

Environmental Protection Agency

FY 2001 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 environmental concern.

Resource Summary (Dollars in thousands)

| | | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | FY 2001 Req. v. FY 2000 Ena. |
|----------------|---|----------------------------|----------------------------|----------------------------|---|
| Goal 06 | Reduction of Global and Cross-border Environmental Risks | \$229,273.8 | \$237,865.8 | \$425,070.5 | \$187,204.7 |
| Obj. 01 | Reduce Transboundary Threats: Shared North | \$71,336.8 | \$70,624.6 | \$119,926.7 | \$49,302.1 |
| Obj. 02 | Climate Change | \$127,285.5 | \$132,115.1 | \$257,909.6 | \$125,794.5 |
| Obj. 03 | Stratospheric Ozone Depletion | \$17,002.9 | \$17,832.2 | \$27,998.0 | \$10,165.8 |
| Obj. 04 | Protect Public Health and Ecosystems From Persistent Toxics | \$4,278.6 | \$4,857.4 | \$5,482.8 | \$625.4 |
| Obj. 05 | Achieve Cleaner and More Cost- Effective Practices | \$9,370.0 | \$12,436.5 | \$13,753.4 | \$1,316.9 |
| | Total Workyears | 526.9 | 511.7 | 533.1 | 21.4 |

Background and Context

Since many serious environmental risks transcend political boundaries, protecting human health and the environment in the U.S. require cooperation at a multinational level. Some ecosystems essential to the health and welfare of U.S. citizens, such as the Great Lakes, are shared by neighboring countries and can only be preserved through joint action. Other environmental risks, including those related to climate change and ozone depletion, are global in scope, and thus require international action in order to protect the health and welfare of U.S. citizens as well as the rest of the planet.

In addition to safeguarding human health and the environment, EPA's international 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. The

sharing of regulatory and environmental technological expertise helps developing nations, as well as the U.S. and other industrial nations achieve development consistent with a healthy future for all. Moreover, transboundary effects of pollution at the global scale make international cooperation critical to achieving EPA's domestic mission.

EPA's continued leadership is necessary to build upon international cooperation and technical capacity, which are essential to prevent harm to the environment and ecosystems that we share with other nations. Depletion of the stratospheric ozone layer increases the amount of the sun's ultraviolet radiation reaching the earth's surface. Climate change, pollution of the oceans and irreversible loss of species and habitats undermine the resource base critical to our well-being and quality of life; these changes also deprive us of commercially valuable and potentially life saving genetic materials. A coordinated international response is needed to confront the climate change threat, depletion of the stratospheric ozone layer, the transboundary circulation of toxics and other environmental issues significant to the interests of the United States.

Means and Strategy

Pollutants do not stop at geographic and political boundaries, and their propensity to migrate threatens human health and the environment, demanding coordinated international action. The United States addresses global environmental problems, such as climate change and stratospheric ozone depletion, through bilateral and multilateral consultations and agreements and capacity building programs. Other problems are not necessarily of a global scale but cross our borders and require a geographic approach to direct environmental action.

EPA will use a variety of approaches to prevent harm to the global and regional environments and ecosystems including: 1) using regional or global negotiations to form bilateral and multilateral environmental agreements and environmental policy initiatives; 2) cooperating with other countries to ensure that domestic and international environmental laws, policies, and priorities are recognized and implemented; 3) working with other federal agencies, states, business, and environmental groups to promote the flow of environmentally sustainable technologies and services worldwide, facilitate cooperative research and development programs, and provide technical assistance, training and information internationally; and 4) promoting public/private partnership programs to reduce emissions of greenhouse gases and other pollutants.

U.S. leadership is also required to initiate international agreements and actions to reduce or eliminate the environmental releases of persistent toxic substances such as DDT, PCBs or dioxins, which travel great distances in the environment and threaten human health and the environment. Although the U.S. has controlled many of these substances domestically for some time, we remain vulnerable to them in part because many other countries still use them, thus contributing to transboundary flows back into the U.S. By marshaling and coordinating government and private sector programs with other developed countries and key international organizations (i.e., the Organization for Economic Cooperation and Development and United Nations Environmental Program), EPA is leading the way for international action to control the use and transboundary migration of these substances. EPA has made significant progress in negotiating a legally binding

global convention on persistent organic pollutants (POPs) and in helping to establish international capacity building programs which will facilitate meaningful developing country compliance with this convention.

Climate Change

Carbon dioxide and other greenhouse gases are produced by burning coal, oil, and natural gas to heat our homes, power our cars, and illuminate our cities. Deforestation and land clearing also contribute to the production of greenhouse gases. These gases which persist in the environment may have several environmental effects: rising atmospheric and ocean temperatures may ultimately change weather patterns; thereby, increasing droughts, precipitation, flooding, heat waves and raising sea levels. Although the precise magnitude, timing, and regional patterns are uncertain, it is likely that climate change will have adverse consequences for human health, including: increasing the number of deaths associated with heat waves and other weather pattern disruptions; increasing incidence of allergic disorders; and increasing diseases that thrive in warmer climates, such as malaria, yellow fever, dengue fever, encephalitis, and cholera.

Since the early 1990s, EPA has been building partnerships with businesses in all sectors to meet the 1992 Framework Convention on Climate Change (FCCC) objective to stabilize greenhouse gas emissions. EPA also plays a major role in the President's Climate Change Technology Initiative (CCTI), which is designed to stimulate the adoption of energy efficient technologies and the use of renewable energy.

Stratospheric Ozone Depletion

In the stratosphere, ozone protects us from harmful sun rays. Anthropogenic chemicals are responsible for depleting ozone in the stratosphere. Depletion of this ozone layer means more exposure to these harmful rays, particularly ultraviolet radiation. The human health consequences are increases in skin cancers and cataracts, and impairment to the immune system. Ecologically, crop yields fall and plant and animal life is threatened.

The United States is committed to honoring the 1989 Montreal Protocol Treaty by phasing out domestic production of ozone-depleting substances (ODSs). EPA's role stems from the Protocol and Title VI of the Clean Air Act Amendments of 1990. EPA helps other countries find suitable alternatives to ODSs, informs the public about the dangers of overexposure to UV radiation, and uses pollution prevention strategies to require the recycling of ODSs and hydroflouorocarbons.

Research

EPA is working to provide the capability to assess the vulnerability of human health and ecosystems to climate-induced stressors at the regional scale, and to assess mitigation and adaptation strategies. Research into the consequences of global change (particularly climate change and climate variability) on human health and ecosystems will improve our understanding of the nature and extent of global change. The knowledge gained from these assessments (e.g. the impacts climate change could have on the spread of vector-borne and water-borne disease, changes in landscape cover and the migration of plant and animal species, and changes in farm productivity and food distribution), will allow policy makers to find the most appropriate, science-based solutions to reduce greenhouse gasses and to reduce significant risks to human health and ecosystems posed by climate change.

Strategic Objectives

Objective 01: Reduce Transboundary Threats: Shared North American Ecosystems

- Great Lakes ecosystem components will improve, including progress on fish contaminants, beach toxics, air toxics, and trophic status.
- Increase the number of residents (approximately 11 million total) of 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: Climate Change

- Assess the consequences of global change (particularly climate change and climate variability) on human health and ecosystems.
- 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%.
- Reduce energy consumption from projected levels by more than 70 billion kilowatt hours, resulting in over \$9 billion in energy savings to consumers and businesses.
- Demonstrate technology for an 80 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 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 40 MMTCE by

Objective 03: 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.
- For 60% of children in SunWise Schools, the dose of ultraviolet radiation (UVR) to which they are exposed will be reduced by 50% thus decreasing the risk of future UV-related health effects, including skin cancer, eye damage, and suppression of the immune system.

Objective 04: Protect Public Health and Ecosystems From Persistent Toxics

- Successfully conclude international negotiations on a global convention on Persistent Organic Pollutants (POPs), and initiate priority capacity building projects in key developing countries.

Objective 05: Achieve Cleaner and More Cost-Effective Practices

- Complete pilot reports on the implementation of environmental laws and regulations in 4 developing countries.
- 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 2001, EPA will use a variety of approaches to prevent harm to the global environment and ecosystems.

To reduce environmental and human health risks along the U.S./Mexico Border, EPA is working 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 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 a new 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. Administration-wide, the programs launched in the 1993 Climate Change Action Plan (CCAP) have the potential to reduce U.S. greenhouse gas emissions by more than 160 million metric tons of carbon equivalent (MMTCE) annually by the year 2010.

The Agency will contribute to the science underpinning U.S. policy, including the assessment of consequences of climate change and climate variability. Particular attention will be given to the potential benefits and consequences of climate variability and change for human health, ecosystems, and economic systems at the regional, state and local levels. EPA will play a major part in peer-reviewed economic and policy analyses that serve U.S. policymakers and international negotiators.

EPA will also continue its efforts in focusing on climate change activities that would provide "co-benefits" to a specific country. Specifically, EPA will implement partnership activities with industrial and other priority countries by: 1) encouraging energy efficiency through the introduction of government policy incentives and environmental management practices; 2) introducing transportation planning and management; 3) implementing vehicle emissions testing programs; 4) planning and funding methane capture and utilization programs; and, 5) planning and funding sulfur dioxide trading programs.

To protect the earth's stratospheric ozone layer, EPA will continue to regulate ozone-depleting compounds and foster the development and use of alternative chemicals in the U.S. and abroad. The United States' response to the harmful effects of stratospheric ozone depletion is its commitment to honor the Montreal Protocol by phasing out domestic production of ozone-depleting substances (ODSs). EPA's role originates from the Montreal Protocol and Title VI of the Clean Air Act Amendments of 1990. EPA helps other countries find suitable alternatives to ODSs, informs the public about the dangers of overexposure to UV radiation, and uses pollution prevention strategies to require the recycling of ODSs and hydrofluorocarbons.

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 the Department of State and with other countries 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. For test guideline harmonization, 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 50 SIDS chemicals in 2001.

In 2001, EPA and its U.S. government partners will conclude a legally-binding global convention on persistent organic pollutants (POPs), substances such as DDT, PCBs and dioxins which 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 most other countries around the world to reduce and/or eliminate their production, use and trade of specified POPs, as well as improve their own POPs risk management practices. 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. To do this, EPA will establish emission inventories and other needed data which will help foster an understanding and track the release contribution of the listed POPs.

EPA will initiate in 2001, the next stage of assisting Russia in its goal of total elimination of CFCs by assisting in the development of a post phase-out monitoring program. Activities would be coordinated with the World Bank, donor countries and agencies in facilitating training and other forms of technical exchange. In addition, EPA will begin targeting countries for specific enforcement capacity enhancement of custom officials to prevent the illegal entry of banned CFC's into the United States.

EPA will also establish a new international monitoring program, assisted by the State Department, which aims to promote higher environmental standards worldwide. Specific objectives of the program are to monitor and report on other countries implementation of environmental laws and regulations, identify technical assistance needs and coordinate its provision, and counsel U.S. firms on local environmental laws and conditions. By identifying targets for technical assistance, EPA will help developing countries apply cleaner and more cost-effective environmental practices and technologies. For both the U.S. and other countries, the program will demonstrate that global economic integration and environmental protection can go together.

Research

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

External Factors

The success of EPA's programs and activities under Goal 6 will depend on active participation by other nations: both developed and developing countries. Reduction of air, water, and waste problems along the U.S. border with Mexico will require continued commitment by national, regional and local environmental officials in that country. Similarly, EPA's efforts to reduce global and regional threats to oceans and the atmosphere will require 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.

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.

Environmental Protection Agency

FY 2001 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective # 1: Reduce Transboundary Threats: Shared North American Ecosystems

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 Enacted | FY 2001 Request | FY 2001 Req. v. FY 2000 Ena. |
|---|--------------------|--------------------|--------------------|---------------------------------|
| Reduce Transboundary Threats: Shared North American Ecosystems | \$71,336.8 | \$70,624.6 | \$119,926.7 | \$49,302.1 |
| Environmental Program & Management | \$21,336.8 | \$20,624.6 | \$19,926.7 | (\$697.9) |
| State and Tribal Assistance Grants | \$50,000.0 | \$50,000.0 | \$100,000.0 | \$50,000.0 |
| Total Workyears | 85.9 | 80.7 | 82.3 | 1.6 |

Key Programs

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request |
|---|--------------------|--------------------|--------------------|
| Great Lakes National Program Office (CWAP) | \$14,783.8 | \$15,077.6 | \$13,196.7 |
| Water Infrastructure:Mexico Border | \$50,000.0 | \$50,000.0 | \$100,000.0 |
| U.S. - Mexico Border | \$4,929.4 | \$4,142.3 | \$5,176.2 |
| Partnership with Industrial and Other Countries | \$784.0 | \$646.9 | \$842.8 |
| Administrative Services | \$31.6 | \$148.9 | \$41.9 |

FY 2001 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 the subsequent environmental problems. Today, there are more than 11 million border residents, a population that has doubled in the last 15 years. 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 is expected to focus 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. The Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADBank) have estimated wastewater infrastructure needs along the U. S./Mexico border at \$2.8 billion. In 2001, the Agency has established a goal that cumulatively six hundred thousand people in the border area will be protected from health risks because of the construction of adequate water and wastewater systems. EPA will also 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 and solid waste facilities. Of the \$100M request for the Mexico Border, EPA is proposing to direct \$1M for the U.S.-Mexico Foundation for Science. Within this objective, the Agency is requesting \$100M 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.

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, fully implementing a "community-based" approach. GLNPO and its partners will act consistently with goals of a new Great Lakes Strategy and the Agency's Strategic Plan.

EPA will assess and report on the state of key Great Lakes ecosystem components, make current status and trend information available to Great Lakes environmental managers, and coordinate measurement 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 its monitoring program to implement indicators monitoring consistent with GPRA and the indicators identified through the process developed for 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 additional model predictions for Lake Michigan toxic reduction scenarios from the multimedia 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 §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 public 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 address up to 5 targeted substances to achieve reduction targets. These actions will follow the FY2000 completion of information gathering, analysis of current regulations/initiatives, and identification of options for each of the 12 BNS substances. Progress will be documented. 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. Strategy toxics were chosen as the initial set 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 2001, GLNPO will assist communities with assessments and remedial design at 4 AOCs thus having provided this assistance at 26 AOCs since this program began. One of the AOCs will be visited for the first time. GLNPO will complete its fifth sediment cleanup demonstration since 1996. GLNPO will also be involved in competitively awarding the new AOC grants for 2001..

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.

EPA, Regions, 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. 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. The Great Lakes National Program Office will use its expertise addressing contaminated sediments and habitat protection and restoration and will work extensively with Agency and other partners in supporting the new Great Lakes Cleanup Grants Program included in Goal 2, Objective 2.

Marine and Arctic Environments

In 2001, EPA will continue efforts to prevent significant degradation of the marine and Arctic environments. Our 2001 performance goals will provide the first multilateral instrument for establishing international norms for specific contaminants and effluents for land-based marine pollution, and conclude negotiations that will enhance the effectiveness of existing domestic environmental controls and reduce pollution of U.S. waters resulting from international shipping.

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 or reducing environmental contamination from spent nuclear fuel and PCBs in NW Russia.

The Russia PCB project, initiated in 1999, 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 Monitoring and Assessment Programme (AMAP) of the Arctic Council. The participating countries include Canada, Denmark/ Greenland, Finland, Iceland, the Netherlands, Sweden, Russia, and the United States. 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 retrofitting for the manufacture or use of PCB substitutes. In coordinating with NOAA, EPA describes these activities in the AMAP National Implementation Plan and the U.S. Arctic Research Plan.

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 2001 Change from FY 2000 Enacted

EPM.

- (+\$1,329,800) Reflect increases for payroll cost of living increases, international travel, contract and grants resources for Mexican Border work, and support of the Russia PCB Project. The Russia PCB Project goal is to reduce the release of PCBs and their subsequent transport to the Arctic.
- (-\$350,000) Reductions to great lakes activities including monitoring lake ecosystem indicators and managing and providing public access to Great Lakes data.

- (-\$1,416,300) Reductions taken due to a Congressional directive received during the 2000 appropriations process but not part of the 2001 President's Request.

STAG

- (+\$50,000,000) to the Mexico Border Infrastructure Program. This reflects the Administration's commitment for funding infrastructure needs along the U.S./Mexican Border.

Annual Performance Goals and Performance Measures

Air Monitor Networks

In 2001 Complete air monitoring networks for 3 of the 7 non-attainment areas along the US/Mexican border.

In 2000 Complete air monitoring networks for 3 of the 7 non-attainment areas along the US/Mexican border.

In 1999 3 of the 5 emission inventories were completed.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|--|--|---------------------|--------------------|-------------|
| Number of non-attainment areas along the border with emission inventories | 3 | | | inventories |
| Number of non-attainment areas along the border with air monitoring networks | | 3 | 3 | areas |
| Baseline: | Many border area residents are exposed to health-threatening levels of air pollutants, including CO ₂ , SO ₂ , NO ₂ , ozone, and PM-10. Under the Border 21 Framework Mexico and United States have agreed to work together to address these air issues. Currently three areas have monitoring networks in place. | | | |

U.S. - Mexico Border Water/Wastewater Infrastructure

In 2001 Increase the number of residents (approximately 11 million total) of 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 5 additional water/wastewater projects along the Mexican border will be certified for design-construction for a cumulative total of 30 projects.

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

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|---|--|---------------------|--------------------|----------|
| 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. | | | 600,000 | People |
| Projects certified for design-construction along the Mexican Border | 9 | 5 | | Projects |
| Baseline: | There are 11 million residents in the border area. | | | |

Great Lakes: Binational Toxics Strategy

- In 2001 Reduce Great Lakes toxic pollutants.
- In 2000 Reduce Great Lakes toxic pollutants.
- 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 Actuals | FY 2000 Estimate | FY 2001 Request | |
|--|--------------------|---------------------|--------------------|-------------|
| Level I substances for which 1-2 toxic reduction activities are being implemented. | | 3 | | Substances |
| New assessments and characterizations to support State/community clean-up of contaminated sediments at Great Lakes AOCs. | | 1 | | Assessment |
| Follow-up assessments and characterizations to support State/community clean-up of contaminated sediments at Great Lakes AOCs. | | 1 | | Assessments |
| Cubic yards of contaminated sediment remediated in the Great Lakes. | | | 50,000 | Cubic yards |
| Amount of high-level PCBs used in electrical equipment nationally. | | | Reasonable | Progress |
| Amount of mercury deliberately used nationally and released nationally from sources resulting from human activity. | | | Reasonable | Progress |
| Amount of dioxins and furans (2,3,7,8-TCDD toxicity | | | | |

| | | | |
|--|---|---------------|---------------|
| equivalents) released from sources resulting from human activity. | | Reasonable | Progress |
| Great Lakes sediment cleanup demonstrations completed | 4 | Demonstration | |
| 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. | | 10 | 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 2001 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach toxics, air toxics, and trophic status.
- In 2000 Measurable improvements in Great Lakes ecosystem components.
- 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 Estimate | FY 2001 Request |
|--|--------------------|---------------------|-------------------------|
| Great Lakes Ecosystem Indicator Indices with reports, addressing select fish contaminants, atmospheric deposition, limnology, biology, and sediments. | | 9 | 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. | | 1 | Pilot |
| Concentration trends of toxics (PCBs) in Great Lakes top predator fish. | | | Declining Trend |
| Trend in number of monitored Great Lakes beaches closed one or more days as a result of pollution. | | | Declining Trend |
| Concentration trends of toxic chemicals in the air (including PCBs, PAHs, pesticides, and trace metals, such as lead and arsenic). | | | Declining Trend |
| Trophic status and phosphorus concentrations in the Great Lakes. | | | Improving Concentration |
| 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. EPA is working with its partners to refine targets within the next 4 years.

Nuclear Fuel Containment

- In 2001 Complete the siting and construction of the interim storage pad for the prototype 40 tonne nuclear fuel storage cask for spent nuclear fuel from military vessels in Northwest Russia
- In 2000 Complete testing and certification of a prototype 40 ton spent nuclear fuel storage cask for use in NW Russia that meets international guidelines and internal Russian Federation standards.
- In 1999 Prototype cask for spent military nuclear fuel completed.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request |
|--|--------------------|---------------------|--------------------|
| A prototype spent nuclear fuel storage cask is certified for use in Russia by Russian Federation nuclear & environmental authorities | | 09/30/2000 | certification |
| Complete construction of cask containment system prototype | yes | | design report |
| 40 tonne Pad/cask system licensed for use by Russian Federation regulatory authorities | | | 1 License |

Baseline: Testing and certification are complete. Next phase of implementation.

Verification and Validation of Performance Measures

Performance Measure: People in the Mexico border area protected from health risks because of adequate water and wastewater infrastructure 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 and evaluation of 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 is audited every 3 years in accordance with Federal policy for Quality Management. GLNPO's quality management system has been given "outstanding" ratings in previous peer and management reviews. GLNPO is responding to the report on the July, 1999 Management Systems Review.

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 GLENDA database is a significant new system with enhanced capabilities. We are exploring the use of GLENDA for existing data.

Performance Measure: Concentration trends of toxic chemicals in the air (including PCBs, PAHs, pesticides, and trace metals, such as lead and arsenic).

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 is audited every 3 years in accordance with Federal policy for Quality Management. GLNPO's quality management system has been given "outstanding" ratings in previous peer and management reviews. GLNPO is responding to the report on the July, 1999 Management Systems Review.

Data Limitations: None

New/Improved Data or Systems: The GLENDa database is a significant new system with enhanced capabilities. We are exploring the use of GLENDa for existing 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 is audited every 3 years in accordance with Federal policy for Quality Management. GLNPO's quality management system has been given "outstanding" ratings in previous peer and management reviews. GLNPO is responding to the report on the July, 1999 Management Systems Review.

Data Limitations: None

New/Improved Data or Systems: The GLENDa database is a significant new system with enhanced capabilities. We are exploring the use of GLENDa for existing data.

Coordination with Other Agencies

Mexican Border

Over the last several years, US EPA has continued to work with the US 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 US - Mexico Border. Recently, the IBWC and US EPA have been involved in joint efforts to plan, design and construct six 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 new 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: 1. Border Environment Cooperation Commission (BECC), with headquarters in Ciudad Juarez, Chihuahua, Mexico, to assist local communities and other sponsors in developing and implementing environmental infrastructure projects, and to certify projects for North American Development Bank financing; and 2. North American Development Bank (NADBank), with headquarters in San Antonio, Texas, capitalized in equal shares by the United States and Mexico, with an authorized

capital of \$3 million dollars, to provide new financing to supplement existing sources of funds and foster the expanded participation of private capital. Currently, US EPA has placed \$170 million of its Border grant funds (Border Environmental Infrastructure Fund, BEIF) with the NADBank.

Under the North American Free Trade Agreement, the United States Government has committed to funding \$700 million towards the Mexico Border project. Through fiscal year 2000, \$533 million has been appropriated.

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 partners envision updates that will keep the strategy a current, action-forcing document that targets different problems in succession. 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 running 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 US/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 DOD, DOS, AID, 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 coordinate 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 interested 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 2001 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risk

Objective #2: Climate Change

By 2000 and beyond, U.S. greenhouse gas emissions will be reduced to levels consistent with international commitments agreed upon under the 1992 Framework Convention on Climate Change, building on initial efforts under the Climate Change Action Plan.

Resource Summary (Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | FY 2001 Req. v. FY 2000 Ena. |
|------------------------------------|--------------------|--------------------|--------------------|---------------------------------|
| Climate Change | \$127,285.5 | \$132,115.1 | \$257,909.6 | \$125,794.5 |
| Environmental Program & Management | \$74,364.4 | \$83,477.9 | \$182,094.3 | \$98,616.4 |
| Science & Technology | \$52,921.1 | \$48,637.2 | \$75,815.3 | \$27,178.1 |
| Total Workyears | 322.1 | 305.3 | 328.7 | 23.4 |

Key Programs (Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request |
|--|--------------------|--------------------|--------------------|
| Climate Change Technology Initiative: Buildings | \$38,800.0 | \$42,640.9 | \$80,063.8 |
| Climate Change Technology Initiative: Transportation | \$31,750.0 | \$29,604.8 | \$65,084.0 |
| Climate Change Technology Initiative: Industry | \$22,086.1 | \$21,991.7 | \$63,686.1 |
| Climate Change Technology Initiative: Carbon Removal | \$0.0 | \$1,000.0 | \$3,410.0 |
| Climate Change Technology Initiative: State and Local Climate Change Program | \$2,500.0 | \$2,508.0 | \$4,525.0 |
| CCTI: International Capacity Building | \$4,322.9 | \$5,594.4 | \$10,576.2 |

| | | | |
|---|------------|------------|------------|
| CCTI: Research | \$10,000.0 | \$0.0 | \$0.0 |
| Climate Change Research | \$15,970.6 | \$20,592.2 | \$22,726.3 |
| Partnership with Industrial and Other Countries | \$409.1 | \$428.2 | \$660.9 |
| Rent, Utilities and Security | \$0.0 | \$4,298.7 | \$4,747.7 |
| Administrative Services | \$0.0 | \$1,905.0 | \$2,137.3 |

FY 2001 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 2001, EPA expects to continue expanding on the significant accomplishments of its Climate Change Programs. The opportunity to save on our nation's \$500 billion annual energy bill over the next decade while reducing air pollution is tremendous. The opportunity to reduce greenhouse gas emissions is also large. We currently expect that more than half of the nation's anthropogenic greenhouse gas emissions in 2010 will come from equipment that we purchase between now and then.

The core of EPA's climate change efforts are government/industry partnership programs designed to capitalize on the opportunity 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 represent, 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).

Under the President's Climate Change Technology Initiative (CCTI), 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 focusing on climate change activities that would provide co-benefits to the specific country and 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 green house gas emissions are gained.

In addition to CCTI programs, EPA manages one other programmatic climate change effort, EPA’s Global Change Research Program. This 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. EPA also assessed the potential to adapt to global change in order to reduce the risks and take advantage of opportunities presented by global change. The long-term goal of the GCRP is to understand and articulate, in terms that are meaningful for decision-makers and other stakeholders, the potential consequences of global environmental change for human health and ecosystems in the U.S.

Program Accomplishments

EPA has had substantial success across its CCTI and global change research efforts. Through 1999, EPA’s CCTI programs (see Table 1) are substantially reducing emissions of carbon dioxide and other greenhouse gases such as methane and perfluorocompounds (PFCs). These programs have reduced U.S. greenhouse gas emissions by more than 115 million metric tons carbon equivalent (MMTCE), while also saving families and businesses over \$11 billion on their energy bills and keeping roughly 275,000 tons of smog-forming nitrogen oxide (NO_x) pollution from entering the air.

Table 1: EPA’s Climate Programs

| Key Sector | Program | Activity/Initiative |
|------------------------|--|---|
| <i>CCTI: Buildings</i> | <i>ENERGY STAR Programs</i> | <i>ENERGY STAR Buildings and Green Lights Partnership</i> |
| | | <i>ENERGY STAR Labeled Products</i> |
| | | <i>ENERGY STAR Homes</i> |
| | <i>Supply-focused programs</i> | <i>Clean Power (2001 initiative)</i> |
| <i>CCTI: Industry</i> | <i>Carbon Reduction Programs (CO2)</i> | <i>Climate Wise</i> |
| | | <i>Combined Heat and Power Initiative</i> |
| | | <i>Clean Power (2001 initiative)</i> |
| | | <i>Industry Consultations (2001 initiative)</i> |
| | | <i>Waste Wise</i> |

Table 1: EPA's Climate Programs

| Key Sector | Program | Activity/Initiative |
|--|--|---|
| | <i>Methane Programs (CH4)</i> | <i>Natural Gas STAR Program</i> |
| | | <i>Landfill Methane Outreach Program</i> |
| | | <i>Coalbed Methane Outreach Program</i> |
| | | <i>Agricultural Programs (Ruminant Livestock Outreach and AgSTAR)</i> |
| | | <i>Landfill Rule</i> |
| | <i>Programs to Reduce High Global Warming Potential Gases (HFCs, PFCs, SF6)</i> | <i>Voluntary Aluminum Industrial Program</i> |
| | | <i>PFC Emissions Reduction Partnership for the Semiconductor Industry</i> |
| | | <i>SF6 Emission Reduction Partnership for the Electric Power Systems</i> |
| | | <i>SF6 Emission Reduction Partnership for the Magnesium Industry</i> |
| | | <i>Partnership with HCFC-22 manufacturers to reduce HFC-23 emissions</i> |
| | | <i>Significant New Alternatives Program (SNAP)</i> |
| <i>CCTI: Transportation</i> | <i>Transportation System Efficiency</i> | <i>Commuter Choice Initiative</i> |
| | | <i>Voluntary Demand Management Partnerships</i> |
| | <i>Partnership for a New Generation of Vehicle (PNGV)</i> | <i>Advanced (Tier II) Light Duty Engine</i> |
| | | <i>Advanced Mechanical-Hybrid Drivetrain</i> |
| <i>Environmental Sport Utility Vehicle (EnSUV) (2001 initiative)</i> | | |
| <i>21st Century Truck</i> | <i>Line-Haul Truck, Urban Delivery Truck, and Urban Bus Initiatives (2001 initiatives)</i> | |
| <i>CCTI: Carbon Removal</i> | | |
| <i>CCTI: State and Local Outreach Program</i> | | |
| <i>CCTI: International Capacity Building</i> | | |
| <i>Global Change Research</i> | | |

These programs have locked in substantial 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 1999 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 1999, *organizations and consumers across the country will save more than \$25 billion through 2015, and, greenhouse gas emissions will be reduced by more than 230 MMTCE through 2015 (cumulative reductions based upon estimated 1999 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 2.5 tons of carbon dioxide equivalent and delivered \$70 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 CCTI has produced important technological advancements that will generate substantial energy and carbon benefits in future years, while improving America's competitiveness. EPA has been also successful with its Global Change Research Program. EPA has completed preliminary assessments of regional scale consequences of climate change at 2 geographic locations, as well as the Human Health sectoral assessment. Completion of these efforts means that EPA has met most of its GPRA performance goals for this research program. The third geographic assessment is behind schedule due to difficulties obtaining a high-quality project proposal able to pass rigorous scientific peer review.

In 1999 alone, the CCTI programs:

- reduced greenhouse gas emissions by 44 million metric tons of carbon equivalent (MMTCE);
- reduced energy consumption by about 55 billion kilowatt hours;
- successfully demonstrated 61 miles per gallon (gasoline equivalent) on a mid-size research chassis at 3,500 pound test weight with a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain;
- and worked with 9 developing countries to develop important infrastructure for decreasing greenhouse gas emissions.

(These are the four primary GPRA performance measures for EPA's CCTI programs. Each of the goals is on target for 1999 and PNGV has been met. There are also goals for some of the key subparts of EPA's CCTI. Table 2 shows that these goals are on target as well.)

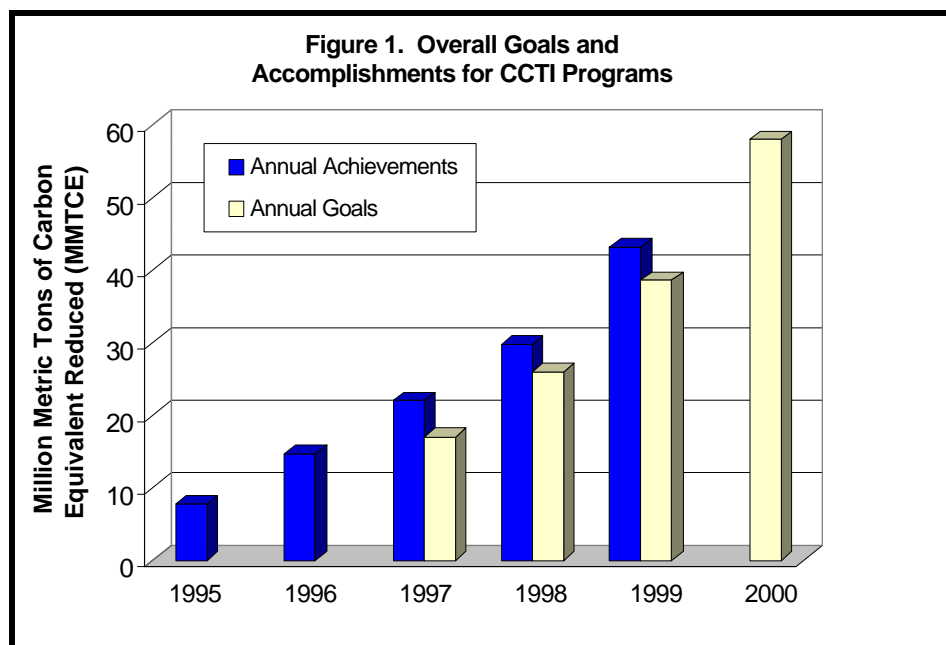
Through 1999, EPA's CCTI programs have also:

- offset growth in greenhouse gas emissions above 1990 levels by about 19%;
- conserved enough energy to light 50 million homes for the year;
- prevented NOx emissions equivalent to the annual pollution from 75 power plants; and

- avoided greenhouse gas emissions equivalent to eliminating the pollution from more than 35 million cars for the year.

Key Program Accomplishments

EPA's climate change programs are on target to meet their greenhouse gas reduction goals in 1999 as shown in Figure 1 and are meeting the challenge of substantially higher emissions



reduction goals. Many of the key EPA programs have performed above their specific goals for reducing greenhouse gas emissions and energy consumption, as shown in Table 2.

The programs have a number of key accomplishments through the end of 1999 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 Key Performance Measures: 1995 through 2000*

| Program Area/ Key Gases | 1995 Accomplished | | 1996 Accomplished | | 1997 Goal/Accomplished | | 1998 Goal/Accomplished | | 1999** Goal/Accomplished | | 2000 Goal | | |
|----------------------------|---------------------------------|----------------------|---------------------------|------------------|---------------------------|-------------------------|---------------------------|-------------------------|-----------------------------|-------------------------|--------------------------------------|----------------------|--------------------|
| | kWh Saved (billion) | MMTC E reduced | kWh Saved (billion) | MMTCE reduced | kWh Saved (billion) | MMTCE reduced | kWh Saved (billion) | MMTCE reduced | kWh Saved (billion) | MMTCE reduced | kWh Saved (billion) | MMTC E reduced | |
| Buildings | 5.6 | 1.2 | 10.8 | 2.4 | 18.9/17.2 | 3.6/3.4 | 30.0/33.2 | 5.9/6.4 | 41.7/49.9 | 8.7 [†] /10.2 | 53.4 | 12.7 [†] | |
| Industry | CO ₂ | 0.7 | 1.2 | 1.7 | 1.8 | 0.0/1.9 | 3.5/4.2 | 0.0/3.4 | 4.6/5.9 | 4.3/5.9 | 7.2 [†] /7.7 | 5.6 | 9.1 [†] |
| | CH ₄ | na | 2.5 | na | 3.1 | na | 2.4/4.2 | na | 5.0/5.4 | na | 8.5 [†] /8.5 | na | 14.0 [†] |
| | PFCs, SF ₆ , HFCs | na | 2.7 | na | 7.1 | na | 6.3/8.5 | na | 8.7/10.4 | na | 10.7 [†] /14.9 [♦] | na | 14.5 ^{†♦} |
| Transportation | na | 0.0 | na | 0.1 | na | 0.1/0.2 | na | 0.4/0.3 | na | 1.9 [†] /1.1 | na | 5.7 [†] | |
| State and Local | na | 0.1 | na | 0.2 | na | 1.1/1.5 | na | 1.3/1.6 | na | 1.6 [†] /1.6 | na | 1.7 [†] | |
| Total | 6.3 | 7.7 | 12.5 | 14.7 | 18.9 [†] /19.1 | 17.0 [†] /22.0 | 29.7 [†] /36.6 | 25.9 [†] /29.8 | 46.1 [†] /55.8 | 38.7 [†] /43.9 | 59.1 [†] | 58.0 [†] | |

* Metrics are not applicable to PNGV, International Capacity Building or Global Change Research.

**These results are estimated; final results will be available in Spring 2000.

[†] GPR performance measure

[♦] These goals and accomplishments do not include EPA's efforts on self-chilling cans, which EPA plans to integrate as part of the next review and revision of CCTI for the Third National Communication under the Framework Convention on Climate Change.

Table 3. Key Program Accomplishments for EPA's Buildings Initiatives Through 1999

| Program Area | Accomplishments |
|----------------------|--|
| ENERGY STAR Programs | <p>The <u>ENERGY STAR Buildings and Green Lights Partnership</u> has had great success partnering with organizations; partners now represent 15 percent of the U.S. building floor space.</p> <p>EPA has been successful with its public sector-based work. With more than 400 school partnerships, EPA is bringing superior building performance into the classroom, while reducing energy bills by over \$270 million since 1995 (enough money to buy over 5 million textbooks or hire 5,400 teachers). EPA is also working with more than 170 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.</p> <p>EPA continues to work with small businesses and organizations to help them lower their overhead through lower energy bills. Over 2,600 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 Buildings label. With this tool, all buildings, new and old, have the opportunity to save energy, save money, increase asset value and prevent pollution. EPA has developed this tool for the predominant building type (office buildings) and is working to expand it to other key building types such as schools.</p> |
| | <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 30% public awareness as of 1999.</p> <p>EPA introduced new Energy Star-labeled products -- home audio and DVD products, such as CD players, cassette decks, and DVD players. ENERGY STAR home electronic products now can save Americans over \$1 billion annually.</p> <p>The program represents 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>The program has signed on 1,200 manufacturers as ENERGY STAR partners.</p> <p>EPA has engaged more than 55 utilities/energy service providers in 20 states that serve approximately 30% 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 20 retailers to promote ENERGY STAR products in more than 4,200 storefronts across the country.</p> <p>The program has encouraged more than 15 state and local governments to adopt pro-active energy efficiency policies to save taxpayer dollars (i.e., either legislation requiring the purchase of ENERGY STAR products or energy efficiency resolutions).</p> |
| | <p>The <u>ENERGY STAR Homes</u> program has more than 1,000 builder partners, representing about 5.4 percent of the total builder market.</p> <p>Nearly 13,000 ENERGY STAR Homes have been built, locking in financial savings of \$93 million over the next 30 years for homeowners.</p> <p>EPA has worked with financiers to make mortgages and loans with special terms for energy-efficient products widely available to consumers. Widely recognized Wall Street firms as well as smaller financial institutions are seeing the value of promoting energy efficiency. In 1999, four national lenders, including Greentree, Household Finance, Chase Manhattan and Countrywide, and over twenty regional lenders offered ENERGY STAR loans and mortgages.</p> <p>The ENERGY STAR Program has laid the ground work for an Existing Home Improvement Program that targets whole-house as well as whole-room energy efficiency improvements, building on the concepts from the ENERGY STAR Labeling and New Homes Program.</p> |

Table 4. Key Program Accomplishments for EPA's Industry Initiatives Through 1999

| Program Area | Accomplishments |
|--|---|
| Carbon Reduction Programs | <p><u>Climate Wise</u> has partnered with over 550 companies, representing 13% of U.S. industrial energy use and continues strong efforts with small and medium-sized companies (more than 44% of partner companies have 100 or fewer employees).</p> <p>Climate Wise successfully provided innovative partner support tools and technical exchange opportunities. Climate Wise developed and unveiled Emissions Tracking Software enabling partners to track energy, water, and solid and hazardous waste reduction projects and successfully launched Peer Exchange Partnerships, to bring companies together to share best practices and lessons learned, in three additional states and in two cities.</p> <p>Climate Wise promoted new opportunities for partners to choose climate-friendly products by assisting in the development of the climate neutral initiative and "Climate Care" products and services. These are products whose emissions have been eliminated or offset (through investments in energy efficiency, renewables, and sequestration projects) to neutralize climate impacts. Climate Wise also held workshops, educating nearly 100 industrial companies, designed to help companies purchase renewable energy technologies or clean power.</p> |
| | <p>EPA and DOE established an ENERGY STAR <u>Combined Heat and Power (CHP)</u> Award for highly efficient/cost-effective CHP projects. Winners will be recognized for leadership toward the Administration's goal of doubling CHP capacity by 2010.</p> <p>EPA and DOE agreed to advance key policies for achieving the national CHP goal: open and fair markets for electric power, environmental regulations/policies that appropriately treat efficient generation of heat and power, and fair tax treatment.</p> |
| | <p><u>Waste Wise</u> now has nearly 1000 partners who have reported reducing over 7.8 million tons of waste while saving more than \$250 million through the end of 1998 from waste prevention and recycling.</p> <p>WasteWise broadened its audience to include the federal sector and will fully launch this new effort in 2000.</p> <p>WasteWise initiated a new challenge to reduce transport packaging which now includes 40 partners.</p> |
| Methane Programs | <p>The <u>Natural Gas STAR Program</u> represents 68% of transmission mileage, 45% of service connections, and 38% of production; and expanded into the gas gathering/processing sector.</p> <p>The <u>Landfill Methane Outreach Program (LMOP)</u> assisted in the development of over 40 landfill gas-to-energy projects with an additional 83 projects under construction and expected to be online soon. The LMOP provided technical and marketing support to another 100 landfills and signed on 70 allies, for a new total number of LMOP allies of over 200.</p> <p>The <u>Coalbed Methane Outreach Program (CMOP)</u> helped reduce methane emissions through project development support at 21 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 8 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 continued work with 12 of the 13 US primary aluminum producers to better understand the generation of PFCs in the smelting process and to quantify smelter-specific emissions.</p> <p>EPA supported the World Semiconductor Council (which represents over 90% of world production) in setting a global PFC emission reduction target.</p> <p>EPA joined with 50 electric utilities and local governments to reduce emissions of SF6 from electrical transmission and distribution equipment such as circuit breakers. Over 80% of SF6 sales are to electric power systems.</p> <p>EPA partnered with twelve U.S. magnesium producing and casting companies to reduce emissions of sulfur hexafluoride (SF6), the most potent greenhouse gas identified by the IPCC.</p> <p>EPA partners used process optimization and abatement to reduce emissions of HFC-23, the most potent of the HFCs, which is a production by-product of HCFC-22 manufacture.</p> <p>SNAP continued to identify safe substitutes for ozone-depleting substances. A potential refrigerant substitute, NARM-22, was listed as unacceptable and SNAP banned the use of HFC-134a and HFC-152a in self-chilling beverage cans.</p> |

Table 5. Key Program Accomplishments for EPA’s Transportation Initiatives Through 1999

| <i>Program Area</i> | <i>Accomplishments</i> |
|---------------------------|--|
| Transportation Efficiency | <p>EPA launched a new National Commuter Choice Initiative which highlights recent changes in Federal tax law that make it easier for employers to offer a variety of commute options.</p> <p>EPA continued to develop a joint outreach effort, “It All Adds Up to Cleaner Air”, with the U.S. Department of Transportation to raise public awareness of the connections between travel choices, traffic congestion, and air quality at the national and local level. Over 60 communities agreed to participate in this effort.</p> <p>EPA’s Transportation Air Quality (TRAQ) Center increased its efforts to assist state and local communities to develop transportation strategies and voluntary mobile source programs that respond to unique local conditions. Specifically, the TRAQ Center provided transportation program information and tools, technical assistance, key contacts and funding sources, and partnership opportunities.</p> <p>EPA continued to develop, assess, and encourage innovative, market-based strategies for the more efficient use of the overall transportation system.</p> <p>EPA developed and disseminated analytical tools to assist state and regional partners in assessing the impact of the local transportation sector upon climate change.</p> |
| PNGV | <p>EPA demonstrated 61 miles per gallon (gasoline-equivalent) on a mid-size research chassis at 3,500 pound test weight with a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain.</p> |

Table 6. Key Program Accomplishments for Other Initiatives Through 1999

| <i>Program Area</i> | <i>Accomplishments</i> |
|----------------------------------|--|
| State and Local Outreach Program | <p>EPA continues to help State and local governments voluntarily complete greenhouse gas emissions inventories. Now 34 out of 35 greenhouse gas emissions inventories are completed, including 5 completed in 1999.</p> <p>EPA assists State and Local governments voluntarily completing greenhouse gas emission reduction strategies. Of the 26 state plans initiated, 14 have been completed and the remaining 12 are expected before the end of 2001. Five of these plans have identified strategies that could reduce greenhouse gas emissions by 34 MMTCE, or 2% of U.S. 2010 emissions, while saving over \$600 million per year. 68 cities and counties, representing nearly 29 million people and 9% of US GHGs, have begun developing inventories and implementing plans, some already reducing over one million tons of carbon-equivalent each year.</p> <p>Demonstration, education and outreach projects have been launched with State and Local partners and NGOs such as International City/County Management Association and the National Governors Association to provide members with information on clean technologies, climate change science and impacts, conferences and workshops. EPA developed a web-based state mitigation database that includes over 900 actions, with a set of case studies illustrating some of the actions/policies taken. EPA also completed an outreach toolkit for public decision-makers, including over 100 publications for use by state and local officials interested in conducting outreach work within their communities.</p> |
| International Capacity Building | <p>EPA made notable progress in increasing the engagement of 5 developing countries on strategies to address climate change. Technical support was provided to 4 developing countries to assist in the development of National Action Plans.*</p> <p>EPA, with AID and DOE, assisted 8 of the 10 developing countries that submitted their National Communications as required under the UN FCCC.</p> <p>The U.S. Initiative on Joint Implementation (US IJI) reviewed 5 projects and assured approval to the host foreign governments.</p> <p>EPA submitted reports on the US Greenhouse Gas Inventory and the Initiative on Joint Implementation on schedule to the Climate Secretariat. Analyses were underway or completed to assist the USG in making key policy decisions regarding land use change and forests; technology cooperation; and other environmental benefits of greenhouse gas mitigation.</p> |
| Global Climate Research | <p>EPA has completed preliminary assessments of regional scale consequences of climate change at 2 geographic locations.</p> <p>EPA also completed a Human Health sectoral assessment.</p> |

Program Goals and Objectives for 2001 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 emissions of major air pollutants such as NO_x, sulfur dioxide SO₂, and carbon dioxide. At the same time, American families and businesses spend over \$500 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 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. In 2001, EPA's climate change programs are projected to:

- reduce greenhouse gas emissions from projected levels by 66 MMTCE annually through its key programs, as shown in Table 7, reducing the growth in greenhouse gas emissions above 1990 levels by about 20%;
- reduce U.S. energy consumption from projected levels by more than 70 billion kilowatt hours annually;
- reduce other forms of pollution, including air pollutants such as NO_x, particulate matter and mercury from energy efficiency and reduce water pollution (from better fertilizer management). NO_x emissions will be reduced by over 170,000 tons in 2001;
- provide over \$9 billion in energy bill savings to consumers and businesses that use energy efficient products for the year;
- demonstrate technology for an 80 miles per gallon mid-size family sedan that has low emissions and is safe, practical, and affordable;
- assist 12 to 14 developing counties and countries with economies in transition in building their capacity to reduce emissions of greenhouse gases through cost-effective measures;
- 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 with carbon removal potential of up to 40 MMTCE by 2010; and
- assess the consequences of global change on human health and ecosystems.

Benefits of Funding Increase

Over the next decade there are important opportunities to further reduce U.S. greenhouse gas emissions and local air pollution, and improve the U.S. economy. The 2001 CCTI request of \$227 million is part of the President's 5-year Climate Change Technology Initiative included in the FY 1999 Budget. Increased funding for technology deployment is critical to cost-effectively reduce greenhouse gas emissions. Both technology deployment and technology R&D are essential elements of a balanced strategy to address climate change in both the near-term and the long-term. Technology deployment efforts help the marketplace more rapidly adopt existing yet underutilized technologies as well as to more rapidly adopt new technologies from the R&D pipeline. EPA is

requesting a \$124 million increase in FY 2001 funding for its CCTI programs in order to target these additional opportunities throughout all sectors of the economy.

Over the next decade, the increase in funding for EPA will deliver at least:

- 335 MMTCE of cumulative greenhouse gas emission reductions since 1990;
- Reductions of about 35% of the growth in greenhouse gas emissions expected by 2010 above 1990 levels (substantially greater the reductions of about 20% of the expected growth at current funding levels);
- \$35 billion in energy savings to families and businesses; and
- 850,000 tons of NO_x emissions reductions.

These additional reductions will be achieved through efforts in the key program areas as shown in Table 7.

| Table 7 | | | | |
|--|---------------------------------|--|--|---|
| Overview of Greenhouse Gas Reductions from Key Program Areas in 2001 And Over the Next Decade (MMTCE) | | | | |
| Key Program Area/ Key Gases | 1999 Estimate Performance | 2000 Annual Performance Goals | 2001 Annual Performance Goals | Improved Results 2001-2010 from President's 2001 CCTI Request ** |
| <i>Buildings</i> | | | | |
| ENERGY STAR /Supply focused Programs | 10.2 | 12.7 | 15.0 | 115 |
| <i>Industry</i> | | | | |
| Carbon Reduction Programs | 7.7 | 9.1 | 9.1 | 85 |
| Methane Programs (CH ₄) | 8.5 | 14.0 | 15.1 | 20 |
| High GWP Programs (HFCs, PFCs, SF ₆) | 14.9 | 14.5 | 18.2 | 90 |
| <i>Transportation</i> | | | | |
| PNGV | na | na | na | under evaluation |
| Transportation System Efficiency | 1.1 | 5.7 | 6.2 | 20 |
| <i>State and Local</i> | 1.6 | 1.7 | 1.9 | 5 |
| TOTAL | 44 | 58 | 66 | 335 |

** These are not the entire reductions in emissions of greenhouse gases that will result from the increased funding. The equipment and practices that private and public entities invest in can have lifetimes much longer than 10 years.

FY 2001 Change from FY 2000 Enacted

CCTI: Buildings Sector

| | |
|-------------------------|---------------|
| <u>FY 2000 Enacted:</u> | \$42,640,900 |
| <u>FY 2001 Request:</u> | \$80,063,800 |
| EPM | +\$37,422,900 |

The Buildings Sector, which includes both homes and commercial buildings, offers a large potential for carbon reductions using technologies that are on the shelf today. However, consumers and businesses continue to invest substantial resources in equipment that is relatively inefficient, resulting in higher energy bills and higher pollution levels. 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 35% of the growth in greenhouse gas emissions above 1990 levels expected by 2010. EPA's programs will contribute more than 60 MMTCE annually per year in greenhouse gas reductions by 2010 while saving businesses and consumers about \$9 billion. The efforts necessary in 2001 to achieve these 2010 goals are detailed in Table 8.

**Table 8. Buildings Programs: Description of Planned Activities
Within FY 2001 President's Budget Request**

| | |
|--|---|
| ENERGY STAR Buildings and Green Lights | <p>EPA will actively promote its new buildings bench marking tool and will work with building owners and managers to benchmark 10,000 additional buildings including 3,000 schools and 1,000 federal facilities (5,000 additional benchmarks including 1,500 schools and 500 federal facilities at current funding level).</p> <p>EPA will award 2,500 additional ENERGY STAR labels to buildings that reach a benchmark score between 75 and 100 (1,250 at current funding level).</p> <p>Continue to develop bench marking tools for additional space types such as healthcare, lodging, food service and sales, and public assembly, providing bench marking capabilities for 90% of the total US floor space. (Bench marking capabilities for 2 additional space types, representing a total of about 75% of total US floor space at current funding level).</p> <p>Continue to actively recruit new small businesses and organizations into the ENERGY STAR Small Business program to reach over 8,000 participants by the end of 2001 (5,000 at current funding level).</p> <p>Expand partnership to represent more than 19% of building square footage (17% at current funding level).</p> <p>Expand Public sector work to increase the number of partnerships with schools and universities to over 1,000 (700 at current funding level), and state and local governments to over 500 (350 at current funding level).</p> <p>Expand work to improve the efficiency of the federal government. EPA will work with other agencies to implement key pieces of the new 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 50% public recognition of the ENERGY STAR label in the U.S. (40% at current funding levels)</p> <p>Expand outreach to consumers on the environmental/financial benefits of using ENERGY STAR labeled products, providing information through multiple approaches across about 80% of the United States (50% of the US at current funding levels).</p> <p>Recruit and support 25 new utility partners (15 at current funding levels) and 2 emerging regional market transformation collaboratives (1 at current funding). Increase coverage to 30 states (25 at current funding) and approximately 45% of the U.S. population (35% at current funding).</p> <p>Work with 8 large retail chains such as Sears, Home Depot, Montgomery Wards, etc. to promote Energy Star-labeled products through strategic marketing activities (3 retail chains at current funding levels).</p> <p>Design and implement an initiative for small businesses and retailers to promote ENERGY STAR equipment and products, coordinating with ongoing utility efforts, as well as expanding beyond their reach (no effort at current funding levels).</p> <p>Expand work with state and local governments on purchasing policies for ENERGY STAR products so as to save taxpayer dollars, assisting at least 100 state and local governments to institute effective energy efficiency purchasing policies (75 at current funding levels).</p> <p>Train over 10,000 heating and cooling contractors (who meet daily with homeowners), allowing the value and benefits of ENERGY STAR to be represented to over 2 million households (about 5,000 trainees at current funding levels).</p> <p>Add 5 additional products to the ENERGY STAR family (2 at current levels).</p> |
| ENERGY STAR Homes | <p>Promote ENERGY STAR Homes in 15 geographic areas (5 at current levels)</p> <p>Expand ENERGY STAR Program to all military housing and expand participation by national builders such as Pulte, Ryan and Centex to include 75% of their housing stock (25% at current funding)</p> <p>Develop ENERGY STAR Kitchen promotions with 6 utilities or market transformation groups and 2 national retail chains (3 utilities and 1 chain at current funding)</p> <p>Develop and promote ENERGY STAR package in Remodeling with 3 utilities or market transformation groups and 1 national chain (nothing at current funding)</p> <p>Roll out National ENERGY STAR Duct Program and Air-Sealing Program and develop and roll out National Home Improvement Label for identifying efficient existing homes (2 to 3 pilots at current levels)</p> |
| Clean Power (2001) | <p>Develop public information materials concerning the environmental implications of electricity choices for electricity purchasers.</p> <p>Develop and implement outreach plan using networks from existing partnership programs as well as networks beyond the partnership base.</p> <p>Assist and develop 5 clean power projects in the buildings sector that can be case studies for cost-effective investment in clean power technologies.</p> |

CCTI: Industry Sector

FY 2000 Enacted: \$21,991,700

FY 2001 Request: \$63,686,100

EPM + \$41,694,400

EPA will continue to build on the success of the voluntary programs in the industrial sector, focusing on reducing CO₂ emissions in the extremely energy-intensive industries and continuing the highly successful initiatives to reduce methane emissions and emissions of the high global warming potential gases. EPA will expand its existing partnerships with the goals of: (1) doubling the rate of energy and resource efficiency improvements in industry between now and 2010 (working with DOE), (2) cost-effectively returning emissions of methane to 1990 levels or below by 2010, and (3) cost-effectively limiting emissions of the more potent greenhouse gases (HFCs, PFCs, SF₆). EPA will deliver an estimated 123 MMTCE annually by 2010 from these efforts. The efforts necessary in 2001 to achieve these 2010 goals are detailed in Table 9.

| Table 9. Industry Programs: Description of Planned Activities Within FY 2001 President's Budget Request | |
|--|--|
| Climate Wise | <p>Recruit 100 additional partner companies, bringing the total number of partners to nearly 800 partner companies representing nearly 15% of US industrial energy use (50 additional partners at current levels).</p> <p>Expand Peer Exchange Partnership to enhance recruitment and program implementation efforts, holding 8 to 10 Peer Exchanges Partnerships across the country (4 to 6 Peer Exchanges at current levels).</p> <p>Expand work with the private sector to create a market for products whose emissions have been offset or neutralized through energy efficiency, use of renewable power and carbon sequestration, and expand efforts to encourage industrial partners to purchase renewable energy technologies and clean power, through holding 10 state workshops in areas addressing restructuring (3 to 5 workshops at current funding levels) and by developing tools for potential purchasers of clean power such as case studies of green power purchasing strategies and a resource guide for potential purchasers (minimal activity at current funding levels).</p> <p>Launch an initiative to enhance the production and use of less carbon intensive "blended" cements, cements produced with some "waste materials" such as coal fly ash and blast furnace slag, beginning to reduce the current carbon intensity of cement production 1% to 3% below current levels and displace "waste materials" destined for landfills or being stockpiled on site (little market impact at current funding levels)</p> |
| Combined Heat and Power Initiative | <p>Expand outreach to 15 key State air and utility regulators to overcome regulatory obstacles and raise awareness of the multi-pollutant benefits of CHP and policy options for accelerating new project development (5 jurisdictions at current levels).</p> <p>Assist and develop 5 clean power projects in the industrial sector that can be attractive case studies for cost-effective investment in clean power technologies (no projects at current levels)</p> |

Table 9. Industry Programs: Description of Planned Activities Within FY 2001 President's Budget Request

| | |
|--------------------------------------|---|
| <p>Clean Power (2001 Initiative)</p> | <p>Develop new efforts to provide organizations with tools and incentives to purchase green power. Building upon DuPont's renewable energy purchase announcement (a Climate Wise partner), EPA will develop an effort that clarifies what green power is, provides technical assistance, and uses appropriate recognition mechanisms to promote green power purchasing across this sector.</p> <p>Develop and implement pilot projects to link clean power and clean air. Clean energy technologies offer attractive opportunities for air quality improvement. For example, hundreds of thousands of stand-alone stationary diesel installations, largely unregulated, contribute significantly to air quality problems in some areas, and many of them may be cost-effectively replaced with zero emission technologies such as wind and solar. EPA will facilitate 5 pilot projects where zero emission technologies can effectively improve air quality (no projects at current funding).</p> |
| <p>Industry Consultations (2001)</p> | <p>Work with key energy-intensive industries such as aluminum, cement, chemicals, steel, petroleum, airlines, and food processing to develop good inventories of greenhouse gas emissions, complete assessments of opportunities for cost-effective greenhouse gas reductions, and develop corporate commitments and plans for action to reduce greenhouse gas emissions. EPA would work broadly with 7 to 10 industries (0 to 2 industries and current levels).</p> |
| <p>Waste Wise</p> | <p>Expand WasteWise to include 1,400 partners (1,250 partners at current levels).</p> <p>Expand WasteWise to product stewardship and materials management using the principles of Extended Product Responsibility (EPR), promote product-specific challenges (e.g., computers, carpet, plastic packaging, paper) that involve multiple links in the product chain and assist WasteWise partners to make changes that reduce the life cycle environmental impacts of these products. Through enhanced marketing and technical assistance, EPA will recruit an increased number of WasteWise partners with EPR-specific product design or procurement goals (only moderate increase at current funding levels).</p> <p>Expand the Climate and Greenbuildings Initiative to catalyze waste and materials management-related activities in the areas of construction and demolition (C&D) collection programs, greenbuilding criteria development, and WasteWise recycled-content building challenges. EPA will assist local governments with the development of C&D recycling collection programs (a large potential growth area for recycling at the State and local level), spur demand for recovered materials by supporting greenbuilding programs, and launch WasteWise C&D and/or recycled building product challenges. EPA will provide direct assistance for program development (no direct support at current levels)</p> <p>Expand the Climate and Biomass Initiative that promotes technologies for utilizing biomass materials and creates multiple use markets for source separated biomass waste, fulfilling key elements of Executive Order (EO) 13134. EPA will promote adoption of technologies and products through sector-based challenges (only performing analytical work at current funding levels).</p> |
| <p>Methane Programs</p> | <p>Expand the Natural Gas STAR program in two sectors to represent 65% of domestic gas production and 20% of gas processing while maintaining representation of 85% of gas transmission pipeline miles and 50% of distribution service connections (55% of domestic gas production and 10% of gas processing at current levels, and 85% of gas transmission pipeline miles, 50% of distribution service connections).</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 2 demonstration projects (none at current levels).</p> <p>Expand the Landfill Methane Outreach Program (LMOP) to assist a total of 225 landfills with gas utilization projects, to promote newer energy applications, and to increase methane recovery efficiency at existing projects (205 landfills at current funding).</p> <p>In the agriculture sector, continued expansion of methane-reducing technologies will help ensure clean water and air for the livestock sector.</p> |

Table 9. Industry Programs: Description of Planned Activities Within FY 2001 President's Budget Request

| | |
|---|--|
| <p>Programs to Reduce High Global Warming Potential Gases</p> | <p>The Voluntary Aluminum Industrial Partnership (VAIP) will continue to deliver reductions, with VAIP participants reducing the industry's emissions of PFCs by an estimated 45 percent.</p> <p>EPA will work with the US semiconductor companies as they set company-specific greenhouse gas reduction goals within the framework of the World Semiconductor Council global commitment.</p> <p>Enhance recruitment for the SF6 Emissions Reduction Partnership for Electric Power Systems (utilities) beyond the expected 150 partners (representing 40% of the industry's generating capacity) to more than double the expected greenhouse gas reductions.</p> <p>Enhance recruitment (beyond 70% of US primary magnesium and casting production) and research of emission reduction technologies for the SF6 Emissions Reduction Partnership for the Magnesium Industry, to increase expected reductions by 20%.</p> <p>Maintain effective partnership with chemical manufacturers to reduce emissions of HFC-23.</p> <p>Expand the stewardship programs to reduce emissions from other key sources such as manufacturing and distribution losses of HFCs, PFCs, and SF6, and other high GWP gas emitters, yielding estimated reductions in high GWP gas emissions of 8 MMTCE by 2010 (0 at current funding).</p> <p>Expand SNAP and related programs to require recovery and recycling of alternative refrigerants, including a number of GHGs; to work with the International Maritime Organization (IMO) to substantially reduce GHG emissions from ships; to facilitate and promote new supermarket refrigeration technology that reduces refrigerant charge and leakage; and to promote liquid carbon dioxide or nitrogen for use in transport refrigeration.</p> |
|---|--|

CCTI: Transportation Sector

| | |
|-------------------------|---------------|
| <u>FY 2000 Enacted:</u> | \$29,604,800 |
| <u>FY 2001 Request:</u> | \$65,084,000 |
| EPM | + \$9,390,200 |
| S&T | +\$26,089,000 |

Transportation (cars, trucks, aircraft, marine) accounts for almost one third of U.S. carbon dioxide emissions and represents one of the fastest-growing sectors for greenhouse gas emissions. EPA will continue its efforts to develop a more efficient family automobile as part of the Partnership for a New Generation of Vehicles (PNGV), which brings together seven Agencies and twenty Federal laboratories with the U.S. domestic auto makers to develop technologies for a new generation of ultra-clean, ultra-efficient vehicles. PNGV's long term "Clean Car" goal is to develop a mid-size family sedan meeting Tier II emission levels with up to triple the fuel efficiency of today's counterparts, without sacrificing affordability, performance, or safety. EPA's FY 1999 attainment of 61 mpg in a 3,500 pound test chassis is on pace to achieve future PNGV efficiency goals with consequent post-2003 energy and carbon reductions.

With this funding, EPA will make critical enhancements in its efforts to promote energy efficiency and reduce greenhouse gas emissions from the transportation sector. Most of the increase is targeted for EPA's efforts to develop clean and efficient vehicle technology. First, the increase will enable EPA to demonstrate Tier II emission levels in a diesel-cycle engine operating on petroleum-based fuels (e.g., gasoline-like or diesel-like fuel). EPA has developed unique engineering concepts that will exploit the high-compression, high-expansion characteristics of diesel-cycle engines to achieve very high fuel efficiency, while operating at air/fuel ratios that permit use of the best emission control strategies of spark-ignition engines. The result will be an engine that is simultaneously very clean *and* very efficient.

Second, EPA will meet the urgent need to extend its PNGV engineering concepts to trucks. As part of this effort, the Agency will be at the core of a new government-industry initiative to develop a new generation of clean and efficient line-haul and urban trucks and buses. In addition, EPA will develop a new partnership with the automobile industry to demonstrate technology for a sport-utility vehicle (SUV) that will achieve three times the fuel efficiency of today's comparable models, without sacrificing towing capacity, emissions, safety, customer utility, or economics. This Environmental SUV Initiative will build on PNGV and yield a production concept vehicle by model year 2003 to address what has become the highest-selling, fastest-growing class of vehicles in the U.S. market.

Transportation policies, plans, and choices have a major impact on carbon dioxide emissions, other pollutants including criteria air and water pollutants, redevelopment of brownfields, and

protection of ecological resources. While technology and market-oriented measures will make a significant contribution toward reducing emissions, it is critical that federal, state, and local officials develop transportation plans that have a positive effect on climate change. Transportation officials must have the necessary information and the tools to plan transportation strategies that protect our environment, as well as reduce congestion and support economic growth. To address these issues, EPA is committed to enhancing both cross-Federal agency partnerships with DOT and DOE, as well as promoting partnerships with state and local governments and transportation authorities to reduce CO₂ and other transportation-related pollutants.

EPA will also continue its work to support voluntary regional, state and community efforts that encourage greater travel choices and alternatives to single occupancy vehicle driving such as living closer to work, commuting by train, bus, bike, or trip chaining, and the concept of “livable communities” - compact, walkable, transit-friendly, and mixed-use development. EPA also will increase its capacity to provide technical assistance to help governments and companies design and select transportation options that reduce carbon emissions from the transportation sector.

During FY 2001, EPA will enhance its outreach efforts to raise public awareness of the connections between travel choices, cleaner driving, and climate change at the national and local levels. Providing more information on transportation and climate change involves building community, business, and government partnerships and communicating with the driving public and youth on such critical issues as driving habits, trip chaining, proper vehicle maintenance, Commuter Choice programs, telecommuting, and alternative fuel options. EPA’s enhanced efforts in the transportation sector are detailed in Table 10.

Table 10. Transportation Programs: Description of Planned Activities Within FY 2001 President's Budget Request

| | |
|--------------------------------------|---|
| <p>Transportation Efficiency</p> | <p>EPA will continue to support the implementation of a National Voluntary Commuter Choice/Parking Cashout Initiative that highlights changes in Federal tax laws which provide new incentives for commuters to consider transit, ridesharing, and other transportation alternatives to driving through 'parking cashout' and the ability to use pre-tax earnings to pay for commuting expenses, such as transit passes. A cross-agency Federal partnership will increase Commuter Choice programs across the Federal sector.</p> <p>FY 2001 will see an increased emphasis on developing national and state level telecommuting incentives that increase the number of employers participating in this specific strategy, as well as the development of innovative metropolitan-based efforts that foster a more transit-supportive environment.</p> <p>EPA will assist corporations and industries in the transportation construction sector in examining opportunities for CO₂ emissions reductions through corporate fleet management, alternative fuel/technology strategies, and other climate neutral strategies. This would build upon existing EPA programs, such as the climate-neutral fuels program.</p> <p>EPA will work in partnership with the Partnership for Advancing Technology and Housing (PATH) program and the National Association of Home Builders (NAHBs) to develop a transportation system efficiency component to the PATH program, as well as to continue working cooperatively with the NAHB's Research Center to develop and implement a "Green Development" guide and program for local NAHB chapters.</p> <p>EPA will establish a Partnership Program with states, localities, and industry to recognize significant progress on the use of alternative fuel vehicles (AFVs). This effort will, for the first time, establish a significant EPA role in promoting and encouraging the use of dedicated, clean alternative fuel vehicles, such as clean natural gas (CNG), electric, and fuel-cell vehicles. This effort will be done cooperatively with DOT and DOE.</p> <p>EPA will work with Federal, state, and local transportation officials and organizations to provide technical assistance, including GIS and other environmental assessment techniques to metropolitan areas that are interested in developing voluntary strategies to reduce carbon emissions from the transportation sector.</p> <p>EPA will enhance its outreach efforts to raise public awareness of the connections between travel choices, cleaner driving, and climate change at the national and local levels.</p> |
| <p>PNGV</p> | <p>EPA will demonstrate an optimized, cost-effective mechanical hybrid vehicle powertrain in a chassis test bed that will achieve 80 mpg without sacrificing safety or performance. EPA also will demonstrate Tier II emission levels in a unique EPA hybrid engine design utilizing renewable fuel and achieving diesel engine efficiency levels.</p> <p>Initiate development of a diesel-cycle engine utilizing petroleum-based (diesel- or gasoline-like) fuels that will achieve Tier II emission levels. (2001 initiative)</p> <p>Develop a new government/industry partnership to demonstrate technology by 2003 for a Sport Utility Vehicle (SUV) that will achieve three times the efficiency of today's comparable models without sacrificing towing capacity, emissions, safety, customer utility, or economics. (2001 initiative)</p> |
| <p>21st Century Truck</p> | <p>Develop a new government/industry partnership to demonstrate technology for ultra-clean and ultra-efficient line-haul trucks, urban delivery trucks, and urban buses. (2001 initiative)</p> |

CCTI: Carbon Removal

FY 2000 Enacted: \$1,000,000

FY 2001 Request: \$3,410,000

EPM + \$2,410,000

Full funding for EPA's carbon removal program will build international consensus to recognize credits for removing carbon dioxide from the atmosphere and storing it on agricultural and forest lands. Living plants are biological carbon scrubbers that can reduce the concentration of carbon dioxide in the atmosphere. However, a major hurdle to the acceptance of carbon sequestration is the current uncertainty surrounding carbon measurement and accounting and a limited understanding of the multiple environmental benefits of these actions. With full funding, EPA will be able to work closely with USDA to make a strong case, built on scientific, economic and environmental analysis to support carbon sequestration activities.

Specifically, with the full increment of funding EPA will conduct integrated assessments to quantify the associated environmental co-benefits that result from enhanced sequestration. These benefits include improving soil quality, reducing soil erosion, improving water quality, providing wildlife habitat, and enhancing other environmental and conservation goals. EPA will support field demonstrations of the measurability of tree planting and soil restoration activities.

CCTI: State and Local Climate Change Program

FY 2000 Enacted: \$2,508,000

FY 2001 Request: \$4,525,000

EPM + \$2,017,000

EPA's State and Local Climate Change program will continue its efforts as a capacity building program that provides state and local governments with guidance and technical information to help them prepare inventories of their greenhouse gas emissions, assess and build awareness of the impacts of climate change, develop action plans to reduce emissions, and demonstrate innovative technologies and policies for reducing emissions. State and local governments 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.

This guidance and technical information will include support to help states and localities conduct analyses of the co-benefits of greenhouse gas mitigation, update inventories and action plans to include state carbon sequestration opportunities, and climate change policy impacts on state economies; assistance with regional assessments and state-level case studies of potential climate change impacts and adaptation options, expand outreach to key stakeholders such as state foresters and agriculture officials, and guidance for stakeholders to develop and implement adaptation measures to increase resilience to climate variability.

International Capacity Building

FY 2000 Enacted: \$ 5,594,400

FY2001 Request: \$10,576,200

EPM + \$4,981,800

Greenhouse gas emissions from developing countries already constitute more than half of the global total and are growing rapidly. EPA is working to secure meaningful participation from key developing country parties by assisting them to evaluate and implement policies that reduce greenhouse gas emissions. EPA is building on the success of the U.S. Country Studies Program, a multi-agency effort started in the early 1990s. Eight of the 10 national reports so far submitted to the Convention Secretariat by developing countries have come from Country Studies Program partners.

Full funding of this program could leverage greenhouse gas reductions. Work would be expanded with China, Mexico, Chile, Argentina, Brazil, and Korea, while new work would be initiated with South Africa, Egypt, India, and the Philippines to develop strategies that mitigate greenhouse gas emissions and reduce concurrent pollution that causes millions of premature deaths, respiratory illnesses, and water contamination, as well as cross-boundary pollution. Full funding would expand assessment of 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. Full funding also would allow expanded assistance for U.S. businesses to capture new markets for clean technologies, worth up to hundreds of billions of dollars per year. EPA can help boost U.S. competitive advantage while abating GHG by:

- encouraging other countries to internalize environmental impacts, so that U.S. businesses do not compete with manufacturers that do not adequately reduce their environmental effluents;
- shaping regulatory and infrastructural standards like those of the U.S., for which U.S. technologies have been designed; and
- establishing partnerships with selected foreign governments to reduce barriers to the entry of U.S. businesses and technologies into those markets; and
- helping to adapt U.S. energy efficient and/or environmentally beneficial technologies to the conditions of foreign markets.
- improving integration of EPA's efforts with those of DOE, Commerce and other agencies, and add environmental credibility to their efforts, for example, for natural gas market reforms.

- Assisting communities in launching urban air control programs, with emphasis on mobile source reduction and transportation controls and planning.
- Working with World Bank and other international organizations to enhance their pollution prevention/cleaner production programs.
- providing technical assistance and guidance documents through US trade associations on solid waste management and landfill gas technology.

Annual Performance Goals and Performance Measures

Reduce Greenhouse Gas Emissions

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 greenhouse gas emissions above 1990 level by about 20%.

In 1999 Greenhouse gas emissions will be reduced from projected levels by more than 39 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%. Actual end-of-year FY 1999 data will be available in Spring 2000.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|---|--------------------|---------------------|--------------------|-------|
| Annual Greenhouse Gas Reductions - All EPA Programs | 44 * | 58 | 66 | MMTCE |
| Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR) | 10.2 * | 12.7 | 15.0 | MMTCE |
| Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs | 7.7 * | 9.1 | 9.1 | MMTCE |
| Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs | 8.5 * | 14.0 | 15.1 | MMTCE |

| | | | | |
|--|-------------|------|------|-----------|
| Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs | 14.9 * | 14.5 | 18.2 | MMTCE |
| Greenhouse Gas Reductions from EPA's Transportation Programs | 1.1 * | 5.7 | 6.2 | MMTCE |
| Greenhouse Gas Reductions from EPA's State and Local Programs | 1.6 * | 1.7 | 1.9 | MMTCE |
| Annual GHG Inventory (FCCC) | 30-Apr-2000 | | | Inventory |

* = estimate

Baseline: 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 updated 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.

Reduce Energy Consumption

In 2001 Reduce energy consumption from projected levels by more than 70 billion kilowatt hours, resulting in 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.

In 1999 All targets on track. End-of-year FY 1999 data will be available in Spring 2000.

| | | | | |
|--|---------|----------|---------|-------------|
| Performance Measures: | FY 1999 | FY 2000 | FY 2001 | |
| | Actuals | Estimate | Request | |
| Annual Energy Savings - All EPA Programs | | 60 | 70 | Billion kWh |

Baseline: 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 updated 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.

Technology for 80 MPG Sedan

- In 2001 Demonstrate technology for an 80 MPG mid-size family sedan that has low emissions and is safe, practical, and affordable.
- In 2000 Demonstrate technology for a 70 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 |
| | Actuals | Estimate | Request |
| Fuel Efficiency of EPA-Developed PNGV Concept Vehicle over EPA Driving Cycles Tested | | | |
| | | 70 | 80 MPG |

Baseline: The baseline for the 3X or 80mpg PNGV fuel economy goal is the average fuel economy of representative domestic midsize family sedans (Concorde/Taurus/Lumina) in model year 1994.

International Capacity Building

- 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 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 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 |
| | Actuals | Estimate | Request |
| Countries Assisted | | 10 | 10 Countries |

Baseline: N/A

Carbon Removal

- 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 40 MMTCE by 2010.

| | | | |
|-----------------------|---------|----------|---------|
| Performance Measures: | FY 1999 | FY 2000 | FY 2001 |
| | Actuals | Estimate | Request |

Infrastructure for Carbon Sequestration Activities

Developed

9/30/2001

Baseline: FY 2001 is the first year of formal carbon sequestration activities. EPA's focus will be on developing an infrastructure. As soon as appropriate, baseline information will be developed.

Analysis, Assessment, and Reporting Support

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 Provide 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 Actuals | FY 2000 Estimate | FY 2001 Request | |
|--|--------------------|---------------------|--------------------|-----------|
| Annual GHG Inventory (FCCC) | | 1 | 1 | Inventory |
| Support on 3rd US National Communication to the FCCC | | | 1 | Report |

Baseline: N/A

Research

Global Change Research - Human Health and Ecosystem

In 2001 Assess the consequences of global change (particularly climate change and climate variability) on human health and ecosystems.

In 2000 Regional assessments can be expected within the next fiscal year.

In 2000 Assess the impact of global change on ecosystem services.

In 2000 Assess the consequences of global change and climate variability on human health.

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 Estimate | FY 2001 Request |
|-----------------------|--------------------|---------------------|--------------------|
|-----------------------|--------------------|---------------------|--------------------|

| | | |
|--|------------|--------------|
| Assess potential effects of global change on ecosystem services. | 09/30/2000 | 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 | 09/30/2000 | 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. | | |
| 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 a detailed assessment of the co-benefits of several strategies for adapting to climate change in the U.S., accounting for changes in air quality and water quality. 1 assessment

Assessment reports on the potential consequences of global change on three regions (the Mid-Atlantic, Upper Great Lakes and Gulf Coast) and on human health. 3 reports

Baseline: By 2000 and beyond, provide the capability to assess ecological and associated human health consequences of climate change.

Global Change Information Dissemination

In 2001 Disseminate data and information about global change to the public.

In 2000 Assess the human dimensions of Global Change.

In 2000 Assess the consequences of global change and climate variability at a regional scale.

In 1999 The Mid-Atlantic and Great Lakes Regional Assessments were completed. These will contribute to the National Assessment of Potential Consequences of Climate Change and Variability to the United States, required under the Global Change Research Act of 1990.

Performance Measures:

| | | |
|---------|----------|---------|
| FY 1999 | FY 2000 | FY 2001 |
| Actuals | Estimate | Request |

Determine impacts of global change on coastal ecosystems in the Gulf Coast and Mid-Atlantic 09/30/2000 impact

Complete 3 regional assessments of potential consequences of global change & climate variability for the USGCRP National Assessment. The 3 regions are the Mid-Atlantic, Great Lakes, & Gulf Coast 3 reg. assessment

New research based on an FY99 solicitation will focus on the human dimensions of global change. The focus will be to identify, understand, & analyze how human actions contribute to changes in natural systems. 1 grants

Conduct preliminary assessment of regional scale consequences of climate change at three geographic locations (Mid-Atlantic, Gulf Coast, and upper

Great Lakes).

assessment

Complete second-generation ecological and health data and information system to integrate with the Global Climate Data and Information System (GCDIS).

1

system

Baseline: One of the challenges faced by the global research program is determining how to most effectively provide a uniform and easy way for scientists, decision makers and stakeholders to identify, share, and use the information, data, and analytic tools developed by the program. Information management and communication is therefore key in engaging stakeholders.

Validation and Verification

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-CO₂ gases is maintained by EPA. EPA develops the methane emissions baselines and projections using information from partners and other sources. We continue to develop annual inventories as well as update methodologies as new information becomes available. EPA also maintains similar models to project high GWP gases as well as inventories for nitrous oxide. Voluntary programs to reduce GHGs 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. Programs maintain a “tracking system” which is an annual summary of each performance indicator for each program as well as 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 the 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...”

Data Limitations: These are indirect measures of GHG emissions; 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.

Performance Measure: Annual Energy Savings

Performance Database: Climate Protection Division Tracking

Data Source: Voluntary energy efficiency programs collect partner reports on facility specific improvements (*e.g.*, space upgraded, kWh reduced).

QA/QC Procedures: 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...”

Data Limitations: Voluntary nature of programs may affect reporting

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

Performance Measure: Fuel efficiency of EPA-developed PNGV Concept Vehicle over EPA Driving Cycles Tested.

Performance Database: Fuel Economy Test data for both urban and highway test cycles under the EPA Federal Test Procedure for passenger cars.

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

QA/QC Procedures: EPA fuel economy tests performed in accordance with the EPA Federal Test Procedure and all applicable QA/QC procedures.

Data Quality Review: EPA's National Vehicle and Fuel Emissions Laboratory is recognized as the world state-of-the-art facility for fuel economy and emissions testing.

Data Limitations: Primarily because of EPA regulations, vehicle fuel economy testing is a well established and precise exercise with extremely low test-to-test variability (well less than 5%). The one relevant issue is that fuel economy testing of hybrid vehicles (*i.e.*, more than one source of on-board power) is more complex than testing of conventional vehicles and EPA has not yet published formal regulations to cover hybrid vehicles.

New/Improved Data or Systems: EPA is using good engineering judgment and consultations with other expert organizations (including major auto companies through PNGV) to develop internal procedures for testing hybrid vehicles. Relations between EPA and DOS cut across several offices and/or bureaus in both organizations.

Goal 6 Objective 2

Performance Measure: Assessment reports on the potential consequences of global change on three regions (the Mid-Atlantic, Upper Great Lakes and Gulf Coast) and on human health.

Performance Database: Output

Data Source: N/A

QA/QC Procedures: N/A

Data Quality Review: N/A

Data Limitations: N/A

New/Improved Data or Systems: N/A

Coordination with Other Agencies

EPA's environmental mandate and expertise make it uniquely qualified to represent the nation's environmental interest abroad. While the Department of State (DOS) is responsible for the conduct of overall U.S. foreign policy other agencies are also involved in the international environmental arena.

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

Climate Change Research

FY 2001 Request

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. Assessments will also be made of potential opportunities to adapt to global change in order to reduce the risks and take advantage of the opportunities. Assessment is a process that 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) can communicate with each other. This interaction ensures that researchers and decision-makers understand what issues are of greatest concern to 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.

In FY 2001, 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) 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).

Human Health: Research and assessments in this area will focus on the potential effects of global change on human health. The proposed research and assessment activities will include the mortality and morbidity effects of heat stress; effects of climate change on air and water quality and the consequent health effects; the potential spread of infectious diseases (through integrated human health and ecosystem health assessments); and the potential health consequences of extreme events such as floods, droughts, and coastal storm surges.

Air Quality: Climate change is 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 any increase in air conditioning use.

Water Quality: Increased water temperatures and changes in rainfall patterns have been identified as two potential consequences of climate change. Changes in the seasonal timing, the intensity, and the amount of precipitation could result in changes in the availability and quality of water (and snow and ice) for drinking, agriculture, recreation, ecosystems, and industry.

Ecosystem Health: This research area studies the potential effects of global change on vulnerable ecosystems. Humans rely on ecosystems for provision of goods (e.g., food and materials) and services (e.g., cleansing of air and water, mitigating droughts and floods, and recreation.) Damage to ecosystems can adversely effect the availability of these goods and services. Consistent with the global research strategy, the effects of stressors such as climate change, ultraviolet radiation, and land-use change will be investigated.

These research and assessment activities will also evaluate the potential co-benefits of adaptation policies. Co-benefits refer to the collateral benefits that may accrue, for instance, when policies that result in reductions in criteria air pollutants also yield reductions in greenhouse gas emissions, or conversely, when policies aimed at reducing greenhouse gas emissions result in reductions in criteria air pollutants. The co-benefits to be examined include changes in emissions of criteria air pollutants, water quality changes, and improvements to ecosystem health. The resulting health and welfare effects of the changes in criteria air pollutants and water quality changes will be assessed.

As mandated by the Global Change Research Act of 1990, the United States Global Change Research Program (USGCRP) will be conducting the Second (Post-2000) Assessment of the consequences of global change for the United States. EPA will continue to be an active participant in the USGCRP, and will contribute to these post-2000 assessments. Specific assessments to be initiated or completed in 2001 include:

- Assessments of the potential consequences of changes in extreme weather (heat and cold) for mortality and morbidity.
- Assessments of the potential consequences of global change for changes in air quality (tropospheric ozone).

FY 2001 Change from FY 2000 Enacted

S&T

- (+ \$1,781,400, -5.4 workyears) This increase will enable the Agency to place a greater emphasis on integrated assessments of ecosystem health and human health, including assessments of the potential spread of vector-borne and water-borne disease. Integrated assessments focus on the interactions of multiple stressors and their combined effects. The four focus areas for these integrated assessments will be on human health, air quality, water supplies, and ecosystem health (including wildlife and biodiversity).
- (+\$352,700, +2.8 workyears) The R&D program, including infrastructure support costs, is spread across eight of the ten goals in the Agency's GPRA/budget structure. Based on a review of actual infrastructure utilization under each goal (i.e., utilization of workyears and associated operating expenses and working capital fund), adjustments are being made across goals to more accurately reflect expectations for use in FY 2001. These adjustments are

expected to have no significant impact on performance goals or expectations for any single strategic goal, nor for the research program as a whole.

Coordination with Other Agencies

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.

Environmental Protection Agency

FY 2001 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risk

Objective # 3: Stratospheric Ozone Depletion

By 2005, ozone concentrations in the stratosphere will have stopped declining and slowly begun the process of recovery.

Resource Summary

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | FY 2001 Req. v. FY 2000 Ena. |
|--------------------------------------|--------------------|--------------------|--------------------|---------------------------------|
| Stratospheric Ozone Depletion | \$17,002.9 | \$17,832.2 | \$27,998.0 | \$10,165.8 |
| Environmental Program & Management | \$17,002.9 | \$17,832.2 | \$27,998.0 | \$10,165.8 |
| Total Workyears | 36.5 | 36.9 | 37.8 | 0.9 |

Key Programs

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request |
|---|--------------------|--------------------|--------------------|
| Multilateral Fund | \$11,362.0 | \$12,000.0 | \$21,000.0 |
| Partnership with Industrial and Other Countries | \$336.7 | \$361.1 | \$427.0 |
| EMPACT | \$671.4 | \$947.8 | \$76.5 |
| Administrative Services | \$0.0 | \$288.5 | \$304.9 |

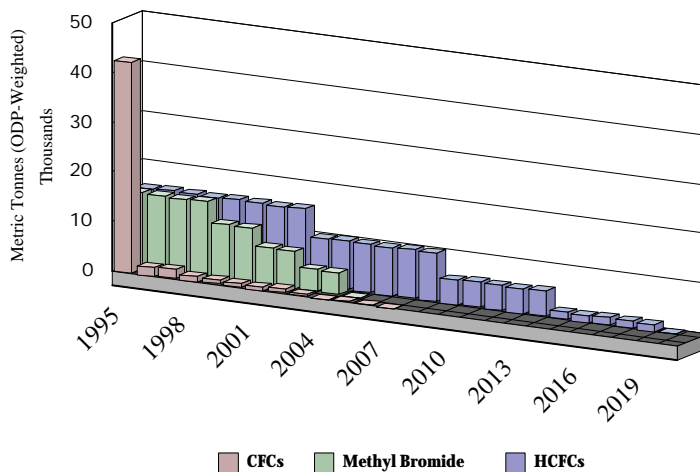
FY 2001 Request

The stratospheric ozone layer protects all 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. EPA aims to reduce risks of skin cancer and cataracts by implementing the provisions of the *1987 Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) and the Clean Air Act Amendments of 1990 (the Act).

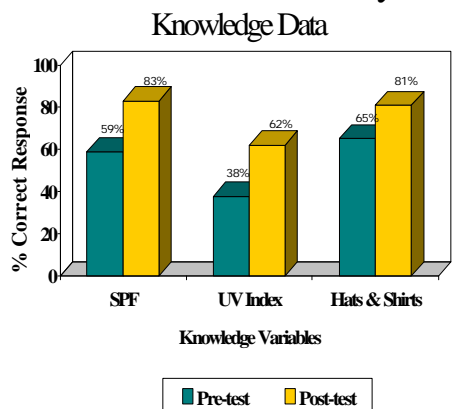
Scientific evidence amassed over the past 25 years has shown that chlorofluorocarbons (CFCs), halons, hydrofluorocarbons (HCFCs), methyl bromide, and other halogenated chemicals used around the world are causing destruction of the stratospheric ozone layer. CFCs are also of concern as a potential contributor to global climate change. The Act provides for a phaseout of production and consumption of CFCs, HCFCs, and other ozone-depleting chemicals, and requires controls on various ozone-depleting substance (ODS)-containing products.

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



The United States and more than 168 other countries are Parties to the Montreal Protocol. The Administration has repeatedly affirmed its commitment to honoring this international treaty and to demonstrating world leadership by phasing out domestic production of ozone-depleting substances (ODSs) as well as helping other countries find suitable alternatives. As a signatory to the Montreal Protocol, the United States has a positive obligation to domestically regulate and enforce its terms. In accordance with this international treaty, the EPA implements and enforces rules controlling the production and emission of ODSs and rules requiring the EPA to identify safer alternatives and promote their use to curtail ozone depletion under the authority of Title VI of the Clean Air Act Amendments of 1990.

SunWise Student Survey:



Because of the very long life times and stability of these 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, according to current atmospheric research. Recognizing this, EPA has initiated the SunWise School Program to promote behavioral changes with a goal of reducing UV-related health risks, particularly in light of current skin-exposure practices of the American public. Special emphasis is being placed on education and outreach to children, a particularly vulnerable population.

EPA's approach to achieving our objective focuses on eight areas:

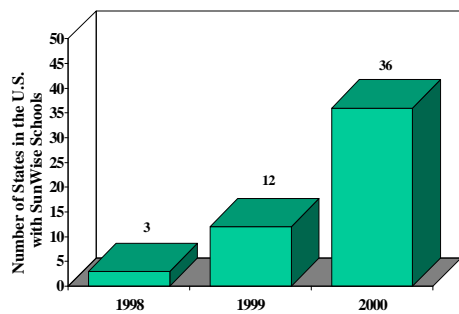
1. Domestic and international production phaseout of five ODSs and chemical classes: chlorofluorocarbons (CFCs), halons, methyl chloroform, carbon tetrachloride and hydrobromofluorocarbons (HBFCs), as well as controls on their import.
2. Development of graduated phaseout of HCFCs.
3. Implementation of graduated phaseout of methyl bromide, while allowing for emergency and critical agricultural uses.
4. Identification, risk assessment, regulatory determination, and information dissemination related to safer alternatives for compounds being phased out.
5. 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.
6. More intensive recovery and recycling of ODS and alternatives in the U.S. and abroad.
7. Environmental data development and public outreach aimed at informing the public of risks of overexposure to UV radiation.
8. Helping to facilitate earlier voluntary phaseout of CFCs and HCFCs in developing countries.

In addition, the EPA continues to provide support to the Montreal Protocol Multilateral Fund. Because the ozone layer depends on compliance by all countries, under the Montreal Protocol, the U.S. and other developed countries support the efforts of developing countries to convert to alternatives to ODSs. This is done primarily through programs supported by the Protocol's Multilateral Fund. When fully implemented, the activities will annually prevent emissions of more than 90,000 metric tons of ODSs. This is about one-third of developing country use of these chemicals.

In FY 2001, the Agency will initiate the next stage of assisting Russia in its goal of total elimination of CFCs by assisting in the development of a post phaseout 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 custom officials to prevent the illegal entry of banned CFC's into the United States.

Pollution prevention is also an important element in meeting the objective goals. For example, our National Emission Reduction Program requires recycling of ODSs, primarily in the air-conditioning and refrigeration sectors. The Significant New Alternatives Policy (SNAP) program will review newly developed alternatives to ozone-depleting chemicals, review the health and environmental effects of these alternatives, 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.

**Growth of SunWise School Program
(1998-2000 Pilot)**



Additionally, in 2001 EPA will establish an ongoing base program for the SunWise School Program. 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 care givers about how to protect themselves from overexposure to UV radiation. Today, one in five Americans develops skin cancer and over 25% of cataracts are directly caused by exposure to ultraviolet radiation. Approximately 80% of lifetime exposure to UV rays is obtained prior to age 18.

During its 1998-2000 pilot phase, the SunWise School program grew from just nine schools in three states to over 140 schools in 36 states. Initial pilot evaluation data indicate that the program has resulted in marked improvements in children's knowledge and selected attitudes about sun protection. 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.

FY 2001 Change from FY 2000 Enacted

EPM

- (+\$1,000,000) Through new and dedicated funding, EPA will establish an ongoing base program for the SunWise Schools Program. In the past, EPA has primarily relied on funding from the EMPACT Program to support the SunWise Program.
- (+\$9,000,000) EPA will increase its investment in the Montreal Protocol Multilateral Fund for a total 2001 request of \$21,000,000. This investment, combined with funding provided by the State Department, will help meet the U.S. obligation in 2001 and help reduce the U.S. arrearage on past dues to the Montreal Protocol Multilateral Fund.
- (-\$25,000) Resources shifted to support international climate change activities.

Annual Performance Goals and Performance Measures

Restrict Domestic Consumption of Class II HCFCs

In 2001 Restrict domestic consumption of class II HCFCs below 15,240 Ozone Depleting Pollutants, (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 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 1999 On-track to achieving APG. FY 1999 End-of-Year data will not be available until mid-2000.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|---|--------------------|---------------------|--------------------|---------|
| Domestic Consumption of Class II HCFCs | 30-Jun-2000 | <15,240 | <15,240 | ODP MTs |
| Domestic Exempted Production and Import of Newly Produced Class I CFC s and Halons | 30-Jun-2000 | <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 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.

SunWise Program

In 2001 For 60% of children in SunWise Schools, the dose of ultraviolet radiation (UVR) to which they are exposed will be reduced by 50% thus decreasing the risk of future UV-related health effects, including skin cancer, eye damage, and suppression of the immune system.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|--|--------------------|---------------------|--------------------|---------|
| Daily Minimal Erythema Dose (MED) of UVR | | | 50 | MED |
| SunWise Students Using Sunscreen, Hats, and Sunglasses | | | 60 | Percent |

Baseline: Children in SunWise Schools complete an annual pre-and post-test survey that evaluates current and intended sun protection knowledge and behaviors. Based upon May 1999 data, 21% of SunWise students used sunscreen of an SPF 15+ or higher, 16% wore hats, and 22% wore sunglasses. By the end of 2001, the use of sunscreen, hats, and sunglasses among SunWise children will increase to 60%. Proper use of a sunscreen of SPF 15 provides 93% protection from harmful amounts of UVR; sunglasses provide 85-90% protection; and hats and shade provide 70% protection (Sources: Cyr, Rosenthal, Keeling, and Parsons).

Montreal Protocol Fund

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 Provide assistance to at least 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 Estimate | FY 2001 Request | |
|---|--------------------|---------------------|--------------------|-----------|
| Assistance to Countries Working under Montreal Protocol | 50 | 50 | 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: Daily Minimal Erythema Dose (MED) of Ultraviolet Radiation (UVR)

Performance Database:

- SunWise School Internet Database
- EPA UV Monitoring Network (UVNET)
- National Weather Service (NWS) UV Index

Data Source:

- Hand-held individually calibrated UV meters that provide UV intensity and minimal erythemal dose data
- Brewer Spectroradiometers
- TOVS or SBUV/2 instrumentation on NOAA satellite.

QA/QC Procedures:

- Measurement instructions provided to schools; data controls written into SAS program; QA/QC'd quarterly by SunWise personnel.
- Data QA/QC'd by EPA's Office of Research and Development (ORD).
- Data owned and QA/QC'd by the National Weather Service

Data Quality Review:

- First to be conducted in FY 2000; planned annually.
- Conducted annually by ORD/University of Georgia/Colorado Central Calibration facility.
- Conducted annually and published by NWS.

Data Limitations:

- Data obtained in uncontrolled environment by grade K-8 students.
- Data available from 22 sites across US only.
- Data is a forecast.

New/Improved Data or Systems: None

Performance Measure: Percentage of students using sunscreen, hats, and sunglasses

Performance Database: Boston University (BU) School of Medicine, Department of Dermatology

Data Source: Annual pre- and post-test surveys completed by K-8 SunWise students.

QA/QC Procedures: Extensive data, statistical, and behavioral analysis conducted consistent with QA/QC procedures under contract with BU.

Data Quality Review: 1999 data to be published in Spring of 2000. Annual data will be published following extensive review and evaluation.

Data Limitations: Data is based upon self-reporting by students.

New/Improved Data or Systems: None

Performance Measure: Domestic Consumption of Class II HCFCs

Performance Database: Allowance Tracking System (ATS) database maintained by Stratospheric Protection Division (SPD)

Data Source: Progress on restricting domestic consumption of Class II HCFCs is tracked by monitoring industry reports of compliance with EPA's phaseout regulations.

QA/QC Procedures: Reporting and record-keeping requirements are published at 40 CFR Part 82 Subpart A, § 82.9, 82.10, 82.11, 82.12, 82.13. These sections of the Stratospheric Ozone Protection Rule state the required data and accompanying documentation that companies must submit or maintain on-site to demonstrate their compliance with the regulation.

Data Quality Review: The ATS data are subject to a Quality Assurance Plan. In addition, the data are subject to an annual Quality Assurance review along with the appropriate Annual Report and Work Plan. The annual quality control reviews are coordinated by OAR staff—separate from those on the team normally responsible for data information—the Alliance for Responsible Atmospheric Policy. The ATS is programmed to ensure consistency of the data elements reported by companies. Inconsistent data are flagged by the tracking system for review and resolution by the tracking system manager. The ATS receives monthly information on domestic production, imports and exports from the International Trade Commission. This information is then cross-checked with compliance data submitted by reporting companies. The SPD maintains a *User's Manual for the ODS Regulatory Allowance Tracking System* which specifies the standard operating procedures for data entry as well as data analysis of the Allowance Tracking System by the Tracking System Manager. Regional inspectors perform inspections and audits on-site at producers, importers and exporters facilities. These audits verify the accuracy of compliance data submitted to EPA through examination of company records.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Domestic Exempted Production and Import of Newly Produced Class I CFCs and Halons

Performance Database: Allowance Tracking System (ATS) database maintained by Stratospheric Protection Division (SPD)

Data Source: Progress on restricting domestic exempted production and importation of newly produced class I CFCs, halons, methyl chloroform, carbon tetrachloride and HBFCs are tracked by monitoring industry reports of compliance with EPA's phaseout regulations.

QA/QC Procedures: Reporting and record-keeping requirements are published at 40 CFR Part 82 Subpart A, § 82.9, 82.10, 82.11, 82.12, 82.13. These sections of the Stratospheric Ozone Protection Rule state the required data and accompanying documentation that companies must submit or maintain on-site to demonstrate their compliance with the regulation.

Data Quality Review: The ATS data is subject to a Quality Assurance Plan. In addition, the data is subject to an annual Quality Assurance review along with the appropriate Annual Report and Work Plan. The annual quality control reviews are coordinated by OAR staff - separate from those on the team normally responsible for data QA/QC - and are conducted prior to sending the data forward as required under the Montreal Protocol to the U.N. Environment Program (UNEP). Quarterly scrubs are also conducted involving cross checks of possible introduced errors and validation of formulae. We conduct these more frequent reviews both internally and with external stakeholders through the industry group that represents the producers who send us the information - the Alliance for Responsible Atmospheric Policy. The ATS is programmed to ensure consistency of the data elements reported by companies. Inconsistent data are flagged by the tracking system for review and resolution by the tracking system manager. The ATS receives monthly information on domestic production, imports and exports from the International Trade Commission. This information is then cross-checked with compliance data submitted by reporting companies. The SPD maintains a *User's Manual for the ODS Regulatory Allowance Tracking System* which specifies the standard operating procedures for data entry as well as data analysis of the Allowance Tracking System by the Tracking System Manager. Regional inspectors perform inspections and audits on-site at producers, importers and exporters facilities. These audits verify the accuracy of compliance data submitted to EPA through examination of company records.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Assistance to countries working under Montreal Protocol

Performance Database: Database maintained by Stratospheric Protection program

Data Source: The progress of international implementation goals will be measured by tracking the number of countries receiving assistance, dollars allocated to each, and the expected reduction in ozone-depleting substances in assisted countries.

QA/QC Procedures: The data for reporting and record-keeping are maintained by UNEP and the Stratospheric Protection Program.

Data Quality Review: The Stratospheric Protection Division (SPD) receives periodic reports on the financial status of participating countries from UNEP. This information is then cross-checked with SPD records to ensure the accuracy of the performance data.

Data Limitations: None

New/Improved Data or Systems: None

Coordination with Other Agencies

In an effort to curb the illegal importation of ozone-depleting substances, an interagency task force has been formed consisting of EPA, Department of Justice, Customs, State Department, Commerce, and 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's environmental mandate and expertise make it uniquely qualified to represent the nation's environmental interest abroad. While the Department of State (DOS) is responsible for the conduct of overall U.S. foreign policy other agencies are also involved in the international environmental arena. Relations between EPA and DOS cut across several offices and/or bureaus in both organizations.

EPA is working with Department of Agriculture to facilitate research and development of alternatives to methyl bromide, and to identify and monitor emergency and critical agricultural uses of methyl bromide.

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

EPA coordinates closely with Food and Drug Administration (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 provides the critical balance between protecting the public health and limiting damage to the stratospheric ozone layer.

The Agency coordinates with NASA and NOAA to monitor the state of the ozone layer.

Statutory Authorities

Clean Air Act (CAA) Title VI, Parts A and D (42 U.S.C. 7401-7431, 7501-7515)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) sections 3001-3006 and 3017 (42 U.S.C. 6921-6926, 6938)

The Montreal Protocol on Substances that Deplete the Ozone Layer

Environmental Protection Agency

FY 2001 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risk

Objective # 4: Protect Public Health and Ecosystems From Persistent Toxics

By 2005, consistent with international obligations, the need for upward harmonization of regulatory systems, and expansion of toxics release reporting, reduce the risks to U.S. human health and ecosystems from selected toxics (including pesticides) that circulate in the environment at global and regional scales. Results will include a 50% reduction of mercury from 1990 levels in the U.S. Worldwide use of lead in gasoline will be below 1993 levels.

Resource Summary

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | FY 2001 Req. v. FY 2000 Ena. |
|--|--------------------|--------------------|--------------------|---------------------------------|
| Protect Public Health and Ecosystems From Persistent Toxics | \$4,278.6 | \$4,857.4 | \$5,482.8 | \$625.4 |
| Environmental Program & Management | \$4,278.6 | \$4,857.4 | \$5,482.8 | \$625.4 |
| Total Workyears | 28.9 | 31.9 | 33.2 | 1.3 |

Key Programs

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | |
|---|--------------------|--------------------|--------------------|---------|
| Global Toxics | | \$315.3 | \$535.0 | \$588.4 |
| Partnership with Industrial and Other Countries | | \$100.0 | \$356.4 | \$246.2 |
| Administrative Services | | \$0.0 | \$15.4 | \$16.5 |

FY 2001 Request

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

EPA's activities under this objective give priority to selected chemicals which can persist, bioaccumulate and are highly toxic (PBTs). These chemicals do not break down naturally in the environment. For this reason, PBTs, or POPs as they are known internationally (persistent organic pollutants) 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 by degrees in the shellfish, fish, birds and animals that are exposed directly or indirectly through their diets.

EPA is working to reduce the risk from PBTs on several fronts: (1) reducing the release and transboundary movement of PBTs; (2) reducing the levels of exposure to, and adverse effects resulting 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. Among PBTs, certain substances pose the greatest hazard because of their highly toxic effects on human health. These include PCBs, dioxins/furans, DDT, mercury, and lead. In each negotiated agreement or offer of technical assistance, these substances take priority. In addition, certain populations are especially vulnerable, and receive priority consideration. Children exposed to lead in gasoline, 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 2001, 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 expand 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

Persistent organic pollutants (POPs) are chemicals of concern that are persistent, toxic and bioaccumulative. When POPs are transported across international boundaries, some may pose a threat to global health and the environment. 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. EPA expects that the UNEP POPs convention will be concluded and signed by 2001.

Under POPs, Twelve Chemicals are Proposed to be Eliminated and/or Controlled

Eight are canceled pesticides:

- | | |
|-------------|---------------|
| 1. DDT | 5. Chlordain |
| 2. Aldrin | 6. Heptachlor |
| 3. Dieldrin | 7. Mirax |
| 4. Endrin | 8. Toxaphene |

Two are Industrial Chemicals:

9. PCBs
10. Hexachlorobenzene

Two are Industrial Byproducts:

11. Furans
12. Dioxins

The LRTAP POPs protocol banned or restricted manufacture and/or use of 16 industrial chemicals, pesticides and unintentional combustion byproducts. Twelve of these substances are the starting set of substances to be controlled under the UNEP POPs convention. The LRTAP and UNEP POPs agreements also address export and import restrictions/controls, emission release restrictions, micro-contaminant issues, waste management, and the selection of additional substances for control. In contrast to the LRTAP POPs protocol, the UNEP POPs convention will be dependent in large part on the eventual development of emission inventories and improved exposure and health effect studies in developing countries around the world, as well as the agreement on a set of capacity building measures through which the U.S. and other developed countries will assist developing countries in reducing and/or eliminating their production and use of the listed POPs.

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 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 to engage other countries in reducing global risks posed by PBT substances.

To facilitate voluntary information exchange and import controls of banned or severely restricted chemicals among countries, EPA also engaged in negotiating a legally binding convention on Prior Informed Consent (PIC) which outlines requirements for the export and import of selected chemicals. As with the POPs agreements, EPA is working to 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 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 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.

Harmonization of Test Guidelines

Test guidelines are collections of methods for testing chemicals and chemical preparations, such as pesticides and industrial chemicals to assess hazard, toxicity, or other chemical properties. Each test guideline provides instructions on how a specific type of test could be adequately performed. Many countries develop their own set of test guidelines in line with their internal legislative requirements and priorities, and differences in individual test guidelines can adversely impact the trade between countries.

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

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

To date, EPA has published 97 guidelines, 36 of which have been harmonized with OECD requirements. In 2001, the Agency expects to be involved in the process for 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 emissions inventories. 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 8 nations with PRTRs and many more that are in the process of developing them. Still more countries have expressed an interest in developing such inventories. Fostering the public's right-to-know in other countries can help reduce pollution generated in these countries, just as it has in the United States.

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 United Nations Institute for Training and Research (UNITAR), and the PRTR Coordination Workgroup on ways to facilitate the public's right-to-know and the importance of collecting data on air, water, land and off-site transfers. As the OECD takes steps to integrate PRTR data with risk assessment and risk management activities, EPA will participate to ensure that the resulting decisions meet Agency objectives. To foster the public's right-to-know around the world, EPA will provide financial or technical assistance to help nations develop PRTRs, providing financial or technical assistance.

By 2005, EPA expects that all OECD countries will not only have developed PRTRs, but that these inventories will be fully operational. Besides being used for community right-to-know 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 (CFC production) and Basel (waste transfer agreements).

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. 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 50 SIDS chemicals in 2001.

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 2001 Change from FY 2000 Enacted

EPM

- (+\$91,900) Increase for workforce cost of living.
- (+\$500,000, +0.6 FTE) Additional resources to handle expanded international negotiations on environmental and trade issues, including negotiations to ban or restrict the manufacture of 16 PBT industrial chemicals.
- (-\$90,700) Contract and grant resources targeted for Sub-Saharan Africa were reduced and focus reduced on addressing specific industrial sectors that contribute to global circulation of chemicals -of- concern.

Annual Performance Goals and Performance Measures

Evaluate Domestic Suitability of Internal Consensus Testing

- 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 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 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 Estimate | FY 2001 Request | |
|--|--------------------|---------------------|--------------------|-----------------|
| Complete the review of testing needs for chemicals processed through the OECD-sponsored SIDS program | 36 | 50 | 50 | Test Reviews |
| Complete OECD harmonization | 0 | 10 | 5 | Test Guidelines |

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.

POPs Negotiation

In 2001 Successfully conclude international negotiations on a global convention on Persistent Organic Pollutants (POPs), and initiate priority capacity building projects in key developing countries.

In 2000 Successfully conclude 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 polices 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 Estimate | FY 2001 Request |
|---|--------------------|---------------------|--------------------|
| Agreed USG policies on selection criteria for Persistent Organic Pollutants | yes | | negotiations |
| Production of a final agreed convention text | | 09/30/2000 | report |
| Agreement on selection criteria and methodology | | 09/30/2000 | report |
| Conclusion and U.S. signature of POPs convention | | | 1 Agreement |

Baseline: This is a new global POPs treaty, therefore a baseline has not been established.

Lead Gasoline Phase-Out

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 Estimate | FY 2001 Request |
|--------------------------------------|--------------------|---------------------|--------------------|
| Number of commitments to Pb phaseout | | | 2 countries |
| Global reduction in Pb gasoline. | | | 10 percent |

Baseline: Fourteen countries have phaseout the use of Pb gasoline. Twelve countries and the European Union have started work on Pb phaseout.

Verification and Validation of Performance Measures

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

Performance Database: Manual data collection

Data Source: US POPs working group

QA/QC Procedures: The target is US 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 world-wide. 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 prior informed consent (PIC) agreement, a United Nations Environment Programme (UNEP) and U.N. Food and Agriculture Organization (FAO) to promote 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 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.

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 2001 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risk

Objective # 5: Achieve Cleaner and More Cost-Effective Practices

By 2005, increase the application of cleaner and more cost-effective environmental practices and technologies in the U. S. and abroad through international cooperation.

Resource Summary

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | FY 2001 Req. v. FY 2000 Ena. |
|--|--------------------|--------------------|--------------------|---------------------------------|
| Achieve Cleaner and More Cost-Effective Practices | \$9,370.0 | \$12,436.5 | \$13,753.4 | \$1,316.9 |
| Environmental Program & Management | \$9,370.0 | \$12,436.5 | \$13,753.4 | \$1,316.9 |
| Total Workyears | 53.5 | 56.9 | 51.1 | (5.8) |

Key Programs

(Dollars in thousands)

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request | |
|---|--------------------|--------------------|--------------------|-----------|
| Environment and Trade | | \$389.0 | \$518.0 | \$4,606.4 |
| Partnership with Industrial and Other Countries | | \$4,638.0 | \$5,063.0 | \$3,599.4 |
| Commission for Environmental Cooperation - CEC | | \$3,084.0 | \$3,222.5 | \$3,263.5 |
| International Safe Drinking Water | | \$684.0 | \$793.0 | \$848.0 |
| International Brownfields | | \$159.0 | \$168.0 | \$173.0 |

| | FY 1999 Enacted | FY 2000 Enacted | FY 2001 Request |
|-------------------------|--------------------|--------------------|--------------------|
| Administrative Services | \$0.0 | \$48.0 | \$55.7 |

FY 2001 Request

EPA's activities under this objective will continue to: (1) protect human health and the environment on global, regional, and national levels through enhanced management capabilities in other countries; (2) reduce the costs of environmental protection in the U.S. through international sharing of information and costs in environmental policy and research programs; (3) promote environmentally sound trade worldwide through the strengthening of global environmental participation and participation in multilateral environmental agreements, including trade regimes; (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.

International Environmental Monitoring Program

A new focus under this objective for 2001 is the International Environmental Monitoring Program, a new component of the Agency's Environment and Trade program. This initiative seeks to address environmental concerns about global economic integration and to promote higher environmental standards worldwide by developing better information and a more focused means of mobilizing technical assistance regarding the implementation of environmental laws and regulations in developing countries. Specific objectives of the program are to monitor and report on other countries' implementation of environmental laws and regulations, identify technical assistance needs and coordinate its provision, and counsel US firms regarding local environmental laws and conditions.

Information about implementing environmental laws and regulations in developing countries will be assembled by US officials in overseas posts and U.S.-based analysts. The program will be implemented by EPA in conjunction with the Department of State, the Agency for International Development, and the Department of the Treasury, and coordinated with multilateral capacity building programs of the UN Environment Program, the World Bank and others. Target countries for monitoring and reporting will be selected through an interagency process. The program will begin with pilot reviews of selected countries in different regions of the world, in order to develop and refine the monitoring and reporting methodology, and then will be extended to other target countries in the out-years.

The primary benefit of the monitoring program to the US and developing countries is to demonstrate that global economic integration and environmental protection can go together. The monitoring program will help identify targets for technical assistance to developing countries in

applying cleaner and more cost-effective environmental practices and technologies, especially in the context of international trade and investment.

International Drinking Water

The international drinking water resources will continue to focus on applying cleaner and more cost-effective environmental practices and technologies to improving watershed protection and 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. EPA will use its unique and technically strong water and wastewater expertise among US government agencies to improve drinking water quality in partner countries, particularly in urban and peri-urban areas. 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 these areas. Relatively few donor-supported water projects in Africa focus on this crucial urban component.

Specific projects will include strengthening national drinking water programs, improving urban water utility management and financing, protection of drinking water sources and enhancing water quality surveillance and treatment. Raising awareness of the cost-effectiveness of protecting safe water resources versus treatment of contaminated sources will be an important component of EPA's International Safe Drinking Water Program. Lessons learned from projects in Central America and Africa will help develop projects in other countries and refine current projects. EPA will also continue working with Latin American partners, such as the Pan American Health Organization's technical center (CEPIS) in Peru, to further strengthen their abilities to improve water quality in the region. Identifying health impacts and societal costs, including infant mortality and lost work force productivity resulting from unsafe drinking water will help focus attention on the outcome of the environmental improvements being implemented. These improvements directly support the goal of "applying cleaner and more cost-effective environmental practices".

China Program

EPA will further engage China on key environmental issues, including trade and environment issues arising out of China's likely accession to the WTO. The Agency will build on the work initiated to target emissions reductions in key industrial sectors, with an emphasis on emissions of concern to the global environment and on technologies for which the U.S. has a strong competitive export advantage. EPA will also increase efforts to get environmental information to the Chinese public through media reporting and non-governmental organizations.

Africa Program

Building on work begun to provide Internet connectivity and information access for chemicals/pesticide managers in two pilot countries in Africa, EPA will expand regional networking and training to further the long-term goal of a continent-wide chemicals management network. This work is undertaken in partnership with USAID (Africa Bureau and Leland Initiative), FAO and UNEP. In addition, the Agency will build on health effects research and other awareness building activities for lead risk reduction undertaken by convening key stakeholders to discuss policy and technical issues surrounding the removal of lead from gasoline refined and marketed in Africa. This will result in a regional plan for phasing out leaded gasoline.

EPA will take an integrated approach towards growing industrial pollution problems in Africa. The Agency will work with the US private sector and non-governmental organizations to improve environmental management approaches in sectoral and geographic targets identified in 2000. The objective is to increase institutional capacity to effect pollution prevention, energy efficiency, and toxic emissions reductions in targeted industrial sectors in Africa.

A new effort will be initiated in Sub-Saharan Africa, outside of South Africa, in developing cleaner and more cost-effective environmental management capacity. Corporate responsibility and P2E2 (Pollution Prevention and Energy Efficiency) are likely to be the most promising targets of opportunity, allowing us to leverage significant private sector support and addressing critical global and local problems which are currently almost entirely ignored by donors and governments. Another target will be clean water and sanitation technical and policy assistance in urban areas. In order to measure results in out years, 2001 resources will be devoted to identifying geographic and sectoral targets of opportunity and gathering baseline information.

This effort will apply EPA technical cooperation tools and information exchange abilities to achieve measurable improvements in environmental protection in target areas. These projects will be replicable and will build in-country capacity such that in out years greater results will be obtained.

FY 2001 Change from FY 2000 Enacted

EPM

- (+\$4,250,000) Increase in contract and grant resources to support a new Environment and Trade program, the International Environmental Monitoring Program. The program will be implemented by EPA in conjunction with the Department of State, the Agency for International Development, and the Department of the Treasury, and coordinated with multilateral capacity building programs of the UN Environment Program, the World Bank. The primary benefit of the Monitoring program to the US and developing countries alike is to demonstrate that global economic integration and environmental protection can go hand in hand. The Monitoring program will provide strong support to Goal 6, Objective 5 by identifying targets for technical assistance to developing countries in applying cleaner and more cost-effective environmental practices and technologies, especially in the context of international trade and investment.
- (-\$3,020,400) Reductions taken to partnership activities with developing and priority countries, including international safe-drinking water program and capacity building activities.

Annual Performance Goals and Performance Measures

International Monitoring

In 2001 Complete pilot reports on the implementation of environmental laws and regulations in 4 developing countries.

| | | | |
|-----------------------|---------|----------|---------|
| Performance Measures: | FY 1999 | FY 2000 | FY 2001 |
| | Actuals | Estimate | Request |

Number of developing countries for which pilot environmental reports have been completed. 4 reports

Baseline: New program. The International Environmental Monitoring Program seeks to address environmental concerns about global economic integration and to promote higher environmental standards worldwide by developing better information and a more focused means of mobilizing technical assistance regarding the implementation of environmental laws and regulations in developing countries. Specific objectives of the program are to monitor and report on other countries' implementation of environmental laws and regulations, identify technical assistance needs and coordinate its provision, and counsel US firms regarding local environmental laws and conditions.

Enhance Institutional Capabilities

- In 2001 Enhance environmental management and institutional capabilities in priority countries.
- In 2000 Deliver 30 international training modules; implement 6 tech assistance/ technology dissemination projects; implement 5 cooperative policy development projects; & disseminate info products on US environmental technologies and techniques to 2500 foreign customers.
- In 1999 3 of the 4 program areas for enhancing global environmental management were met.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|---|--------------------|---------------------|--------------------|-----------------|
| Number of training modules delivered | 16 | 30 | | 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 | 2500 | | products |
| Number of capacity building 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

Baseline: international capacity-building programs play a critical role in achieving the Agency's mission. Lack of the necessary managerial, technical, financial, scientific, and/or institutional capabilities has often served as the major stumbling block to developing country action on behalf of the environment, including progress in addressing global and transboundary environmental problems that directly affect health and the environment in the United States.

Safe Drinking Water Pilots

In 2001 Increase access to microbiologically safe drinking water in 3 pilot communities in Central America and/or Africa

In 2000 Initiate health surveillance to evaluate trends in water-borne diseases in 2 pilot project communities.

| Performance Measures: | FY 1999 Actuals | FY 2000 Estimate | FY 2001 Request | |
|---|--------------------|---------------------|--------------------|-----------------|
| Number of pilot projects monitoring the microbiological quality of DW | | 2 | | projects |
| number of pilot laboratories (3) with enhanced monitoring and surveillance capabilities | | | 3 | laboratories |
| The number of pilot communities (2) implementing source water protection programs | | | 2 | communities |
| The number of pilot treatment plants (1) with completed Comprehensive Performance Evaluation assessment | | | 1 | treatment plant |
| Implementation of strategy to determine baseline health conditions on drinking water-related diseases in El Salvador | | | 1 | Strategy plan |
| <p>Baseline: Two of the biggest human health risk factors in the developing world are the lack of microbiologically safe drinking water and proper sanitation systems. Over one billion people lack access to safe drinking water, and nearly three billion lack adequate sanitation.</p> | | | | |

Verification and Validation of Performance Measures

Performance Measure: Number of developing countries (4) for which pilot environmental reports have been completed.

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 mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Performance Measure: Number of countries or localities (3) that have adopted new or strengthened environmental laws and policies

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 mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Performance Measure: Number of organizations (3) that have increased environmental planning, analysis, and enforcement capabilities

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification of does not involve any pollutant database analysis, but will require objective assessment of tasks completed, compliance with regulatory development and, and mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Performance Measure: Number of organizations (3) that have increased capabilities to generate and analyze environmental data and other information

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification of does not involve any pollutant database analysis, but will require objective assessment of tasks completed, compliance with regulatory development and, and mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Performance Measure: Number of organizations (3) that have increased public outreach and participation

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification of does not involve any pollutant database analysis, but will require objective assessment of tasks completed, compliance with regulatory development and, and mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Performance Measure: Number of targeted sectors (3) that have adopted cleaner production practices

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification of does not involve any pollutant database analysis, but will require objective assessment of tasks completed, compliance with regulatory development and, and mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Performance Measure: Number of cities (3) that have reduced mobile-source based ambient air pollution concentrations

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification of does not involve any pollutant database analysis, but will require objective assessment of tasks completed, compliance with regulatory development and, and mutually assessment of projects goals and objectives.

Data Quality Review: Not Applicable

Data Limitations: None Known

New/Improved Data or Systems: Not Applicable

Coordination with Other Agencies

EPA's environmental mandate and expertise make it uniquely qualified to represent the nation's environmental interest abroad. While the Department of State (DOS) is responsible for the conduct of overall U.S. foreign policy other agencies are also involved in the international environmental arena. 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 Affairs (OIA) is responsible in implementing EPA activities under the Export Enhancement Act of 1992. The Act mandated EPA participation on the Environmental Trade Working Group of the Trade Promotion Coordinating Committee, an interagency working group chaired by the Secretary of Commerce to coordinate the government's overall 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 inter-agency 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 and in the Committees created by both sets of agreement, 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, regulation and other 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