

## Environmental Protection Agency

### FY 2002 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
<b>Goal 06</b>	<b>Reduction of Global and Cross-border Environmental Risks</b>	\$228,591.8	\$231,049.2	\$284,410.8	\$282,698.9
<b>Obj. 01</b>	Reduce Transboundary Threats to Human and Ecosystem Health in North America.	\$71,336.8	\$72,420.1	\$96,077.3	\$95,677.8
<b>Obj. 02</b>	Reduce Greenhouse Gas Emissions.	\$127,285.5	\$124,382.3	\$155,286.2	\$153,828.0
<b>Obj. 03</b>	Reduce Stratospheric Ozone Depletion.	\$17,002.9	\$17,581.1	\$17,249.9	\$17,115.3
<b>Obj. 04</b>	Protect Public Health and Ecosystems from PBTs and other Toxics.	\$3,596.6	\$4,856.5	\$4,636.1	\$4,809.7
<b>Obj. 05</b>	Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.	\$9,370.0	\$11,809.2	\$11,161.3	\$11,268.1
	Total Workyears	526.9	526.9	521.0	506.6

\*For proper comparison with the FY 2002 request, the historic data has been converted to be consistent with the new 2000 Strategic Plan structure. Goal and Objective resources for FY 1999, FY 2000, and FY 2001 may therefore differ from the resources reported in the FY 2001 Annual Plan and Budget and the FY 2000 Annual Report.

### 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, are shared by neighboring countries, and can only be preserved through joint action. Other environmental risks – related to climate change, arctic environments, and biodiversity – are global in scope, and affect the health and welfare of United States citizens both directly and indirectly. These and other threats, unbound 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 newly democratic and developing nations achieve development consistent with the goals of protecting human health and the environment. As newly democratic and 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 and regulatory regimes throughout the world helps ensure that U.S. companies are not competitively disadvantaged by developing nations who otherwise may opt for rapid, inexpensive economic growth at the expense of the environment.

## **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. In the Great Lakes Basin, our strategy targets multi-media problems through monitoring and/or modeling efforts such as the Great Waters atmospheric deposition program, the Integrated Atmospheric Deposition Network, and the Great Lakes National Program Office's (GLNPO) open water monitoring. Through these means, Federal, state, Tribal, and provincial environmental organizations are targeting their Great Lakes efforts and utilizing all available authorities in order to achieve restoration of these areas.

To prevent degradation of the marine environment, the Agency, in conjunction with the Department of State, the National Oceanic and Atmospheric Administration (NOAA), and other Federal agencies, is focusing on the negotiation and implementation of legally-binding multilateral agreements. These agreements are designed to address sources of marine pollution that impact the United States.

EPA will meet its climate change objectives by working with business and other sectors to deliver multiple benefits – from cleaner air to lower energy bills – while improving overall scientific understanding of climate change and its potential consequences. The core of EPA's climate change efforts are 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 in the marketplace, resulting in faster deployment of

energy efficient technology into the residential, commercial, transportation, and industrial sectors of the economy. For example, the Partnership for a New Generation of Vehicles (PNGV) joins EPA and four other Federal agencies with Ford, General Motors and DaimlerChrysler to develop a new generation of safe, attractive and affordable vehicles with ultra-low emissions and high fuel efficiency.

EPA is also working with key developing countries, economies-in-transition, and regional groups to reduce greenhouse gas emissions through programs that focus on information and outreach, financing, energy efficiency, air quality, and technology transfer.

In order to restore and protect the earth's stratospheric ozone layer, EPA will work on both domestic and international fronts to limit the production and use of ozone-depleting substances and to develop safe alternative compounds. EPA will also provide education about the risk of environmental and health consequences of overexposure to ultra violet (UV) radiation.

To address the risks associated with persistent and bioaccumulative substances and other toxics, the Agency employs two fundamental approaches. The first approach seeks to minimize the harmful impacts of toxic substances known to circulate in the environment over long distances 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:

- C 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.
- C Cooperating with other countries to ensure that domestic and international environmental laws, policies, and priorities are recognized and implemented.
- C Cooperating with other Federal agencies, states, business, and environmental groups to promote the flow of environmentally sustainable technologies and services worldwide.

### Research

EPA is working to assess the vulnerability of human health and ecosystems to various environmental stressors (e.g., climate change, land-use change, UV radiation) at the regional scale, and to assess adaptation strategies. The knowledge gained from these assessments (e.g., the impacts climate change

could have on the spread of vector-borne and water-borne disease, as well as air and water quality), will allow policy makers to find the most appropriate, science-based solutions to reduce risks to human health and ecosystems posed by climate change.

## **Strategic Objectives and FY 2002 Annual Performance Goals**

### **Objective 01: Reduce Transboundary Threats to Human and Ecosystem Health in North America**

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

### **Objective 02: Reduce Greenhouse Gas Emissions**

- Greenhouse gas emissions will be reduced from projected levels by approximately 73 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in greenhouse gas emissions above 1990 level by about 20%.
- Reduce energy consumption from projected levels by more than 85 billion kilowatt hours, contributing to over \$10 billion in energy savings to consumers and businesses.
- Demonstrate technology for an 85 MPG mid-size family sedan that has low emissions and is safe, practical, and affordable.
- Assist 10 to 12 developing countries and countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration.
- Provide analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change.
- In close cooperation with USDA, identify and assess opportunities to sequester carbon in agricultural soils, forests, other vegetation and commercial products, with collateral benefits for productivity and the environment, with carbon removal potential of up to 25 MMTCE by 2010.

### **Objective 03: Reduce Stratospheric Ozone Depletion**

- Provide assistance to at least 75 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol.
- 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.
- Increase the number of children participating in the SunWise School Program by 25%, and reduce the rate of sunburns among participants by 5%.

### **Objective 04: Conduct Research to Protect Public Health and Ecosystems from PBTs and other Toxics**

### **Objective 05: Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies**

- Enhance environmental management and institutional capabilities in priority countries.

### **Highlights**

EPA's continued leadership is necessary to build international cooperation and technical capacity essential in preventing harm to the global environment and ecosystems we share with other nations. In FY 2002, EPA will use a variety of approaches to prevent harm to the global environment and ecosystems.

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 disseminate thousands of technical publications and CD-ROMs to developing countries and provide access to additional information through technical training courses, the Office of International Activities web site, 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 disseminate environmental information. These programs build the capacity of developing countries to improve quality of life for their citizens, while also providing reciprocal benefits to U.S. citizens. These benefits 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.

To reduce environmental and human health risks along the U.S./Mexico Border, EPA will continue its work with the border states and Mexico to target the quality of air, drinking water and wastewater treatment and hazardous waste management and disposal. Nine working groups will address key issues while working closely with state and local agencies on both sides of the border. EPA will also continue to support the financing and construction of water, wastewater treatment and solid waste facilities.

EPA, through the Great Lakes National Program Office (GLNPO), will coordinate implementation of the ecosystem approach in the Great Lakes by its Federal, state, Tribal and local partners, fully implementing a “community-based” approach. GLNPO and its partners will act consistently with goals of the Great Lakes Strategy and the Agency’s Strategic Plan. EPA, states and local communities will strategically target reductions of critical pollutants through Remedial Action Plans for Areas of Concern and through Lakewide Management Plans for Lakes Ontario, Michigan, Superior, and Erie.

Recognizing that no single country can resolve the problem of global climate change, EPA will help facilitate the international cooperation necessary to achieve the stabilization of greenhouse gas concentrations. The 1992 Framework Convention on Climate Change (FCCC) set the objective of stabilizing greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. On the domestic side, EPA will encourage voluntary partnerships, provide technical assistance and promote state and local efforts to achieve future greenhouse gas emission reductions.

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 (ODSs) and hydroflourocarbons.

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 Organization for Economic Cooperation and Development (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 chemicals. 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 95 SIDS chemicals in FY 2002.

The United States expects to sign in 2001 the legally-binding Stockholm Convention on persistent organic pollutants (POPs), substances such as DDT, PCBs and dioxins. These substances travel great distances in the environment and thus threaten humans and the ecosystem in the U.S., even though we have long worked domestically to reduce releases into the environment. This convention will require ratifying countries to reduce and/or eliminate their production, use and/or release of specified POPs. To ensure that developing countries comply with obligations under this convention, the U.S. is working with the Global Environment Facility (a joint funding program run by the World Bank, the United Nations Environment Program, and the United Nations Development Program) to carry out capacity building programs in developing countries.

### Research

EPA will assess the possible effects of global change, such as changes in climate and climate variability, changes in land use, and changes in UV radiation on air quality, water quality, ecosystem health, and human health. EPA will also examine possible adaptation strategies that could enable communities to take advantage of opportunities and reduce the potential risks associated with global change. The outcome of these assessments will help inform decision-making regarding strategies to address these possible changes.

### **External Factors**

EPA's work under Goal 6 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 under Goal 6 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 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 2002 Annual Performance Plan and Congressional Justification

#### Reduction of Global and Cross-border Environmental Risks

**Objective #1:** 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
<b>Reduce Transboundary Threats to Human and Ecosystem Health in North America</b>	\$71,336.8	\$72,420.1	\$96,077.3	\$95,677.8
Environmental Program & Management	\$21,336.8	\$20,810.3	\$21,242.3	\$20,842.8
State and Tribal Assistance Grants	\$50,000.0	\$51,609.8	\$74,835.0	\$74,835.0
Total Workyears	85.9	79.7	83.2	83.4

#### Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Great Lakes National Program Office	\$14,783.8	\$15,077.6	\$15,207.5	\$14,962.4
Water Infrastructure: Mexico Border	\$50,000.0	\$50,000.0	\$74,835.0	\$74,835.0
U.S. - Mexico Border	\$4,929.4	\$4,142.3	\$4,213.7	\$4,236.5
Partnership with Industrial and Other Countries	\$784.0	\$646.9	\$0.0	\$0.0
Regional and Global Environmental Policy Development	\$0.0	\$0.0	\$860.6	\$826.6

	<b>FY 1999 Enacted</b>	<b>FY 2000 Enacted</b>	<b>FY 2001 Enacted</b>	<b>FY 2002 Request</b>
Administrative Services	\$31.6	\$148.9	\$60.1	\$61.1
Regional Management	\$0.0	\$174.7	\$196.2	\$228.4

## **FY 2002 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

Along the 2,000 mile U.S.-Mexico border, communities live side-by-side, sharing the benefits of rapid economic growth and a commitment to addressing environmental problems. The effects of urban and industrial growth have contributed to the historic problems of inadequate environmental infrastructure. Based on the results of the Biennial Progress Report and public comments, EPA will focus limited resources in areas which can most directly lead to improvements in public health and environmental conditions in this area. The program focuses on 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 wastes, 7) strengthening binational 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.

EPA's programs will enhance efforts to monitor air quality and establish programs to reduce air pollution. The completion of joint chemical accident contingency plans in border sister cities will further reduce the risk to human health and ecosystems due to chemical spills. Working with the Government of Mexico, EPA will implement a system to track the movement of hazardous wastes providing a tool for the enforcement of waste disposal regulations and decreasing the risk of exposure due to noncompliance.

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 May 2000, EPA estimated water and waste water infrastructure needs along the U.S.-Mexico border at \$4.5 billion. For 2002, the Agency has established a goal that cumulatively

790,000 people in the border area will be protected from health risks because of the construction of adequate water and wastewater sanitation systems. EPA will work closely with the BECC and the NADBank, which manages the Border Environmental Infrastructure Fund (BEIF), to support the financing and construction of water and wastewater treatment. Within this objective, the Agency is requesting \$74,835,000 to support these efforts, largely through the BEIF.

The Agency will cooperate with its Mexican counterpart agencies to implement the provisions of the LaPaz Agreement and the Border XXI Framework Document which provide a long-term strategy to improve public health and the environment and protect essential natural resources in the border. Nine binational working groups will address key issues, working closely with state and local agencies on both sides of the 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. There are more than 11 million border residents, a population that has doubled in the last 15 years, and is expected to double again in the next 20 years. Among the negative consequences of this growth are inadequate environmental infrastructure, increased water scarcity, serious gastrointestinal and respiratory illness, and hazardous and non-hazardous waste disposal problems. Cooperative programs with Mexico to address these problems are carried out under the 1983 La Paz Agreement, in which regional, media, and functional workgroups implement an array of activities with states, municipalities, and other organizations.

EPA will focus FY 2002 resources in areas which can most directly lead to improvements in public health and environmental conditions in the area. The program is expected to focus on (1) reducing the effects of the environment problems on human health, (2) improving air quality, (3) funding wastewater and drinking water infrastructure investments in undeserved communities, (4) designing location-specific plans for chemical incidents.

To respond to serious health threats due to environmental infrastructure deficits, EPA will work with two key partners, the Border Environment Cooperation Commission and the North American Development Bank to address financial needs along the border that are estimated at \$2 billion.

### Great Lakes

The Great Lakes National Program Office (GLNPO) will coordinate implementation of the ecosystem approach in the Great Lakes by its Federal, state, tribal, and local partners, implementing a "community-based" approach. GLNPO and its partners will act consistently with goals of the Great Lakes Strategy and the Agency's Strategic Plan.

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. The Research Vessel (R/V) Lake Guardian (open lake monitoring), the R/V Mudpuppy (nearshore sediments monitoring), and the joint GLNPO/Canadian integrated atmospheric deposition network (including air monitoring stations on each Great Lake) will be central to summarizing the ecological State of the Lakes. EPA's Great Lakes program will describe trends in: concentrations of toxics in Great Lakes top predator fish; beach closings; concentrations of toxic chemicals in the air, trophic status and phosphorus, and contaminated sediment remediation. Information will be provided to state and Federal environmental managers to drive decision-making. The environmental condition of the Great Lakes will be described in a way that can be easily understood.

GLNPO will adjust implementation of its monitoring program for a subset of indicators consistent with GPRA and the biennial State of the Lakes Ecosystem Conference (SOLEC). SOLEC brings together representatives of the public and private sectors to facilitate decision-making based upon sound environmental information. GLNPO will report model predictions for a few key Lake Michigan toxic reduction scenarios from the multi-media initiative for the first-ever intensive monitoring of Lake Michigan air, water, sediments, and biota (the Lake Michigan Mass Balance Study, or "LMMB"), supporting the Great Waters provision of the Clean Air Act and section 118 of the Clean Water Act. This will enable the Agency and its partners to determine how to further reduce Great Lakes pollutants in the most cost effective way and will provide trend and baseline data to support and target remedial efforts and measure environmental progress under Remedial Action Plans and Lakewide Management Plans. EPA will also expand continue access to LMMB and other 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, signed in 1997. The Strategy, a groundbreaking international toxics reduction effort, targets a common set of persistent, toxic substances for reduction and virtual elimination from the Great Lakes. It focuses on pollution prevention efforts, 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. Actions and activities are outlined in the Strategy which states, industry, tribes, non-government organizations and other stakeholders may undertake to achieve these reductions. Through grants to stakeholders (such as the Great Lakes States, tribes, and environmental groups for mercury or PCBs reduction projects, for example) and other reduction actions, EPA will help achieve reduction targets, consistent with the FY2000 identification of options for each of the 12 Binational Toxics Strategy substances. Implementation of the 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 partners, will continue to address the contaminated sediments polluting the harbors of the 31 U.S. and/or binational Areas of Concern (AOCs) in the Great Lakes. Using expertise from the congressionally mandated Assessment and Remediation of Contaminated Sediments program, GLNPO uses its R/V Mudpuppy and other resources to visit sites and assess sediments, returning as needed for finer

scale assessment and remedial design. If a community then chooses to remediate the sediments, GLNPO can conduct a sediment site cleanup demonstration. In 2002, GLNPO will assist communities with assessments and remedial design at sites in 4 AOCs, one of which has not previously received this assistance. A total of 75,000 cubic yards of Great Lakes contaminated sediments is expected to be remediated in actions involving a number of stakeholders and participants.

The Agency will support the efforts of states, tribes, and local communities to protect and restore important habitats identified in the Great Lakes biodiversity report of The Nature Conservancy (TNC) and SOLEC habitat papers. The program emphasizes habitats important for biodiversity and ecological integrity (such as those necessary for endangered and threatened species). Additional projects for ecological enhancement will be started in nearshore waters, coastal wetlands, river corridors, and terrestrial lands. The projects will implement measures to protect ecological communities and biodiversity or take steps to restore ecological functions and processes. Pilots will be underway for the development of indicators for scientifically-sound assessments of the ecological integrity of coastal wetlands.

EPA is working with states and local groups from the Areas of Concern to expedite de-listing of those Areas of Concern. EPA, Regions, states, and local communities will strategically target reductions of critical pollutants and restoration of impaired beneficial uses through Remedial Action Plans for Areas of Concern and through Lakewide Management Plans for Lakes Ontario, Michigan, Superior, and Erie. The Agency will continue to meet specific requirements for reporting to Congress and the International Joint Commission regarding progress under the Great Lakes Water Quality Agreement.

#### Marine and Arctic Environments

In 2002, EPA will undertake efforts to prevent significant degradation of the marine and Arctic environments. Our 2002 performance goals target incremental steps necessary to achieve our longer-term objectives of preventing further degradation of the marine environment of the Wider Caribbean, Arctic Ocean, and the marine environment generally where our negotiating efforts through the International Maritime Organization are aimed at mitigating marine pollution at a global scale. Our regional and global efforts are specifically designed to enhance the effectiveness of existing domestic environmental controls and reduce pollution of U.S. waters resulting from international shipping and other transboundary vectors.

The focus of the program is the protection of those natural resources in the marine and polar environments that are important to the United States and other countries as well as the public health of Arctic Rim populations. More specifically, the programs will prevent or reduce environmental damages associated with tributyltin, vessel discharges, 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 NW Russia.

The Russia PCB project, will assist the Russian Federation in phasing out its manufacture and use of PCBs, to reduce the release of PCBs and their subsequent transport to the Arctic, and to encourage the Russian Federation to begin using PCB substitutes. The project is a multilateral cooperative pilot and is currently being conducted in conjunction with all the Arctic Rim countries under the auspices of the Arctic Council. In May 1999, agreements were signed with the Russian Federation to begin the multilateral cooperative pilot project, with the completion of a Russian Federation PCB inventory planned for May 2000. Based on the results of the inventory, Russian facilities that impact the Arctic will be prioritized for conversion or retrofitted for the manufacture or use of PCB substitutes. In 2001, the Arctic Council instituted a corresponding multilateral project to address dioxins and furans impacting the Arctic environment.

In addition, ongoing efforts to address land-based sources of marine pollution in the Wider Caribbean should result in improvements in regional water quality and marine habitats that include economic benefits to significant commercial interests in the Region. Finally, our involvement in multilateral negotiations is critical to maintain needed flexibility in domestic rule making and other environmental policy mechanisms.

### **FY 2002 Change from FY 2001 Enacted**

#### EPM.

- (-\$303,900) This reduction redirects resources to higher priorities programs to fund increases in workforce costs.
- (-\$129,100.00, -.5 FTE) Contract and grant resources for the Mexico Border program were reduced. There was a corresponding reduction to several Mexico Border programs and activities that address the issues of air quality, safe drinking water, and pollution prevention on both sides of the border.

### **Annual Performance Goals and Performance Measures**

#### **U.S. - Mexico Border Water/Wastewater Infrastructure**

- |         |   |
|---------|---|
| In 2002 | 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 2001 | 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 2000 10 Additional water/wastewater projects (cumulative total of 36) along the Mexican border have been certified for design-construction.

In 1999 9 additional water/wastewater projects along the U.S.-Mexico Border have been certified for design-construction.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002
	Actuals	Actuals	Estimate	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 Fund.			600,000	790,000	People
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Projects certified for design-construction along the Mexican Border	9	10			Projects
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Baseline: There are approximately 11 million residents in the border area.

**Great Lakes: Binational Toxics Strategy**

In 2002 Reduce Great Lakes toxic pollutants.

In 2001 Reduce Great Lakes toxic pollutants.

In 2000 Five assessments and characterizations (1 new and 4 follow-up) were conducted in Great Lakes Areas of Concerns. Cataloged and publicized 8 actions toward reduction challenges under the BNS. Implemented 4 Great Lakes projects of Level I substances in support of toxics reductions.

In 1999 Seven assessments and characterizations (2 new and 5 follow-up) were conducted in Great Lakes Areas of Concern. Two of the five sediment cleanup demonstrations started in 1996 have been completed.

In 1999 Cataloged and publicized 3 actions toward reduction challenges under the BNS. Initiated 12 Great Lakes Projects in support of toxics reduction.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002
	Actuals	Actuals	Estimate	Request

Level I substances for which 1-2 toxic reduction activities are being implemented.		4			Substances
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New assessments and characterizations to support State/community clean-up of contaminated sediments at Great Lakes AOCs.		1			Assessment
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Follow-up assessments and characterizations to support State/community clean-up of contaminated sediments at Great Lakes AOCs.		4			Assessments
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Cubic yards of contaminated sediment remediated in the Great Lakes.	50,000	75,000	Cubic yards
Amount of high-level PCBs used in electrical equipment nationally.	Reasonable	Reasonable	Progress
Amount of mercury deliberately used nationally and released nationally from sources resulting from human activity.	Reasonable	Reasonable	Progress
Amount of dioxins and furans (2,3,7,8-TCDD toxicity equivalents) released from sources resulting from human activity.	Reasonable	Reasonable	Progress
Great Lakes sediment cleanup demonstrations completed	2		Demonstrations
Catalog and publicize actions (partnerships or virtual elimination demonstration projects) toward reduction challenges under BNS.	3		Actions
Great Lakes Projects initiated in support of toxics reduction	12		Projects
Assessments and characterizations at Great Lakes Areas of Concern	7		Assessments
Catalogued and publicized actions (partnerships or virtual elimination demonstration projects) initiated toward reduction challenges under BNS.	8		Actions
Completion and documentation of BNS analytical process for each of the Level 1 chemicals. Process includes info. gathering, analysis of reg. gaps, recommendations, & options for reductions	100		% Completion
Cumulative total (out of 5 started since 1996) of sediment cleanup demonstrations completed.	2		Cleanup demos
Baseline:	U.S. baselines for toxic pollutants are, in most cases, based on the most recent and appropriate inventory as of the Great Lakes Strategy's 1997 signing. In the case of mercury, for example, the most recent inventory is based on estimated emissions during the early 1990s. In September 1999, GLNPO quantified for the first time annual contaminated sediment remediation. GLNPO will continue to quantify contaminated sediment remediation annually.		

**Great Lakes: Ecosystem Assessment**

In 2002 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach toxics, air toxics, and trophic status.



- In 2001 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach toxics, air toxics, and trophic status.
- In 2000 6,000 of acres of aquatic, wetland, riverine, and terrestrial Great Lakes habitats were positively impacted.
- In 1999 Steps identified in ballast water management that will prevent the introduction of new non-indigenous species.
- In 1999 Protocols developed for swimmability index, benthic community health, sediment assessment, sediment remediation, and predator fish.
- In 1999 Funded 8 projects intended to ecologically enhance terrestrial biodiversity and have enhanced 95,000 acres.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Great Lakes Ecosystem Indicator Indices with reports, addressing select fish contaminants, atmospheric deposition, limnology, biology, and sediments.		10			Indices
Acreage of total aquatic, wetland, riverine, and terrestrial Great Lakes habitat positively impacted.		6,000			Acres
Begin pilot project to implement 1 ballast water management recommendation addressing Great Lakes invasive species.		2			Pilot
Concentration trends of toxics (PCBs) in Great Lakes top predator fish.			Declining	Declining	Trend
Trend in number of monitored Great Lakes beaches closed one or more days as a result of pollution.			Declining	Declining	Trend
Concentration trends of toxic chemicals in the air.			Declining	Declining	Trend
Trophic status and phosphorus concentrations in the Great Lakes.			Improving	Improving	Concentration
The dissolved oxygen depletion trend in Lake Erie.				Limited	Trend
Develop protocols for 5 of a proposed 12 GLNPO Monitoring Indexes, summarizing the prior year's data on select fish contaminants, atmospheric dep., limnology, biology, & sediments.	5				Protocols

Projects and acreage ecologically enhanced in terrestrial biodiversity investment areas	8/95,000	Projects/Acres
Model predictions for Lake Michigan for toxics reduction scenarios.	5	Predictions
Set of quantifiable targets for ecological enhancement in aquatic biodiversity investment areas.	0	Set
Identify steps in ballast water management that will prevent the introduction on new non-indigenous species.	1	Set

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.

**Managing PBT Chemicals Internationally**

In 2002 Evaluate feasible alternative remedial or emissions reduction/ elimination technologies applicable to the Russian PCB sources identified as high priority transboundary risks to the Arctic, including Alaska.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002
	Actuals	Actuals	Estimate	Request

Identification of the technologies addressing the highest priority PCB source category for a Phase III demonstration project in the Arctic. 8/30/2002 report

Baseline: FY 2002 is the first year of formally managing PBT chemicals internationally. As soon as is appropriate, baseline information will be developed.

**Verification and Validation of Performance Measures**

**Goal 6, Objective 1**

**Performance Measure: People in the Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded through the Border Environmental Infrastructure Fund.**

**Performance Database:** No formal database

**Data Source:** 1) Population figures from 1990 U.S. Census; 2) data for both U.S. and Mexican population served by certified water/wastewater treatment improvements from the Border Environment Cooperation Commission (BECC); 3) data on projects funded from the North American Development Bank (NADBank)

**QA/QC Procedures:** Headquarters is responsible for coordinating submission of and evaluating quarterly reports from the Regions.

**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

**New/Improved Data or Systems:** None

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

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

**Data Source:** GLNPO's ongoing base monitoring program, which has included work with cooperating organizations such as the Great Lakes States, USGS, and USFWS.

**QA/QC Procedures:** GLNPO has a Quality Management system in place which conforms to the new EPA quality management order.

**Data Quality Review:** GLNPO has a Quality Management system in place which conforms to the new EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. GLNPO has implemented all recommendations from these external audits and complies with Agency QA standards.

**Data Limitations:** There is greater uncertainty regarding the representativeness of data pertaining to nearshore areas because of the greater variability of the nearshore environment. GLNPO will be able to quantify uncertainty for data in each reported area.

**New/Improved Data or Systems:** The GLENDAs database is a significant new system with enhanced capabilities. GLNPO will be loading current and prior years fish monitoring data into GLENDAs after the data undergoes a QA process and are properly formatted.

**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 Canada.

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

**QA/QC Procedures:** GLNPO has a Quality Management system in place which conforms to the new EPA quality management order.

**Data Quality Review:** GLNPO has a Quality Management system in place which conforms to the new EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. GLNPO has implemented all recommendations from these external audits and complies with Agency QA standards.

**Data Limitations:** None

**New/Improved Data or Systems:** The GLENDa database is a significant new system with enhanced capabilities. Lake Michigan Mass Balance atmospheric data have been loaded into GLENDa, but IADN will be the main repository of base program air data.

**Performance Measure: Trophic status and phosphorus concentrations in the Great Lakes.**  
**Performance Database: Great Lakes National Program Office (GLNPO) base monitoring program.**

**Data Source:** Data are part of GLNPO's ongoing base monitoring program for the open waters of the 5 Great Lakes. GLNPO is the principal source of that data.

**QA/QC Procedures:** GLNPO has a Quality Management system in place which conforms to the new EPA quality management order.

**Data Quality Review:** GLNPO has a Quality Management system in place which conforms to the new EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. GLNPO has implemented all recommendations from these external audits and complies with Agency QA standards.

**Data Limitations:** None

**New/Improved Data or Systems:** The GLENDa database is a significant new system with enhanced capabilities. GLNPO will be loading current and prior years base monitoring program data into GLENDa after the data undergoes a QA process and are properly formatted.

## **Coordination with Other Agencies**

### Mexican Border

Over the last several years, U.S. EPA has continued to work with the U.S. and Mexican Sections of the International Boundary and Water Commission to further our efforts to improve water and wastewater services to communities within 100 km of the U.S.- Mexico Border. Recently, U.S. 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: 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.

The North American Development Bank financing; and 2) 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 FY 2001 U.S. 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 towards the Mexico Border project. Since fiscal year 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.

### 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. In 1991, EPA joined States and Federal agencies that have stewardship responsibilities for the Lakes in developing a shared five year strategy. In addition to the eight Great Lakes States, partners to the plan 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 same organizations and the Great Lakes Tribes also meet at GLNPO's annual Great Lakes Planning Meeting to plan and prioritize near term activities. 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. GLNPO 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.

### Marine and Arctic Environments

EPA has a number of cooperative effort's underway addressing both radioactive and non-radioactive contamination threats to the Arctic environment and ecosystems, including threats to Alaska and indigenous populations of the Arctic Rim. Three ongoing projects address concerns regarding radioactive contamination from Northwest Russia. One, concerned with providing processing capacity for low-level liquid radioactive waste in Murmansk, Russia, has involved domestic coordination with Department of Defense, Department of State, Agency for International Development, and international coordination and partnering with Government of Norway (Ministry of Foreign Affairs) and the Government of Russia (Ministries of Atomic Energy and Transportation). Two other projects address the safe storage of spent nuclear fuel from decommissioned Russian nuclear submarines, OIA coordinates these projects with DOS and DOD; and our foreign partners Norway, Finland, Sweden, the U.K. and EU Russia. Non-radioactive contamination concerns are being addressed through projects under the eight nation Arctic Council (Finland, Denmark/ Greenland, Norway, Sweden, Canada, Iceland, Russia) and the Arctic Monitoring and Assessment Program (AMAP) under the Council.

The major goals of the Russia PCB project are to assist the Russian Federation in phasing out its manufacture and use of PCBs, to reduce the release of PCBs and their subsequent transport to the Arctic, and to encourage the Russian Federation to begin using PCB substitutes. The project is a multilateral cooperative pilot and is currently being conducted in conjunction with all the Arctic Rim countries under the auspices of the Arctic Monitoring and Assessment Programme (AMAP) of the Arctic Council. Other aspects of the PCB work involve coordination or cooperation with HHS (Indian Health Service and Center for Disease Control), agencies of the State of Alaska and a number of Alaskan native American organizations.

EPA works with the Department of State, NOAA, Coast Guard, Navy, and other Federal agencies in developing the technical basis and policy decisions necessary for negotiating global treaties concerning marine antifouling systems and invasive species as well as a regional agreement for the Wider Caribbean Basin that will establish standards for domestic wastewater discharges and other land-based

sources of marine pollution. Given the geographic scope of these agreements, the efforts involve multilateral negotiations with numerous governments.

### **Statutory Authorities**

Clean Water Act

Clean Air Act

Toxic Substances Control Act

Resource Conservation and Recovery Act

Pollution Prevention Act

North American Free Trade Agreement

### 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

## Environmental Protection Agency

### FY 2002 Annual Performance Plan and Congressional Justification

#### Reduction of Global and Cross-border Environmental Risk

##### Objective #2: 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
<b>Reduce Greenhouse Gas Emissions</b>	<b>\$127,285.5</b>	<b>\$124,382.3</b>	<b>\$155,286.2</b>	<b>\$153,828.0</b>
Environmental Program & Management	\$74,364.4	\$80,898.6	\$104,423.1	\$104,935.5
Science & Technology	\$52,921.1	\$43,483.7	\$50,863.1	\$48,892.5
Total Workyears	322.1	327.3	316.4	305.4

#### Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Climate Protection Program: Buildings	\$38,800.0	\$42,640.9	\$52,535.0	\$52,730.9
Climate Protection Program: Transportation	\$31,750.0	\$29,604.8	\$29,435.1	\$32,440.8
Climate Protection Program: Industry	\$22,086.1	\$21,991.7	\$31,929.6	\$27,295.2
Climate Protection Program: Carbon Removal	\$0.0	\$1,000.0	\$997.8	\$1,700.0



	<b>FY 1999 Enacted</b>	<b>FY 2000 Enacted</b>	<b>FY 2001 Enacted</b>	<b>FY 2002 Request</b>
Climate Protection Program: State and Local Climate Change Program	\$2,500.0	\$2,508.0	\$2,494.5	\$2,500.0
Climate Protection Program: International Capacity Building	\$4,322.9	\$5,594.4	\$5,501.7	\$6,315.1
Climate Change Research	\$15,970.6	\$20,592.2	\$22,550.4	\$21,951.7
Partnership with Industrial and Other Countries	\$409.1	\$428.2	\$0.0	\$0.0
Climate Protection Program: RESEARCH	\$10,000.0	\$0.0	\$0.0	\$0.0
Technical Cooperation with Industrial and Developing Countries	\$0.0	\$0.0	\$762.0	\$793.5
Rent, Utilities and Security	\$0.0	\$4,298.7	\$4,612.6	\$5,023.0
Administrative Services	\$0.0	\$1,905.0	\$2,759.7	\$2,767.7

## **FY 2002 Request**

EPA is meeting the United States' climate change objectives by working in partnership with business 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 2002, EPA expects to continue expanding on the significant accomplishments of its Climate Protection Programs. 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. We currently expect that more than half of the nation's anthropogenic greenhouse gas emissions ten years from now to come from equipment that we purchase between now and then.

The core of EPA's climate change efforts are voluntary government/industry partnership programs designed to capitalize on the opportunities consumers, businesses, and organizations have to make sound investments in efficient equipment and practices. 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 ten to twenty years at a time, depending upon the life of the equipment. At the same time, people often overlook the investment opportunities that the more efficient equipment represents, 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 and the EPA portion of the Partnership for a New Generation of Vehicles (PNGV) to remove barriers in the marketplace and 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; and low incentives to manufacturers for efficiency research and development (R&D).

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

Some of EPA's newest voluntary programs are particularly timely. These newest partnership programs that will 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 FY2001, the Agency initiated a number of transportation initiatives focusing both on the industry and state and local sectors, including a program to implement voluntary ground freight management practices and 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 is an assessment-oriented program committed to evaluating the potential consequences of global change for human health, ecosystems, and socioeconomic systems in the United States. The Global Change research program's assessment process brings together several different groups of people with common interests and enables them to work together to address environmental concerns. Through workshops and other formal and informal interactions, 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. This interaction ensures that researchers and decision-makers understand the issues of greatest concern to the stakeholders, and that stakeholders understand the scientific basis for resource planning decisions. Through this process, assessors integrate insights from diverse research disciplines to address real-world questions. For example, if stakeholders express concern about an increase in the spread of certain diseases as a result of climate change, an assessor might integrate research on climate change, precipitation change, vegetation, rodent population, and the spread of diseases to determine if a warmer climate may lead to a greater risk of vector-borne disease.

## Program Accomplishments

EPA has had substantial success across its Climate Protection Programs (CPP) and global change research efforts. Through 2000, EPA's CPPs (see Table 1) are substantially reducing emissions of carbon dioxide and other greenhouse gases such as methane and perfluorocompounds (PFCs). Since the mid-1990s, these programs have reduced U.S. greenhouse gas emissions by more than 170 million metric tons carbon equivalent (MMTCE), while also saving families and businesses an estimated \$17 billion on their energy bills and keeping roughly 400,000 tons of smog-forming nitrogen oxide (NO<sub>x</sub>) pollution from entering the air. In FY2001, EPA is also implementing new partnership programs aimed at reducing energy demand in the transportation sector.

Many of EPA's climate protection programs 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 2000 will continue to deliver environmental and economic benefits through 2010 and beyond. EPA currently estimates that based on investments in equipment already made due to EPA's programs through 2000, *organizations and consumers across the country will save more than \$50 billion through 2010, and, greenhouse gas emissions will be reduced by more than 400 MMTCE through 2010* (cumulative reductions based upon estimated 2000 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 CO<sub>2</sub>) and delivered more than \$75 in energy bill savings. This is based upon a cumulative reduction since 1995.

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 2000 alone, the Climate Protection Programs:

- reduced greenhouse gas emissions by an estimated 57 million metric tons of carbon equivalent (MMTCE);
- reduced energy consumption by an estimated 75 billion kilowatt hours;
- successfully demonstrated 72 miles per gallon (gasoline equivalent) on a mid-size research chassis with a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain; and
- worked with 12 strategically selected countries in Asia, Africa, Latin America, and Eastern Europe to develop capacity to analyze the benefits of and/or implement sustainable, market-based activities/programs designed to reduce greenhouse gas emissions in a cost-effective manner.

These are the four primary GPRA performance goals for EPA's CPPs. EPA's programs are on track to meet each of these goals for 2000. There are also performance measures for key subparts of EPA's CPPs. Table 2 shows that EPA will meet or exceed many of these performance measures. These performance measures are not met in two areas, transportation and industrial CO<sub>2</sub> programs. Both of these programs have undergone program restructuring and are expected to reduce greater greenhouse gas emissions in 2002 and beyond.

**Table 1: EPA's Climate Protection Programs**

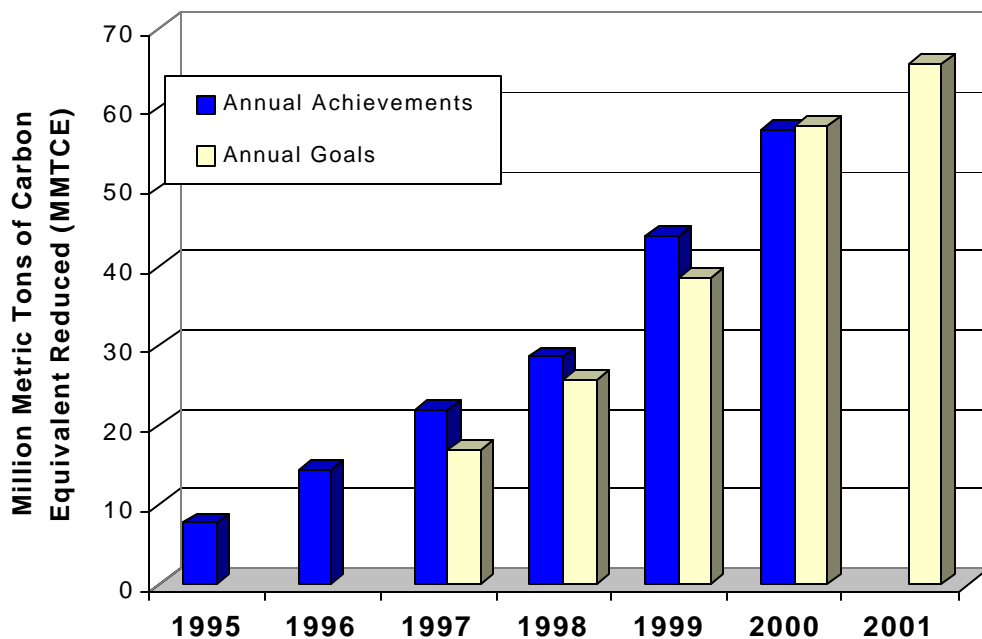
Sector	Program	Activity/Initiative
Buildings	ENERGY STAR	Buildings
		Labeled Products
		Homes
Industry	Carbon Reduction Programs (CO <sub>2</sub> )	ENERGY STAR for industry (formerly Climate Wise)
		Combined Heat and Power Initiative
		Green Power Initiative
		Industry Partnerships
		Waste Wise
	Methane Programs (CH <sub>4</sub> )	Natural Gas STAR Program
		Landfill Methane Outreach Program
		Coalbed Methane Outreach Program
		Agricultural Programs (Ruminant Livestock Outreach and AgSTAR)
		Landfill Rule
	Programs to Reduce High Global Warming Potential Gases (HFCs, PFCs, SF <sub>6</sub> )	Voluntary Aluminum Industrial Program
		PFC Emissions Reduction Partnership for the Semiconductor Industry
		SF <sub>6</sub> Emission Reduction Partnership for the Electric Power Systems
		SF <sub>6</sub> Emission Reduction Partnership for the Magnesium Industry
		Partnership with HCFC-22 manufacturers to reduce HFC-23 emissions
Significant New Alternatives Program (SNAP)		
Transportation	Transportation Efficiency Programs	Commuter Choice Partnership Programs
		SmartGrowth & Brownfields Policies Programs
		Transit
		Clean Air Transportation Communities Program
		Ground Freight Transportation Initiative
		Variable Priced Vehicle Insurance Initiative
	Partnership for a New Generation of Vehicle (PNGV)	Advanced (Tier II) Light Duty Engine
		Advanced Mechanical-Hybrid Drivetrain
	21 <sup>st</sup> Century Truck	Urban Delivery Truck Initiative
	Carbon Removal	
State and Local Outreach Program		
International Capacity Building		
Global Change Research		

Through 2000, EPA's CPPs have also:

- offset growth in greenhouse gas emissions above 1990 levels by about 20%
- conserved enough energy to light 80 million homes for the year;
- prevented NOx emissions equivalent to the annual pollution from 100 power plants; and
- avoided greenhouse gas emissions equivalent to eliminating the pollution from about 40 million cars for the year.

EPA's climate change programs are on target to meet their greenhouse gas reduction goals in 2000 as shown in Figure 1 and continue to meet the challenge of substantially higher emissions reduction goals. Many of these programs have actually exceeded 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 2000 annual achievements are estimated; final results will be available in Spring 2001.**

The programs have a number of accomplishments through the end of 2000 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: 1995 through 2001<sup>1</sup>**

Program Area/ Key Gases		1995 Accomplished		1996 Accomplished		1997 Accomplished		1998 Accomplished		1999 Goal/Accomplished		2000 <sup>2</sup> Goal/Accomplished		2001 <sup>3</sup> 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		5.6	1.2	10.8	2.4	17.2	3.4	33.2	6.4	41.7/49.9	8.7 <sup>4</sup> /12.5	53.4/75.3	12.7 <sup>4</sup> /15.5	78.1	15.0 <sup>4</sup>
Industry	CO <sub>2</sub>	0.7	1.2	1.7	1.8	1.9	3.0	3.4	4.8	4.3/2.2	7.2 <sup>4</sup> /5.3	5.6/2.4	9.1 <sup>4</sup> /5.9	5.6	9.1 <sup>4</sup>
	CH <sub>4</sub>	na	2.5	na	3.1	na	4.2	na	5.4	na	8.5 <sup>4</sup> /8.5	na	14.0 <sup>4</sup> /14	na	15.1 <sup>4</sup>
	PFCs, SF <sub>6</sub> , HFCs	na	2.7	na	7.1	na	8.5	na	10.4	na	10.7 <sup>4</sup> /15 <sup>5</sup>	na	14.5 <sup>4</sup> /18	na	18.2 <sup>4</sup> . <sup>5</sup>
Transportation <sup>6</sup>		na	0.0	na	0.1	na	0.2	na	0.3	na	1.9 <sup>4</sup> /1.1	na	5.7 <sup>4</sup> /2.3	na	6.2 <sup>4</sup>
State and Local		na	0.1	na	0.2	na	1.2	na	1.3	na	1.6 <sup>4</sup> /1.4	na	1.7 <sup>4</sup> /1.7	na	1.9 <sup>4</sup>
Total		6.3	7.7	12.5	14.7	19.1	20.5	36.6	28.6	46.1 <sup>4</sup> /52.1	38.7 <sup>4</sup> /43.8	59.0 <sup>4</sup> /77.7	58.0 <sup>4</sup> /57.4	83.7 <sup>4</sup>	65.5 <sup>4</sup>

<sup>1</sup>Metrics are not applicable to PNGV, International Capacity Building or Global Change Research.

<sup>2</sup>These results are estimated; final results will be available in Spring 2001.

<sup>3</sup>2001 goals are presented here as developed in 1997 for the Second National Communication to the U.N. Framework Convention on Climate Change (FCCC). They are currently under review as part of the process for preparing the Third National Communication to the Secretariat of the FCCC, reporting on national progress.

<sup>4</sup>GPRA performance measure

<sup>5</sup>These goals and accomplishments do not include EPA's efforts on self-chilling cans, which EPA plans to integrate as part of the next CPP review and revision for the Third National Communication.

<sup>6</sup>The goals for the Transportation Program Area include GHG reduction goals for the Transportation Partner Program through 2001. The 2001 Transportation goal will be revised downward to reflect the elimination of the Transportation Partners Program for FY 2000 and beyond, once updated information from Third National Communication is released in 2001.

**Table 3. Program Accomplishments for EPA's Buildings Initiatives Through 2000**

<i>Program Area</i>	<i>Accomplishments</i>
ENERGY STAR Programs	<p>The <u>ENERGY STAR Buildings Partnership</u> now represents 16 percent of the U.S. building floor space.</p> <p>EPA has been successful with its public-sector work. With partnerships with more than 250 universities and over 225 school districts, including for example the Los Angeles Unified School District which alone has over 650 schools, EPA brings superior building performance into the classroom. In the spring of 2000, EPA launched the ENERGY STAR label for schools. By year end, 221 K-12 schools had earned the label representing almost 15 million square feet of space.</p> <p>EPA continues to work with small businesses and organizations to help them lower their overhead through lower energy bills. Over 2,800 small businesses and organizations are working with ENERGY STAR.</p> <p>EPA worked with building owners to offer a new bench marking tool that identifies the most efficient 25 percent of the commercial building stock with the ENERGY STAR label. EPA has developed this tool for office buildings and K-12 schools and is working to expand it to other key building types such as retail and healthcare.</p> <p>Also in the public sector, EPA is working with over 225 state and local governments to overcome key financing and budgeting barriers which continue to be a major hurdle to energy efficiency projects in the public sector. EPA developed and delivered financing training (either directly or via the web) to 11 states, 23 local governments, and 30 school districts.</p> <p>ENERGY STAR now has over 70 commercial real estate partners representing over 2.25 billion square feet which represents an estimated 80 percent of the office properties market. In addition, this year ENERGY STAR was endorsed by four influential commercial real estate industry associations including the National Association of Real Estate Investment Trust (NAREIT) and the Society of Industrial and Office Realtors (SIOR).</p>
ENERGY STAR Programs	<p>The <u>ENERGY STAR label</u> 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 2000.</p> <p>ENERGY STAR performance specifications were developed for new product categories including water coolers, traffic signals, set-top (cable) boxes and dehumidifiers.</p> <p>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.</p> <p>More than 1600 manufacturing companies have partnered with ENERGY STAR. They produce ENERGY STAR labeled products across more than 30 product categories. More than 600 million labeled products have been purchased.</p> <p>EPA has engaged more than 100 utilities/energy service providers that serve approximately 50% of the households in the U.S. in promoting energy efficiency with the ENERGY STAR Label.</p> <p>The program has partnered with more than 550 retailers to promote ENERGY STAR products in more than 7,000 storefronts across the country.</p> <p>An international agreement was finalized allowing the European Community to implement an energy efficiency labeling program for office equipment modeled after ENERGY STAR.</p>
ENERGY STAR Programs	<p>The <u>ENERGY STAR Homes</u> program includes more than 1,600 builder partners that have built over 25,000 labeled homes, locking in financial savings of more than \$7.5 million annually for homeowners.</p> <p>EPA launched its <u>Home Improvement Program</u>, featuring a suite of tools and projects to help homeowners improve the energy performance of their homes during repair, remodeling or renovation. The program includes a web-based audit that recommends to homeowners the top five energy efficiency improvements that can be made to their homes.</p>



**Table 4. Program Accomplishments for EPA's Industry Initiatives Through 2000**

<i>Program Area</i>	<i>Accomplishments</i>
Carbon Reduction Programs	<p><u>ENERGY STAR for industry</u> (formerly Climate Wise). EPA integrated Climate Wise into the ENERGY STAR platform and welcomed 115 new partners to the program in 2000 for a combined total of 650 companies. These companies represent 14% of the U.S. industrial energy use. The program continues to support small and medium enterprises; more than 40% of the partner companies have 100 or fewer employees.</p> <p>The program continued to provide technical assistance to its partners in the areas of: (1) helping U.S. companies to purchase renewable energy; (2) supporting its cement industry partners in the form of an enhanced emissions tracking spreadsheet tailored to the unique needs of this industry; and (3) promoting opportunities for green power purchasing, including green power workshops in Connecticut and New Jersey.</p> <p>The <u>Combined Heat and Power Initiative</u> recognized the first Energy STAR CHP Award-winners in 2000. Three companies won Energy STAR awards. EPA also continued to explore opportunities for regulatory flexibility to recognize the environmental benefits of CHP applications.</p> <p><u>Industry Partnerships</u>. 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><u>Waste Wise</u> now has nearly 1,100 partners who have reported reductions of over 9 million tons of solid waste while saving more than \$300 million through the end of 1999 from waste prevention and recycling</p> <p>Waste Wise began working with the federal sector, with 66 federal organizations as members in 2000.</p> <p>WasteWise initiated a sector challenge on electronics waste reduction which now includes 29 partners.</p> <p>EPA worked with key industry, government and NGO players in the areas of electronics, carpets, and transport packaging to begin developing agreements with national waste reduction targets.</p>
Methane Programs	<p>The <u>Natural Gas STAR Program</u> represents 72% of transmission mileage, 49% of service connections, 40% of production, and 23% of gas processing.</p> <p>The <u>Landfill Methane Outreach Program (LMOP)</u> assisted in the development of over 45 new landfill gas-to-energy projects (bringing the total to nearly 200) with an additional 60 projects under construction and expected to be online soon. The LMOP provided technical and marketing support to another 170 landfills and signed on 30 new allies, for a new total number of LMOP allies of 245.</p> <p>The <u>Coaled Methane Outreach Program (CMOP)</u> helped reduce methane emissions through project development support at 23 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, as well as improving livestock efficiency. About 13 million kWh/yr of renewable energy was produced from farms capturing methane to provide energy for the farm and local community.</p>
Programs to Reduce High Global Warming Potential Gases	<p>EPA completed an emissions measurement campaign at 6 U.S. aluminum smelters to better characterize the relationship between operating parameters and emissions.</p> <p>EPA continued work with 11 of the 12 U.S. primary aluminum producers representing 22 of the 23 U.S. smelters to better understand the generation of PFCs in the smelting process and to quantify smelter-specific emissions.</p> <p>EPA renewed the voluntary partnership program with U.S. semiconductor manufacturers who agreed to reduce emissions of PFCs by 10% below their 1995 baseline by 2010.</p> <p>EPA expanded the electric power systems partnership to reduce SF<sub>6</sub> emissions to 60 partners representing 40% of net generating capacity. Over 80% of SF<sub>6</sub> sales are to this sector.</p> <p>Expanded the magnesium industry partnership to reduce SF<sub>6</sub>-emissions to 15 partners representing 100% of primary Mg production and 60% of domestic casting capacity. (65% of US Mg emissions). Magnesium partners reported their first annual emissions estimates using EPA-designed reporting software. This information was used by EPA to publish the Partnership's First Annual Report.</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 25 substances as acceptable alternatives to ozone-depleting chemicals in over 100 end uses, 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.</p>

**Table 5. Program Accomplishments for EPA’s Transportation Initiatives Through 2000**

<i>Program Area</i>	<i>Accomplishments</i>
Transportation Efficiency	<p>EPA launched the Commuter Choice Leadership Initiative, partnering with industry leaders, DOT, state and local governments, and leading companies nationwide.</p> <p>EPA issued the National SIP Land Use Guidance to help State and local governments recognize the emission reduction benefits of smart growth and voluntary land use policies and projects. Completed Infill Quantification Methodology to support State efforts.</p> <p>EPA initiated a national assessment of emission reductions from a range of transportation alternatives, as well as an assessment of OTAQ program reductions for the Third National Communication to the FCC.</p> <p>EPA launched pilots with three cities to model induced travel effects.</p> <p>EPA achieved commitments for 20 voluntary measure programs in Atlanta, Houston, Dallas, Las Vegas, Chicago.</p> <p>Over 60 communities implemented the "It All Adds Up to Cleaner Air" joint EPA/DOT program. Results included: leverage of significant resources, development of additional tools and creation of a new national network of stakeholders committed to this effort.</p> <p>EPA launched the initial version of the Green Vehicle Guide Website which provides consumers with a tool to identify cleaner, more efficient vehicles.</p>
PNGV	EPA demonstrated 72 miles per gallon (gasoline-equivalent) on a mid-size research chassis with a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain.

**Table 6. Program Accomplishments for Other Initiatives Through 2000**

<i>Program Area</i>	<i>Accomplishments</i>
Carbon Removal	<p>The carbon sequestration program established domestic pilot programs, collaboratively with USDA, and is defining and addressing the major issues related to implementation of sequestration projects both domestically and internationally.</p> <p>EPA maintained and enhanced a 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.</p> <p>EPA initiated efforts to better understand, quantify and resolve key scientific issues including those related to the ancillary impacts of carbon sequestration and indirect effects.</p>
State and Local Outreach Program	<p>EPA completed and distributed over 4000 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>Seven state partners completed greenhouse gas action plans (NJ, DE, NC, MT, TN, PR, UT); 17 action plans now completed out of 26.</p> <p>One state partner completed their greenhouse gas inventory (RI); Florida initiated an inventory using new, streamlined process.</p> <p>EPA increased the “<i>Cities for Climate Protection Campaign</i>” by 10 cities, bringing the total to 78.</p> <p>EPA drafted 3rd document - NOx Set Aside Measurement and Verification Guidance.</p> <p>EPA completed the Heat Island Reduction Initiative (HIRI) Air Quality modeling analysis, drafted life-cycle cost analysis on paving, and assessed HIRI strategies for three pilot cities.</p> <p>EPA published scientific assessment study results (state/regional sea level rise maps).</p> <p>EPA communicated with key audiences regarding climate change through publications, conference presentations, and award-winning web site.</p>

**Table 6. Program Accomplishments for Other Initiatives Through 2000 (continued)**

<i>Program Area</i>	<i>Accomplishments</i>
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 4 regions of Russia and in Kazakhstan, including energy fuel balances, and national estimates of selected sources such as coal mining; 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, with AID and DOE, assisted 26 developing countries that submitted their National Communications as required under the UNFCCC.</p> <p>EPA and the U.S. Initiative on Joint Implementation approved 44 voluntary projects, involving over \$1 billion in total investments in more than 20 developing and transition countries.</p> <p>EPA and the U.S. Country Studies Program assisted 56 developing and transition countries inventory their GHG emissions and evaluate strategies for reducing GHG emissions as well as adapting to climate change.</p> <p>EPA established partnerships with key developing countries to share and transfer energy efficiency program models developed in the U.S.</p> <p>EPA, in cooperation with AID, DOE, and the State Department, initiated the Technology Cooperation Agreements Pilot Project with 6 developing countries.</p> <p>EPA initiated the Integrated Environmental Strategies Program assisting 6 developing countries evaluate the environmental and human health benefits of technologies and policies for reducing greenhouse gas emissions.</p>
Global Change Research	<p>EPA determined the impacts of global change on coastal ecosystems in the Gulf Coast and Mid-Atlantic.</p> <p>EPA completed 3 regional assessments – Mid-Atlantic, Great Lakes, &amp; Gulf Coast – of the potential consequences of global change &amp; climate variability for the USGCRP National Assessment.</p>

**Program Goals and Objectives for 2002 and Beyond**

Despite the significant accomplishments of EPA’s programs to date, there remain large 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<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub>. 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 a car that can reduce fuel use and greenhouse gas emissions from today’s standards by two-thirds without sacrificing safety and performance.

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, and cost effective renewable energy. It will establish international partnerships that will link industrial efficiency, reduction of greenhouse gases and sustainable development. In 2002, EPA’s climate change programs are projected to:

- reduce greenhouse gas emissions from projected levels by more than 73 MMTCE annually through its programs, reducing the growth in greenhouse gas emissions above 1990 levels by about 20%;
- reduce U.S. energy consumption from projected levels by more than 85 billion kilowatt hours annually;
- reduce other forms of pollution, including air pollutants such as NO<sub>x</sub>, particulate matter and mercury from energy efficiency and reduce water pollution (from better fertilizer management). NO<sub>x</sub> emissions will be reduced by over 180 thousand tons;
- provide over \$6 billion in energy bill savings to consumers and businesses that use energy efficient products for the year;
- demonstrate technology for an 85 miles per gallon mid-size family sedan that has low emissions and is safe, practical, and affordable;
- provide more flexible and energy efficient alternatives for commuters and reduce vehicle miles traveled by more than 2 billion miles;
- assist approximately 12 developing countries and countries with economies in transition in building their capacity to participate actively in international discussions of climate protection and reduce emissions of greenhouse gases through cost-effective measures and assist in the fulfillment of the U.S. obligations under the 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's greenhouse gas reduction and energy savings goals were developed through an interagency process in 1997 and communicated to the Secretariat as required under the Framework Convention on Climate Change (FCCC) in the Second National Communication ("U.S. Climate Action Report – 1997"). The FCCC was signed by President Bush and ratified by the United States Senate in 1992. Work is currently being undertaken by an interagency task force preparing the Third National Communication, a portion of which will describe policies and measures (such as ENERGY STAR and PNGV) 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 will be a refinement of future goals for these policies and measures which will be communicated to the Secretariat of the FCCC in 2001 as part of the Third National Communication.

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 expand upon the successful ENERGY STAR partnerships (including ENERGY STAR Labeling and the ENERGY STAR Buildings Program). EPA will work toward the goal of offsetting about 24% of the growth in greenhouse gas emissions above 1990 levels expected by 2010 in this sector. EPA's programs will contribute more than 40 MMTCE annually in greenhouse gas reductions by 2010 while saving businesses and consumers more than \$14 billion. The efforts necessary in 2002 to continue to achieve these 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 CO<sub>2</sub> 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: (1) greatly enhance the rate of energy and resource efficiency improvements in industry between now and 2010 (working with DOE), (2) cost-effectively return emissions of methane to 1990 levels or below by 2010, and (3) cost-effectively limit emissions of the more potent greenhouse gases (HFCs, PFCs, SF<sub>6</sub>). EPA will deliver an estimated 75 MMTCE annually by 2010 from these efforts. The efforts necessary in 2002 to continue to achieve these 2010 goals are detailed in Table 8.
- Transportation: EPA will continue to grow its successful transportation efficiency initiatives including its voluntary Commuter Choice Partnership Program, Ground Freight Management Initiative, Clean Air Transportation Communities award program, and Smart Growth initiatives. These programs will deliver communities, commuters and the freight delivery industry substantial energy savings and increased flexibility in meeting their transportation needs. EPA's Variable Priced Auto Insurance initiative also shows tremendous potential for partnering with the insurance industry and commissioners to provide a voluntary incentive for less driving. The Partnership for a New Generation of Vehicles (PNGV) joins EPA and four other Federal agencies with Ford, General Motors and DaimlerChrysler in a partnership to develop a new generation of safe, attractive, affordable vehicles with ultra low emissions and high fuel efficiency. By 2010, the R&D component of the original PNGV program will have been completed, and a significant number of PNGV technology vehicles should penetrate into the light duty fleet. On a per-vehicle basis, these technologies will generate a two-thirds reduction in greenhouse gas emissions relative to current baseline vehicles. The 21<sup>st</sup> Century Truck program is a government-industry partnership established in 2000 whose purpose is to develop a new generation of clean and efficient line-haul trucks, urban delivery trucks, and urban buses. The program's fuel efficiency improvement goal is to produce, by 2010, production prototype vehicles that double the Class 8 line-haul truck fuel efficiency on a ton-miles-per-gallon basis, triple the Class 2b and 6 truck (delivery van) fuel efficiency on a ton-miles-per-gallon basis and triple the transit bus fuel efficiency on a miles-per-gallon. The efforts necessary in 2002 to achieve these goals are detailed in Table 9.

- 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 misperceptions 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, with collateral benefits for productivity and the environment. EPA expects to achieve a carbon removal potential of up to 25 MMTCE by 2010. The efforts necessary in 2002 to achieve these 2010 goals are detailed in Table 10.
- State and Local: The program will continue its efforts as a capacity-building program that provides state and local governments with guidance and technical information about climate change impacts, mitigation and adaptation. However, it has expanded its focus to include guidance and technical information about the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. States and localities have a significant role and home-court advantage in the reduction of greenhouse gases, provided they are equipped with the tools they need to integrate climate change into their daily decisions. The expansion of the program will enable state and local decision-makers to more effectively address their environmental and economic goals in a comprehensive manner. The program will provide a variety of technical and outreach or education services related to clean air and climate change issues. 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 expand the use of low greenhouse gas technologies; 2) identify, evaluate and implement strategies for achieving multiple social benefits while reducing greenhouse gas emissions; and 3) design market-based systems to facilitate more significant commitments by these countries under the FCCC as well as the infrastructure necessary to ensure compliance. 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 greenhouse gas technologies; 2) achieve the full integration of climate considerations into countries' development plans; and 3) establish the technical basis for major developing countries to make significant commitments under the Climate Convention. The efforts necessary in 2002 to meet these goals are detailed in Table 10.
- Global Change Research: In FY 2002, the Agency will conduct research and assessment activities to examine the potential effects of climate change and climate variability on: (1) human health; (2) air quality; (3) water quality; and (4) aquatic ecosystem health. These research and assessment activities will focus on developing integrated human health and ecosystem health assessments (e.g., assessing the potential spread of infectious diseases due to the impact of climate change on ecosystems). Specifically, the Global Change research program will conduct the following assessments:

1. The potential consequences of changes in extreme weather (heat and cold) for human mortality and morbidity;
1. The potential consequences of global change on changes in air quality (tropospheric ozone);
2. The potential consequences of climate and land-use changes on water and vector-borne diseases;
3. The potential consequences of climate change on aquatic ecosystems; and
4. The potential consequences of climate change on water quality (pollutants and microbial pathogens).

Investments in FY 2002 will support the initiation of the Second National Assessment, as required under the Global Change Research Act of 1990 (GCRA '90). EPA is one of ten federal agencies contributing to the National Assessment activities organized through the US Global Change Research Program (USGCRP). The National Assessment is an ongoing process mandated by GCRA '90 with scheduled reports to Congress in FY 2000 and not more than every four years thereafter. EPA will expand efforts to assess the impact of global change on air quality and water quality and quantity, including work to understand the interactions between regional air quality and global change.

Research pertaining to human health will support the EPA-sponsored Regional and Sectoral Assessments as part of the Second U.S. National Assessment. Also, particular attention will be given to the assessment of: (1) the effects of climate change on weather-related morbidity; and (2) the effects of global change on water- and vector-borne diseases.

Climate change is also expected to have a significant impact on air quality in the United States. Warmer temperatures will increase atmospheric formation of tropospheric ozone, and air pollutant emissions associated with energy production may increase due to increases in air conditioning use. Beginning in FY 2002, research and assessment activities in this area will examine the potential regional effects of global change (and climate change and climate variability, in particular) on tropospheric ozone and particulate matter.

Consistent with the *Global Change Research Strategy*, which articulates the program's long-term goals for developing comprehensive assessments of global change issues and the research to support such efforts, the effects of stressors such as climate change, land use change, and UVB radiation will be investigated. This research will focus on coastal areas that are extremely vulnerable to sea-level rise and are therefore considered high risk. Another component of these research and assessment activities focuses on the impacts of multiple stressors on ecosystem health, including coral communities. To help assess impacts of UVB on ecosystem and human health, EPA will continue to operate a 21-site UVB monitoring network with 7 urban and 14 rural (located in National Park Service areas) sites.

These efforts are detailed in Table 10.

**Table 7. Buildings Programs: Description of Planned Activities  
Within FY 2002 President's Budget Request**

ENERGY STAR Buildings	<p>Actively promote EPA's new buildings benchmarking tool and work with building owners and managers to benchmark 11,000 additional buildings including 2,500 schools and 1,500 federal facilities.</p> <p>Award 2,750 additional ENERGY STAR labels to buildings that reach a benchmark score between 75 and 100.</p> <p>Continue to develop benchmarking tools for two additional space types such as healthcare, lodging, food service and sales, and public assembly, providing benchmarking capabilities for 75% of the total US floor space.</p> <p>Continue to actively recruit new small businesses and organizations into Energy Star for small business to reach over 6,000 participants by the end of 2002.</p> <p>Expand public sector work to increase the number of partnerships with schools and universities and state and local governments to over 1100.</p> <p>Expand work to improve the efficiency of the federal government – work 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>Achieve 45% recognition of the ENERGY STAR label in the U.S.</p> <p>Coordinate with utility and state partners representing more than 60% of US households in the design and operation of effective state-level energy efficiency programs.</p> <p>Train over 10,000 contractors and sales staff, allowing the value and benefits of ENERGY STAR to be represented to over 4 million consumers.</p> <p>Enhance ENERGY STAR labeled product quality through a review of performance specifications for 5-10 product categories.</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 the European Community in implementing an energy efficiency labeling program for office equipment modeled after ENERGY STAR.</p> <p>Promote the purchase of more than 150 million ENERGY STAR labeled products in 2002.</p>
ENERGY STAR Homes	<p>Over 46,000 new homes are expected to be constructed as ENERGY STAR in 2002 .</p> <p>Promote ENERGY STAR Labeled New Homes in 15 geographic areas.</p> <p>Expand ENERGY STAR to include 75% of the housing stock of the national builders, Pulte, Ryan and Centex.</p> <p>Expand ENERGY STAR in the modular housing industry to include 33% of their housing stock .</p> <p>Achieve 25 % penetration of ENERGY STAR in the manufactured housing industry.</p> <p>Promote ENERGY STAR to state and local housing authorities as the platform for their affordable housing programs.</p> <p>Expand "ENERGY STAR in Kitchens" promotions with 6 utilities and 2 additional national retail chains.</p> <p>Expand the national Duct and Air Sealing Program for existing homes.</p> <p>Expand a whole house upgrade program that encourages home owners to consider energy efficiency improvements when performing whole-house renovation to geographic areas that can provide suitable contractor infrastructure.</p> <p>Promote Bench Marking as a major tool to spur homeowners to make energy efficiency home improvements.</p>



**Table 8. Industry Programs: Description of Planned Activities  
Within FY 2002 President's Budget Request**

ENERGY STAR for industry (formerly Climate Wise)	<p>Enhance and expand the ENERGY STAR program for industry by developing energy and related productivity benchmarks of industrial plant performance for five U.S. industries.</p> <p>Expand the energy peer exchange networking opportunities for U.S. industry and the ENERGY STAR partners by holding 3 national networking meetings.</p> <p>Conduct two industrial sector focus sessions to recruit two industrial sectors to partner with ENERGY STAR to improve their energy performance.</p>
Combined Heat and Power Initiative	<p>Implement CHP Partnership Program working within 2 states (IL and TX). The Partnership Program will work with several hundred industrial coal-fired boilers in these states for conversion to clean, efficient gas-fired CHP.</p> <p>Implement CHP Power Quality Initiative working with internet data centers and telecom switching stations to meet their reliable power needs with CHP.</p> <p>Promote recognition of CHP's benefits in environmental regulations.</p>
Green Power Initiative	<p>Launch Green Power Partnership Program in the Mid-Atlantic region. The Partnership Program will work with Charter Partners and local governments to remove market barriers to renewable ("green") power purchases.</p> <p>Announce 40 new corporate/local government green power purchases.</p> <p>Launch effort working with states to promote customer choice through electricity restructuring in an environmentally friendly manner.</p>
Industry Partnerships	<p>Complete development of corporate greenhouse gas inventory methodology and tracking mechanism.</p> <p>Launch Corporate Greenhouse Gas Inventory Partnership Program with 10 large corporations announcing voluntary greenhouse gas reduction goals.</p> <p>Continue efforts to work with industry partners to help them better understand their greenhouse gas emissions and opportunities for cost-effectively reducing these emissions.</p>
Waste Wise	<p>Maintain WasteWise to include 1,250 partners.</p> <p>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>Expand Product Stewardship to develop 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, pursue national targets for carpet recovery and meaningful increases in packaging recycling rates.</p> <p>Enhance 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> <p>Evaluate the economic and climate benefits of waste sector technologies such as bioreactor landfills, recycling collection systems, waste gasification systems, waste collection and transportation operations. Develop guidance manuals and training programs to overcome technical barriers and promote market acceptance for cost-effective climate mitigation technologies.</p>
Methane Programs	<p>Expand the Natural Gas STAR program in all sectors to represent 87% of gas transmission pipelines, 58% of distribution service connections, 57% of domestic gas production, and 25% of gas processing.</p> <p>Expand EPA's Coalbed Methane Outreach Program (CMOP) to work with key stakeholders to expand the market for new greenhouse gas reduction technologies, including flares at wells producing medium quality gas and combustion technologies appropriate for mine ventilation air. EPA will facilitate one demonstration project.</p> <p>Expand the Landfill Methane Outreach Program (LMOP) to assist a total of 220 landfills 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 to help ensure clean water and air for the livestock sector.</p>

**Table 8. Industry Programs: Description of Planned Activities  
Within FY 2002 President's Budget Request**

**(continued)**

<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. The VAIP will conduct a smelter measurement campaign to complete the U.S. smelter-type data set and to validate past process-type measurements.</p> <p>Work with the US 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 100 (representing 60% of the industry's net generating capacity).</p> <p>Expand participation in the SF<sub>6</sub> 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 0.3 MMTCE.</p> <p>Maintain an effective partnership with HCFC-22 chemical manufacturers to reduce emissions of HFC-23.</p> <p>Expand the stewardship programs to reduce high gwp 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 2002 President’s Budget Request**

<p>Transportation Efficiency</p>	<p>Continue implementation of the Commuter Choice Partnership Program– build national business partnership program that takes advantage of recent tax code changes that provide financial incentives for green commuting options. Expand to over 1,000 partners.</p> <p>Develop the Ground Freight Management Initiative--Identify and implement voluntary truck technology, freight management practices, and infrastructure opportunities (including E-commerce) that substantially reduce GHG and criteria air pollutants.</p> <p>Create and launch Green Mobility Choice – create &amp; implement program which is on par with Energy Star– quick and easy way to differentiate clean from dirty transport: commuting, fuels, vehicles including vehicle labeling etc.</p> <p>Develop Emerging Strategies--Identify and develop new innovative transportation programs that will substantially reduce GHG and criteria air pollutants from the transportation sector. Next generation of partnership programs developed: examples include Variable Priced Auto Insurance, and Transit for a Better Environment.</p> <p>Expand implementation of the Clean Air Transportation Communities Program--Catalyze and support community innovations that result in measurable reductions in VMT and cleaner technologies.</p> <p>Promote Smart Growth through the newly finalized SIP Land Use Guidance--implement finalized national policy and partner with at least five states to further Smart Growth and Air Quality goals.</p> <p>Continue implementation of the Keep America Growing, Induced Highway Travel, and Metropolitan/Regional Transportation Planning Partnerships –Collaborative partnerships to (1)evaluate model capabilities and estimate induced travel, (2) establish regional methodology for capturing land use air quality benefits (3) undertake educational efforts to promote tools that will enhance smart growth efforts and transportation equity across U.S.</p> <p>Continue implementation of the Outreach/Public Education Programs TRAQ Center and “It All Adds Up to Cleaner Air”-- Increase public awareness of Transportation/Air Quality Connection. Continue support for state of the art website for multi-state, State, local, tribal transportation/air quality professionals.</p> <p>Establish a partnership program with states, localities and industry to recognize significant progress on the use of alternative fuel vehicles (AFVs). EPA, in cooperation with DOT and DOE, will promote and encourage the use of dedicated, clean AFVs, such as compressed natural gas (CNG), electric and fuel-cell vehicles.</p> <p>Continue to fulfill statutory obligations in the fuel economy arena, which includes administering the fuel economy labeling, gas guzzler, gas mileage guide, and CAFÉ programs in conjunction with other government agencies.</p> <p>Develop projects to reduce diesel idling time at truck stops and along highways. EPA will partner with States and manufacturers of idling control devices to help install idle control technologies on trucks and at truck stops that could save 1 gallon of diesel fuel for each hour a vehicle idles.</p> <p>Conduct outreach efforts to promote public awareness of and to implement future enhancements to the Green Vehicle Guide Web Site that was launched in 2000.</p>
<p>PNGV</p>	<p>Demonstrate an optimized, cost-effective mechanical hybrid vehicle powertrain in a chassis test bed that will achieve 85 mpg without sacrificing safety or performance.</p> <p>Demonstrate Tier II emission levels in a unique EPA hybrid engine design utilizing renewable fuel and achieving diesel engine efficiency levels; work towards development of a production prototype 80 mpg midsize vehicle that meets Tier II emission levels by model year 2004.</p>
<p>21<sup>st</sup> Century Truck</p>	<p>Initiate engineering programs to target transformation of EPA-patented light-duty engine and mechanical drivetrain components to meet the more demanding size, performance, and lifecycle durability requirements of urban delivery trucks.</p>

**Table 10. Other Programs: Description of Planned Activities  
Within FY 2002 President's Budget Request**

<p align="center">Carbon Removal</p>	<p>Continue to collaborate with USDA on the development of several key pilot projects demonstrating the viability of various carbon sequestration activities.</p> <p>Continue work on enhancing the ability of major macroeconomic models to evaluate the economic value of carbon sequestration to 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 support to help states conduct analyses of the co-benefits of greenhouse gas mitigation.</p> <p>Assist states to update inventories and assess climate change policy impacts on state economies.</p> <p>Develop new tools and models that build understanding of the broader benefits of climate protection.</p> <p>Integrate multi-pollutant emission reduction strategies in State Implementation Plans (SIPs).</p> <p>Develop tools to facilitate adoption of heat island reduction activities at the city level and in SIPs.</p> <p>Provide broad outreach for capacity-building through the EPA global warming website, an electronic list serv messaging service, a guide to integrating climate change into existing decisions, a best practices clearinghouse to promote multi-pollutant emission reduction strategies (e.g., energy efficiency, sustainability, clean energy and other GHG mitigation measures), information about state forest carbon data and state legislative activity related to greenhouse gases, and development/dissemination of success stories.</p> <p>Translate key scientific findings (as expected in the upcoming Third Assessment Report from the Intergovernmental Panel on Climate Change) into a format more readily understandable to the public.</p> <p>Increase awareness of global, regional, and local impacts of climate change for targeted groups, including outdoor enthusiasts, coastal communities, and decision makers in key business sectors.</p> <p>Gather stakeholder input to develop performance metrics and evaluate effectiveness of communication.</p> <p>Develop risk reduction strategies to encourage effective public response to climate change, including development of strategic coastal response program.</p>
<p align="center">International Capacity Building</p>	<p>Continue cooperation with China, Mexico, Chile, Argentina, Brazil, Korea, South Africa and India.</p> <p>Assess health benefits, and 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>Initiate regional expert networks and training programs to promote widespread application of multiple benefit environmental strategies, including greenhouse gas reductions.</p> <p>Cooperate with other international organizations such as the World Health Organization, UNEP, the World Bank and the Global Environment Facility, to expand application of clean technology strategies through quantification of multiple benefits.</p> <p>Develop partnerships between state and local governmental organizations in the U.S. and developing country national and local governments to develop and implement strategies for reducing greenhouse gas emissions while achieving other critical social benefits.</p> <p>Work with export credit agencies (EXIM Bank, OPIC, etc) and commercial finance institutions to identify and overcome barriers to commercial investment in clean technologies in developing countries.</p>

**Table 10. Other Programs: Description of Planned Activities  
Within FY 2002 President's Budget Request  
(continued)**

Global Change Research	<p>Conduct research and assessment activities to examine potential effects of climate change and variability on: human health; air quality; water quality; and aquatic ecosystem health, focusing these activities on developing integrated human health and ecosystem health assessments (e.g., assessing the potential spread of infectious diseases due to the impact of climate change on ecosystems).</p> <p>Expand work under the Second National Assessment, including:</p> <p>Efforts to understand the interactions between regional air quality and global change;</p> <p>Research pertaining to human health, with an emphasis on the effects of climate change on weather-related morbidity, and the effects of global change on water- and vector-borne diseases.</p> <p>Begin research and assessment activities examining the potential regional effects of climate change and variability on tropospheric ozone and particulate matter.</p> <p>Continue investigating the effects of stressors such as climate change, land use change, and UV-B radiation, focusing on coastal areas and on the impacts of multiple stressors on ecosystem health, including coral communities.</p> <p>Continue to operate a 14-site UV-B monitoring network (located in National Park Service areas) to help assess impacts of UV radiation on ecosystem and human health.</p>
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**FY 2002 Change from FY 2001**

EPM

- (+119,600) This increase reflects an increase in workforce costs.

S&T

- (-1,371,900) The FY 02 request is \$1,371,900 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.

Research

- (+\$864,600, +0.5 FTE) Resources will be increased for EPA's assessments that are part of the U.S. Global Change Research Program's (USGCRP's) ongoing National Assessment of the Consequences of Climate Change and Variability on the United States. The National Assessment process will address key new assessment questions of concern to stakeholders that were raised in the First National Assessment.
- C (-\$1,597,000, -10 FTE) In order to fund higher priority ecosystem research in other goals, including effects of excess nitrogen from atmospheric or other sources on aquatic ecosystems, the Agency will decrease emphasis on efforts to evaluate the consequences of global change on terrestrial ecosystems. This shift in emphasis is consistent with the Agency's *Ecosystem Research Strategy*.

## Annual Performance Goals and Performance Measures

### Reduce Greenhouse Gas Emissions

- In 2002 Greenhouse gas emissions will be reduced from projected levels by approximately 73 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in greenhouse gas emissions above 1990 level by about 20%.
- In 2001 Greenhouse gas emissions will be reduced from projected levels by approximately 66 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in greenhouse gas emissions above 1990 level by about 20%.
- In 2000 Greenhouse gas emissions will be reduced from projected levels by more than 58 MMTCE per year through EPA partnerships with businesses, schools, State and local governments, and other organizations thereby offsetting growth in GHG emissions above 1990 level by about 20%. Data available mid-2001.
- In 1999 EPA reduced US greenhouse gas emissions by 46 million metric ton carbon equivalent (MMTCE) per year through partnerships with businesses, schools, state and local governments, and other organizations.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Annual Greenhouse Gas Reductions - All EPA Programs	46	On track	66	73	MMTCE
Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR)	12.7	On track	15.0	17.2	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs	4.5	On track	9.1	9.1	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs	8.5	On track	15.1	16.3	MMTCE
Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs	15.0	On track	18.2	21.9	MMTCE
Greenhouse Gas Reductions from EPA's Transportation Programs	1.1		6.2	6.7	MMTCE
Greenhouse Gas Reductions from EPA's State and Local Programs	1.6	On track	1.9	2.2	MMTCE

Baseline: The baseline for evaluating program performance is a forecast of U.S. greenhouse gas emissions in the absence of the Climate Change Action Plan programs. The baseline was developed as part of an interagency evaluation of the Climate Change Action Plan in 1997, which built on a similar baseline forecast that was developed in 1993 for the Climate Change Action Plan. The updated baseline includes energy forecasts and economic growth projections. The baseline is discussed at length in the Climate Action Report 1997, which includes a discussion of differences in baselines between the original Climate Change Action Plan and the 1997 baseline update. The

baseline is currently under review as part of the interagency evaluation process for preparing the Climate Action Report 2001.

### Reduce Energy Consumption

- In 2002 Reduce energy consumption from projected levels by more than 85 billion kilowatt hours, contributing to over \$10 billion in energy savings to consumers and businesses.
- In 2001 Reduce energy consumption from projected levels by more than 75 billion kilowatt hours, contributing to over \$9 billion in energy savings to consumers and businesses.
- In 2000 Reduce energy consumption from projected levels by about 60 billion kilowatt hours, resulting in over \$8 billion in energy savings to consumers and businesses that participate in EPA's climate change programs. Data available mid-2001.
- In 1999 US energy consumption was reduced by 50 billion kilowatt hours per year, including annual energy bill savings to consumers and businesses of over \$3 billion.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002	
	Actuals	Actuals	Estimate	Request	
Annual Energy Savings - All EPA Programs	50	On track	75	85	Billion kWh

Baseline: The baseline for evaluating program performance is a forecast of U.S. greenhouse gas emissions in the absence of the Climate Change Action Plan programs. The baseline was developed as part of an interagency evaluation of the Climate Change Action Plan in 1997, which built on a similar baseline forecast that was developed in 1993 for the Climate Change Action Plan. The updated baseline includes energy forecasts and economic growth projections. The baseline is discussed at length in the Climate Action Report 1997, which includes a discussion of differences in baselines between the original Climate Change Action Plan and the 1997 baseline update. The baseline is currently under review as part of the interagency evaluation process for preparing the Climate Action Report 2001.

### Technology for PNGV

- In 2002 Demonstrate technology for an 85 MPG mid-size family sedan that has low emissions and is safe, practical, and affordable.
- In 2001 Demonstrate technology for an 80 MPG mid-size family sedan that has low emissions and is safe, practical, and affordable.
- In 2000 Demonstrated technology for a 72 mpg mid-size family sedan that has low emissions and is safe, practical, and affordable.
- In 1999 Fully demonstrated that an American family car can attain over 60 miles per gallon on the Federal Test Procedure without loss in utility, safety, and emissions control performance.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002	
	Actuals	Actuals	Estimate	Request	
Fuel Efficiency of EPA-Developed PNGV Concept Vehicle over EPA Driving Cycles Tested	60	72	80	85	MPG

Baseline: The baseline for the PNGV fuel economy goal is the average fuel economy of representative domestic midsize family sedans (Concorde/Taurus/Lumina) in model year 1994.

### Analysis, Assessment, and Reporting Support

- In 2002 Provide analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change.
- In 2001 Provide analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change.
- In 2000 Provided analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002	
	Actuals	Actuals	Estimate	Request	
Annual GHG Inventory (FCCC)	1	1	1	1	Inventory
Support on 3rd US National Communication to the FCCC			1		Report

Baseline: N/A

### International Capacity Building

- In 2002 Assist 10 to 12 developing countries and countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration.
- In 2001 Assist 10 to 12 developing countries and countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration.
- In 2000 Assisted at least 10 developing countries and countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration.
- In 1999 Assisted 9 developing countries and countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002	
	Actuals	Actuals	Estimate	Request	
Countries Assisted	9	10	10	10	Countries

Baseline: n/a

### Carbon Removal

- In 2002 In close cooperation with USDA, identify and assess opportunities to sequester carbon in agricultural soils, forests, other vegetation and commercial products, with collateral benefits for productivity and the environment, with carbon removal potential of up to 25 MMTCE by 2010.
- In 2001 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, with carbon removal potential of up to 25 MMTCE by 2010.



Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request
Infrastructure for Carbon Sequestration Activities Developed			9/30/2001	
Modeling Capability and Pilot Project Implementation			3	Pilot Projects
Baseline:	FY 2002 is the third year of carbon sequestration activities. EPA's focus will be on continued infrastructure development.			

Research

**Global Change Research - Human Health and Ecosystem**

- In 2002 Complete the problem formulation phase of an assessment of the consequences of global change on aquatic ecosystems at a regional level.
- In 2002 Complete the problem formulation phase of an assessment of the consequences of global change on air quality -- specifically, tropospheric ozone -- at a regional level.
- In 2002 Complete all contributing research and a report on the problem formulation phase of an assessment of the consequences of climate change on human health -- specifically, weather-related morbidity -- at the national and regional levels.
- In 2001 Assess the consequences of global change (particularly climate change and climate variability) on human health and ecosystems.
- In 2000 Work to assess the impacts of global change on ecosystem services was delayed until FY02.
- In 2000 EPA assessed the consequences of global change and climate variability on human health by completing the products below and other research activities.
- In 1999 Assessments linking regional hydrology to climate change were delayed until the 2nd quarter of FY 2001.
- In 1999 A paper on problem formulation for ecosystem services sector assessments has been submitted to a peer-reviewed journal. A draft chapter that develops the "problem formulation" framework has been included in the Mid-Atlantic Regional Assessment. The climate change indicators report is delayed.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request
Assess potential effects of global change on ecosystem services.		30-Sep-2002		indicators
Complete a Health Sector Assessment of the potential consequences of climate change and variability for public health, for the USGCRP National Assessment process.		1		assessment
Provide preliminary results from a case study which will determine how climate change & variability affect the formation of trop. ozone				

in a city & consider the viability of certain adaptation options		N/A	results
Develop prototype ecological and health data and information system to integrate with the Global Climate Data and Information System (GCDIS).		1	info. system
Report on problem formulation for ecosystem services sector assessment.	1		report
Report on the development and use of climate change indicators.			
Report on the potential effects of climate change on urban air quality.		1	report
Preliminary report assessing potential health effects of global change by linking human health and ecological risk.		1	report
Complete initial assessment of air quality impacts of several potential transportation sector technology paths as input to a study of global change on tropospheric ozone concentrations.		1	assessment
Increase the functionality of Global Program's Data & Info. Mgt. System by adding 2 modules: (1) statistical, visualization & GIS tools; (2) knowledge-based interface for dynamic database management.			2 modules
Publish report on the effects of climate change on weather-related morbidity in the U.S.		1	report
Publish report on the effects of global change on air quality (tropospheric ozone) in the U.S.		1	report
Publish reports supporting analysis of the comparative risk of UV radiation and habitat quality to amphibian populations across N. America in support of US Global Change Research Program assessments.			09/30/2002 analysis
Publish report on the effects of global change on aquatic ecosystems in the U.S.		1	report
Peer-reviewed reports for decision-makers and the public on the potential consequences of global change on 3 regions and on human health, which are the finished products of a multi-year effort.		3	reports
Baseline:	The US National Assessment process has revealed research needs in a number of areas. In FY 2002, EPA is pursuing assessments to address needs in three of these areas. The problem formulation processes will organize the assessments by establishing the state of knowledge, identifying endpoints of concern with stakeholders, and identifying key research gaps. The		

assessments will inform decision makers as they consider options for adapting to global change and other stresses.

**Human Health:** The Health Sector Assessment Team noted that much attention has been paid to weather-related mortality in the U.S., but little to weather-related morbidity. Morbidity takes a human and economic toll through injuries, lost work and diminished quality of life, but little is known about the nature and magnitude of that toll. This problem formulation constitutes the initial phase of an assessment of the consequences of climate change on weather related morbidity.

**Air Quality:** Previous studies have demonstrated that meteorology can have a significant influence on atmospheric concentrations of air pollutants, leading to concerns about the long-term efficacy of air pollution control efforts. To date, there are few modeling studies which directly address this concern. By the end of FY 2002, the following initial question will be answered: How will global climate change affect local and regional weather patterns that influence air quality?

**Aquatic Ecosystems:** To date, studies of the effects of global change on aquatic ecosystems have lacked a consistent framework for assessing interactions of multiple global change stressors and multiple ecosystem types within a watershed, and for assessing how those interactions may impact ecosystem services. By the end of 2002, a framework will be developed that can be applied to watersheds to evaluate how changes in climate, land use and UV radiation will affect aquatic ecosystem services.

## **Validation and Verification of Performance Measures**

### **Performance Measure: Annual Greenhouse Gas Reductions**

**Performance Database:** Baseline Data on Greenhouse Gas Emissions Climate Protection 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-CO<sub>2</sub>, including nitrous oxide and other global warming potential gases are maintained by EPA. EPA develops the methane 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. EPA's Voluntary programs collect partner reports on facility specific improvements (e.g. space upgraded, kWh reduced.) A carbon-conversion factor is used to convert this information to estimated GHG reductions. EPA maintains a "tracking system" for emissions reductions based on the reports submitted by partners.

**QA/QC Procedures:** EPA devotes considerable effort to obtaining the best possible information upon which to evaluate emissions reductions from voluntary programs. For example, EPA has a quality assurance process in place to check the validity of partner reports.

**Data Quality Review:** Peer-reviewed carbon-conversion factors are used to ensure consistency with generally accepted measures of greenhouse gas emissions. The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The first such interagency evaluation, chaired by the White House Council on Environmental Quality, examined the status of the Climate Change Action Plan. The review included participants from EPA, DOE, DOC, DOT, and USDA. The results were published in the *U.S. Climate Action Report-- 1997* as part of the United States Submission to the

Framework Convention on Climate Change. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs that were examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..." Work is currently being undertaken by an interagency task force preparing the Third National Communication, a portion of which will describe policies and strategies (such as ENERGY STAR and Partnership for a New Generation of Vehicles (PNGV) undertaken by the U.S. to reduce greenhouse gas emissions, implementation status of the policies and strategies, and their actual and projected benefits. One result of this interagency review process will be a refinement of future goals for these policies and strategies which will be communicated to the Secretariat of the FCCC in 2001 as part of the Third National Communication.

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

**New/Improved Data or Systems:** The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations.

### **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 the Department of Energy (DOE) with significant involvement from USDA, Housing and Urban Development and National Institute of Standards and Technology.

Agencies throughout the government make significant contributions to the climate protection programs. For example, the DOE will pursue actions such as promoting the research, development, and deployment of advanced technologies (for example, renewable energy sources). The Treasury Department will administer proposed tax incentives for specific investments that will reduce emissions. EPA is expanding its public information transportation choices campaign as a joint effort with the DOT. EPA coordinates with each of the above mentioned agencies to ensure that our programs are complimentary and in no way duplicative.

This coordination is evident in current work being undertaken by an interagency task force, including representatives from the Department of State, EPA, DOE, USDA, DOT, OMB, Department of Commerce, USGCRP, NOAA, NASA, and 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 signed by President Bush and ratified by the United States Senate in 1992. A portion of the Third National Communication will describe policies and measures (such as ENERGY STAR and PNGV) 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 will be a refinement of future goals for these policies and measures which will be communicated to the Secretariat of the FCCC in 2001.

## Research

EPA is an active participant in the interagency U.S. Global Change Research Program (USGCRP) and the ongoing National Assessments of “The Potential Consequences of Climate Change and Variability on the United States.” As part of these efforts, EPA coordinates research and assessment activities with other USGCRP agencies to ensure that an integrated federal research and assessment program is implemented, and that agencies’ activities are complementary rather than duplicative. In addition to the EPA’s Global Change Research program, agencies participating in the USGCRP include: the US Departments of Agriculture, Commerce, Energy, Health and Human Services, Interior, the National Aeronautic and Space Administration, the National Science Foundation, the Smithsonian Institution, and the Tennessee Valley Authority.

## **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 2002 Annual Performance Plan and Congressional Justification

#### Reduction of Global and Cross-Border Environmental Risks

##### Objective # 3: 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 sub-populations such as children.

##### Resource Summary

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
<b>Reduce Stratospheric Ozone Depletion.</b>	<b>\$17,002.9</b>	<b>\$17,581.1</b>	<b>\$17,249.9</b>	<b>\$17,115.3</b>
Environmental Program & Management	\$17,002.9	\$17,554.0	\$17,249.9	\$17,115.3
Science & Technology	\$0.0	\$27.1	\$0.0	\$0.0
Total Workyears	36.5	31.6	33.3	32.8

##### Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Multilateral Fund	\$11,362.0	\$12,000.0	\$10,975.8	\$10,975.8
Partnership with Industrial and Other Countries	\$336.7	\$361.1	\$0.0	\$0.0
EMPACT	\$671.4	\$947.8	\$0.0	\$0.0
Administrative Services	\$0.0	\$288.5	\$395.2	\$456.5

## FY 2002 Request

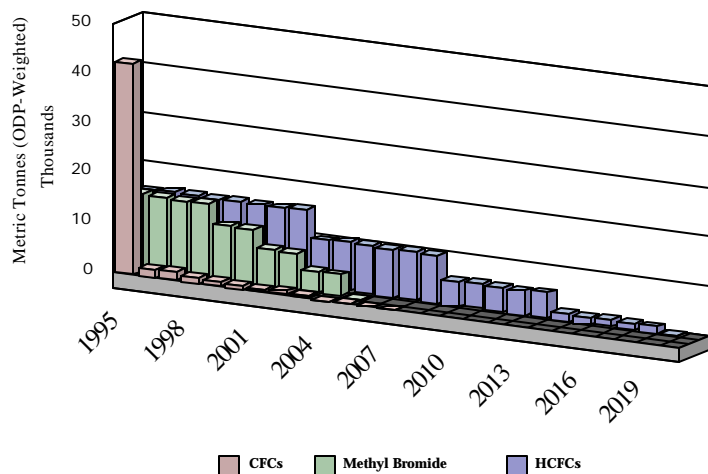
The stratospheric ozone layer protects life on earth from harmful ultraviolet (UV) radiation; a depleted ozone layer allows more UV radiation to reach the earth. The increased levels of UV radiation due to ozone depletion are linked to higher incidences of skin cancer, cataracts, and other illnesses.<sup>1</sup> Today, one in five Americans develops skin cancer; over 25 percent of cataracts are caused by exposure to ultraviolet radiation. 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).

Scientific evidence amassed over the past 25 years has shown that chlorofluorocarbons (CFCs), halons, hydrofluorocarbons (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 ozone-depleting substances (ODSs).

The United States and 174 other countries are Parties to the Montreal Protocol as of January 1, 2001. 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 U.S. population will be exposed to higher levels of ultraviolet 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-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. Approximately 80 percent of lifetime exposure to UV rays is obtained prior to age 18.

**U.S. Significant Goals in Controlling Ozone-Depleting Substances**



<sup>1</sup>World Meteorological Organization, *Scientific Assessment of Ozone Depletion: 1998*, February 1999.

## Program Goals and Objectives for 2002 and Beyond

- Domestic and international phase-out of production and importation of numerous ODSs:
  - Implementation of Class I chemical phase-out: chlorofluorocarbons (CFCs), halons, methyl chloroform, carbon tetrachloride, chlorobromomethane and hydrobromofluorocarbons (HBFCs).
  - Development of a marketable allowance allocation program to ensure a graduated phaseout of HCFCs, leading to full phase-out in 2030, in compliance with the Montreal Protocol.
  - Implementation of 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 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.
- National implementation of the SunWise School Program, with the goal of reducing the risk to children and their caregivers of health effects caused by overexposure to ultraviolet radiation. Through implementation of this national UV education program targeted to grades K-8, EPA expects to reach 8 million children and 17,000 schools by 2005.
- 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 21<sup>st</sup> 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 EPA 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 developing country production and use of ozone-depleting substances. To date, the Fund has supported over 3000 activities in over 120 countries that when fully implemented, will annually prevent emissions of more than 120,000 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 over 90 percent of developing country halon production capacity. Final closure of related facilities depends on continued funding.



In 2002, the Agency will transition to the next stage of assisting Russia in its goal of total elimination of CFCs by assisting in the development of post phase-out monitoring. Activities would be coordinated with the World Bank and donor countries and agencies in facilitating training and other forms of technical exchanges. In addition, EPA would begin efforts in targeting countries for specific enforcement capacity enhancement of customs officials to prevent the illegal entry of banned CFCs into the United States.

Pollution prevention is also an important element in meeting the objective goals. For example, our 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. The Stratospheric Protection Program, 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, the Stratospheric Protection Program will continue its intensive efforts to curb illegal imports of ODSs.

Additionally, in 2002, EPA will build on the base program for the SunWise School Program established in 2001. The overarching goal of the SunWise Program is to move the U.S. ozone protection program into the area of risk reduction that offers the highest potential return: direct education of children and caregivers in how to protect themselves from overexposure to UV radiation.

### **Program Accomplishments**

- In 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 worked closely with U.S. Department of Agriculture (USDA) and industry to test and approve two registered alternatives to methyl bromide in 1999 and 2000.
- Between 1995 and 2000, EPA, along with the Customs Service and Department of Justice, intercepted over two million pounds of illegal ODS imports, resulting in more than 90 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 the undercutting of the U.S. domestic market in reclaimed ODSs.
- During 1999-2001, the Stratospheric Protection Program completed several major projects to prevent an increase in ozone-depleting emissions. Examples include:
  - Conducted a comprehensive evaluation, in collaboration with the National Aeronautics and Space Administration (NASA), the academic community, and industry, of potential health impacts of 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.
  - Added refrigerators containing CFCs to the products banned from distribution within and imports into the U.S. 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.

- In 2000, EPA listed dozens of new alternatives to ODSs as acceptable for use in refrigeration and air-conditioning, solvent cleaning, aerosols, insulating foams, fire protection, adhesives, coatings and inks. EPA also restricted the use of several proposed substitutes to prevent unacceptable risks to the environment and consumer and worker health and safety.
- 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 2001 contribution to the Multilateral Fund helped the Fund support cost-effective projects designed to build capacity and eliminate ODS production and consumption in over 50 developing countries.
- By early 2001, the SunWise program had grown from 140 schools in 36 states to 365 participating schools in 45 states.

## **FY 2002 Change from FY 2001 Enacted**

### EPM

- (-\$276,400) This decrease reflects redirection to higher Agency priorities. The reduction will impact funding for the Stratospheric Protection Hotline. The Hotline currently receives 100-300 calls per day for information on policies and regulations and mails out requested documents, in particular, to air conditioning technicians. The Hotline will continue to operate, although it will field a reduced volume of calls.
- (+\$115,800) This increase reflects an increase in workforce costs.

## **Annual Performance Goals and Performance Measures**

### **Restrict Domestic Consumption of Class II HCFCs**

In 2002	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.
In 2001	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.
In 2000	End-of-year FY 2000 data will be available in mid 2001 to verify that domestic consumption of class II HCFCs was restricted below 15,240 ODP-weighted metric tonnes (ODP MTs) and domestic exempted production and import of newly produced class I CFCs and halons was restricted below 60,000 ODP MTs.

In 1999 Domestic consumption of class II HCFCs was restricted to below 208,400 MTs and domestic exempted production and import of newly produced class I CFCs and halons was restricted to below 130,000 MTs.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Domestic Consumption of Class II HCFCs	<208,400 MTs	30-Jun-2001	<15,240	<15,240	ODP MTs
Domestic Exempted Production and Import of Newly Produced Class I CFCs and Halons	<130,000 MTs	30-Jun-2001	<60,000	<60,000	ODP MTs

Baseline: The base of comparison for assessing progress on the 2001 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.

### Sun Wise Program

In 2002 Increase the number of children participating in the SunWise School Program by 25%, and reduce the rate of sunburns among participants by 5%.

In 2001 Increase the number of children participating in the SunWise School Program by 20%.

In 2001 Improve participant knowledge about correct SPF by 50%, attitudes about the healthiness of a tan by 10%, and intention to play in the shade by 10%.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Reduce Sunburn Rate				5	Percent
Increase Participation in SunWise			20	25	Percent
Improvement in knowledge, attitudes, and behavior.		50%,10%,10%			Students

Baseline: Children in SunWise Schools complete an annual pre-and post- program survey that evaluates current and intended sun protection knowledge and behaviors. The sunburn rate is the best available measure of risk reduction using existing survey equipment. After the pilot phase of the SunWise Program (concluded in FY 2000), the baseline number of students participating in the SunWise School Program was 15,000. The baseline sunburn rate at the end of the pilot phase was 60%, the proportion of children participating in the SunWise program that reported sunburns the previous summer.

### Montreal Protocol Fund

In 2002 Provide assistance to at least 75 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol.

In 2001 Provide assistance to at least 75 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol.

In 2000 Provided assistance to 50 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol.

In 1999 Through our contribution to the Multilateral Fund, assistance was provided to 50 countries working toward achieving the Montreal Protocol.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Assistance to Countries Working under Montreal Protocol	50	50	75	75	Countries

Baseline: In an average year the Multilateral Fund, created through the Protocol, approves projects to assist over 50 developing countries in their efforts to comply with the phaseout of ODSs.

**Verification and Validation of Performance Measures:**

**Performance Measure:** Reductions in production and importation of ODSs.

Performance Database: Reported production, imports, exports, transformation, and allowance trades of ODSs are recorded in the Stratospheric Ozone Tracking System, and analyzed quarterly.

Data Source: Baseline data provided by producers and importers, and allowance trade and quarterly reports submitted by producers, importers and exporters.

QA/QC Procedures: The Stratospheric Protection Program has a system in place to verify reports with Customs and other data. Additionally, the program has a three-point check of the transcription of report data into the tracking system.

New/Improved Data or Systems: The Stratospheric Protection Program is exploring an improved system whereby electronic reporting would be possible and an automatic crosswalk could be designed to automatically copy HCFC data to the separate HCFC threshold monitoring database.

**Performance Measure:** Increase the number of children participating in the SunWise School Program by 25 percent.

Performance Database: The SunWise School Program Tracking System tracks multiple variables about participating schools, including student participation rates.

Data Source: Data on number of participating students is provided by their educator, e.g., school nurse or classroom teacher.

QA/QC Procedures: Participating educators are asked to evaluate the program at the end of the school year and provide information on the number of students who received SunWise teaching. These numbers are cross-checked against the numbers in the Tracking System.

New/Improved Data or Systems: N/A

**Performance Measure:** Reduce the rate of sunburns in students participating in the SunWise School Program by 5 percent.

Performance Database: All of the surveys are computer-scannable and these forms are entered into a database. Frequencies and descriptive statistics for all questions are printed out and reviewed by the evaluation project director. Statistical tests are performed to compare the differences between children at pretest and post-test by variables related to their knowledge, attitudes, and practices related to sun protection.

Data Source: Data is obtained from surveys administered to a statistically significant random sampling of students participating in the SunWise School Program to measure their knowledge, attitudes and behaviors toward sun protection before receiving SunWise teaching and after. All survey data are anonymous.

QA/QC Procedures: Before all computerized survey forms are scanned, they are carefully checked for any stray mark used by the student. If the stray marks are in pencil, they are fully erased. If children make crayon marks, forms are ineligible for survey analysis. Teachers and nurses are notified in advance of the survey completion to ask children to complete surveys with pen or pencil and to try as best as possible to fill the box in entirety. Computer scannable forms are far better at eliminating or greatly reducing error since they are not manually entered. Prior to reports or manuscript publication, all study numbers are carefully checked by three investigators, both in the original data report, and the final written report.

### **Coordination with Other Agencies**

In an effort to curb the illegal importation of ODSs, an interagency task force has been formed consisting of 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 U.S. 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 methyl bromide. 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 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 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.

The Agency coordinates with NASA and the National Oceanic and Atmospheric Administration to monitor the state of the ozone layer.

The Agency 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.

### **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 2002 Annual Performance Plan and Congressional Justification

#### Reduction of Global and Cross-border Environmental Risk

**Objective #4:** 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
<b>Protect Public Health and Ecosystems from PBTs and other Toxics</b>	\$3,596.6	\$4,856.5	\$4,636.1	\$4,809.7
Environmental Program & Management	\$3,596.6	\$4,856.5	\$4,636.1	\$4,809.7
Total Workyears	28.9	32.4	32.1	32.1

#### Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Global Toxics	\$315.3	\$535.0	\$0.0	\$0.0
Partnership with Industrial and Other Countries	\$100.0	\$356.4	\$0.0	\$0.0
Administrative Services	\$0.0	\$15.4	\$16.1	\$16.0

#### **FY 2002 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. External environmental influences are not unique to the U.S. 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. To reduce pollution in the U.S., EPA is committed to helping reduce pollution globally.

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, or POPs as they are known internationally, 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-wide. PBTs also enter the food chain, accumulating in the shellfish, fish, birds and animals that are exposed directly or indirectly through their diets.

EPA is working to reduce the potential risk from PBTs on several fronts: (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. Of the PBTs, PCBs, dioxins/furans, DDT and certain other pesticides, mercury poses the greatest concern. 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 PBTs.

International agreements form the vehicle for many protective standards. In 2002, EPA will continue to play a key role in the Administration's efforts to successfully conclude a number of regional and global negotiations to establish 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 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.

**Under the Global POPs Agreement, twelve chemicals are initially targeted for elimination and/or control:**

- |              |                       |
|--------------|-----------------------|
| 1. DDT       | 7. Mirax              |
| 2. Aldrin    | 8. Toxaphene          |
| 3. Dieldrin  | 9. PCBs               |
| 4. Endrin    | 10. Hexachlorobenzene |
| 5. Chlordain | 11. Furans            |



EPA has been involved in negotiating a series of legally-binding international agreements concerning various PBT substances and international trade in severely restricted chemicals. The U.S. and some forty other nations in late 1998 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). The LRTAP POPs protocol in turn helped to establish the foundation for the ongoing negotiation (under the auspices of the United Nations Environment Program, or UNEP) of a legally-binding global convention on POPs. Negotiation of the UNEP POPs convention was concluded in December 2000 and it is expected to be signed in May 2001.

The UNEP POPs agreement banned or restricted manufacture and/or use of 12 selected chemicals. The agreement also addresses export and import restrictions/controls, emission release restrictions, micro-contaminant 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 emission inventories and implementation of capacity building measures in developing countries around the world. In FY 2002, provided the U.S. Senate certifies the POPs Treaty, EPA plans to begin assisting developing countries in meeting their obligations under these agreements. EPA will focus on those countries which are thought to be key sources of these substances.

Even before the LRTAP and UNEP agreements become legally binding, the EPA and its U.S. government partners are working to encourage and facilitate the compliance by developing countries with what would become their obligations under these agreements. Unless international controls are put in place, environmental loadings of PBTs and the resultant health and environmental risks will increase over time through expanded production, trade, and use of these substances. Many countries often are unable to commit to controls of this type in the absence of technical assistance. The Agency places considerable emphasis on capacity building projects in key developing countries seeking greater compliance with international obligations and thus engages other countries in reducing global risks posed by PBT substances.

Among the heavy metals, mercury is especially noteworthy because it circulates in the environment at 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 2002, EPA will provide technical expertise and data to the global mercury assessment which is being undertaken pursuant to a decision by the UNEP Governing Council in February 2001. EPA also will expand the geographic reach of its mercury monitoring effort (e.g., by starting monitoring at Mauna Loa).

A legally binding global convention on Prior Informed Consent (PIC) – which facilitates voluntary information exchange and import controls of banned or severely restricted chemicals among countries – was signed in 1999. In FY 2002 EPA will determine what steps will be needed to ensure U.S. compliance. EPA also will assist developing countries in complying with the provisions of the PIC convention. This will result in more informed decision-making by these countries on how to best manage the risks posed by trade in restricted chemicals.

#### Other Risk Reduction Measures for Persistent Toxics

EPA has promoted the phase-out of use of lead additives in gasoline at the international level since the mid-1990s. As of 1999, the global use of lead in gasoline dropped below the target level selected for EPA's 2005 strategic goal. In 2002 EPA will take additional steps to encourage more countries to eliminate their use of lead in gasoline and thus reduce adverse health impacts associated with lead exposure.

EPA has for several years been actively promoting the phase-out of use of lead additives in gasoline at the international level. As of 1999, the Agency has already seen the global use of lead in gasoline drop below the target level selected for our 2005 strategic goal, and it is likely that EPA will make additional progress in encouraging more countries to eliminate their use of lead in gasoline. This will result in additional reductions in adverse health impacts associated with lead exposure.

A new program started in 2000 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, focusing on pesticides, mercury and lead. 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 2001, targeted countries and cities are being given information which 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 register development, and industrial sector environmental improvement.

EPA will continue to support countries in Sub-Saharan Africa (SSA) in addressing key toxic risks, focusing initially on pesticides and lead in gasoline. This program addresses the growing health and ecosystem risk from rapid urban and industrial development in SSA. In 2002, targeted countries and cities will be given information which will assist in implementing environmental regulatory systems on par with U.S. and international standards. Key activities include pesticide information exchange and training, lead risk reduction, and industrial sector environmental improvement.

#### 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:

- C 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;
- C reducing the need for animal testing;

- C expanding the universe of toxic chemicals for which needed testing information is available; and
- C 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 OECD requirements. In 2002, the Agency will continue its involvement in the process for harmonization of additional test guidelines with the Organisation for Economic Co-operation and Development (OECD) and expects to contribute to the harmonization of five additional test guidelines with the OECD. The achievement of the test guideline subobjective 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.

By 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 SIDS chemicals in 2002.

## 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.

### **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.

## **FY 2002 Change from FY 2001 Enacted**

EPM

C (+\$128,500) This increase reflects an increase in workforce costs.

## **Annual Performance Goals and Performance Measures**

### **POPs Negotiation**

- |         |   |
|---------|---|
| In 2002 | Initiate priority activities, especially in developing countries, to implement the global convention on persistent organic pollutants (POPs)                      |
| In 2001 | Initiate priority activities, especially in key developing countries, to implement the newly concluded global convention on Persistent Organic Pollutants (POPs). |

In 2000 Successfully concluded international negotiations on a global convention on Persistent Organic Pollutants (POPs) reaching agreement on POPs selection criteria, technical assistance, and risk management commitments on specified POPs.

In 1999 A negotiated agreement has been reached for USG policies and international agreement was reached in June 1999 on criteria for selecting Persistent Organic Pollutants to be covered in a new global POPs treaty, and No agreement has been reached yet on capacity building.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Agreed USG policies on selection criteria for Persistent Organic Pollutants	yes				negotiations
Production of a final agreed convention text		yes			report
Agreement on selection criteria and methodology		yes			report
Number of POPs implementation activities supported.			3	3	activities

Baseline: With the signing of the global POPs convention in May 2001 EPA will work on domestic implementing legislation (e.g., a FIFRA amendment) and projects to support implementation by key developing countries (e.g., China). In FY2001 EPA worked with UNEP to identify regions (e.g., Sub-Saharan Africa, Central America, Southeast Asia) which would benefit from such support from EPA, and we have started projects on the basis of available funding. Whenever possible EPA will support projects which also promote compliance with the global Prior Informed Consent (PIC) regime and the international commitment to improve chemicals management capabilities, as set out in the Bahia Declaration from the Third Session of the Intergovernmental Forum on Chemical Safety in October 2000.

### Lead Gasoline Phase-Out

In 2002 An additional two countries make national commitments to phase out the use of lead in gasoline.

In 2001 An additional two countries make national commitments to phase out the use of lead in gasoline.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Number of commitments to Pb phaseout			2	2	countries
Global reduction in Pb gasoline.			10	10	percent

Baseline: Fourteen countries have phased out the use of Pb gasoline. Twelve countries and the European Union are working on the phase out of Pb gasoline.

### Eval. Domest. Suitab. of Internal Consens. Testing

In 2002 Evaluate the domestic suitability of international consensus testing decisions made in the OECD International Screening Information Data Set (SIDS) program and obtain needed testing as required.

In 2001 Evaluate the domestic suitability of international consensus testing decisions made in the OECD International Screening Information Data Set (SIDS) program and obtain needed testing as required.

In 2000 A change in the Organization for Economic Cooperation and Development (OECD) program and a meeting delay caused the Screening Information Data Set (SIDS) end of year results to fall short. Delays in the 12th OECD Addendum publication caused a shortfall in guidelines harmonization.

In 1999 EPA is pursuing chemical testing through its domestic HPV Challenge program with industry and the OECD's collaborative Program on Screening Information Data Sets. EPA completed 36 SIDS reviews in FY 1999. The OECD guidelines are still under review by other OECD member countries.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Complete the review of testing needs for chemicals processed through the OECD-sponsored SIDS program	36	28	50	75	Test Reviews
Complete OECD harmonization	0	5	5	5	Test Guidelin
<p>Baseline: Guideline harmonization baseline is 82 test guidelines (health, ecosystem, exposure, physical and chemicals properties) and 32 in draft. Complete testing and data on 25 chemicals processed through the OECD sponsored SIDS program in 1998.</p>					

## Verification and Validation of Performance Measures

**Performance Measure:** Conclusion and U.S. signature of POPs convention

**Performance Database:** Manual data collection

**Data Source:** U.S. POPs working group

**QA/QC Procedures:** The target is U.S. signature on international agreement

**Data Quality Review:** Not applicable

**Data Limitations:** Not applicable

**New/Improved Data or Systems:** Not applicable

## 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 (ICFS), the North American Commission on Environmental Cooperation (NACEC), the Organization for Economic Cooperation and Development's (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 (AO-UNEP) 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 Initiative (PBTI), 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 PBTI, 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 2002 Annual Performance Plan and Congressional Justification

#### Reduction of Global and Cross-border Environmental Risk

**Objective # 5:** 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
<b>Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.</b>	<b>\$9,370.0</b>	<b>\$11,809.2</b>	<b>\$11,161.3</b>	<b>\$11,268.1</b>
Environmental Program & Management	\$9,370.0	\$11,809.2	\$11,161.3	\$11,268.1
Total Workyears	53.5	55.9	56.0	52.9

#### Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Environment and Trade	\$389.0	\$518.0	\$1,614.7	\$1,672.5
Partnership with Industrial and Other Countries	\$4,638.0	\$5,063.0	\$0.0	\$0.0
Commission for Environmental Cooperation - CEC	\$3,084.0	\$3,222.5	\$3,269.0	\$3,403.6
International Safe Drinking Water	\$684.0	\$793.0	\$384.4	\$301.8
Regional and Global Environmental Policy Development	\$0.0	\$0.0	\$1,327.8	\$1,452.8
Technical Cooperation with Industrial and Developing Countries	\$0.0	\$0.0	\$3,400.2	\$3,332.4
Administrative Services	\$0.0	\$48.0	\$41.5	\$34.0

## **FY 2002 Request**

EPA's activities under this objective will: (1) protect human health and the environment on global, regional, and national levels by enhancing management capabilities in other countries; (2) reduce the cost of environmental protection in the U.S. through international sharing of environmental information and of innovative practices; (3) promote 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; (4) promote the dissemination of proven and cost-effective environmental technologies and services; and (5) advance U.S. foreign policy, economic, national security, humanitarian, and other interests abroad.

Specific programs and activities which support the objective during FY 2002 include:

### Trade and the Environment

EPA's formal involvement in U.S. trade policy development began in the early 1990's with the negotiation of the North American Free Trade Agreement (NAFTA) (1991-1993). For the first time, the United States, Mexico and Canada placed priority attention on environmental issues caused by trade liberalization. Increasingly trade rules focus on "non-tariff trade barriers," which include, safety and environmental laws that restrict market access, such as regulation of products (e.g., chemicals, pesticides, vehicles) that are sold or traded in commerce. In addition, to promote free trade, some agreements now include provisions that limit the types of measures governments may apply to foreign investors, including measures to address health and environmental issues. As measures of these types are increasing, EPA must now address the issue of consistency between implementation of domestic statutes and international obligations both during the negotiation and implementation of trade agreements. In addition, the United States assesses reasonably foreseeable environmental impacts of new trade agreements (both positive and negative). During FY 2002, EPA will work with other parts of the U.S. government to conduct quantitative and qualitative environmental reviews of new trade agreements.

### North American Commission for Environmental Cooperation

The North American Commission for Environmental Cooperation (NACEC) 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 NACEC 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.

The objectives of the NAAEC include: fostering the protection and improvement of the environment in North America for the well-being of present and future generations; promoting sustainable development based on cooperation and mutually supportive environmental and economic policies; supporting the environmental goals and objectives of the North American Free Trade Agreement (NAFTA); enhancing compliance with, and enforcement of, environmental laws and regulations; and, promoting transparency and public participation in the development of environmental laws, regulations and policies. To achieve these objectives, the Council

approves an annual program plan for the NACEC that includes projects in the areas of Environment, Economy and Trade; Conservation of Biodiversity; Pollutants and Health; and Law and Policy. The Council also meets regularly to review the work of the NACEC and reach key decisions on a wide range of environmental matters encompassed by the NAAEC.

During 2002, EPA will lead U.S. efforts in the implementation of the NAAEC and the NACEC program plan by coordinating U.S. involvement in the development of a strategic plan for biodiversity conservation, as well as a factual record related to effective environmental enforcement. One of the many NAAEC objectives includes promoting transparency and public participation in the development of environmental laws, regulations, and policies. To this end, EPA will promote public participation and outreach efforts within the NACEC through the development of various information dissemination tools (websites, maps, reports, etc.) related to the following topics: emerging environmental trends; species of common conservation concern; marine and coastal ecological regions; and, pollutant release and transfer registers for industrial contaminants.

#### International Safe Drinking Water

The international safe drinking water initiative will 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 potential expansion into Asia. 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.

EPA will continue its projects which strengthen national drinking water programs, improve urban water utility management, protect drinking water sources and enhance water quality surveillance and treatment. 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 completed the planning phase of the Africa projects during FY 2001. Implementation will occur during FY 2002, with projects focused on nations in the southern and eastern parts of the continent. Raising awareness of the cost-effectiveness of protecting safe water resources (versus treatment of contaminated sources) will be an important component of each project in each region. 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.

#### Transfer of Innovative Practices and Environmental Information

EPA will work directly with other countries and through multilateral organizations to share innovative practices for environmental management and to disseminate environmental information. These programs build the capacity of developing countries to improve quality of life for their citizens, while also providing reciprocal benefits to the U.S. These benefits 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.

Beginning in FY 2002, EPA will support a comparative research study of risk-based decision-making in Canada, the UK, the Netherlands, and Germany, using actual projects as the basis for analysis. The Agency will disseminate findings from the study to U.S. communities addressing brownfields issues. This effort will articulate the unique and common elements of risk-based approaches to site assessment, site restoration, and landscape design. It will also explore public participation in the redevelopment of contaminated lands.

EPA will also support a comparative study of the best practices for land use and urban watershed management. This study will use lessons from projects in other OECD countries to help shape sustainable practices in U.S. cities. A separate project will support comparative research on the best practices for green building design and development among cities in OECD member nations. The objective of this effort is to share with U.S. cities information on the cost and design of green buildings, standards development, and associated economic incentives.

With over 30 years of experience, EPA stands as one of the world's foremost resources for environmental data and technical information. The Agency's international environmental information programs work to transfer EPA's information resources to key developing countries, assist these countries in building sound data collection, analysis, and dissemination capabilities, and identify projects where the U.S. and its partner countries can work together in filling gaps in environmental data collections.

In priority countries, EPA will help build capacity to collect, analyze and disseminate environmental data. Sound data collection and analysis facilitate improved environmental legislation and enforcement regimes, and allow for the establishment of environmental baselines. These baselines, in turn, can help developing countries target resources for environmental protection more effectively. Among other FY 2002 projects, EPA will assist major Asian cities to improve collection and analysis of data on air pollution from mobile sources. EPA will use a variety of tools – training courses, transfer of models, direct technical assistance– to aid target municipalities in instituting better mobile source monitoring systems.

#### Legal and Regulatory Capacity Building

By FY 2002, four priority countries in Asia – India, the Philippines, Thailand, and Vietnam – plan to implement new environmental laws and regulations or significantly revise existing laws and regulations. Through in-country assistance to EPA counterpart organizations, training, and transfer of information, EPA will assist two or more countries or regions 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. The Agency will also work with priority countries and regions to increase public participation in the promulgation of environmental regulations. 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 a cooperative effort with AID, the Agency will also work to improve the regulatory framework in Central America.

## **FY 2002 Change from FY 2001 Enacted**

### EPM

- (+ \$61,600.00, -2.9 FTE)

Dollar increase reflects personnel costs and benefits. The FTE reduction is a result of reduced work in the Partnerships with Industrialized Countries activity.

## **Annual Performance Goals and Performance Measures**

### **Enhance Institutional Capabilities**

In 2002 Enhance environmental management and institutional capabilities in priority countries.

In 2001 Enhance environmental management and institutional capabilities in priority countries.

In 2000 Delivered 12 international training modules; implemented 6 tech assistance/technology dissemination projects; implemented 5 cooperative policy development projects; and disseminated information products on US environmental technologies and techniques to 3100 foreign customers.

In 1999 3 of the 4 program areas for enhancing global environmental management were met.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Number of training modules delivered	16	12			modules
Number of tech assistance or tech dissemination projects carried-out	6	6			projects
Number of cooperative policy development projects implemented		5			projects
Number of info products disseminated to foreign customers	2500	3100			products
Number of capacity buliding activities scheduled for initiation in FY 2000 and beyond	2				report
Number of countries or localities (3) that have adopted new or strengthened environmental					

laws and policies	3	countries
Number of organizations (3) that have increased environmental planning, analysis, and enforcement capabilities	3	organizations
Number of organizations (3) that have increased capabilities to generate and analyze environmental data and other information	3	organizations
Number of organizations (3) that have increased public outreach and participation	3	organizations"
Number of targeted sectors (3) that have adopted cleaner production practices	3	industry sector
Number of cities (3) that have reduced mobile-source based ambient air pollution concentrations	3	cities
Assist in the development or implementation of improved environmental laws or regulations in two (2) priority countries.	2	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	countries
Baseline: EPA has assisted several entities within developing countries to implement improved environmental laws, employ best environmental practices, adopt cleaner production practices and reduce ambient air pollution concentrations.		

## 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 frequently must rely on more subjective measures of change. Assistance in regulatory reform, for example, relies on the opinions of project staff and/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.

**Assist in the development or implementation of improved environmental laws or regulations in two (2) priority countries.**

- 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 of tasks completed, compliance with regulatory development and mutual assessment of projects goals and objectives.

EPA works with developing countries to improve environmental laws and regulations. Tracking development and implementation of legislation presents few challenges since EPA project staff maintain close contact with their counterparts and since 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, from NGOs and other third parties in gauging the efficacy of its work on 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.

**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.**

- 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 of tasks completed, compliance with regulatory development and mutual assessment of projects goals and objectives. EPA's international urban projects, data and information for each project's outputs and goals will emanate, in writing, from the grantee after consulting bi-monthly with local, regional, and national urban environmental practitioners. This data and information will be forwarded to and verified by the EPA project officer.
- New/Improved Data or Systems: Activities in support of this project may result in new or improved data collection systems in developing countries.

**Performance Measure: Increase the capacity of programs in Africa and Latin America to address safe drinking water quality issues.**

- 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 of tasks completed, compliance with regulatory development and, and mutual assessment of projects goals and objectives. EPA is currently tracking output data for the International Safe Drinking Water Program (ISDWP) in Central America with plans to begin looking at measuring the longer term outcomes. On a quarterly basis, EPA collects data through EPA teams, in-country partners and cooperators on outputs such as number of people trained, number of pilot projects completed and number of workshops held. This information is validated through constant contact with the aforementioned groups and through on-site visits by EPA program managers. The information is also shared with donors, specifically USAID, through quarterly reports. The outcome measures of improved capacity of in-country partners and stakeholders to ensure safe drinking water for the communities are under development and will provide indicators of the longer term sustainability potential of the program.

EPA's ISDWP in Africa is currently in the start-up phase and the data collection process is under development.

### **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 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. 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. Within EPA, the Office of International Activities (OIA) is responsible in implementing EPA activities under the Export Enhancement Act of 1992. The Act mandated EPA's participation in 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.

OIA 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, OIA 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 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, 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 the Department of Labor, Department of Transportation, Department of Agriculture, Department of 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 Binational Toxics Strategy