-term) in the Lake Erie Central Basin.	Mixed	10	10	Ug/l

Baseline: Identified targets are currently based on historic trends. The trend (starting with 1972 data) for PCBs in Great Lakes top predator fish toxics is expected to be less than 2 parts per million (the FDA action level), but far above the Great Lakes Initiative target or levels at which fish advisories can be removed. The trend (starting with 1992 data) for PCB concentrations in the air is expected to range from 50 to 250 picograms per cubic meter. The trend (starting with 1983 data) for phosphorus concentrations is expected to range from 4 to 10 parts per billion, levels established in the Great Lakes Water Quality Agreement. The 1970 baseline of oxygen depletion of the Lake Erie central basin is 3.8 mg/liter/month. EPA is working with its partners to refine targets within the next 3 years.

Mexico Border Outreach

In 2004 Protect the public health and the environment in the US- Mexico border region.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Increase by 1.5 million the number of people with adequate water and wastewater sanitation systems.			1.5 million	Population served
Train farmworkers on pesticide risks and safe handling, including ways of minimizing families' and children's risks			50	Training Sessions

Baseline: The US-Mexico border region extends more than 3,100 kilometers (2,000 miles) from the Gulf of Mexico to the Pacific Ocean, and 62.5 miles on each side on the international border. More than 11.8 million people reside along the border. The figure is expected to reach 19.4 million by 2020. Ninety percent of the population reside in the 14 paired, interdependent sister cities. Rapid population growth in urban areas has resulted in unplanned development, greater demand for land and energy, increased traffic congestion, increased waste generation, overburdened or unavailable waste treatment and disposal facilities, and more frequent chemical emergencies. Rural areas suffer from exposure to airborne dust, pesticide use, and inadequate water supply and waste treatment facilities. EPA, other U.S. Federal agencies, and the Government of Mexico have partnered to address these environmental problems.

Verification and Validation of Performance Measures

Performance Measure: Concentration trends of toxics (PCBs) in Great Lakes top predator fish

Performance Database: Great Lakes National Program Office (GLNPO) base monitoring program¹.

Data Source: GLNPO’s ongoing base monitoring program, which has included work with cooperating organizations such as the U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Survey (USFWS).

Methods, Assumptions, and Suitability: This indicator provides concentrations of selected organic contaminants in sport fish from the Great Lakes to: (1) determine time trends in contaminant concentrations, (2) assess impacts of contaminants on the fishery, and (3) to assess potential human and wildlife exposures from consuming contaminated sport fish. The data provide two elements of contaminant concentrations: The first element includes data from 600-700 mm lake trout (*Salvelinus namaycush*) whole fish composites (5 fish) from each of the lakes

(walleye, *Stizostedion vitreum vitreum*, in Lake Erie). These data are used to assess time trends in organic contaminants in the open waters of the Great Lakes, using fish as biomonitors. These data can also be used to assess the risks of such contaminants on the health of this important fishery, and on wildlife that consume them.

The second element of the indicator focuses on assessing human exposures via consumption of popular sport fish. Coho (*Oncorhynchus kisutch*) and chinook salmon (*Oncorhynchus tshawytscha*) from each lake (rainbow trout, *Salmo gairdneri*, in Lake Erie) are collected during the fall spawning run, and composite fillets (5 fish) are analyzed for organic contaminants to assess human exposure. The Coho salmon spawn at 3 years of age, and so their body burdens reflect a more focused and consistent exposure time compared to the lake trout which may integrate exposures over 4 to 10 yrs depending on the lake. Chinook salmon spawn after 4-5 years, and have higher (and thus more detectable) concentrations than the Coho salmon and also represent a consistent exposure time. Thus time trends for consistent age fish as well as consistent size fish can be assessed from these data.

QA/QC Procedures: GLNPO has a Quality Management system in place that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. The current Quality Management Plan that describes this program is undergoing revision and should be approved by the end of February, 2003². The QA plan that supports the fish contaminant program is approved and available on request³. The plan that describes the field sampling program is in draft form and should be completed by April 2003⁴.

Data Quality Review: GLNPO's quality management system has been evaluated as "outstanding" in previous peer and management reviews⁵. GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards.

Data Limitations: The top predator fish (lake trout) program was designed specifically for lakewide trends. It is not well suited to portray localized changes.

Error Estimate: The goal of fish contaminant program is for the contaminant levels in the collected fish to be +/- 20 to 30 % of the actual population values. Although we have observed slight differences between fish contaminant concentrations collected at different sights, when we compare the annual **trends** of fish contaminant burdens between sites we see no differences.

New/Improved Data or Systems: The GLENDAs database is a significant new system with enhanced capabilities. Existing and future fish data will be added to GLENDAs.

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"Great Lakes National Program Office Indicators. Fish Indicators."
<http://www.epa.gov/glnpo/glindicators/fishcontaminants.html>

“Trends in Great Lakes Fish Contaminants”, Dr. Deborah Swackhammer, Univ of Minnesota Environ. Occ. Health, School of Public Health, EPA Grant #GL97524201-2, 7/1/02. De Vault, D. S. 1984. Contaminant analysis of fish from Great Lakes harbors and tributary mouths. U.S. Environmental Protection Agency, Great Lakes National Program Office. EPA 905/3-84-003.

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“GLNPO Management Systems Review of 1999.” Unpublished - in USEPA Great Lakes National Program Office files.

Performance Measure: Concentration trends of toxic chemicals in the air.

Performance Database: Great Lakes National Program Office (GLNPO) integrated atmospheric deposition network (IADN) operated jointly with Canada¹.

Data Source: GLNPO and Environment Canada are the principal sources of the data. Data also come through in-kind support and information sharing with other Federal agencies, with Great Lake States, and with Canada.

Methods, Assumptions, and Suitability: There are five master IADN stations, one for each lake, which are supplemented by satellite stations in other locations. The master stations are located in remote areas and are meant to represent regional background levels. Concentrations from the master stations are used for the performance measure. Concentrations from the satellite station in Chicago are also sometimes used to demonstrate the importance of urban areas to atmospheric deposition to the Lakes.

Air samples are collected for 24 hours using hi-volume samplers containing an adsorbent. Precipitation samples are collected as 28-day composites. Laboratory analysis protocols generally call for solvent extraction of the organic sampling media with addition of surrogate recovery standards. Extracts are then concentrated followed by column chromatographic cleanup, fractionation, nitrogen blow-down to small volume (about 1 mL) and injection (typically 1 µL) into GC-ECD or GC-MS instruments.

All IADN data are loaded and quality controlled using the Research Database Management System (RDMQ), a SAS program. RDMQ provides a unified set of quality assured data including flags for each data point that can be used to evaluate the usability of the data. Statistical summaries of annual concentrations are generated by the program and used as input into an atmospheric loading calculation. The loadings calculation is described in detail in the Technical Summary referenced below. However, the averaged concentrations rather than the loadings are used in the performance measure.

QA/QC Procedures: GLNPO has a Quality Management system in place, which conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management, currently being revised. Quality Assurance Project Plans are in place for the laboratory grantee, as well as for the network as a whole. A jointly-funded QA contractor conducts laboratory audits and tracks QA statistics. Data from all contributing agencies are quality-controlled using the SAS-based system.

Data Quality Review: GLNPO’s quality management system has been evaluated as “outstanding” in previous peer and management reviews². This program has a joint Canadian

US quality system and workgroup that meets twice a year. GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards³.

A regular set of laboratory and field blanks is taken and recorded for comparison to the IADN field samples. In addition, a suite of chemical surrogates and internal standards is used extensively in the analyses. A jointly-funded QA contractor conducts laboratory audits and intercomparisons and tracks QA statistics. As previously mentioned, data from all contributing agencies are quality-controlled using a SAS-based system.

Data Limitations: The sampling design is dominated by rural sites that under emphasize urban contributions to deposition; thus although the data is very useful for trends information, there is less assurance of the representativeness of deposition to the whole lake. There are gaps in open lake water column organics data, thus limiting our ability to calculate atmospheric loadings.

Error estimate: Concentrations have an error of +/- 40%, usually less. Differences between laboratories have been found to be 40% or less. This is outstanding given the very low levels of these pollutants in the air and the difficulty in analysis. The performance measure examines the long-term trend.

New/Improved Data or Systems: GLNPO expects to post joint data that has passed quality review to < <http://binational.net/> >, a newly created joint international web site.

References:

“Great Lakes National Program Office Indicators. Air Indicators.”
<http://www.epa.gov/glnpo/glindicators/atmospheric.html>

Details of these analyses can be found in the Laboratory Protocol Manuals or the agency project plans, which can be found on the IADN resource page at:
http://www.msc.ec.gc.ca/iadn/resources/resources_e.html

Overall results of the project can be found in *“Technical Summary of Progress under the Integrated Atmospheric Deposition Program 1990-1996”* and the Draft *“Technical Summary of Progress under the Integrated Atmospheric Deposition 1997-2002”*. The former can also be found on the IADN resource page.

“GLNPO Management Systems Review of 1999.” Unpublished - in US EPA Great Lakes National Program Office files.

“Integrated Atmospheric Deposition Network Quality Assurance Program Plan - Revision 1.1. Environment Canada and USEPA. June 29, 2001. Unpublished - in USEPA Great Lakes National Program Office files.

Performance Measure: Long term dissolved oxygen depletion trend in Lake Erie.

Performance Database: Great Lakes National Program Office (GLNPO) limnology program.¹

Data Source: GLNPO’s ongoing limnology program.

Methods, Assumptions, and Suitability: The GLNPO Open Lake Limnology Program has been operational since 1983 for three of Great Lakes (Michigan, Huron, Erie). In 1986 Lake Ontario was added to the program and in 1992 Lake Superior was added.. Methods and suitability of data discussions can be found in *Sampling and Analytical Procedures for GLNPO's Open Lake Water Quality Survey of the Great Lakes, March 2002.*²

QA/QC Procedures: GLNPO has a Quality Management system in place that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. The current Quality Management Plan that describes this program is undergoing revision and should be approved by the end of February, 2003³. The QA plan that supports the limnology program is approved and available on request (*Sampling and Analytical Procedures for GLNPO's Open Lake Water Quality Survey of the Great Lakes, March 2002*). GLNPO participates in a shared performance evaluation sample program with numerous laboratories in Canada and the US and has performed exceptionally for these parameters.

Data Quality Review: GLNPO's quality management system has been given "outstanding" evaluations in previous peer and management reviews. GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards.

Data Limitations: The sampling design is based on the Great Lakes International Surveillance Program (1986). It provides coverage of most of the Lake Erie Central basin, but does not provide definitive boundaries for the anoxic zone.

Error Estimate: Environmental measurements are systematically crosschecked by independent methodologies to ensure accuracy within 10% relative percent difference between methodologies. For calculation of annual rates of oxygen depletion, corrections for standardized environmental conditions improve historical correlation coefficients of annual depletion rate over time from $r = 0.45$ to $r = 0.76$. Inherent ecosystem variability is far greater than measurement error. (See Rosa, F. and N. Burns. 1987. Lake Erie Central Basin Oxygen Depletion Changes from 1929 - 1980. J. Great Lakes Res. 13(4):684-696.)

New/Improved Data or Systems: The GLENDA database is a significant new system with enhanced capabilities. Existing and future data will be added to GLENDA.

References:

"Great Lakes National Program Office Indicators. Dissolved Oxygen Depletion Trend in Lake Erie." <http://www.epa.gov/glnpo/glindicators/water/oxygena.html>

Published data audits. Data have passed peer review for publication in scientific journal. See. Bertram, P. 1993. Total phosphorus and dissolved oxygen trends in the Central Basin of Lake Erie, 1970-1991. J. Great Lakes Res. 19(2):224-236. Results of system and data audits are maintained with the annual files.

Methods. See: Rosa, F. and N. Burns. 1987. Lake Erie Central Basin Oxygen Depletion Changes from 1929 - 1980. J. Great Lakes Res. 13(4):684-696.): See International Joint

Commission. 1986. Great Lakes International Surveillance Program - Lake Erie. Windsor, Ontario.

QMP: Quality Management Plan for the Great Lakes National Program Office, Final Draft July 2002, L. Blume GLNPO QA Manager, US EPA, 77 West Jackson, Chicago, IL 60604 (previously approved 9/98).

QAPP: Dissolved Oxygen and Temperature Profiles for the Central Basin of Lake Erie. Quality Assurance Project Plan. 2001. U.S. EPA, Great Lakes National Program Office, Chicago.

User guides: www.epa.gov/glnpo/glindicators/water/oxygena.html/

“Quality Management Plan for the Great Lakes National Program Office.” October 2002, EPA 905-R-02-009.

Performance Measure: People in the Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded through border environmental infrastructure funding (cumulative).

Performance Database: No formal EPA database. Performance is tracked and reported quarterly by Border Environment Cooperation Commission (BECC) and North American Development Bank (NADBank). Data field is “population served.”

Data Source: 1) U.S. population figures from the 2000 U.S. Census¹; 2) Data on U.S. and Mexican populations served by “certified” water/wastewater treatment improvements from the BECC; 3) Data on projects funded from the NADBank.

Methods, Assumptions and Suitability: Summation of population data from BECC and NADBank. U.S. Census data are assumed to be correct and suitable.

QA/QC Procedures: EPA Headquarters is responsible for evaluation of reports from BECC and NADBank on drinking water and wastewater sanitation projects. Regional representatives attend meetings of the certifying and financing entities for border projects (BECC and NADBank) and conduct site visits of projects underway to ensure the accuracy of information reported².

Data Quality Review: Regional representatives attend meetings of the certifying and financing entities for border projects (BECC and NADBank) and conduct site visits of projects underway to ensure the accuracy of information reported.

Data Limitations: None

Error Estimate: Same as census data.

New/Improved Data or Systems: None.

References:

U.S. Department of Commerce, Bureau of the Census, (Washington, DC: U.S. Department of Commerce, 1990). *Instituto Nacional de Estadística, Geografía y Informática, Aguascalientes, Total Population by State* (1990).

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Coordination with Other Agencies

U.S./Mexico Border

Over the last several years, EPA has continued to work with the U.S. and Mexican Sections of the International Boundary and Water Commission to further efforts to improve water and wastewater services to communities within 100 km of the U.S.-Mexico Border. Recently, EPA has been involved in efforts to plan, design and construct more than 10 water and wastewater facilities in the Border region.

The Governments of Mexico and the United States agreed, in November 1993, on arrangements to assist communities on both sides of the border in coordinating and carrying out environmental infrastructure projects. The agreement between Mexico and the United States furthers the goals of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation. To this purpose, the governments established two international institutions.

First, the Border Environment Cooperation Commission (BECC), with headquarters in Ciudad Juarez, Chihuahua, Mexico, assists local communities and other sponsors in developing and implementing environmental infrastructure projects. EPA has provided \$30.5 million through FY 2001 to the BECC project development fund. The BECC also certifies projects as eligible for North American Development Bank financing.

Second, the North American Development Bank (NADBank), with headquarters in San Antonio, Texas, is capitalized in equal shares by the United States and Mexico. NADBank provides new financing to supplement existing sources of funds and foster the expanded participation of private capital. Through 2001, EPA has provided \$339 million to the NADBank through the Border Environmental Infrastructure Fund, BEIF. NADBank issues border grants for individual projects from the BEIF on the agency's behalf.

The United States Government has committed to funding \$700 million since FY 2004 towards the Mexico Border project. Since FY 1994, \$607.6 million has been appropriated, including significant funding for projects managed by the International Boundary and Water Commission and for border Tribal infrastructure projects.

In FY 2003, EPA, in close cooperation with the SEMARNAT (EPA's Mexican counterpart), other Mexican agencies, the U.S. border states, U.S. Indian Tribal Nations and U.S. and Mexican NGOs and academic institutions, developed a new program for the border, Border 2012: U.S.-Mexican Environment Program, that will focus limited resources in areas which can most directly lead to improvements in public health and environmental conditions in this area.

The Border 2012 Program will transfer to the states and local communities the responsibility to set priorities and manage program implementation based on explicit environment and public health goals and objectives with measurable outcomes.

Great Lakes

Pursuant to the mandate in Section 118 of the Clean Water Act to “coordinate action of the Agency with the actions of other Federal agencies and state and local authorities...” GLNPO is engaged in extensive coordination efforts with state, Tribal, and other Federal agencies, as well as with our counterparts in Canada. EPA has joined with states, Tribes, and Federal agencies that have stewardship responsibilities for the Lakes in developing a new Great Lakes Strategy. In addition to the eight Great Lakes States and interested Tribes, partners include the Army Corps of Engineers (Corps), the Coast Guard, the Fish and Wildlife Service (USFWS), the U.S. Office of Geological Survey, the National Oceanic and Atmospheric Administration (NOAA), and the Natural Resources Conservation Service (NRCS). The Strategy joins environmental protection agencies with natural resource agencies in pursuit of common goals. These organizations meet semi-annually as the Great Lakes U.S. Policy Committee to strategically plan and prioritize environmental actions. GLNPO monitoring involves extensive coordination among these partners, both in terms of implementing the monitoring program, and in utilizing results from the monitoring to manage environmental programs. GLNPO’s sediments program works closely with the states and the Corps regarding dredging issues. Implementation of the Binational Toxics Strategy involves extensive coordination with Great Lakes States. GLNPO works closely with states, Tribes, FWS, and NRCS in addressing habitat issues in the Great Lakes. EPA also coordinates with these partners regarding development and implementation of Lakewide Management Plans for each of the Great Lakes and for Remedial Action Plans for the 31 U.S./binational Areas of Concern.

Statutory Authorities

Clean Water Act

Clean Air Act

Toxic Substances Control Act

Resource Conservation and Recovery Act

Pollution Prevention Act

Federal Insecticide, Fungicide, and Rodenticide Act

Organotin Antifouling Paint Control Act

Great Lakes Legacy Act

Annual Appropriation Acts

US-Canada Agreements

1997 Canada-U.S. Great Lakes Binational Toxics Strategy

1996 Habitat Agenda

1990 Great Lakes Critical Programs Act

1987 Great Lakes Water Quality Agreement

1987 Montreal Protocol on Ozone Depleting Substances

1978 Great Lakes Water Quality Agreement (GLWQA)

1909 The Boundary Waters Treaty

North American Free Trade Agreement

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Greenhouse Gas Emissions.

By 2010, U.S. greenhouse gas emissions will be substantially reduced through programs and policies that also lead to reduced costs to consumers of energy and reduced emissions leading to cleaner air and water. In addition, EPA will carry out assessments and analyses and promote education to provide an understanding of the consequences of global change needed for decision making.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Greenhouse Gas Emissions.	\$146,393.0	\$136,953.4	\$138,105.8	\$1,152.4
Environmental Program & Management	\$99,976.1	\$98,104.8	\$99,256.9	\$1,152.1
Science & Technology	\$46,416.9	\$38,848.6	\$38,848.9	\$0.3
Total Workyears	329.9	303.9	299.0	-4.9

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Climate Change Research	\$21,350.5	\$21,729.3	\$21,528.6	(\$200.7)
Climate Protection Program: Buildings	\$48,571.3	\$49,820.5	\$48,324.5	(\$1,496.0)
Climate Protection Program: Carbon Removal	\$1,549.7	\$1,576.3	\$1,734.5	\$158.2
Climate Protection Program: Industry	\$25,368.6	\$25,673.1	\$26,439.1	\$766.0
Climate Protection Program: International Capacity Building	\$6,982.8	\$7,086.5	\$6,608.1	(\$478.4)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Climate Protection Program: State and Local Climate Change Program	\$2,245.6	\$2,275.2	\$2,569.0	\$293.8
Climate Protection Program: Transportation	\$30,830.7	\$21,567.2	\$22,934.7	\$1,367.5
Congressionally Mandated Projects	\$750.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$4,461.0	\$4,019.1	\$4,530.9	\$511.8
Legal Services	\$328.2	\$354.5	\$369.9	\$15.4
Management Services and Stewardship	\$2,855.2	\$2,851.7	\$3,030.5	\$178.8
Planning and Resource Management	\$0.0	\$0.0	\$36.0	\$36.0

FY 2004 Request

In February 2002, the President announced a new approach to global climate change designed to harness the power of the markets and technological innovation. The President committed America to cut greenhouse gas intensity by 18 percent over the next decade. This approach supports vital climate change research and ensures that America's workers are not unfairly impacted by climate change strategies. As we learn more about the science of climate change and develop new technologies to mitigate emissions, this annual decline can be accelerated. Focusing on greenhouse gas intensity sets America on a path to slow the growth of greenhouse gas emissions, and – as the science justifies – to stop and then to reverse that growth. Reversing emissions growth will eventually stabilize atmospheric concentrations as emissions decline.

EPA's voluntary climate programs meet the U.S. climate change objectives 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. In FY 2004, EPA expects to continue the significant accomplishments of its Climate Protection Programs (CPPs). The opportunity to save on our nation's \$600 billion annual energy bill over the next decade, while reducing air pollution, is tremendous. The opportunity to reduce greenhouse gas emissions is as great.

The core of EPA's climate change efforts are voluntary government/industry partnership programs designed to capitalize on the opportunities that consumers, businesses, and organizations have for making sound investments in efficient equipment, policies and practices, and transportation choices. In ten years, we expect that more than half the nation's anthropogenic greenhouse gas emissions will come from equipment purchased between now and

then. Thousands of equipment purchases are made every day, and often people buy the equipment that is the least efficient, thereby committing themselves to higher energy bills for 10 to 20 years at a time, depending upon the life of the equipment. At the same time, people often overlook the investment opportunities represented by more efficient equipment -- investment opportunities with the potential of more than double the return on investment of other common options (e.g., money markets, U.S. Treasury bonds).

EPA manages a number of efforts, such as the ENERGY STAR programs, the Commuter Choice Leadership Initiative, and the EPA Clean Automotive Technology (CAT) program, to remove barriers in the marketplace and to deploy technology faster in the residential, commercial, transportation, and industrial sectors of the economy. EPA programs do not provide financial subsidies. Instead, they work by overcoming widely acknowledged barriers to energy efficiency: lack of clear, reliable information on technology opportunities; lack of awareness of energy efficient products and services; lack of financing options to turn life cycle energy savings into initial cost savings for consumers; low incentives to manufacturers for efficiency research and development (R&D); and lack of awareness about more energy efficient transportation choices.

The Agency will continue activities that provide co-benefits to other countries and to the global commons. Global reductions in greenhouse gas emissions can be achieved by recognizing and providing support for in-country environmental issues, such as local air quality, energy access and efficiency, cleaner production, transportation alternatives, and solid waste management (for methane reduction).

EPA's newest voluntary programs are building on previous accomplishments. In 2001, EPA launched partnership programs to promote cleaner, more efficient energy supply through increased renewable energy and combined heat and power (CHP) applications. These "distributed energy" technologies continue to break the link between our nation's increased energy demand and air pollution. CHP and renewable power also help meet the growing need for decentralized, highly reliable power as our nation's electric grid ages. In FY 2002, EPA expanded the national Combined Heat and Power Partnership to over 60 partners, more than tripling the membership from 18 Founding Partners at the program launch in October 2001. In addition, EPA expanded the Green Power Partnership to include over 90 companies, universities, and state and local governments who have made commitments to purchase a set percentage of their power from renewable energy sources. In FY 2002, EPA launched the Climate Leaders program to encourage companies to develop long-term, comprehensive climate change strategies. In addition, the Agency began forming partnerships and initiated a number of transportation efforts focusing both on the industry and state and local sectors, including a program to implement voluntary ground freight management practices as well as technologies that can substantially improve load scheduling and load matching logistics, reduce truck engine idling, and improve truck fuel-efficiency.

Research

EPA's Global Change Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities - Climate Change Science and Technology. In order to ensure the Program's relevance, research and assessment activities are guided by the

externally peer-reviewed draft Global Change Research Strategy and a draft Multi-Year Plan. These documents articulate the long-term goals, purpose, and priorities of the program, and include a scheduled timeline of research and assessment activities and annual performance goals and measures under the Government Performance and Results Act (GPRA). To maximize the quality of the research conducted under the Global Change Research Program, products such as scientific publications, assessments and documents undergo peer-review, with major or significant products requiring external peer-review. The Agency's Peer Review Handbook (2nd Edition) codifies the procedures and guidance for conducting peer review.

EPA's Global Change Research Program is assessment-oriented and is closely coordinated with the Change Science Program (CCSP), created under the auspices of the cabinet-level Committee on Climate Change Science and Technology Integration (CCCSTI). In addition, the Agency will collaborate closely with the National Oceanic and Atmospheric Administration's (NOAA's) Regional Integrated Science and Assessment Program in order to assure appropriate prioritization and efficiency, to avoid duplication and to assure consistently high standards of scientific review for all aspects of supported studies and analyses.

The Agency's assessment process brings together groups of people with common interests and enables them to work together to address environmental concerns. Through this process, those who may be affected by environmental change (the stakeholders), those who can provide scientific information about that change (researchers and assessors), and those who can respond to that change (resource managers and decision makers) communicate with each other.

Program Accomplishments

EPA has had substantial success across its CPPs and global change research efforts. Through FY 2002, EPA's CPPs (see Table 1) substantially reduced emissions of carbon dioxide (CO₂) and other greenhouse gases such as methane and perfluorocarbons (PFCs). In addition, EPA's CPPs have locked in substantial energy and environmental benefits over the next decade. Since many of the investments promoted through EPA's climate programs involve energy efficient equipment with lifetimes of decades or more, the investments that have been spurred through 2002 will continue to deliver environmental and economic benefits through 2012 and beyond. EPA currently estimates that, based on investments in equipment already made due to EPA's programs through 2002, organizations and consumers across the country will net savings of more than \$70 billion through 2012, and greenhouse gas emissions will be reduced by more than 500 MMTCE through 2012 (cumulative reductions based upon estimated 2002 achievements). These programs continue to be highly cost-effective approaches for delivering environmental benefits across the country. For every dollar spent by EPA on its technology deployment programs, these programs have reduced greenhouse gas emissions by more than 1.0 metric ton of carbon equivalent (3.67 tons of CO₂) and delivered more than \$75 in energy bill savings. This is based upon a cumulative reduction since 1995. Finally, since the mid-1990s, these programs have kept roughly 600,000 tons of smog-forming nitrogen oxide (NO_x) from entering the air.

In addition to these benefits, the transportation research and development component of EPA's CPPs has produced important technological advancements that will generate substantial energy and carbon benefits in future years, while improving America's competitiveness. In FY

2002, EPA made a major commitment to become an active member of the California Fuel Cell Partnership, a public-private venture to demonstrate and promote fuel cell vehicles as a technology that is both environmentally safe and commercially viable. To this end, EPA is adapting the National Vehicle and Fuels Emissions Laboratory to handle hydrogen fuel and to enable testing of fuel cell vehicles.

In FY 2002 alone, the Climate Protection Programs are expected to produce the following results, to be reported for the Government Performance and Results Act (final results will be available in CY 2003):

- reduced greenhouse gas emissions by more than 67 MMTCE;
- reduced energy consumption by an estimated 85 billion kilowatt hours; and,
- demonstrated technology for a hydraulic hybrid full-size pickup truck that exceeded its interim 15 percent fuel economy improvement milestone measured during typical city driving.

Table 1: EPA's Climate Protection Programs

Sector	Program	Activity/Initiative
<i>Buildings</i>	<i>ENERGY STAR</i>	<i>Buildings</i>
		<i>Labeled Products</i>
		<i>Homes</i>
<i>Industry</i>	<i>Carbon Reduction Programs (CO2)</i>	<i>ENERGY STAR for Industry</i>
		<i>Combined Heat and Power Partnership</i>
		<i>Green Power Partnership</i>
		<i>Industry Partnerships</i>
		<i>Waste Wise</i>
	<i>Methane Programs (CH4)</i>	<i>Natural Gas STAR Program</i>
		<i>Landfill Methane Outreach Program</i>
		<i>Coalbed Methane Outreach Program</i>
		<i>Agricultural Programs (Ruminant Livestock Outreach and AgSTAR)</i>
		<i>Landfill Rule</i>
	<i>Programs to Reduce High Global Warming Potential Gases (HFCs, PFCs, SF6)</i>	<i>Voluntary Aluminum Industrial Program</i>
		<i>PFC Emissions Reduction Partnership for the Semiconductor Industry</i>
		<i>SF6 Emissions Reduction Partnership for the Electric Power System</i>
		<i>SF6 Emissions Reduction Partnership for the Magnesium Industry</i>
		<i>Partnership with HCFC-22 manufacturers to reduce HFC-23 emissions</i>
		<i>Significant New Alternatives Program (SNAP)</i>
	<i>Voluntary Partnerships with SNAP Industry Sectors</i>	
<i>Transportation</i>	<i>Transportation Efficiency Programs</i>	<i>Commuter Choice Leadership Initiative</i>

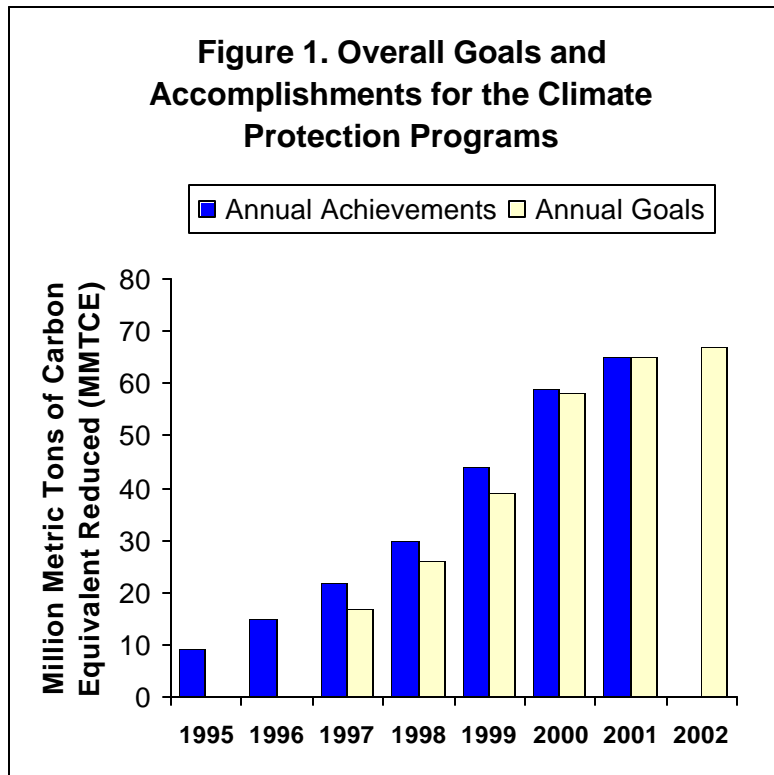
		<i>SmartWay Outreach Program</i>
		<i>Clean Air Transportation Communities Program</i>
		<i>SmartWay Transport Partnership</i>
	<i>Fuel Cell Vehicles and Hydrogen Fuel</i>	<i>Expand test capability for fuel cell vehicle testing, certify first fuel cell vehicles, expand life cycle modeling capability, and actively engage in the national fuel cell and hydrogen debate.</i>
	<i>Clean Automotive Technology (CAT)</i>	<i>Support Cooperative Research and Development Agreements (CRADAs) for Advanced Engine and Powertrains for Hydraulic Hybrid Personal Vehicles such as SUVs, Pickup Trucks and Urban Delivery Vehicles</i>
<i>Carbon Removal</i>		
<i>State and Local Climate Change Outreach Program</i>		
<i>International Capacity Building</i>		
<i>Global Change Research</i>		

In FY 2002, EPA's CPPs have also:

- offset growth in greenhouse gas emissions above 1990 levels by about 20 percent;
- conserved enough energy to light 70 million homes for the year;
- prevented NO_x emissions equivalent to the annual pollution from 40 power plants; and
- avoided greenhouse gas emissions equivalent to eliminating the pollution from about 45 million automobiles for the year.

EPA's climate change programs have met their greenhouse gas reduction goals through FY 2001, as shown in Figure 1, and continue to meet the challenge of substantially higher emissions reduction goals. All of the programs are on target to meet or exceed their specific goals for reducing greenhouse gas emissions and energy consumption, as shown in Table 2.

Figure 1. Overall Goals and Accomplishments for the Climate Protection Programs



The FY 2002 final results will be available in Spring 2003.

The programs have a number of accomplishments through the end of FY 2002 that are highlighted in Tables 3, 4, 5, and 6 for the buildings, industry, transportation and other sectors, respectively.

Table 2. Goals and Accomplishments for Performance Measures: 1998 through 2004¹

Program Area/Key Gases		1998 Accomplished		1999 Accomplished		2000 Accomplished		2001 Accomplished		2002 ² Goal/Accomplished		2003 ³ Goal		2004 ³ Goal	
		kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced
Buildings		35	7.2	61	12.5	74	15.2	80	16.6	85	17.0 ⁴ /17.0	na	19.2 ⁴	na	21.4 ⁴
Industry	CO ₂	na	4.8	na	5.3	na	5.5	na	5.8	na	6.4 ⁴ /6.4	na	6.7 ⁴	na	7.4 ⁴
	CH ₄	na	5.9	na	8.3	na	13.8	na	16.0	na	15.9 ⁴ /15.9	na	17.0 ⁴	na	18.1 ⁴
	PFCs, SF ₆ , HFCs	na	10.4	na	15	na	20.8 ^b	na	22.8 ^b	na	20.6 ^{4,5} /24	na	24.9 ^{4,5}	na	29.6 ^{4,5}
Transportation		na	0.3	na	1.1	na	1.7	na	1.9	na	2.1 ⁴ /2.1	na	2.4 ⁴	na	2.8 ⁴
State and Local		na	1.3	na	1.4	na	1.7	na	1.9	na	2.0 ⁴ /2.0	na	2.0 ⁴	na	2.0 ⁴
Total		35	30	61	44	74	59	80	65	85 ⁴ /85	64 ⁴ /67	95 ⁴	72.2 ⁴	110 ⁴	81.3 ⁴

¹Metrics are not applicable to CAT, International Capacity Building or Global Change Research. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version, *Partnerships Changing the World: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, August, 2002, is available at: <http://www.epa.gov/cppd>.

²These results are estimates. Final results will be available in Spring 2003.

³The Third National Communication to the Secretariat of the Framework Convention on Climate Change (FCCC) reporting on national progress was submitted in FY 2002. The report provided updated information on U.S. climate protection programs including actual FY 2000 accomplishments and projected benefits in 2010. Goals for the climate protection programs were reviewed and refined as part of this interagency process.

⁴GPRA performance measure

⁵These goals and accomplishments do not include EPA's efforts on self-chilling cans, which resulted in the avoidance of potentially significant emissions of HCFCs into the atmosphere.

Table 3. FY 2002 Program Accomplishments for EPA's Buildings

Program Area

Accomplishments

ENERGY STAR Program

The ENERGY STAR Buildings Partnership represents 17 percent of the U.S. building floor space. Benchmarks are now available for over 40% of the commercial buildings market. The number of buildings benchmarked doubled from the previous year. EPA's continued work promoting the building energy performance rating systems led to benchmarks representing 15% of the commercial office square footage, 11% of K-12 school floor space, and 18% of U.S. supermarket floor area, just 6 months after its release. Energy service and product providers have worked with Energy Star to benchmark over 700 buildings for their customers. Over 25% of all Energy Star label awards were through service and product providers. EPA collaborated with utilities, states and regional energy program partners to promote Energy Star's national energy performance rating system, including the launch of new partnerships in the Northeast, Northwest, Midwest, Texas, and California.

The ENERGY STAR label is recognized as the national label for energy efficiency and many players (including retailers utilities, NGOs, etc.) across the country are using the label to promote efficiency. The label has achieved more than 40% public awareness as of 2002. Energy Star performance specifications are updated for products in cases where technology has advanced and updates are necessary to maintain the integrity of the Energy Star label. EPA updated specifications for televisions/VCRs, residential air conditioning/heat pumps, residential light fixtures, and boilers. The program includes products that represent over 60% of energy use in the average household and can help families reduce their energy bills by up to \$400 per year with currently available products that also improve home comfort. More than 1,200 manufacturing companies have partnered with Energy Star. They produce Energy Star -labeled products across more than 35 product categories. More than 875 million labeled products have been purchased. EPA has engaged more than 150 utilities/energy service providers that serve approximately 60% of the households in the U.S. in promoting energy efficiency with the ENERGY STAR label. The program has partnered with more than 450 retailers to promote ENERGY STAR products in more than 7,000 storefronts across the country.

The ENERGY STAR Homes program includes more than 3,000 builders that have built over 100,000 labeled homes, locking in financial savings of more than \$30 million annually for homeowners. EPA launched its ENERGY STAR Home Sealing Program in New England and the Mid-West, working with key utilities, contractors, and market transformation groups, to promote proper insulation and air sealing for the home envelope. ENERGY STAR worked closely with the State of New York and Wisconsin to implement Home Performance with ENERGY STAR, a whole house approach to improving a home's energy efficiency cost-effectively. EPA continues to promote its Home Improvement Toolbox which provides homeowners with information to make cost-effective energy efficiency improvements to their homes. See: <http://www.epa.gov/hhiptool/> ENERGY STAR supported the development of a trained contractor infrastructure by supporting certification organizations and national conferences.

Table 4. FY 2002 Program Accomplishments for EPA's Industry Initiatives

<i>Program Area</i>	<i>Accomplishments</i>
Carbon Reduction Programs	<p><u>ENERGY STAR for industry</u> successfully worked with the motor vehicle and brewing industries in a concentrated effort to improve the energy efficiency of these operations. The process developed for these two industries will be transferred to other U.S. based industries. ENERGY STAR conducted five peer exchanges designed to enhance the energy performance of U.S. industry and the 470 manufacturing partners within the partnership.</p>
	<p>EPA expanded the national <u>Combined Heat and Power Partnership</u> to over 60 partners, tripling the membership from 18 Founding Partners at the program launch in October 2001. The CHP Partnership is working in key state markets—including Illinois, Hawaii, New York, and Texas—to identify and implement favorable policies, and to facilitate new projects at industrial plants, institutional facilities, and commercial buildings.</p> <p>EPA also issued its third annual Energy Star CHP Awards to qualifying high-efficiency projects. See: http://www.epa.gov/chp.</p>
	<p>EPA expanded the <u>Green Power Partnership</u> to include over 90 companies, universities, and state and local governments who have made commitments to purchase a set percentage of their power from renewable energy sources.</p> <p>EPA recognized innovative green power purchasers for their leadership in the first annual Green Power Leadership Awards. See: http://www.epa.gov/greenpower</p>
	<p><u>Industry Partnerships</u>. Climate Leaders was launched in February 2002 and includes more than 35 partners committed to work with EPA to inventory their GHG emissions, set aggressive reduction goals, and report their progress each year.</p> <p>EPA continued to work with industry partners to help them better understand their greenhouse gas emissions and opportunities for cost-effectively reducing these emissions.</p> <p>EPA released core modules of its corporate greenhouse gas inventory protocol (overall design principles, stationary combustion, indirect emissions from electricity, mobile sources, refrigeration/ac, iron/steel, cement) for external review and comment.</p>
	<p><u>Waste Wise</u> now has more than 1,200 partners who have reported reductions of over 35 million tons of solid waste since the program began in 1994, saving more than \$1.1 billion.</p> <p>WasteWise initiated an industries sector campaign to promote large volume waste reductions—electric utilities, pulp and paper, and automotive sectors are included in this initiative with an initial emphasis on beneficial use of coal ash from utilities.</p> <p>EPA worked with key industry, government and Non-Governmental Organizations (NGOs) to develop technical assistance materials to promote the use of resources management as a holistic tool for waste management and reduction. EPA is continuing its efforts to develop a product stewardship agreement with the electronics industry and is working with the carpet industry to implement an agreement reached in 2001.</p>
ethane Programs	<p>The <u>Natural Gas STAR Program</u> partners with 58% of the natural gas industry, working cooperatively with companies in the production, processing, transmission, and distribution sectors.</p> <p>The <u>Landfill Methane Outreach Program (LMOP)</u> assisted in the development of 29 new landfill gas-to-energy projects (bringing the total to over 235) with an additional 200 projects in the construction or planning stages and expected to be online soon. LMOP signed on 32 new partners, bringing the total LMOP partner base to just over 310.</p> <p>The <u>Coalbed Methane Outreach Program (CMOP)</u> helped reduce methane emissions through project development support at 24 project sites. CMOP provided high-quality, project-specific information to project developers.</p> <p>EPA assisted swine and cattle producers in developing waste management systems that produce farm revenues and reduce water and air pollution. About 30 million kWh/yr of renewable energy was produced from farms capturing methane to provide energy for local communities.</p>
Programs to Reduce High Global Warming Potential Gases	<p>EPA continued work with 8 of the 9 U.S. primary aluminum producers representing 20 of the 21 U.S. smelters to increase reductions over our 2001 goal, and to better understand the generation of PFCs in the smelting process and to quantify smelter-specific emissions.</p> <p>EPA expanded the electric power systems partnership to reduce SF₆ emissions to 65 partners representing over 50% of net generating capacity. More than 80% of SF₆ sales are to this sector.</p> <p>EPA expanded the magnesium (Mg) industry partnership to reduce SF₆ emissions to 16 partners representing 100% of primary Mg production and 80% of domestic casting capacity.</p> <p>EPA continued its voluntary partnership with 22 U.S. semiconductor manufacturers representing more than 70% of the industry's emissions. These partners have a goal to reduce PFC emissions 10% below their 1995 baseline by 2010.</p> <p>EPA partners with 100% of the U.S. HCFC-22 producers. These partners use process optimization and abatement to reduce production by-product emissions of HFC-23, which is the most potent and persistent of the HFCs.</p> <p>SNAP reviewed and listed 50 additional substances as acceptable alternatives to ozone-depleting chemicals in over 125 end-uses for a combined total of over 400 acceptable alternatives listed; cooperated with the fire protection industry to revise National Fire Protection Association Standard 2001 on Clean Agent Halon Alternatives; and encouraged the development of new, less-emissive technologies including secondary loop refrigeration systems and adoption of responsible use practices by the fire protection industry for gases with high global warming potential.</p>

Table 5. FY 2002 Program Accomplishments for EPA's Transportation Initiatives

<i>Program Area</i>	<i>Accomplishments</i>
<p>Transportation Efficiency</p>	<p>EPA signed and is supporting nearly 1,300 employers under the <u>Commuter Choice Leadership Initiative</u>, covering a range of industries, businesses, universities, and state and local governments making environmentally sound commuter benefits available to nearly 600,000 employees. See: http://www.commuterchoice.gov/.</p> <p>In 2002, EPA initiated the voluntary <u>SmartWay Transport Partnership</u> to challenge trucking and rail companies to improve their fuel efficiency and to reduce pollution. Some key outputs include: a locomotive idling control project in Chicago, Illinois; a truck and locomotive idling-control demonstration grant program with national, non-profit organizations involved in transportation/air quality issues; an EPA hosted workshop for Northeastern states to begin coordination on creating truck stop electrification projects along I-95 to reduce truck idling; and a charter group of trucking companies that will help EPA create specific performance goals for the industry.</p> <p>EPA continued to coordinate internationally with other industrialized countries and domestically with state and local agencies on effective methods to address climate change transportation issues.</p> <p>EPA is implementing the National SIP Land Use Policy and has partnered with several state and local governments to recognize the transportation emission reduction benefits of smart growth and voluntary land use policies.</p> <p>EPA launched a pilot program to test the potential for reducing vehicle miles traveled through the voluntary Variable Priced Auto Insurance Initiative, using global positioning system transponders to record mileage and price insurance options accordingly.</p> <p>Ten communities continue to participate in the Clean Air Transportation Communities Program, which spurs innovation and measurable reductions in transportation-related emissions by decreasing vehicle miles traveled and increasing use of cleaner technologies, to implement innovative pilot projects at the state, regional, local and Tribal level. There were no new awards in 2002.</p>
<p>Fuel Cells and Hydrogen Fuels</p>	<p>EPA established hydrogen fueling and fuel cell testing capability and certified the first fuel cell vehicle. EPA also joined with other key private and public players in the fuel cell field through the California Fuel Cell Partnership.</p>
<p>Clean Automotive Technology</p>	<p>EPA demonstrated 85 miles per gallon (gasoline-equivalent) on a mid-size car research chassis with a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain.</p> <p>Using EPA's hydraulic hybrid drivetrain technology, the CAT program exceeded its interim 15% fuel economy improvement milestone on a full-size pickup truck measured during typical city driving.</p> <p>Assisted Cooperative Research and Development (CRADA) partner with unique engineering expertise to achieve a 25% fuel economy improvement measured during urban driving on its prototype 10,000 pound hydraulic hybrid commercial pickup truck.</p>

Table 6. FY 2002 Program Accomplishments for Other Initiatives

<i>Program Area</i>	<i>Accomplishments</i>
Carbon Removal	<p>The carbon sequestration program continued to work collaboratively with the U.S. Department of Agriculture (USDA) on domestic pilot programs, programs designed to address major issues related to implementation of sequestration projects both domestically and internationally.</p> <p>EPA continued to enhance its state-of-the-art capability to evaluate the technical and economic potential of carbon sequestration in both the forest and agriculture sectors, and conducted key analyses on sequestration policy issues. EPA initiated efforts to better understand and quantify the environmental ancillary impacts of carbon sequestration.</p>
State and Local Outreach Program	<p>40 states representing approximately 80% of U.S. carbon dioxide emissions, have completed greenhouse gas emissions inventories with technical assistance from EPA.</p> <p>EPA increased state and local capacity to assess, develop, and implement state-tailored voluntary greenhouse gas emission reduction strategies in 23 states.</p> <p>EPA developed analytic tools to improve understanding of the relationship between greenhouse gas emissions and criteria air pollutants, including a spreadsheet based tool to facilitate state inventories and projections, a soft ware model to calculate both the clean air and greenhouse gas impacts of state and local policies, and a report providing guidance to state and localities on how to make climate friendly decisions.</p> <p>Twenty-one additional U.S. cities joined the EPA-supported “<i>Cities for Climate Protection Campaign</i>” bringing total U.S. participants to 130, with a combined population of over 48 million. In addition to the more than 1.5 MMTCE these cities are reducing each year, they are reducing over 28,000 tons of air pollutants and saving more than \$70 million annually.</p> <p>EPA has funded more than 100 state and local demonstration, research, outreach, or education projects throughout the U.S. since 1990. ICLEI Cities for Climate Protection Campaign actions and EPA demonstration projects completed or underway have achieved total emissions reductions of approximately 2 MMTCE per year. To date, EPA distributed over 5,300 copies of the EPA State and Local Climate Change Outreach Kit to educate stakeholders on the science, impacts, resources and solutions addressing climate change.</p> <p>Six communities participating in the Cities for Climate Protection Campaign joined the EPA-supported “Policy Adoption Peer Exchange Initiative” aimed to help local governments adopt heat island mitigation strategies. EPA communicated with key audiences regarding climate change through publications, conference presentations, and an award-winning website. See: http://www.epa.gov/globalwarming</p>
International Capacity Building	<p>EPA leveraged U.S. experience with market-based mechanisms to help other countries design effective market-based programs.</p> <p>EPA supported the development of rigorous bottom-up greenhouse gas inventories in Russia (4 regions), Kazakhstan, and Ukraine, including energy fuel balances, and national estimates of selected sources such as the high-GWP gases. EPA projects in the countries of the former Soviet Union have reduced greenhouse gas emissions by more than a million metric tons of carbon equivalent in the last five years.</p> <p>EPA provided technical guidance to 49 developing countries in the process of developing their National Communications as required under the UNFCCC.</p> <p>EPA established partnerships with key developing countries to share and transfer energy efficiency program models and clean energy technologies developed in the U.S. Current programs will reduce greenhouse gas emissions in 2010 by 8 MMTCE.</p> <p>EPA supported the interagency planning process for the World Summit on Sustainable Development (WSSD) held in Johannesburg, SA. EPA played a major role in developing several of the initiatives, including the Healthy Homes Initiative and the Children’s Health Initiative.</p> <p>EPA’s Integrated Environmental Strategies Program, with cooperation from AID, assisted 8 developing countries to evaluate the environmental and human health benefits of technologies and policies for reducing greenhouse gas emissions. Five of these countries have now produced initial evaluations and implementation plans for multiple benefits strategies.</p> <p>EPA initiated a new international transportation outreach program to improve GHG inventories and advance mitigation strategies with developing countries.</p>

Program Goals and Objectives for FY 2004

Despite the significant accomplishments of EPA's programs to date, there remain opportunities to achieve further pollution reductions and energy bill savings from energy efficiency programs and greater use of cost-effective renewable energy. In the U.S., energy consumption causes more than 85 percent of the major air emissions such as NO_x, CO₂ and sulfur dioxide (SO₂). At the same time, American families and businesses spend over \$600 billion each year on energy bills – more than we spend on education. Technologies are available today that can cut this energy use significantly. Other technologies are being developed that may provide even more dramatic opportunities – such as transferring the highly efficient hybrid powertrain components, originally developed for passenger car applications, to meet the more demanding size, performance, durability, and towing requirements of personal vehicles such as Sport Utility Vehicles (SUVs), pickup trucks, and urban delivery vehicle applications, potentially doubling the fuel economy of such vehicles by 2010.

Over the next several years, EPA will build upon its voluntary government/industry partnership efforts to achieve even greater greenhouse gas reductions by taking advantage of additional opportunities to simultaneously reduce pollution and energy bills. EPA will continue to break down market barriers and foster energy efficiency programs, products and technologies, cost effective renewable energy, and greater transportation choices. EPA will continue to work closely with state and local partners to assess the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. It will establish international partnerships that will link industrial efficiency, reduction of greenhouse gases, and sustainable development. In FY 2004, EPA's climate change programs are projected to:

- reduce greenhouse gas emissions from projected levels by more than 81.3 MMTCE;
- reduce U.S. energy consumption from projected levels by more than 110 billion kilowatt hours annually;
- reduce other forms of pollution, including air pollutants such as NO_x, particulate matter and mercury from energy efficiency and reduce water pollution (from better fertilizer management);
- contribute to over \$7 billion in net energy bill savings to consumers and businesses that use energy efficient products for the year;
- demonstrate technology for a hydraulic-hybrid urban delivery vehicle or large SUV that achieves 30-50 percent better fuel economy than the typical baseline vehicle (e.g. if a typical large SUV is found to achieve a baseline fuel economy of 17.0 mpg, the CAT program would demonstrate 21.2 - 25.5 mpg for such a vehicle during 2004);
- provide CRADA partners the engineering expertise necessary to transfer EPA's unique and innovative hydraulic hybrid and clean-and-efficient engine technology;

- certify fuel cell vehicles for several manufacturers, establish national standards for life cycle modeling of fuel cells and fuels, and establish rigorous test procedures for fuel cell vehicles;
- provide more flexible and energy efficient alternatives for commuters and freight transporters, and reduce vehicle miles traveled by more than two billion miles;
- assist 10 key developing countries and countries with economies-in-transition in building their capacity to reduce emissions of greenhouse gases through cost-effective measures and participate actively in international discussions of climate protection and assist in the fulfillment of the U.S. obligations under the U.N. Framework Convention on Climate Change (UNFCCC) to facilitate technology transfer to developing countries;
- produce measurable international greenhouse gas emission reductions through clean industrialization partnerships with key developing countries;
- in close cooperation with USDA, identify and develop specific opportunities to sequester carbon in agricultural soils, forests, other vegetation and commercial products, with collateral benefits for productivity and the environment; and
- assess the consequences of global change on human health and ecosystems.

EPA will be working towards the following goals in each of the following program areas over the next ten years:

Buildings: The Buildings Sector represents one of EPA's largest areas of potential, and at the same time is one of its most successful. In the buildings sector, EPA will continue the successful ENERGY STAR partnerships (including ENERGY STAR Labeling, ENERGY STAR Buildings Program, and ENERGY STAR homes). EPA will work toward the goal of offsetting about 24 percent of the growth in greenhouse gas emissions above 1990 levels expected by 2010 in this sector. EPA's programs will contribute about 43 MMTCE annually in greenhouse gas reductions by 2010 while saving businesses and consumers more than \$14 billion. The efforts necessary in FY 2004 to continue to achieve the 2010 goals are detailed in Table 7.

Industry: EPA will continue to build on the success of the voluntary programs in the industrial sector, focusing on reducing CO₂ emissions and continuing the highly successful initiatives to reduce methane emissions and emissions of the high global-warming-potential gases. EPA's goals for these efforts are to: greatly enhance the rate of energy and resource efficiency improvements in industry between now and 2010 (working with DOE); cost-effectively return emissions of methane to 1990 levels or below by 2010; cost-effectively limit emissions of the more potent greenhouse gases (HFCs, PFCs, SF₆); and facilitate the use of clean energy technologies and purchases of renewable energy. EPA will deliver an estimated 115 MMTCE annually by 2010 from these efforts. The efforts necessary in FY 2004 to continue to achieve these 2010 goals are detailed in Table 8.

Transportation: EPA will continue to build and enhance efficient and effective market-driven programs that address the transportation sector's contribution to Climate Change. The transportation sector of the economy contributes about one-third of the inventory of U.S. GHG emissions. The key elements of this effort are the SmartWay Transport Partnership and the

Commuter Choice Leadership Initiative. The SmartWay Transport partnership works with the trucking and railroad industry to achieve cleaner and more efficient vehicles and locomotives by adopting pollution control and energy saving technologies. The goal of the Commuter Choice Leadership Initiative is to offer innovative solutions to commuting challenges faced by U.S. employers and employees by promoting commuter benefits that reduce vehicle trips and miles traveled. EPA estimates that these voluntary programs have the potential to contribute over 12 MMTCE annually in GHG reductions by 2010. In addition, by 2010 EPA estimates these programs will reduce over 200,000 tons of NO_x each year, as well as achieve significant reductions in PM emissions. The efforts necessary in FY 2004 to achieve these goals are detailed in Table 9.

The Agency's Clean Automotive Technology CAT program will further develop advanced clean and fuel-efficient automotive technology with the end result being to better protect the environment and save energy. CAT efforts in 2002 focused on achieving significant fuel economy gains by beginning to transfer these technologies from passenger cars to typical large domestic trucks. The emphasis of CAT work for the next 5-10 years will be research and collaboration with the automotive industry under CRADAs, applying EPA's unique knowledge of hydraulic hybrid technology and advanced clean-engine technologies to personal vehicles such as large SUVs, pickup trucks, and urban delivery trucks. Through work within the CRADAs, significant elements of EPA's technologies will be demonstrated in real-world applications and introduced commercially by vehicle manufacturers between 2005 and 2010.

The CAT program commits EPA to develop technology by the end of the decade to satisfy stringent criteria emissions requirements and up to a doubling of fuel efficiency in 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 mpg the resulting fuel economy levels would be 25.5-28.9 mpg in 2006 and up to 34 mpg by 2010. Expanding this technology into 50 percent of new light trucks by 2020 would generate annual fuel savings of 8 billion gallons, while carbon emissions would fall by 25 MMTCE.

EPA will also play a unique role in fuel cell vehicle and hydrogen fuel development by establishing the capability to test a range of fuel cell vehicles and components; taking the national lead in establishing emissions and fuel economy testing protocols and innovating safe laboratory handling of hydrogen fuel; establishing a peer-reviewed life cycle model and promoting its use in R&D and in policy decisions regarding fuel cell vehicle technology pathways; and working closely with other key stakeholders through public/private partnerships like the California Fuel Cell Partnership to facilitate the commercialization of innovative technologies.

Carbon Removal: EPA will build domestic and international consensus around the integration of carbon sequestration activities into a comprehensive climate strategy. Carbon can be sequestered through changes in both forestry and agricultural practices, but these actions are not currently well understood or accepted in many sectors of the international and environmental communities. EPA is working collaboratively with USDA to address the misconceptions regarding carbon sequestration and to ensure that this important mitigation option is developed in an environmentally sound and economically efficient way. EPA and USDA will identify and develop specific opportunities to sequester carbon in agricultural soils, forests, other vegetation

and commercial products, which have collateral benefits for productivity and the environment, and with a carbon removal potential of up to 25 MMTCE by 2010. The efforts necessary in FY 2004 to achieve these 2010 goals are detailed in Table 10.

State and Local: States and localities have a significant and an important role in reducing greenhouse gases, provided they are equipped with the tools they need to integrate climate change into their daily decisions. The state and local program responds to this need by providing guidance and technical information about the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. EPA will continue its efforts to build capacity and to provide state and local governments with technical, outreach and/or education services about climate change impacts, mitigation and adaptation, and related issues so that state and local governments may more effectively address their environmental, human health, and economic goals in a comprehensive manner. These efforts are detailed in Table 10.

International Capacity Building: EPA is working with a number of key developing countries to help them: 1) design and implement programs to increase the use of low and zero greenhouse gas technologies; 2) identify, evaluate and implement strategies for achieving multiple social and health or economic benefits while reducing greenhouse gas emissions; 3) design market-based systems to facilitate more significant actions to reduce GHG emissions by these countries under the UNFCCC as well as the infrastructure necessary to implement these actions; and, 4) accurately assess GHG emissions from the transportation sector and implement less energy intensive transportation strategies. Over the next ten years, EPA's goals are to: 1) catalyze significant increases in voluntary, market-driven programs for increasing the use of low and zero greenhouse gas technologies; 2) achieve the full integration of climate considerations into countries' development plans; and 3) establish the technical and institutional basis for major developing countries to take significant actions under the Climate Convention. The efforts necessary in FY 2004 to meet these goals are detailed in Table 10.

Global Change Research: All activities to assess potential impacts of global climate change pursuant to the Global Climate Research Act of 1990, or otherwise, will be developed collectively with the agencies participating in the Climate Change Science Program (CCSP). EPA will also ensure that ongoing research and assessment activities are coordinated with the CCSP. Attention is expected to be given to assessing direct and indirect effects of climate change on human health and aquatic ecosystems, identifying and quantifying the uncertainties associated with those effects, and comparing climate change effects with effects caused by other stressors.

The Agency has developed a UV monitoring network of 14 rural (in National Park Service units) and 7 urban sites. These sites provide data to assess ecosystem and human exposures to UV-B, which has been tied to such issues as immune system depression and increased incidence of melanomas. Data from the network will be coupled with studies of the effects of UV-B radiation on biological systems including potentially sensitive species.

EPA's air quality assessment efforts will inform air quality managers and other decision makers about how global climate change and future technology changes could influence ambient air quality. As part of this research, EPA will be projecting how air emissions that contribute to ozone and particulate matter levels could change under several different technology scenarios

that consider advancements in energy and transportation technologies. This emissions information will be used in regional air quality models that take into account projected climate change by downscaling from global models. The program will determine the impacts of global change on air quality - especially ozone and particulate matter – and also be used to help assess changes in temperature and water quantity and timing (e.g. flooding, less snow pack).

**Table 7. Buildings Programs: Description of Planned Activities
Within FY 2004 Budget Request**

ENERGY STAR Buildings	<p>Actively promote EPA's national energy performance rating system and work with building owners and managers to benchmark an average of 18 percent of the market across office buildings, schools, Federal and state facilities, retail spaces, hospitals, and hotels.</p> <p>Award 2,800 additional Energy Star labels to buildings that reach a benchmark score between 75 and 100.</p> <p>Continue to work closely with the energy services industry to assist these companies in integrating EPA's national energy performance rating system into their customer services, leading to 5,000 benchmarked buildings.</p> <p>Continue to actively recruit new small businesses and organizations into Energy Star for small business to reach over 9,000 partners.</p> <p>Continue to promote the financial value of Energy Star with the Wall Street and financial community.</p> <p>Actively work to improve the efficiency of the Federal government – by working with other agencies to implement key pieces of the Federal Executive Order on building energy efficiency, particularly focusing on assisting agencies to benchmark their buildings and to procure energy efficient products.</p>
ENERGY STAR Products	<p>Implement a new integrated public awareness campaign on energy efficiency to achieve greater recognition of the Energy Star label in the U.S.</p> <p>Coordinate with utility and state partners representing more than 65% of U.S. households in the design and operation of effective state-level energy efficiency programs.</p> <p>Enhance Energy Star labeled product quality through a review of performance specifications for 5 product categories such as imaging equipment and thermostats.</p> <p>Continue working with retailers and equipment contractors to ensure that consumers receive clear information when in the market to purchase products.</p> <p>Continue working in partnership with Canada, the European Community, Japan, Taiwan, Australia, and New Zealand in implementing energy efficiency labeling programs modeled after Energy Star.</p> <p>Promote the purchase of about 160 million Energy Star labeled products in 2004.</p>
ENERGY STAR Homes	<p>Over 90,000 new homes are expected to be constructed as Energy Star in 2004.</p> <p>Promote Energy Star Labeled New Homes in 20 geographic areas.</p> <p>Expand Energy Star to include 80% of the housing stock of the national builders, Pulte, Ryan and Centex.</p> <p>Achieve 50% penetration of Energy Star in the manufactured housing industry.</p> <p>Continue to promote Energy Star to HUD, and state and local housing authorities as the platform for their affordable housing programs.</p> <p>Work with major retailers, such as Home Depot, Lowes, and Sears, to promote ENERGY STAR Home Sealing to consumers.</p> <p>Promote Home Performance with Energy Star in 20 geographic regions to address whole house energy efficiency improvements.</p> <p>Promote proper installation, maintenance, and duct sealing of HVAC systems under the ENERGY STAR banner in 10 geographic regions.</p> <p>Extend Energy Star to the remodeler market.</p> <p>Promote benchmarking as a major tool to spur homeowners to make energy efficiency home improvements.</p>

**Table 8. Industry Programs: Description of Planned Activities
Within FY 2004 Budget Request**

ENERGY STAR for industry	<p>Expand the Energy Star program for industry to address eight industries.</p> <p>Conduct industrial sector focus sessions with three industries.</p> <p>Enhance technical assistance provided to the industrial sector by developing plant energy performance indicators for three additional industries.</p> <p>Maintain the energy peer exchange networking opportunities for the broader U.S. industry by conducting two national meetings, along with a series of centralized peer exchanges accessible to all.</p>
Combined Heat and Power Initiative	<p>Continue to expand efforts in the Northeast, Midwest, and Texas, working with state, local, and industry partners to facilitate new projects. EPA will begin to track new projects as they are developed nationally, along with the associated greenhouse gas reductions.</p> <p>Conduct outreach efforts in the Northwest and Southeast, as well as Hawaii.</p> <p>Work with state and local regulators to identify best practices for regulations that encourage energy efficiency.</p>
Green Power Partnership	<p>Continue to expand partner list by working with green power providers and marketers, as well as purchasers.</p> <p>Work to develop market consensus on national standard for green power purchasing.</p> <p>Work with states to leverage their renewable energy programs through policies such as emissions disclosure.</p>
Industry Partnerships	<p>Continue efforts with industry partners to help them better understand their greenhouse gas emissions and opportunities for cost-effectively reducing these emissions.</p> <p>Continue to improve greenhouse gas tracking guidelines for industry.</p> <p>Expand Climate Leaders program to 50 partners.</p> <p>Issue corporate greenhouse gas inventory design principles and several cross-sector and sector-specific inventory tools.</p> <p>Announce over 10 new corporate greenhouse gas reduction goals.</p>
Waste Wise	<p>Partner with 1,400 businesses through Waste Wise by 2004.</p> <p>Continue to provide direct technical assistance for resource management, a performance-based contracting approach to overcome market barriers to waste reduction in the waste service industry.</p> <p>Continue Product Stewardship as a comprehensive national approach for electronics recycling with tangible industry commitments and state support, leading to measurable increases in electronics recycling and associated climate benefits. In addition, continue to pursue national targets for carpet recovery and meaningful increases in packaging recycling rates.</p> <p>Continue waste-related Greenbuildings efforts in the areas of criteria development and WasteWise recycled-content building challenges. EPA will spur demand for recovered materials by supporting materials and improved waste management for Greenbuilding programs, partnering with industry and states, and responding to request for technical assistance.</p> <p>Work with stakeholders in developing a comprehensive waste sector strategy for greenhouse gas reductions.</p>
Methane Programs	<p>Continue Natural Gas STAR program in all sectors; increase industry-wide participation to 64%.</p> <p>Work with key stakeholders through EPA's Coalbed Methane Outreach Program (CMOP) to increase the market penetration of new greenhouse gas reduction technologies appropriate for combusting mine ventilation air. EPA will continue to provide technical assistance to mining operations as well as monitor and analyze the results from two demonstration projects.</p> <p>Assist a total of 275 landfills through the Landfill Methane Outreach Program (LMOP) with gas utilization projects, to promote newer energy applications, and to increase methane recovery efficiency at existing projects.</p> <p>In the agriculture sector, continue expansion of methane-reducing technologies, such as anaerobic digesters, to help ensure clean water and air for the livestock sector.</p>

<p>Programs to Reduce High Global Warming Potential Gases</p>	<p>The Voluntary Aluminum Industry Partnership (VAIP) will continue to deliver reductions, with VAIP participants reducing the industry's emissions of PFCs by at least 45% percent from the 1990 baseline year.</p> <p>Work with the U.S. semiconductor partners to achieve their 10% PFC emissions reduction goal by 2010 from their 1995 baseline.</p> <p>Continue to build the SF₆ Emissions Reduction Partnership for Electric Power systems (utilities) to include partners representing 60% of the industry's net generating capacity.</p> <p>Expand participation in the SF₆ Emission Reduction Partnership for the Magnesium Industry to represent greater than 80% of U.S. industry emissions. Facilitate global information sharing to achieve cost effective emission reductions of 0.2 MMTCE.</p> <p>Maintain 100% participation with U.S. HCFC-22 chemical manufacturers to reduce emissions of HFC-23.</p> <p>Expand the stewardship programs to reduce high global warming potential emissions from other key sources such as the military and ODS replacement industries.</p> <p>SNAP expects to review and list 10 alternatives to ozone-depleting substances, focusing on the identification of safe and energy-efficient substitutes, including HFCs, for HCFCs in various sectors.</p>
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**Table 9. Transportation Programs: Description of Planned Activities
Within FY 2004 Budget Request**

<p>Transportation Efficiency</p>	<p>The <u>Commuter Choice Leadership Initiative (CCLI)</u> reduces emissions of smog-forming and toxic air pollutants, and greenhouse gases, by reducing vehicle miles traveled. EPA partners with employers who agree to adopt an employee commuter benefits program that meets specified performance levels. In FY 2004, EPA will achieve 0.1 to 0.3 MMTCE of emission reductions by: promoting Commuter Choice in 6-10 major metropolitan areas; expanding Commuter Choice to include more than 1,000 employer partners; actively promoting Commuter Choice to industries representing finance, insurance and real estate, government, transportation, retail, telecommunications, entertainment, health care, and universities; expanding Commuter Choice to reach 1.2 million employees (1% penetration of U.S. commuters); promoting Commuter Choice with a series of high visibility events, enhanced marketing materials, and media outreach.; achieving additional pollution reduction of 3,000-6,000 tons of NOx and 12,000 to 30,000 tons of CO; and, gasoline savings of 70-215 million gallons.</p> <p>Establish the <u>SmartWay Outreach Program</u> by promoting a transportation label program on par with Energy Star to identify products which will benefit the environment both globally by reducing CO₂ emissions and locally by reducing NO_x and other smog forming emissions. The SmartWay Outreach Program will achieve these emission reductions by implementing voluntary programs, including the Variable Priced Insurance Initiative.</p> <p>In FY 2004 the <u>SmartWay Transport Partnership</u> will achieve up 0.5 MMTCE reductions, as well as NOx and PM reductions, by:</p> <p>partnering with 10-15 of the largest trucking companies in the U.S. (representing 10% of the freight shipped by truck) and 3 of the 7 largest railroad companies (representing 40% of the freight shipped by rail). Partners will agree to serve as industry leaders to reduce fuel consumption and greenhouse gas emissions through the implementation of negotiated technologies and practices.</p> <p>partnering with 25 manufacturing, retail, and supply companies that hire or contract trucking and/or rail fleets. These companies will agree to hire rail and truck companies that are members of the Green Transport Partnership.</p> <p>developing guidance to state and local governments describing how they can receive SIP, NSR offset, and trading credits for their emission reduction actions under the SmartWayTransport Partnership.</p> <p>building 3 regional coalitions of communities, state and local governments, and trucking and truck stop industries to begin developing plans for construction of idle reduction systems at truck stops along the I-95 (in the Northeast), I-5 (in the West), and I-40 (in the South) interstate corridors.</p> <p>showcasing the emission control effectiveness, fuel efficiency, and commercial viability of innovative diesel emission control technology through joint EPA-partner projects.</p> <p>exploring the commercial viability of a fuel cell auxiliary power units designed to reduce emissions from truck idling by a joint EPA-industry consortium consisting of energy suppliers, trucking fleets, truck equipment manufacturers, and truck stop/travel centers.</p> <p>developing web based software to allow trucking and rail fleets (and other companies) to calculate the amounts of CO₂, NOx, and PM currently produced from trucking and rail operations as well as the reductions they could achieve through Green Transport Partnership activities.</p> <p>creating a national outreach campaign that educates truckers, fleet managers, companies, state/local governments and the general public about the environmental effects caused by moving freight in this country and the most practical, cost effective solutions to mitigate those effects.</p> <p>Promote <u>Smart Growth</u> planning strategies for SIP/conformity purposes.</p> <p>Continue to pursue analyses of emissions trading and other market mechanisms for transportation sources and to provide technical assistance to state and local governments and to developing countries to develop and pilot innovative climate change mitigation options for the transportation sector.</p>
<p>Clean Automotive Technology (CAT)</p>	<p>Continue engineering programs and support of CRADAs by focusing on solving engineering challenges caused by the more demanding size, performance, durability, and power requirements of heavier vehicles by applying EPA's advanced hydraulic hybrid drivetrain and innovative clean and ultra-efficient engines (such as clean diesel and other novel combustion approaches) to demonstrate dramatic fuel efficiency gains.</p>
<p>Fuel Cells and Hydrogen Fuel</p>	<p>EPA will establish lab capability to test of range of fuel cell vehicles; certify several fuel cell vehicles; submit major life cycle model for fuel cells for peer review; and continue to participate in effective government/industry partnerships that advance fuel cell vehicle technology.</p>

**Table 10. Other Programs: Description of Planned Activities
Within FY 2004 Budget Request**

<p align="center">Carbon Removal</p>	<p>Continue to collaborate with USDA on the pilot projects and determine the viability of various carbon sequestration activities as quantifiable means of limiting greenhouse gas emissions.</p> <p>Continue work on enhancing the ability of major macroeconomic models to evaluate the economic value of carbon sequestration and fully appreciating the role of carbon sequestration in addressing climate change.</p> <p>Bring together leading experts from government, industry, and the research community to address several difficult issues related to sequestration projects, including permanence, leakage, monitoring, and verification.</p> <p>Enhance efforts to better quantify the ancillary impacts of carbon sequestration.</p> <p>Work with stakeholders in the forestry and agriculture sectors to promote the development of environmentally sustainable and economically attractive carbon sequestration projects domestically and internationally.</p>
<p align="center">State and Local</p>	<p>Provide targeted support, via tailored technical assistance and recognition, to states eager to integrate climate change into their overall planning and voluntarily reduce their emissions.</p> <p>Continue to assist state and local governments in initiating and updating greenhouse gas inventories, assessing vulnerability to climate change, and evaluating climate change policy impacts on state and local air quality, human health, and economies.</p> <p>Assess and disseminate information about the multiple benefits of greenhouse gas mitigation, including, environmental, health, energy, and economic benefits.</p> <p>Provide training on new tools and models that build understanding of the broader benefits of climate protection and the human health and clean air benefits of mitigation.</p> <p>Integrate GHG emission reduction strategies in State Implementation Plans (SIPs), for states that want to provide credits for GHG reductions</p> <p>Develop tools to facilitate voluntary adoption of heat island reduction activities, including ways to integrate them into state implementation plans (SIPs).</p> <p>Continue to build state and local capacity to address climate change and reduce heat island impacts through improved outreach tools and products, such as through improvements to the EPA Global Warming Site and Heat Island Site, maintenance of a best practices clearinghouse to promote multi-pollutant emission reduction strategies (e.g., energy efficiency, sustainability, clean energy, and other GHG mitigation measures), an updated catalogue of state legislative activity related to greenhouse gases, and the identification and implementation of additional demonstration projects.</p> <p>Translate key scientific findings into a format more readily understandable to the public.</p> <p>Increase awareness of global, regional, and local impacts of climate change focusing on areas of potential vulnerability.</p> <p>Develop risk characterization methods to encourage effective risk public response to climate change, and continue work on the strategic coastal response program.</p>
<p align="center">International Capacity Building</p>	<p>Continue and expand cooperation with China, Mexico, Brazil, Korea, Philippines, and India.</p> <p>Create an air quality and transportation policy tool-kit which, in cooperation with the World Bank and other partners, would be shared with 12-16 countries.</p> <p>Build the capacity in major emitter countries (India, Russia, Brazil, and Indonesia) to develop reliable emission inventories in support of sustained emissions reduction strategies.</p> <p>Enhance capacity for energy and GHG audits for selected industrial sectors (such as, cement, iron, and steel) in 4-5 major emitter countries.</p> <p>Establish regional energy and GHG information networks in three major regions of the world.</p> <p>Promote opportunities for more effective North American electricity markets and broaden related analyses.</p> <p>Build regional centers of financial expertise in Russia and China for climate and energy projects.</p> <p>Assess design of compliance infrastructure and market-based mechanisms, in order to increase incentives and capacities for a more level environmental playing field internationally.</p> <p>Move key developing countries toward climate and public-health friendly policies by building analytical capacity and strengthening partnerships.</p> <p>Improve energy efficiency in buildings and appliances in Latin America and Asia and accelerate adoption of clean technologies in China and Korea.</p> <p>Work with export credit agencies, international organizations, and commercial finance institutions to identify and overcome barriers to commercial investment in clean technologies in developing countries.</p>

FY 2004 Change from FY 2003 Request

EPM

- (+\$775,400, +1.2 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- (-\$673,100, -4.2 FTE) These resources have been redirected to capacity work in developing countries (6.5) that will focus on air pollution issues (i.e. mobile sources, Particulate Matter).

Research

S&T

- (+\$2,023,700) These resources will support increased research and assessment activities to improve our understanding of the consequences of global change on air quality, including tropospheric ozone and particulate matter. This will involve the development of models and methodologies for analyzing the consequences of global change on regional air quality, including the identification, development, and evaluation of methods for relating global changes to future regional conditions relevant to air quality by making projections across long temporal scales and examining relationships between global and regional spatial scales.
- (-\$462,340, -2.2 FTE) Workyears and associated costs supporting landscape ecology research and assessment activities will be consolidated in Objective 8.1, Ecosystems Research. This is a technical adjustment.
- (-\$2,023,700) This reduction in FY 2004 represents the completion of planned research and assessment activities examining ecosystem and human resilience to global change. Beginning in FY 2004, these resources will be targeted at activities to improve our understanding of the consequences of global change on air quality, including tropospheric ozone and particulate matter.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE GREENHOUSE GAS EMISSIONS.

Annual Performance Goals and Measures

Reduce Greenhouse Gas Emissions

- In 2004 Greenhouse gas emissions will be reduced from projected levels by approximately 81 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- In 2003 Greenhouse gas emissions will be reduced from projected levels by approximately 72.2 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- In 2002 On track to ensure that greenhouse gas 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.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual Greenhouse Gas Reductions - All EPA Programs	On Track	72.2	81.3	MMTCE
Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR)	On Track	19.2	21.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs	On Track	6.7	7.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs	On Track	17.0	18.1	MMTCE
Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs	On Track	24.9	29.6	MMTCE
Greenhouse Gas Reductions from EPA's Transportation Programs	On Track	2.4	2.8	MMTCE
Greenhouse Gas Reductions from EPA's State and Local Programs	On Track	2.0	2.0	MMTCE

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO2) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO2 emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Reduce Energy Consumption

- In 2004 Reduce energy consumption from projected levels by more than 110 billion kilowatt hours, contributing to over \$7.5 billion in energy savings to consumers and businesses.
- In 2003 Reduce energy consumption from projected levels by more than 95 billion kilowatt hours, contributing to over \$6.5 billion in energy savings to consumers and businesses.
- In 2002 On track to ensure that energy consumption is reduced from projected levels by more than 85 billion kilowatt hours, contributing to over \$10 billion in energy savings to consumers and businesses.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual Energy Savings - All EPA Programs	On Track	95	110	Billion kWh

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs

in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO₂ emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Clean Automotive Technology

In 2004 Transfer hybrid powertrain components, originally developed for passenger car applications, to meet size, performance, durability, and towing requirements of Sport Utility Vehicle and urban delivery vehicle applications with an average fuel economy improvement of 25% over the baseline.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested			25.2	MPG

Baseline: The average fuel economy of all SUVs sold in the US in 2001 is 20.2 mpg. Values for 2002, 2003, and 2004 represent 15%, 20%, and 25% improvements over this baseline, respectively. The long-term target is to demonstrate a practical and affordable powertrain that is 30% more efficient by 2005, and 100% more efficient by 2010.

Validation and Verification of Performance Measures

FY 2004 Performance Measure: Annual Greenhouse Gas Emissions Reductions overall and by Sector

Performance Database: Climate Protection Partnerships Division Tracking System.

Data Source: Baseline data for carbon emissions related to energy use comes from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases, are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002. EPA develops the carbon and non-CO₂ emissions baselines and projections using information from partners and other sources. Data collected by EPA's voluntary programs include partner reports on facility-specific improvements (e.g. space upgraded, kilowatt-hours (kWh) reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns.

Methods, Assumptions, and Suitability: Most of the voluntary climate programs' focus is on energy efficiency. For these programs, EPA estimates the expected reduction in electricity consumption in kilowatt-hours (kWh). Emissions prevented are calculated as the product of the kWh of electricity saved and an annual emission factor (e.g., MMTCE prevented per kWh). Other programs focus on directly lowering greenhouse gas emissions (e.g., Natural Gas STAR, Landfill Methane Outreach, and Coalbed Methane Outreach); for these, greenhouse gas emission reductions are estimated on a project-by-project basis. EPA maintains a tracking system@ for emissions reductions.

QA/QC Procedures: EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs. Peer-reviewed carbon-conversion factors are used to ensure consistency with generally accepted measures of GHG emissions, and peer-reviewed methodologies are used to calculate GHG reductions from these programs.

Data Quality Review: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The second such interagency evaluation, led by the White House Council on Environmental Quality, examined the status of U.S. climate change programs. The review included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. The results were published in the *U.S. Climate Action Report-2002* as part of the United States' submission to the Framework Convention on Climate Change (FCCC). The previous evaluation was published in the *U.S. Climate Action Report-1997*. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..."

Data Limitations: These are indirect measures of GHG emissions (carbon conversion factors and methods to convert material-specific reductions to GHG emissions reductions). Also, the voluntary nature of the programs may affect reporting. Further research will be necessary in order to fully understand the links between GHG concentrations and specific environmental impacts, such as impacts on health, ecosystems, crops, weather events, and so forth.

Error Estimate: These are indirect measures of GHG emissions. Although EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs, errors in the performance data could be introduced through uncertainties in carbon conversion factors, engineering analyses, and econometric analyses.

New/Improved Data or Systems: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. EPA continues to update inventories and methodologies as new information becomes available.

References: The U.S. Climate Action Report 2002 is available at: www.epa.gov/globalwarming/publications/car/index.html. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *The Power of Partnerships: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, July, 2002, available at: <http://www.epa.gov/cpd/pdf/cpdann01.pdf>

FY 2004 Performance Measure: Annual Energy Savings

Performance Database: Climate Protection Partnerships Division Tracking System

Data Source: Data collected by EPA's voluntary programs include partner reports on facility specific improvements (e.g. space upgraded, kilowatt-hours (kWh) reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns.

Methods, Assumptions, and Suitability: Most of the voluntary climate programs' focus is on energy efficiency. For these programs, EPA estimates the expected reduction in electricity consumption in kilowatt-hours (kWh). Emissions prevented are calculated as the product of the kWh of electricity saved and an annual emission factor (e.g., MMTCE prevented per kWh). Other programs focus on directly lowering greenhouse gas emissions (e.g., Natural Gas STAR,

Landfill Methane Outreach, and Coalbed Methane Outreach); for these, greenhouse gas emission reductions are estimated on a project-by-project basis. EPA maintains a tracking system for energy reductions.

Energy bill savings are calculated as the product of the kWh of energy saved and the cost of electricity for the affected market segment (residential, commercial, or industrial) taken from the Energy Information Administration's (EIA) *Annual Energy Outlook 2002* and *Annual Energy Review 2000* for each year in the analysis (1993-2012). Energy bill savings also include revenue from the sale of methane and/or the sale of electricity made from captured methane. The net present value (NPV) of these savings was calculated using a 4-percent discount rate and a 2001 perspective.

QA/QC Procedures: EPA devotes considerable effort to obtaining the best possible information on which to evaluate energy savings from its voluntary programs.

Data Quality Review: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The second such interagency evaluation, led by the White House Council on Environmental Quality, examined the status of U.S. climate change programs. The review included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. The results were published in the *U.S. Climate Action Report-2002* as part of the United States' submission to the Framework Convention on Climate Change (FCCC). The previous evaluation was published in the *U.S. Climate Action Report-1997*. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..."

Data Limitations: The voluntary nature of programs may affect reporting. In addition, errors in the performance data could be introduced through uncertainties in engineering analyses, and econometric analyses.

Error Estimate: Although EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs, errors in the performance data could be introduced through uncertainties in engineering analyses and econometric analyses.

New/Improved Data or Systems: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. EPA continues to update inventories and methodologies as new information becomes available.

References: The U.S. Climate Action Report 2002 is available at: www.epa.gov/globalwarming/publications/car/index.html. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *The Power of Partnerships: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, July, 2002, available at: <http://www.epa.gov/cpd/pdf/cpdann01.pdf>

FY 2004 Performance Measure: Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested

Data Source: EPA fuel economy tests performed at the National Vehicle and Fuel Emissions Laboratory, Ann Arbor, Michigan (NVFEL.)

QA/QC Procedures: EPA fuel economy tests are performed in accordance with the EPA Federal Test Procedure and all applicable QA/QC procedures. Available on the Internet: <http://www.epa.gov/otaq/sftp.htm>.

Methods, Assumptions and Suitability: N/A

Data Quality Reviews: EPA's National Vehicle and Fuel Emissions laboratory is recognized as a national and international facility for fuel economy and emissions testing. NVFEL is also the reference point for private industry.

Data Limitations: Primarily due to EPA regulations, vehicle fuel economy testing is a well established and precise exercise with extremely low test to test variability (well less than 5%). Additional information is available on the Internet: <http://www.epa.gov/otaq/testdata.htm> The one relevant issue is that fuel economy testing of hybrid vehicles (i.e., more than one source of onboard power) is more complex than testing of conventional vehicles. EPA has not yet published formal regulations to cover hybrid vehicles. However, relevant information is available on the Internet: http://www.cts.nrel.gov/analysis/hev_test/procedures.shtml

Error Estimate: N/A

New/Improved Data or Systems: EPA is using solid engineering judgement and consultations with other expert organizations (including major auto companies) to develop internal procedures for testing hybrid vehicles.

References: See <http://www.epa.gov/otaq/testproc.htm> for additional information about testing and measuring emissions at the NVFEL.

Coordination with Other Agencies

Voluntary climate protection programs government-wide stimulate the development and use of renewable energy technologies and energy efficient products that will help reduce greenhouse gas emissions. The effort is led by EPA and DOE with significant involvement from USDA, the Department of Housing and Urban Development (HUD) and the National Institute of Standards and Technology.

Agencies throughout the government make significant contributions to the climate protection programs. For example, DOE will pursue actions such as promoting the research, development, and deployment of advanced technologies (for example, renewable energy sources). In the case of fuel cell vehicle technology, EPA is working closely with DOE as the Administration's FreedomCAR initiative develops, taking the lead on emissions-related issues. The Treasury Department will administer proposed tax incentives for specific investments that

will reduce emissions. EPA is broadening its public information transportation choices campaign as a joint effort with DOT. EPA coordinates with each of the above-mentioned agencies to ensure that our programs are complementary and in no way duplicative.

This coordination is evident in work recently completed by an interagency task force, including representatives from the Department of State, EPA, DOE, USDA, DOT, OMB, Department of Commerce, USGCRP, NOAA, NASA, and the Department of Defense, to prepare the Third National Communication to the Secretariat as required under the Framework Convention on Climate Change (FCCC). The FCCC was ratified by the United States Senate in 1992. A portion of the Third National Communication describes policies and measures (such as ENERGY STAR and EPA's Clean Automotive Technology initiative) undertaken by the U.S. to reduce greenhouse gas emissions, implementation status of the policies and measures, and their actual and projected benefits. One result of this interagency review process has been a refinement of future goals for these policies and measures which were communicated to the Secretariat of the FCCC in 2002. The "U.S. Climate Action Report 2002: Third National Communication of the United States of America under the United Nations Framework Convention on Climate Change" is available at: <http://unfccc.int/resource/docs/natc/usnc3.pdf>

Research

EPA's Global Change Research Program is closely coordinated with the Administration's Climate Change Science Program (CCSP), which was created under the auspices of the Committee on Climate Change Science and Technology Integration (CCCSTI). In addition, the Agency will collaborate closely with NOAA's Regional Integrated Science and Assessment Program to assure appropriate prioritization and efficiency, to avoid duplication and to assure consistently high standards of scientific review for all aspects of supported studies and analyses.

Statutory Authorities

Clean Air Act, 42 U.S.C. 7401 et seq. - Sections 102, 103, 104, and 108

Clean Water Act, 33 U.S.C. 1251 et seq. - Section 104

Solid Waste Disposal Act, 42 U.S.C. 6901 et seq. - Section 8001

Pollution Prevention Act, 42 U.S.C. 13101 et seq. - Sections 6602, 6603, 6604, and 6605

National Environmental Policy Act, 42 U.S.C. 4321 et seq. - Section 102

Global Climate Protection Act, 15 U.S.C. 2901 - Section 1103

Federal Technology Transfer Act, 15 U.S.C. - Section 3701a

Research

U.S. Global Change Research Program Act of 1990

United Nations Framework Convention on Climate Change

National Climate Program Act of 1997

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Stratospheric Ozone Depletion.

By 2005, ozone concentrations in the stratosphere will have stopped declining and slowly begun the process of recovery. In addition, public education to promote behavior change will result in reduced risk to human health from ultraviolet (UV) overexposure, particularly among susceptible subpopulations such as children.

Resource Summary (Dollars in Thousands)

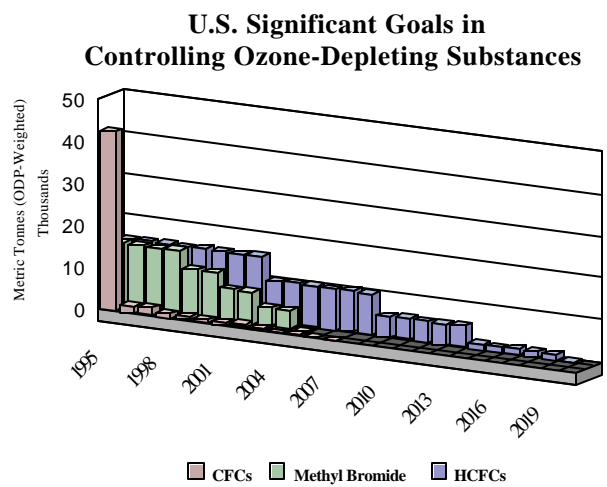
	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Stratospheric Ozone Depletion.	\$14,749.8	\$15,813.3	\$17,540.3	\$1,727.0
Environmental Program & Management	\$14,749.8	\$15,813.3	\$17,540.3	\$1,727.0
Total Workyears	30.1	29.7	30.3	0.6

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$489.3	\$419.8	\$489.7	\$69.9
Legal Services	\$76.5	\$82.1	\$85.7	\$3.6
Management Services and Stewardship	\$98.9	\$93.4	\$178.3	\$84.9
Multilateral Fund	\$9,575.8	\$9,575.8	\$11,000.0	\$1,424.2
Stratospheric Ozone Protection	\$5,602.7	\$5,642.2	\$5,786.6	\$144.4

FY 2004 Request

The stratospheric ozone layer protects life on earth from harmful UV radiation; a depleted ozone layer allows more UV radiation to reach the earth. The increased levels of UV radiation due to ozone depletion can lead to a greater chance of overexposure to UV radiation and consequent health effects including skin cancer, cataracts, and other illnesses.¹ Today, one in five Americans develops skin cancer. Cataracts diminish the eyesight of millions of Americans and cost billions of dollars in medical care each year. EPA is helping to reduce the risks of skin cancer and cataracts by implementing the provisions of the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) and the Clean Air Act Amendments of 1990 (the Act). EPA estimates that, in the United States alone, the worldwide phase-out of ozone depleting substances (ODSs) will save 6.3 million lives from fatal cases of skin cancer, and avoid 299 million cases of non-fatal skin cancers and 27.5 million cases of cataracts between 1990 and 2165.²



Scientific evidence amassed over the past 25 years has shown that chlorofluorocarbons (CFCs), halons, hydrochlorofluorocarbons (HCFCs), methyl bromide, and other halogenated chemicals used around the world are destroying the stratospheric ozone layer. The Act provides for a phase-out of production and consumption of CFCs, HCFCs, and other ozone-depleting chemicals, and requires controls on various products containing ODSs.

The United States and 184 other countries are Parties to the Montreal Protocol as of January 14, 2003. The United States has repeatedly affirmed its commitment to this international treaty and to demonstrating world leadership by phasing out domestic production of ODSs, as well as helping other countries find suitable alternatives. As a signatory to the Montreal Protocol, the United States has an obligation to domestically regulate and enforce its terms. In accordance with this international treaty, and related Clean Air Act obligations, EPA implements and enforces rules controlling the production, import, and emission of ODSs, as well as rules requiring the EPA to identify safer alternatives and promote their use to curtail ozone depletion.

Because of the very long lifetimes of ODSs, even after program goals are met, the United States' population will be exposed to higher levels of UV radiation than existed prior to the use and emission of ODSs. The ozone layer is not expected to recover until the mid-21st century at the earliest, according to current atmospheric research. Recognizing this and the current sun-

¹World Meteorological Organization, Scientific Assessment of Ozone Depletion: 1998, February 1999.

²Advisory Council on Clean Air Act Compliance Analysis, Science Advisory Board, The Benefits and Costs of the Clean Air Act 1990-2010, EPA report to Congress; 1999.

exposure practices of the American public, EPA is encouraging behavioral changes with a goal of reducing UV-related health risks. The Agency is placing special emphasis on education and outreach to children, a particularly vulnerable population, through the SunWise School Program. Protecting young people from the sun is especially important as one to two blistering sunburns before the age of 18 can double a person's risk of melanoma as an adult.

Program Goals and Objectives for FY 2004

- \$ Domestic and international phase-out of production and importation of numerous ODSs:
- Implementation of a Class I chemical phase-out: CFCs, halons, methyl chloroform, carbon tetrachloride, chlorobromomethane, and hydrobromofluorocarbons (HBFCs).
 - Development of a marketable allowance allocation program to ensure a graduated phase-out of HCFCs, leading to full phase-out in 2030, in compliance with the Montreal Protocol.
 - Implementation of a graduated phase-out of methyl bromide, while allowing for quarantine, pre-shipment, emergency, and critical uses – also employing marketable allowances.
 - Expanded monitoring and interception of illegal imports of ODSs, through collaboration with the U.S. Customs Service.
 - Implementation of an essential use allowance program for production and importation of CFCs and other ODSs needed for critical applications, such as metered-dose inhalers for asthma and other respiratory illnesses.
 - Increased recovery and recycling of ODSs and alternatives in the U.S. and abroad.
 - Regulatory review and outreach under the Significant New Alternatives Policy (SNAP) program to ensure that substitutes for ozone-depleting chemicals used across major industry and consumer sectors are safe for public health and the environment.
 - Continue the SunWise School Program, with the goal of reducing the risk to children and their caregivers of health effects caused by overexposure to UV radiation.
 - Environmental data development and public outreach aimed at informing the public of risks of overexposure to UV radiation.
 - Facilitation of earlier voluntary phase-out and refrigerant recycling of CFCs and HCFCs in developing countries.

As noted above, current atmospheric modeling predicts a healing of the ozone layer by the middle of the 21st century, assuming full global compliance with the Montreal Protocol. Because the Protocol makes developing country compliance contingent on support from the

Protocol's Multilateral Fund, continued support for the Montreal Protocol's Multilateral Fund is critical if we are to ensure protection of the ozone layer. Under the Montreal Protocol, the U.S. and other developed countries contribute to the Multilateral Fund to support projects and activities to eliminate the production and use of ODSs by developing countries. To date, the Fund has supported over 4,300 activities in 133 countries that, when fully implemented, will annually prevent emissions of more than 164,000 metric tons of ODSs. In addition, the Fund has reached long-term agreements to dismantle over two-thirds of developing country CFC production capacity and virtually all of developing country halon production capacity. Final closure of related facilities depends on continued funding.

Pollution prevention also is an important element in meeting the objective goals. For example, the National Emission Reduction Program requires recovery and recycling or reclamation of ODSs, primarily in the air-conditioning and refrigeration sectors. The SNAP program will review newly developed alternatives to ODSs, and restrict those alternatives that, on an overall basis, are more harmful to human health and the environment than other alternatives for the same application. EPA, with the help of other Federal agencies, will also continue to facilitate the transition away from remaining uses of other ODSs, such as methyl bromide and HCFCs. Also working with other Federal and international agencies, EPA will continue its intensive efforts to curb illegal imports of ODSs.

Additionally, in FY 2004, EPA will continue the SunWise School Program. The overarching goal of the SunWise Program is to create a comprehensive approach to mitigate the negative impacts associated with depletion of the Earth's protective ozone layer. EPA's SunWise School Program will achieve this goal through the direct education of children and caregivers in how to protect themselves and others from overexposure to UV radiation.

Program Accomplishments

- \$ In FY 2001, consistent with the Montreal Protocol and the Act, EPA reduced methyl bromide production and import by 50 percent from the 1991 baseline. Simultaneously, EPA collaborated with the U.S. Department of Agriculture (USDA) and industry to test and register alternatives to methyl bromide in FY 2000 and FY 2001.

- \$ Between FY 1995 and FY 2001, EPA, along with the Customs Service and Department of Justice, intercepted over 2,500,000 pounds of illegal ODS imports, resulting in more than 110 convictions of illegal importers. Stemming the flow of illegal imports into the U.S. not only ensures global reductions of ozone-depleting emissions, but also prevents undercutting the U.S. domestic market in reclaimed ODSs.

- \$ During FY 1999 through FY 2001, EPA completed several major projects to prevent an increase in ozone-depleting emissions. For example, EPA:
 - Conducted a comprehensive evaluation, in collaboration with the National Aeronautics and Space Administration (NASA), the academic community, and industry, of potential health impacts of ozone depletion resulting from high-speed aircraft flying in the stratosphere.

- Developed and published, with extensive industry input and review, a comprehensive halon recovery and reclamation guide, which focuses on environmentally sound and efficient training and testing uses, de-commissioning, recovery, reclamation, and disposal of halons and containers of halons.
 - Banned the distribution and import into the U.S. of refrigerators containing CFCs. The amendment to the existing product ban ensures environmental protection from releases of CFCs and also avoids undermining U.S. refrigerator manufacturers, all of whom have moved to alternatives.
 - listed 31 of the new possible alternatives to ODSs as acceptable for use in refrigeration and air-conditioning, solvent cleaning, aerosols, insulating foams, fire protection, adhesives, coatings and inks, bringing the combined total of acceptable substitutes to approximately 400. EPA also restricted the use of several proposed substitutes to prevent unacceptable risks to the environment, consumer, and worker health and safety.
- § EPA ensured the continued availability of CFCs used for metered-dose inhalers relied upon by 14 million patients with asthma and other chronic respiratory diseases.
- § EPA's FY 2002 contribution to the Multilateral Fund helped the Fund support cost-effective projects designed to build capacity and eliminate ODS production and consumption in over 60 developing countries.
- § During the 2001-2002 school year, the SunWise program grew from 587 to 3,750 participating schools in 50 states, Puerto Rico, and the District of Columbia.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,424,200) This increase is in support of the Montreal Protocol Multilateral Fund.
- (+\$154,800, +0.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE STRATOSPHERIC OZONE DEPLETION.

Annual Performance Goals and Measures

Restrict Domestic Consumption of Class II HCFCs

- In 2004 Restrict domestic consumption of class II HCFCs below 9,906 ODP -weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.
- In 2003 Restrict domestic consumption of class II HCFCs below 9,906 ODP -weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.
- In 2002 On track to restrict domestic consumption of class II HCFCs below 15,240 ODP -weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
Domestic Consumption of Class II HCFCs	On Track	<9,906	<9,906	ODP MTs
Domestic Exempted Production and Import of Newly Produced Class I CFC s and Halons	On Track	<10,000	<10,000	ODP MTs

Baseline: The base of comparison for assessing progress on the 2003 annual performance goal is the domestic consumption cap of class II HCFCs as set by the Parties to the Montreal Protocol. Each Ozone Depleting Substance (ODS) is weighted based on the damage it does to the stratospheric ozone - this is its ozone-depletion potential (ODP). Beginning on January 1, 1996, the cap was set at the sum of 2.8 percent of the domestic ODP-weighted consumption of CFCs in 1989 plus the ODP-weighted level of HCFCs in 1989. Consumption equals production plus import minus export.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Restrict Domestic Consumption of Class II HCFCs Restrict Domestic Exempted Production and Import of Newly Produced Class I CFCs and Halons

Performance Database: The Allowance Tracking System (ATS) database is maintained by the Global Programs Division (GPD). ATS is used to compile and analyze quarterly information on U.S. production, imports, exports, transformations, and allowance trades of ozone-depleting substances (ODS).

Data Source: Progress on restricting domestic exempted consumption of Class I CFCs and halons is tracked by monitoring industry reports of compliance with EPA’s phaseout regulations. Data are provided by U.S. companies producing, importing, and exporting ODS. Monthly information on domestic production, imports, and exports from the International Trade Commission is maintained in the ATS. Corporate data are typically submitted as quarterly reports. Specific requirements as outlined in the Clean Air Act are available on the Internet: <http://www.epa.gov/oar/caa/caa603.txt>

Methods, Assumptions and Suitability: Data are aggregated across all U.S. companies for each individual ODS to analyze U.S. total consumption and production.

QA/QC Procedures: Reporting and record-keeping requirements are published in 40 CFR Part 82, Subpart A, Sections 82.9 through 82.13. These sections of the Stratospheric Ozone Protection

Rule specify the required data and accompanying documentation that companies must submit or maintain on-site to demonstrate their compliance with the regulation.

The ATS data are subject to a Quality Assurance Plan. In addition, the data are subject to an annual quality assurance review, coordinated by OAR staff separate from those on the team normally responsible for data collection and maintenance. The ATS is programmed to ensure consistency of the data elements reported by companies. The tracking system flags inconsistent data for review and resolution by the tracking system manager. This information is then cross-checked with compliance data submitted by reporting companies. The GPD maintains a user's manual for the ATS that specifies the standard operating procedures for data entry and data analysis. Regional inspectors perform inspections and audits on-site at the facilities of producers, importers, and exporters. These audits verify the accuracy of compliance data submitted to EPA through examination of company records.

Data Quality Reviews: The Government Accounting Office (GAO) is currently conducting a review of U.S. participation in Five International Environmental Agreements, and is analyzing data submissions from the U.S. under the *Montreal Protocol on Substances that Deplete the Ozone Layer*. No deficiencies are identified.

Data Limitations: None. Data are required by the Clean Air Act.

Error Estimate: None

New/Improved Data or Systems: The GPD continues to explore an improved system whereby direct electronic reporting would be possible.

References: See <http://www.epa.gov/ozone/desc.html> for additional information on ODS. See <http://www.unep.ch/ozone/montreal.shtml> for additional information about the Montreal Protocol and <http://www.unmfs.org/> for more information about the Multilateral Fund.

Coordination with Other Agencies

In an effort to curb the illegal importation of ODSs, an interagency task force was formed consisting of representatives from EPA, the Department of Justice, the Customs Service, the Department of State, the Department of Commerce, and the Internal Revenue Service. The venting of illegally imported chemicals has the potential to prevent the United States from meeting the goals of the Montreal Protocol to restore the ozone layer.

EPA is working with the USDA to facilitate research and development of alternatives to methyl bromide, and to identify and monitor emergency and critical uses of the compound. EPA consults with the USDA in developing rulemakings for exempting certain methyl bromide from production and importation phase-out.

EPA also consults with the Food and Drug Administration (FDA) on the potential for methyl bromide needs. EPA works with the Office of the United States Trade Representative in analyzing potential trade implications in stratospheric protection regulations that affect imports and exports.

EPA works closely with the Centers for Disease Control and the National Weather Service on the UV Index and the health messages that accompany the scientific data. Additionally, EPA is a member of the Federal Council on Skin Cancer Prevention, which is dedicated to educating and protecting all Federal employees from the risks of overexposure to UV radiation.

EPA coordinates closely with the FDA to ensure that sufficient supplies of CFCs are available for the production of life-saving metered-dose inhalers for the treatment of asthma and other lung diseases. This partnership between EPA and FDA blends the critical goals of protecting the public health and limiting damage to the stratospheric ozone layer.

In addition to collecting its own UV data, EPA coordinates with NASA and the National Oceanic and Atmospheric Administration to monitor the state of the stratospheric ozone layer.

EPA works with NASA on assessing essential uses and other exemptions for critical shuttle and rocket needs, as well as effects of direct emissions of high speed aircraft flying in the stratosphere.

EPA works very closely with the Department of State, and other Federal agencies as relevant to the issues at hand, in international negotiations among Parties to the Protocol.

EPA coordinates with the Small Business Administration to ensure that proposed rules are developed in accordance with the Small Business Regulatory Flexibility Act.

Statutory Authorities

Clean Air Act (CAA), Title V (42 U.S.C. 7661-7661f), and Title VI (42 U.S.C. 7671-7671q)

The Montreal Protocol on Substances that Deplete the Ozone Layer

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Protect Public Health and Ecosystems from PBTs and other Toxics.

By 2006, reduce the risks to ecosystems and human health, particularly in Tribal and other subsistence-based communities, from persistent, bioaccumulative toxicants (PBTs) and other selected toxins which circulate in the environment on global and regional scales.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Protect Public Health and Ecosystems from PBTs and other Toxics.	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Environmental Program & Management	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Total Workyears	31.8	35.6	36.4	0.8

Key Program (Dollars in Thousands)

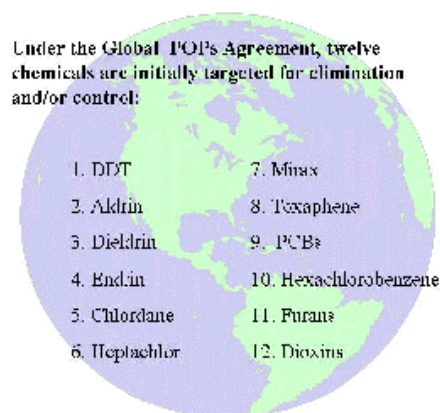
	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$495.4	\$515.9	\$619.2	\$103.3
Global Toxics	\$1,522.8	\$1,415.1	\$1,557.1	\$142.0
Global Trade Issues for Pesticides and Chemicals	\$3,091.2	\$3,125.4	\$3,367.1	\$241.7
Great Lakes	\$537.6	\$0.0	\$0.0	\$0.0
Legal Services	\$382.4	\$410.7	\$428.8	\$18.1
Management Services and Stewardship	\$31.5	\$26.2	\$41.2	\$15.0
POPs Implementation	\$0.0	\$680.3	\$667.3	(\$13.0)

FY2004 Request

Many human health and environmental risks to the American public originate outside our borders. Many pollutants can travel easily across borders - via rivers, air and ocean currents, and migrating wildlife. Even in the remote Arctic, industrial chemicals such as polychlorinated biphenyls (PCBs) have been found in the tissues of local wildlife. Further, differences in public health standards can contribute to global pollution. A chemical of particular concern to one country may not be controlled or regulated in the same way by another. Harmonization of national standards can assist in reducing global pollution by increasing the number of health and ecological effects any single country may be examining. It may also lower barriers to trade and commerce as countries accept the validity of another's screening or other standards.

EPA's activities under this objective give priority to selected chemicals and certain heavy metals which can persist, bioaccumulate and are toxic (PBTs). PBT chemicals break down slowly in the environment, and elemental metals never degrade. For this reason, PBTs, including persistent organic pollutants (POPs), are very mobile, moving great distances along wind and ocean currents, thereby posing serious risks to human health and the ecosystem in the U.S. and world-wide³. PBTs also enter the food chain accumulating in shellfish, fish, birds and animals that are exposed directly or indirectly through their diets.

EPA is working to reduce potential risk from PBTs on several fronts which include: 1) reducing the release and transboundary movement of PBTs; 2) reducing the levels of exposure to humans and adverse effects to wildlife that may result from these PBTs; 3) assisting additional countries around the world to monitor releases and also manage their use of PBTs; and 4) increasing confidence that consistent PBT obligations will be met. For each of these efforts, the Agency targets the highest risk or greatest concerns first. For example, of all the PBTs, PCBs, dioxins/furans, DDT and certain other pesticides, mercury poses the greatest concern. Thus, in each negotiated agreement or offer of technical assistance, these substances take priority. In addition, certain populations are especially vulnerable, and receive priority consideration. Examples include coastal populations with diets heavy in fish or marine mammals which may contain toxins and endangered wildlife which consume and biomagnify PCBs, DDT or other harmful PBTs⁴.



International agreements form the vehicle for many protective standards. In 2004, EPA will continue to play a key role in the Administration's efforts to implement a number of regional and global instruments with both voluntary and legally binding obligations to control and more safely produce, use, store, and dispose of selected PBTs. In addition, the Agency will continue ongoing

³ EPA web page - Frequently Asked Questions- How do PBTs harm us and the environment?

⁴ EPA web page - Frequently Asked Questions- How do PBTs harm us and the environment?

programs to build the capacity of other countries to reduce risks associated with PBTs, consistent with the obligations of international agreements already in place or now under negotiation.

Binding International Agreements on Certain Persistent Toxics and Prior Informed Consent

Recognizing that environmental loadings of PBTs and the resultant health and environmental risks will increase over time because of expanded production, trade, and use of these substances, in recent years international attention has focused on two groups of PBT substances: persistent organic pollutants (POPs) such as PCBs, dioxins and DDT, and selected heavy metals, most notably mercury.

EPA has been involved in a series of legally binding international agreements concerning various PBT substances and international trade in certain chemicals that are nationally banned or severely restricted. In late 1998 and early 1999, the U.S. and some forty other nations concluded and signed two legally binding regional protocols on POPs and on selected heavy metals (e.g. mercury) under the United Nations Economic Commission for Europe's Convention on Long-Range Transboundary Air Pollution (LRTAP) and the Rotterdam Convention on the Prior Informed Consent (PIC). The LRTAP POPs protocol in turn helped to establish the foundation for the negotiation (under the auspices of the United Nations Environment Programme UNEP) of a legally binding global convention on POPs, also known as the Stockholm Convention. Negotiation of the Stockholm Convention concluded in December 2000 and was signed by EPA Administrator Christine Todd Whitman on May 23, 2001 in Stockholm, Sweden.

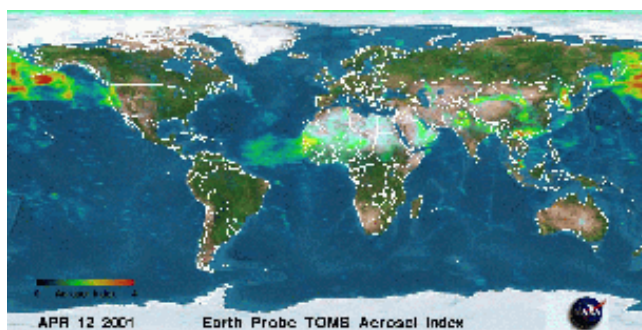
The PIC Convention established a network for voluntary information exchange and provides opportunities for importing countries to make informed decisions when importing certain chemicals that have been subject to control actions in other parts of the world. In FY 2004, EPA will assist developing countries in complying with the provisions of the PIC convention which will result in more informed decision-making on how to best manage the risks posed by trade in restricted chemicals. In the spring of 2002, the Administrator forwarded the Stockholm Convention to the Senate for its advice and consent towards ratification, and submitted a Bill to Congress which would amend the Toxic Substances Control Act (TSCA) and the Federal Insecticide, and Rodenticide Act (FIFRA) to facilitate full implementation of the Stockholm Convention, the LRTAP POPs Protocol, and the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

The Stockholm Convention bans or restricts manufacture, use, and/or release of 12 selected chemicals. The agreement also addresses export and import restrictions/controls, emission release restrictions, by-product issues, waste management, and the selection of additional substances for control. The long-term success of the agreement will depend in part on the development of release inventories and implementation of capacity building measures in developing countries around the world. The problem is especially acute in the Alaskan Arctic and Great Lakes regions where POPs are taken up in the food chain and impact Native Americans who depend on subsistence foods for their livelihood. As a result, EPA will focus on those countries that are key sources of POPs and most likely impact the U.S, such as Russia, Central America and the Caribbean.

In FY 2004, providing that the U.S. Senate ratifies the POPs Treaty, EPA will initiate an agency-wide POPs implementation strategy for the Stockholm Convention. This program will include four major components: 1) legislation; 2) a new voluntary partnership with industry; 3) an action plan for new POPs chemicals; and 4) an action plan for reassessing currently EPA-registered chemicals. Under the terms of the Stockholm Convention and direction of the Administrator, EPA will also continue to focus on those countries that are key sources of POPs substances and will assist developing countries in meeting their obligations under these agreements.

EPA has developed an international POPs Implementation Plan, the goals of which include: 1) reduction in the releases of POPs reaching the U.S. by long range transport; 2) reduction of sources of POPs in domestic countries of origin, focusing on PCB-containing equipment, obsolete POPs stockpiles, and dioxins and furans emissions from combustion sources; and 3) enabling better inter- and intra-country coordination on POPs implementation activities by improving access to POPs technical, regulatory and program information on the Internet.

In FY 2004, EPA will continue to monitor and develop strategies to address long-range and atmospheric transport of contaminants. For example, current levels of contaminants transported to and deposited in the north Pacific region are a concern. Unless preventative measures are taken, levels will increase due to continued economic growth in the region and the rest of the world. Long-range transport of contaminants to and from the region is one of many inter-continental and trans-oceanic pathways of concern within a larger context of global atmospheric exchange of contaminants in which all countries participate as both sources and receptors. Other pathways of concern include Saharan dust transport over the tropical Atlantic to the Americas, North American pollutant movement across the North Atlantic, European pollution carried to Asia, and the transport of northern Eurasian contaminants over the frozen Arctic Ocean.



Among heavy metals, mercury is especially noteworthy because it circulates in the environment on a global scale. International cooperation is needed in reducing mercury production, use, and release if substantial risk reductions to humans and their environment are to be achieved by individual countries. In FY 2004, EPA will provide technical expertise and implement mercury reduction activities data to the global mercury assessment. EPA will continue to expand the geographic reach of its mercury monitoring effort by establishing monitoring stations in strategic locations around the world (e.g., Mauna Loa, Hawaii and Ny Alesund, Norway).

Other Risk Reduction Measures for Persistent Toxics

Since 1993, EPA has been actively promoting the phase-out of lead additives in gasoline on the international level. As of 1999, EPA has exceeded the target level selected for the 2005 strategic goal due to significant global reductions in the use of leaded gasoline. In the future, EPA will make additional progress in encouraging more countries to eliminate the use of lead in gasoline thereby resulting in decreased adverse health impacts.

Projects aimed at protection of the Arctic Ecosystem will continue to focus on preventing and reducing environmental contamination from spent nuclear fuel, PCBs, dioxins/furans, and obsolete pesticides in northwestern Russia. These projects aim to assist the Russian Federation in phasing out its manufacture and use, reducing releases and subsequent transport to the Arctic, and encouraging the use of substitutes. These are multi-lateral projects conducted in conjunction with all Arctic Rim countries under the auspices of the Arctic Council. The results of the Russia PCB inventory phase, completed in FY 2000, found PCB inventories of 31,500 tons with the majority of the PCBs found in equipment (27,000 tons) still in circulation. In FY 2002, a feasibility study was conducted to determine appropriate PCB destruction technologies for demonstration. In Fiscal Years 2003 and 2004, the Russia PCB project will move into the next phase by selecting and demonstrating a PCB destruction technology. In FY 2004, the Russia dioxins/furans project will move into its next phase by conducting feasibility studies for pulp and paper industry and industrial burning, and the Russia obsolete pesticides project will move into its first phase with the development of a Russian national inventory of obsolete pesticide stockpiles.

A program started in 2000 focused on pesticides, mercury and lead will continue to target countries in Sub-Saharan Africa (SSA) and specific sectors (i.e., refineries, mining companies, and stockpilers of agricultural chemicals) which are major contributors to globally circulating chemical/toxic risks. This program addresses the growing health and ecosystem risk from rapid urban and industrial development in SSA, and supports U.S. foreign policy and Presidential commitments of engagement with SSA through a community empowerment approach. In 2002, targeted countries and cities are being given information that will assist in implementing environmental regulatory systems on a par with U.S. and international standards. Key activities include pesticide information exchange and training, management of obsolete pesticide stockpiles, lead risk reduction, pollutant release and transfer registration development, and industrial sector environmental improvement.

EPA is engaged with the United Nations Environmental Programme (UNEP) in an Internet Access Project that is targeting officials of developing countries as its primary audience. Through this project, these officials can gain access to information necessary for the sound management of chemicals.

Harmonization of Test Guidelines

Test guidelines are collections of methods for assessing hazard, toxicity, or other properties of chemicals and chemical preparations, such as pesticides and industrial chemicals. Each test guideline provides instructions on how a specific type of test could be adequately performed. Many countries develop their own set of test guidelines in line with their internal

legislative requirements and priorities, and differences in individual test guidelines can adversely impact the trade between countries.

Harmonizing test guidelines across countries offers significant benefits to industry, the public, and the environment, including:

- Reducing the burden on chemical companies and other industries, which otherwise must perform separate, sometimes only slightly different, repeated testing in order to satisfy the regulatory requirements of different jurisdictions both within the United States and internationally;
- Reducing the need for animal testing;
- Expanding the universe of toxic chemicals for which needed testing information is available; and
- Fostering efficiency in international information exchange and mutual international acceptance of chemical test data.

To date, EPA has published nearly one hundred guidelines, a third of which have been harmonized with Organization for Economic Co-operation and Development (OECD) requirements. In 2004, the Agency will continue its involvement in the process for harmonization of additional test guidelines and expects to contribute to the harmonization of five additional test guidelines with the OECD. The achievement of the test guideline sub-objective will lead to simplified and more uniform testing requirements, with guidelines that are acceptable to Federal agencies and a wide array of countries, including our major trading partners.

Development of Pollutant Release and Transfer Registries (PRTRs)

Pollutant Release and Transfer Registries (PRTRs) is the international term for annually reported multi-media emissions inventories, which at a minimum include information on the releases (i.e., air, water, land, underground injection) and transfers (e.g., treatment) of pollutants from industrial sources. The Toxic Release Inventory (TRI) is the United States' version of a PRTR. International attention focused on PRTRs in 1992 when the Earth Summit (held in Rio de Janeiro) encouraged all nations to establish these systems as an integral role in the sound management of chemicals. In North America, all three North American Free Trade Agreement (NAFTA) nations, Canada, the United States and Mexico, have established emissions inventories. There are currently eight nations with PRTRs and more that are either in the process of developing them, or that have expressed an interest in developing such inventories. Fostering public awareness in other countries may help reduce pollution generated in those countries.

EPA remains involved at all levels of the PRTR effort. This involvement includes bilateral discussions and active participation internationally. EPA works closely with the OECD, the North American Commission for Environmental Cooperation (NACEC), the United Nations Institute for Training and Research (UNITAR), and the PRTR Coordination Workgroup, as well as in bilateral activities and in international fora. The U.S. EPA is chairing an OECD PRTR Release Estimation Techniques task force to leverage resources by sharing information

and expertise on guidance to industry. To foster public education around the world, EPA will utilize available resources from the U.S.-Asia Environmental Partnership to provide financial or technical assistance to help nations develop PRTRs.

In FY 2004, countries will begin to set up necessary infrastructure and, by FY 2005, EPA expects that a majority of OECD countries will have established PRTRs or will have PRTRs under development. Besides being used for community purposes, as TRI is currently used in this country, these registries will help monitor the progress countries make in complying with international agreements, such as the Montreal Protocol (ozone depleting chemicals), Basel (waste transfer agreements), and the POPs Treaty.

International Screening Information Data Set (SIDS)

The U.S. is working with other OECD member countries to implement the International Screening Information Data Set (SIDS) program, a voluntary international cooperative testing program started in 1990. The program's focus is on developing base-level test information (including data on basic chemistry, environmental fate, environmental effects and health effects) for international high production volume chemicals. Under OECD, high production volume chemicals are those that are manufactured or imported in quantities of at least two million pounds. SIDS data will be used to screen chemicals and to set priorities for further testing and/or assessment. The Agency will review testing needs for 75-100 SIDS chemicals in 2004.

Technical Assistance to Developing Countries

EPA has been active in global efforts to manage obsolete pesticides that are often stockpiled in developing countries. EPA has been a leader in the United Nations Food and Agriculture (FAO) workgroup that is developing global strategies to address the risks posed by obsolete pesticides. EPA has also developed an international train-the-trainer course "Pesticide Disposal in Developing Countries," based on the growing international problem and demand for technical assistance.

Bilateral Work with Canada and Mexico

EPA will continue to work with the Canadian Government to develop strategies for controlling and ultimately eliminating the remaining uses of two priority persistent bioaccumulative toxic pesticides, pentachlorophenol and lindane, and possibly others yet to be selected. Both chemicals are on the Great Lakes Binational Strategy. In coordination with Mexico, EPA will continue to promote the gradual phaseout of DDT and chlordane, largely through a gradual increase in the use of alternative products and integrated pest management practices. We are also engaged in trilateral work with Canada and Mexico in the framework of the working group on the Sound Management of Chemicals (SMOC).

FY 2004 Change from FY 2003 Request

EPM

- (+\$129,000, 2.0 FTE) This is a redirection of resources from strengthening environmental management capabilities (Objective 5) to capacity efforts for implementation of the Stockholm Convention on Persistent Organic Pollutants. The

redirection will reduce the level of effort directed towards strengthening environmental management to countries in transition.

- (+\$241,700) This increase includes additional support for global trade issues involving chemicals, pesticides and biotechnology.
- (+\$118,300, 0.1 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: PROTECT PUBLIC HEALTH AND ECOSYSTEMS FROM PBTS AND OTHER TOXICS.

Annual Performance Goals and Measures

Risks from Industrial/Commercial Chemicals (INT)

In 2004 Identify and reduce risks associated with international industrial/commercial chemicals.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request 75	chemicals
High Production Volume chemicals with complete Screening Information Data Sets (SIDS) submitted to OECD SIDS Initial Assessment Meeting				

Baseline: The baseline is 40 chemicals per year submitted prior to FY2003.

Verification and Validation of Performance Measures

Validating measurements under international capacity-building programs presents several challenges. Technical assistance projects, for instance, typically target developing countries, which often do not have sound data collection and analysis systems in place. Several of the Agency's activities under Goal 6, Objective 4 will over time provide environmental information. Non-technical projects, such as assistance in gaining support from donor countries and organizations must rely on more subjective measures of change. Data verification and validation for each of the key measures under Objective 4 are discussed below.

FY 2003 Congressional Performance Measure: Develop baseline information on atmospheric transport of POP chemicals to sensitive US ecosystems.

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment tasks completed.

FY 2003 Congressional Performance Measure: Assist a target country in the Caribbean to address targeted PCB sources.

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment tasks completed.

Coordination with Other Agencies

To conclude the international agreements on POPs, heavy metals and PIC substances, EPA must continue to coordinate with other Federal agencies and external stakeholders, such as Congressional staff, industry, and environmental groups, to convey the U.S. approach and solicit constructive criticism. EPA needs to ensure that the list of chemicals and the criteria and process for evaluating future chemicals for possible international controls are based on sound science. To illustrate, the Agency may typically coordinate with the Food and Drug Administration (FDA), FDA's National Toxicology Program, the Centers for Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR), the National Institute of Environmental Health Sciences (NIEHS) and/or the Consumer Product Safety Commission (CPSC) on matters relating to OECD test guideline harmonization.

EPA's objective is to promote improved health and environmental protection, both domestically and worldwide. The success of this objective is dependent on successful coordination not only with other countries, but with various international organizations such as the Intergovernmental Forum on Chemical Safety (IFCS), the North American Commission on Environmental Cooperation (NACEC), the Organization for Economic Cooperation and Development (OECD), and the CODEX Alimentarius Commission. The North American Free Trade Agreement and cooperation with Canada and Mexico play an integral part in the harmonization of data requirements.

The Agency's goal to develop common or compatible international approaches to pesticide review, registration and standard setting extends to our international partnerships. The partnerships may be grouped into 3 broad categories: (1) policy, (2) programmatic, and (3) capacity building. The Agency, for example, worked closely with other member countries of the OECD to establish a pesticide forum to bring government pesticide regulators together to address

common problems and achieve greater harmonization of policies and procedures. The OECD Pesticide Forum works on five major areas: re-registration, data requirements, risk reduction, test guidelines and hazard assessment. The OECD plans to include establishing internationally harmonized labeling for pesticides.

EPA continues to participate actively in the implementation of the Food and Agriculture Organizations Prior Informed Consent (PIC) agreement, which promotes safe management of chemicals in international trade. PIC provides for notification from countries to the U. N. about pesticides and chemicals that have either been banned or severely restricted for health and/or safety reasons. The Agency is also continuing to work with the U.N. Food and Agriculture Organization (FAO) to promote safe management of chemicals in international trade. The Agency also has worked with the Codex Alimentarius Commission to improve the scientific basis and timeliness of Codex decisions, and boost public participation in the decision-making processes. The Agency also will continue to work with the North American Commission for Environmental Cooperation on the development and implementation of regional action plans to address such PBTs as mercury.

EPA initiated work in 1999 on its Persistent Bioaccumulative Toxics Program (PBTP), which aims to support a variety of domestic and international efforts (noted above). The goal of these efforts is to reduce the risks posed by persistent toxic substances. Through the PBTP, EPA has worked closely with its domestic partners, including state and local governments, as well as industry, environmental and Tribal organizations, plus international counterparts, to promote the objectives of the Initiative. This work has closely paralleled many efforts already underway to conclude and promote the implementation of international agreements on POPs and PIC.

At the EPA regional level, EPA also worked with the NACEC to deal with chemical pollutants of concern to Canada, Mexico, and the United States. The commission approved regional action plans to reduce the use of DDT and chlordane throughout North America.

Statutory Authorities

Pollution Prevention Act (PPA) (42 U.S.C. 13101_13109)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3,4,5,6,10,11,18,20,23,24,25,30 and 31 (7 U.S.C. 136a, 126a-1, 126c, 136d, 136h, 136i, 136p, 136r, 136u, 136v, 136w, 136w-5 and 136w-6)

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 11023)

Toxic Substances Control Act (TSCA) sections 4, 5, 6, 12, and 13 (15 U.S.C. 2603, 2604, 2605, 2611, 2612)

Clean Water Act (CWA) (33 U.S.C. 1251_1387)]

Clean Air Act (CAA)

Federal Food, Drug and Cosmetic Act (FFDCA).

Resource Conservation and Recovery Act (RCRA)

North American Agreement on Environmental Cooperation (NAAEC)

1996 Habitat Agenda, paragraph 43bb

U.S./Canada Agreements on Arctic Cooperation

1989 US/USSR Agreement on Pollution

1991 U.S./Canada Air Quality Agreement

1978 U.S./Canada Great Lakes Water Quality Agreement

1909 Boundary Waters Agreement

World Trade Organization Agreements

North American Free Trade Agreement

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.

Through 2005, integrate environmental protection with international trade and investment and increase the application of cleaner and more cost-effective environmental practices and technologies in the United States and abroad to ensure that a clean environment and a strong economy go hand-in-hand.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.	\$16,347.9	\$12,601.0	\$12,126.1	(\$474.9)
Environmental Program & Management	\$16,347.9	\$12,601.0	\$12,126.1	(\$474.9)
Total Workyears	57.3	54.7	50.8	-3.9

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Commission for Environmental Cooperation - CEC	\$3,396.4	\$3,535.3	\$3,937.8	\$402.5
Environment and Trade	\$1,672.6	\$1,844.3	\$1,702.5	(\$141.8)
Facilities Infrastructure and Operations	\$815.6	\$792.7	\$860.2	\$67.5
International Safe Drinking Water	\$0.0	\$0.0	\$348.0	\$348.0
Legal Services	\$675.7	\$725.6	\$757.5	\$31.9
Management Services and Stewardship	\$51.0	\$41.7	\$83.9	\$42.2

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regional and Global Environmental Policy Development	\$1,431.2	\$1,331.3	\$918.0	(\$413.3)
Technical Cooperation with Industrial and Developing Countries	\$4,478.4	\$4,330.1	\$3,518.2	(\$811.9)

FY 2004 Request

Work in FY 2004 will focus on developing the frameworks necessary to perpetuate cleaner and more cost-effective practices by providing developing countries with the tools and training necessary to achieve long-term environmental change. These programs complement technical assistance EPA and other organizations provide by ensuring that the recipient country or region is able to sustain and replicate environmental improvements. These programs also help protect human health and the environment in the U.S. by introducing innovative practices for environmental management, reducing costs and encouraging information flow through data sharing, increasing the demand for U.S. environmental technologies and services, and helping to implement more transparent enforcement and permitting regimes.

Specific objectives include: 1) protecting human health and the environment on global, regional, and national levels by enhancing management capabilities in other countries; 2) promoting environmentally sound trade worldwide through the implementation of the North American Free Trade Agreement's environmental agreements, and through participation in the development of U.S. trade policy; 3) promoting the dissemination of proven and cost-effective environmental technologies and services; and 4) advancing U.S. foreign policy, economic, national security, humanitarian, and other interests abroad.

Trade and Environment

EPA supports trade liberalization as a means of improving economic welfare, domestically and abroad. However, there are strong public concerns that freer trade ("globalization") will have high costs in terms of environmental degradation and threats to human health, especially in developing countries that lack environmental protection institutions. The U.S. is currently involved in trade negotiations at the World Trade Organization (WTO) and with the Free Trade Area of the Americas (FTAA), has just completed negotiations with Chile and Singapore, and has begun work on trade agreements with Central America, Morocco, and the Southern Africa Customs Union. Congress, in recognition of the growing awareness of the link between trade and the environment, enacted in Trade Promotion Authority (TPA) explicit priorities and objectives for environmental issues, such as environmental reviews and capacity building, and provisions against lowering environmental standards to attract investment.

During FY 2002, EPA worked in an interagency process to harmonize environment and trade. As a result, two agreements that reached conclusion in early FY 2003 contain environmental text and include processes for establishing cooperative projects that encourage harmonization of environment and trade. These cooperative projects are aimed at improving the environment worldwide through communicating environmental best practices and reducing the potential for global and trans-boundary pollution.

Throughout FY 2003 and 2004, EPA will be heavily involved in developing and completing these projects. In FY 2003, the United States will initiate at least three new free trade agreement negotiations, and continue work on the WTO and FTAA. In each case, EPA will promote the harmonization of environment and trade, working with partner countries to develop cooperative projects that will assist them in maintaining or improving their environmental conditions. This work will continue into FY 2004, when the majority of the work on cooperative projects will take place, and negotiations for other free trade agreements may begin. An additional goal in FY 2004 is to ensure that the Environment and Trade program will fill an important data gap by quantifying environmental impacts of potential trade agreements, allowing us to better measure the results of our work.

Commission for Environmental Cooperation

The Commission for Environmental Cooperation (CEC) was established in 1993 under the North American Agreement on Environmental Cooperation (NAAEC), a supplemental agreement to the North American Free Trade Agreement (NAFTA). The CEC consists of a Council, a Secretariat, and a Joint Public Advisory Committee. Executive Order 12915 designates the EPA Administrator as the United States representative on the Council and gives EPA lead responsibility for the U.S. Government regarding the CEC.

During FY 2004, EPA will continue to lead U.S. efforts in the implementation of the NAAEC and the CEC program plan by coordinating U.S. involvement in programs related to the NAAEC, including oversight of programs in the categories of Trade and Environment, Law and Policy, Pollutants and Health, and Biodiversity, while promoting transparency and public participation in all of CEC's work. EPA will also participate in meetings of the Joint Public Advisory Committee, and coordinate meetings with the U.S. National and Governmental Advisory Committees for the CEC.

EPA will also provide oversight, guidance, and technical support for a number of substantive CEC projects in FY 2004. For example, in the area of biodiversity, EPA will participate in the development and implementation of a strategic plan for biodiversity conservation, including the strategic development of a network of marine protected areas in North America. In the area of children's health and the environment, EPA will also provide technical support and oversight for efforts by CEC and partners to develop a report of indicators dealing with children's health and the environment in North America. EPA will continue to provide information and technical support for the annual Taking Stock publication, which CEC publishes to measure pollutant releases across North America. EPA will also participate in a process for developing a strategic plan for the CEC's work, including program evaluation, and will lead U.S. efforts in developing and approving a 10-year retrospective of the environmental impacts of NAFTA, including the NAAEC.

EPA will also continue to participate and provide technical guidance to the Sound Management Of Chemicals (SMOC) workgroup, including taskforces on mercury, dioxins, furans, hexachlorobenzene and lindane. In FY 2004, efforts will continue to build capacity to deal with chemical management issues in all three countries, focusing on Mexico and support for its National Implementation Plan on POPs as well as continuing efforts related to sustainable alternatives to DDT for malarial vector control. Work on the new Monitoring and Assessment Taskforce will continue to assess the short, medium, and long-term goals for action plans dealing with chemicals in air, water, and the environment.

International Safe Drinking Water

In FY 2004, the international safe drinking water initiative will continue its focus on applying cleaner and more cost-effective environmental practices and technologies in order to improve drinking water quality in partner countries. Ongoing projects in Central America and Africa will be used as models to continue promoting water quality improvement throughout these regions, with expansion into Asia, particularly India. With the number of medium-sized cities (100,000 to 1 million inhabitants) and large cities (greater than 1 million inhabitants) expected to rise dramatically over the next 20 years, these projects will help alleviate the enormous stress on an already compromised water and wastewater infrastructure in urban and peri-urban areas.

In Latin America, EPA will work with partners such as the Pan American Health Organization's technical center – CEPIS – to strengthen their abilities to improve water quality in the region. EPA implemented several drinking water projects in Africa during FY 2002, with projects focused on nations in the southern and eastern parts of the continent. In cooperation with other Federal agencies and departments, EPA will expand these urban/peri-urban drinking water programs during 2004. Raising awareness of the cost-effectiveness of protecting safe water resources (versus treatment of contaminated sources) will be an important component of each project. EPA will work with in-country partners to emphasize the health impacts and societal costs, such as infant mortality or lost work force productivity, which can result from unsafe drinking water. EPA will also consider environmental finance options, based on the Agency's Revolving Loan Fund programs, for small-scale infrastructure improvements in urban communities.

In cooperation with the USAID Mission, EPA will work to improve drinking water laboratory capacity and treatment plant effectiveness and to address water quality issues in urban areas as part of ongoing bilateral activities.

All of EPA's international safe drinking water work complements the Agency's children's health programs, which help to reduce exposure to contaminated drinking water among a particularly sensitive population.

Legal and Regulatory Capacity Building

In FY 2004, EPA will continue legal and regulatory capacity-building activities in Asia and Central America. In Asia, EPA will continue to work in cooperation with USAID to

implement new environmental laws and regulations or significantly revise existing laws and regulations. Through in-country assistance to EPA counterpart organizations, EPA will assist in developing and implementing improved laws and regulations. Projects in support of this effort will likely focus on transferring U.S. experience in the development of sound regulatory regimes and associated policies on permitting and penalty assessment. EPA will also work to increase public participation in the promulgation of environmental regulations, as public participation can encourage greater transparency in enforcement and reporting. EPA will also work with key partners to develop public awareness campaigns which facilitate the implementation of new regulations.

As part of another ongoing cooperative effort with USAID, the Agency will also work to improve the regulatory framework in Central America. EPA will assist Central American countries in developing regionally-comparable environmental standards, improving their application and enforcement of environmental regulations, and increasing their ability to comply with international environmental agreements. Work under this regional program will focus largely on pesticide management, wastewater management systems, and municipal waste management. FY 2004 will mark the third year in this six-year effort.

FY 2004 Change from FY 2003 Request

EPM

- (-\$482,900, 5.8 FTE) redirection of resources to give greater emphasis to new environmental plan for the Mexico Border (Goal 6 Objective 1) and capacity efforts for implementation of the Stockholm Convention on Persistent Organic Pollutants. The redirection will reduce the level of effort directed towards strengthening environmental management to countries in transition and developing countries.
- (+\$109,700, 0.4 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: INCREASE DOMESTIC AND INTERNATIONAL USE OF CLEANER AND MORE COST-EFFECTIVE TECHNOLOGIES.

Annual Performance Goals and Measures

Enhance Institutional Capabilities

- In 2004 Enhance environmental management and institutional capabilities in priority countries.
- In 2003 Enhance environmental management and institutional capabilities in priority countries.
- In 2002 All aspects of this Annual goal were met doing mid-year. Our efforts over the year lead to 2 countries committing to the phase-out of leaded-gasoline. Targeted countries in the Caribbean and in Asian completing the 1st phases of their commitments to the POPs conventions with PCB inventories.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Assist in the development or implementation of improved environmental laws or regulations in priority countries.		1	1	countries
Increase the transfer of environmental best practices among the U.S. and its partner countries and build the capacity of developing countries to collect, analyze, or disseminate environmental data.		3	3	countries
Increase the capacity of programs in Africa or Latin America to address safe drinking water quality issues.		1		countries
Baseline:	Sound data collection and analysis facilitates improved environmental legislation, enforcement and planning. EPA is helping to build capacity to collect, analyze and disseminate environmental data for use in priority developing countries to more effectively target resources for environmental protection.			

Verification and Validation of Performance Measures

Validating measurements under international capacity-building programs presents several challenges. Technical assistance projects, for instance, typically target developing countries, which often do not have sound data collection and analysis systems in place. Several of the Agency's activities under Goal 6, Objective 5 attempt to improve this data gathering and analysis process. Non-technical projects, such as assistance in regulatory reform, frequently must rely on more subjective measures of change, such as the opinions of project staff or reviews by third-party organizations, including other U.S. government organizations, in judging the long-term efficacy of the assistance provided. Data verification and validation for each of the key measures under Objective 5 are discussed below.

FY 2004 External Performance Measure: Assist in the development or implementation of improved environmental laws or regulations in developing countries.

Performance Database: None. Output measure. Manual collection of information to track measure.

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment of: (1) tasks completed, (2) compliance with new regulation, and (3) progress toward project goals and objectives.

EPA works with developing countries to improve environmental laws and regulations. Tracking development and implementation of legislation presents few challenges because EPA project staff maintain close contact with their counterparts and any changes become part of a public record. Assessing the quality of the new or revised laws/regulations, the level of public participation and support for stronger regulations, and the long-term social impacts of legislation is more subjective. Aside from feedback from Agency project staff, EPA relies, in part, on feedback from its counterparts in the target countries and regions and from nongovernmental organizations (NGOs) and other third parties in gauging the efficacy its international legal and regulatory capacity-building. Because EPA works to establish long-term relationships with priority countries, the Agency is often able to assess environmental improvement in these countries and regions for a number of years following legal assistance efforts.

FY 2004 External Performance Measure: Through the CEC, develop a core set of children's environmental health indicators and economic valuation report of children's environmental health by September 2004.

Performance Database: None. Output measure. Manual collection of information to track measure.

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment of tasks completed and consensus by the Commission for Environmental Cooperation's (CEC) children's environmental health trilateral team.

Coordination with Other Agencies

EPA's environmental mandate and expertise make it uniquely qualified to represent the nation's environmental interests abroad. While the Department of State (DOS) is responsible for the conduct of overall U.S. foreign policy, implementation of particular programs, projects, and agreements is often the responsibility of other agencies with specific technical expertise and resources. Relations between EPA and DOS cut across several offices and/or bureaus in both organizations. Similarly, EPA and the many components of the Department of Commerce work together closely on a range of different issues, including many science and technology issues. For example, EPA is responsible for implementing activities under the Export Enhancement Act of 1992. The Act mandated EPA participation on the Environmental Trade Working Group of the Trade Promotion Coordinating Committee, an interagency working group chaired by the Secretary of Commerce to coordinate the government's overall environmental trade promotion activities.

EPA also serves as the primary point-of-contact and liaison with the U.S. Agency for International Development (USAID). Specially drawing on expertise from throughout EPA, the Agency administers a number of interagency agreements for environmental assistance.

EPA works extensively with the Office of the U.S. Trade Representative (USTR), particularly its Office of Environmental and Natural Resources, to ensure that U.S. trade and environmental policies are mutually supportive. For example, through the Agency's participation in the negotiation of both the North American Free Trade Agreement and the World Trade Organization Agreements, EPA has worked with USTR to ensure that U.S. obligations under international trade agreements do not hamper the ability of Federal and state governments to maintain high levels of domestic environmental protection. The two agencies also work together to ensure that EPA's rules, regulations and programs are consistent with U.S. obligations under international trade agreements.

Finally, EPA works closely with a number of other Federal agencies with environmental, health, or safety mandates. These include (among others) the Department of Labor, Department of Transportation, Department of Agriculture, Department of the Interior, Department of Health and Human Services, and the Food and Drug Administration.

Statutory Authorities

EPCRA section 313 (42 U.S.C. 11023)

PPA (42 U.S.C. 13101-13109)

World Trade Organization Agreements

North American Free Trade Agreement

North American Agreement on Environmental Cooperation

US-Canada Agreements

The Boundary Waters Treaty of 1909

1987 Great Lakes Water Quality Agreement

1997 Canada-U.S. Great Lakes Bi-national Toxics Strategy