



GOAL 5:

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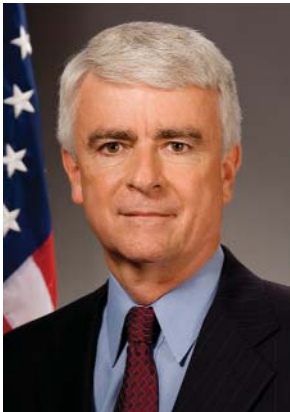




Compliance *and* Environmental Stewardship

Protect human health and the environment through ensuring compliance with environmental requirements by enforcing environmental statutes, preventing pollution, and promoting environmental stewardship. Encourage innovation and provide incentives for governments, businesses, and the public that promote environmental stewardship and long-term sustainable outcomes.





Under Goal 5 EPA will accelerate the pace of environmental protection by taking compliance and enforcement actions that produce environmental results, by preventing pollution at the source and advancing other forms of environmental stewardship, and by embracing the tools of innovation and collaboration.

Effective compliance assistance and strong, consistent enforcement are critical to achieving the human health and environmental benefits expected from our environmental laws. By offering compliance assistance to those who want to comply with environmental regulations and standing ready with a strong enforcement program, we will ensure that the public receives the benefits promised by our environmental laws. We will achieve significant environmental results by focusing our efforts on priority problem areas identified through consultation with states and tribes. We will protect the public by criminally prosecuting willful, intentional, and serious violations of the federal environmental laws.

At the same time, EPA will promote the principles of responsible stewardship, sustainability, and accountability to achieve all of its strategic goals. Collaborating closely with our federal, state, and tribal partners, the Agency will focus efforts on innovations that assist businesses and communities in improving their environmental performance. To achieve pollution prevention goals, we will work with industrial, governmental, and non-governmental partners to increase the effectiveness of voluntary and self-directed approaches that minimize or eliminate the generation of pollution. In addition, EPA will continue to conduct research on pollution prevention, new and developing technologies, social and economic issues, and decision-making.

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GOAL 5:

Compliance and Environmental Stewardship

EPA is working to ensure that government, business, and the public comply with federal laws and regulations designed to protect the environment and human health. We employ several strategies to achieve this goal. Our compliance assurance program provides compliance assistance and incentives, monitors compliance efforts and trends, and enforces against violators. Our pollution prevention programs and other innovative partnerships promote self-directed action to minimize or eliminate pollution before it is generated. We also work with other nations, including key international trading partners, as they develop and enforce their own environmental protection programs. Increasing environmental compliance in other countries will lead to lower levels of pollution that can cross borders and affect the United States.

We use the term “environmental stewardship” to describe the sense of responsibility and ownership that goes with not only meeting, but exceeding, existing regulatory

requirements. Stewards of the environment recycle wastes to the greatest extent possible, minimize or

eliminate pollution at its source, conserve natural resources, and use energy efficiently to prevent harm to the environment or human health. We use science and research to inform Agency policy decisions and guide our efforts to promote environmental stewardship. To meet our domestic environmental challenges, we continue to cooperate and coordinate with our international partners to promote environmental stewardship globally.

In cooperation with our partners, we use four tools to maximize compliance: provide assistance to promote understanding of environmental regulations; offer incentives that encourage facilities voluntarily to identify, disclose, and correct violations; monitor compliance through inspections, evaluations, and investigations; and conduct civil and

criminal enforcement actions to correct violations and deter future non-compliance.

OBJECTIVES

- Objective 5.1:** Achieve Environmental Protection Through Improved Compliance130
- Objective 5.2:** Improve Environmental Performance Through Pollution Prevention and Other Stewardship Practices133
- Objective 5.3:** Improve Human Health and the Environment in Indian Country¹138
- Objective 5.4:** Enhance Society’s Capacity for Sustainability Through Science and Research140

Currently, EPA is in the process of examining and revising Objective 5.1, the associated sub-objectives, and the performance measures used to track progress in improving compliance. The current objective, sub-objectives, and measures focus on the use of the four tools described above. The revised version will link outcomes achieved in reducing or eliminating pollution, key environmental risks, and non-compliance

patterns to program implementation of the national priority strategy for enforcement. As an example, a measure and target may be developed related to compliance and enforcement activities at combined sewer overflows that are located within 1 mile upstream of surface drinking water uptakes. As these new measures are developed, the older measures contained within this Plan will be amended and replaced.

OBJECTIVE 5.1: ACHIEVE ENVIRONMENTAL PROTECTION THROUGH IMPROVED COMPLIANCE

BY 2011, MAXIMIZE COMPLIANCE TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT THROUGH ENFORCEMENT AND OTHER COMPLIANCE ASSURANCE ACTIVITIES BY ACHIEVING A 5 PERCENT INCREASE IN THE POUNDS OF POLLUTANTS REDUCED, TREATED, OR ELIMINATED BY REGULATED ENTITIES, INCLUDING THOSE IN INDIAN COUNTRY.² (BASELINE: 3-YEAR ROLLING AVERAGE FYs 2003-2005: 900,000,000 POUNDS.)



Sub-objective 5.1.1: Compliance Assistance. By 2011, prevent noncompliance or reduce environmental risks, with an emphasis on achieving results in all areas including those with potential environmental justice concerns, through EPA compliance assistance by maintaining or improving on the following percentages

for direct assistance provided to regulated entities, including those in Indian country: 50 percent of the regulated entities receiving direct assistance improve environmental management practices;³ and 12 percent of the regulated entities receiving direct assistance reduce, treat, or eliminate pollution. (Baselines are determined each year based on prior year results.)

Sub-objective 5.1.2: Compliance Incentives. By 2011, identify and correct noncompliance and reduce environmental risks, with an emphasis on achieving results in all areas including those with potential environmental justice concerns. Use of compliance incentives will result in a 5 percentage point increase in the number of facilities that use EPA incentive policies to conduct environmental audits or other actions that reduce, treat, or eliminate pollution or improve environmental management practices at their facilities, including those in Indian country. (Baseline: 3-year rolling average FYs 2003-2005: 940 facilities.)

Sub-objective 5.1.3: Monitoring and Enforcement. By 2011, identify, correct, and deter noncompliance and reduce environmental risks, with an emphasis on achieving results in all areas including those with potential environmental justice concerns, through monitoring and enforcement of regulated entities' compliance,

including those in Indian country, by achieving: a 5 percent increase in the number of facilities taking complying actions⁴ during EPA inspections and evaluations after deficiencies have been identified (baseline to be determined based on FY 2006 results); a 5 percentage point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated (FY 2005 baseline: 28.8 percent); and a 5 percentage point increase in the percent of enforcement actions requiring improvement of environmental management practices. (FY 2005 baseline: 72.5 percent.)



MEANS AND STRATEGIES FOR ACHIEVING COMPLIANCE

Environmental laws can achieve their purposes only when facilities and companies comply with requirements. Facilities and companies that do not comply can gain an unfair economic advantage over those that do invest the resources necessary to meet their environmental obligations. EPA works with state, tribal, and local agencies to secure and maintain compliance with the nation's environmental laws and regulations.

Over the next 5 years, we will continue working with state, tribal, and local environmental compliance assurance programs to:

- Ensure a consistent level of effort among state and tribal enforcement and compliance assurance programs.
- Identify national priorities for enforcement and compliance.
- Better integrate state, tribal, regional, and national strategic planning efforts.
- Share information about patterns of noncompliance or emerging risks which need to be addressed.

- Explore opportunities for developing common performance measures for state and tribal enforcement and compliance assurance programs.
- Continue to ensure compliance in Indian country by improving data collection and reporting and by building tribal capacity for managing compliance and enforcement programs.

We will also work with some of our state and tribal partners, and with the U.S. Departments of State, Justice, the Interior, and other federal agencies, to encourage other countries' efforts to develop and ensure compliance with their own domestic environmental programs.

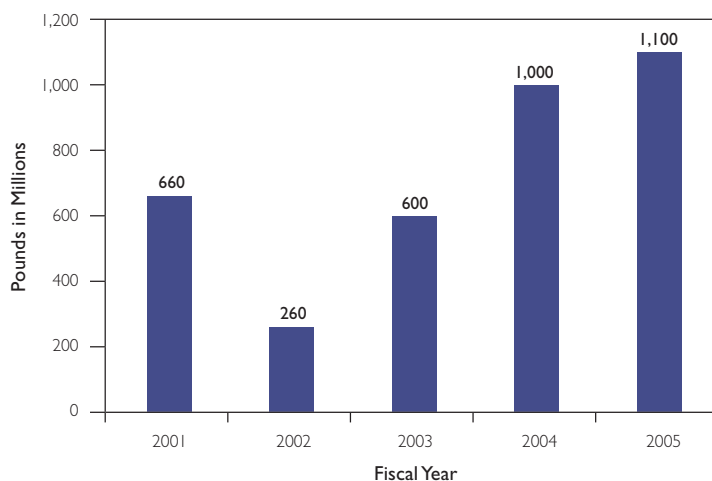
COMPLIANCE ASSISTANCE

EPA will continue to assist the regulated community in complying with environmental laws and regulations by providing training, workshops, on-site visits, and telephone contacts. Our 14 virtual Compliance Assistance Centers (www.epa.gov/compliance/assistance/centers/index.html) provide assistance directly to regulated entities and offer access to resources such as pollution prevention information. We will also provide

assistance to regulated entities indirectly by tailoring compliance assistance tools and making them readily available on our websites, as free publications, and through trade associations and other groups. Our National Environmental Compliance Assistance Clearinghouse provides federal, state, tribal, and local governments; academia; trade associations; and other organizations a forum for sharing information on best practices, new compliance assistance materials, and performance measurement. As part of our compliance assistance, we also encourage environmental stewardship by establishing partnership programs designed to minimize or eliminate the generation of pollution.

Through the Environmental Assistance Network, we will continue to coordinate EPA's efforts to assist specific industry sectors, such as health care or construction, in improving their environmental performance. The Network brings EPA programs together around specific sectors to identify opportunities for common metrics and measures and to develop coordinated approaches for providing assistance, preventing pollution, and promoting environmental stewardship.

Estimated Pollutant Reduction Commitments
Obtained Through Formal Case Conclusions



FY 2005 Data Source: Integrated Compliance Information System (ICIS), & Manual Calculations, October 27, 2005

Disclaimer: Due to enhanced data quality reviews, minor corrections may have been made to previously reported data. As such, this FY 2005 end-of-year report contains updated enforcement and compliance data for prior years.

COMPLIANCE INCENTIVES

Offering the regulated community incentives to address problems proactively helps foster a sense of environmental stewardship. EPA provides a number of incentives to encourage public and private entities to assess their compliance with environmental requirements, voluntarily disclose concerns, correct them, and prevent recurring problems. The Small Business Compliance Policy, for example, allows businesses with fewer than 100 employees reduced penalties for discovering, disclosing, and correcting federal violations. We will continue to make the Audit Policy (Self-Policing Policy) and compliance incentives such as reduced penalties for violations and extended time for correction available to the regulated community. We will also encourage owners of multiple facilities to enter into corporate-wide auditing agreements, which offer them the opportunity to review their operations more comprehensively while providing certainty about their environmental liability. Corporate-wide auditing agreements, particularly those following mergers and acquisitions, offer the potential for significant environmental benefits because environmental compliance issues are addressed simultaneously across the corporation.

COMPLIANCE MONITORING AND ENFORCEMENT

Federal environmental regulations establish a consistent baseline for compliance levels nationwide. States and tribes that have been delegated responsibility for specific programs may set more stringent standards and enforce against them.

At the national level, EPA will use strategic targeting to conduct monitoring and enforcement activities—inspections, evaluations, civil and criminal investigations,

administrative actions, and civil and criminal judicial enforcement. By identifying the most egregious violators and returning them to compliance as quickly as possible, we can address the most significant risks to human health and the environment and relieve disproportionate burdens on certain populations. EPA will continue to base its national enforcement and compliance assurance program on two components: (1) a limited number of national priorities that focus on significant environmental risks and patterns

of noncompliance and (2) core program activities that implement all environmental laws and requirements. We will continue to collaborate with states and tribes in analyzing compliance data and trends to identify priorities for attention.



OBJECTIVE 5.2: IMPROVE ENVIRONMENTAL PERFORMANCE THROUGH POLLUTION PREVENTION AND OTHER STEWARDSHIP PRACTICES

BY 2011, ENHANCE PUBLIC HEALTH AND ENVIRONMENTAL PROTECTION AND INCREASE CONSERVATION OF NATURAL RESOURCES BY PROMOTING POLLUTION PREVENTION AND THE ADOPTION OF OTHER STEWARDSHIP PRACTICES BY COMPANIES, COMMUNITIES, GOVERNMENTAL ORGANIZATIONS, AND INDIVIDUALS.

Sub-objective 5.2.1: Prevent Pollution and Promote Environmental Stewardship.

By 2011, reduce pollution, conserve natural resources, and improve other environmental stewardship practices while reducing costs through implementation of EPA's pollution prevention programs.

Strategic Targets

- By 2011, reduce 4.5 billion pounds of hazardous materials cumulatively compared to the 2000 baseline of 44 million pounds reduced.
- By 2011, reduce, conserve, or offset 31.5 trillion British Thermal Units (BTUs) cumulatively compared to the 2002 baseline of 0 BTUs reduced, conserved, or offset.
- By 2011, reduce water use by 19 billion gallons cumulatively compared to the 2000 baseline of 220 million gallons reduced.

- By 2011, save \$791.9 million through pollution prevention improvements in business, institutional, and governmental costs cumulatively compared to the 2002 baseline of \$0.0 saved.
- By 2011, reduce 4 million pounds of priority chemicals from waste streams as measured by National Partnership for Environmental Priorities (NPEP) contributions, Supplemental Environmental Projects (SEPs), and other tools used by EPA to achieve priority chemical reductions.

Sub-objective 5.2.2: Promote Improved Environmental Performance Through Business and Community Innovation.

Through 2011, improve environmental performance with sustainable outcomes through sector-based approaches, performance-based programs, and assistance to small business.

Strategic Targets

- By FY 2011, the reported results of Performance Track member facilities collectively will show the following normalized annual reductions: 5.1 billion gallons in water use; 13,000 tons of hazardous materials use; 230,000 megatons of carbon dioxide equivalent (MTCO₂E) of greenhouse gases; 300 tons of toxic discharges to water; and 5,500 tons of combined NO_x, SO_x, VOC, and PM emissions. (Performance Track member facilities make commitments to, and report yearly progress on, performance improvements in up to four environmental areas. In FY 2005, Performance Track members achieved normalized annual reductions of 3.4 billion gallons in water use; 8,794 tons of hazardous materials use; 151,129 MTCO₂E of greenhouse gases; 186 tons of toxic discharges to water; and 3,533 tons of combined NO_x, SO_x, VOC, and PM emissions.)
- By 2011, the participating manufacturing and service sectors in the Sector Strategies Program will achieve an aggregate 10 percent reduction in environmental releases to air, water, and land, working from a 2004 baseline and normalized to reflect economic growth. (Baseline and normalization factors to be developed by December 2006.)



Sub-Objective 5.2.3: Promote Environmental Policy Innovation. Through 2011, achieve measurably improved environmental results, promote stewardship behavior, and advance sustainable outcomes by testing, evaluating, and applying alternative approaches to environmental protection in states, companies, and communities. This work also will seek to improve the organizational cost effectiveness and efficiency for regulatory agencies as well as regulated entities. Specifically, by 2011, innovation projects under the State Innovation Grant Program and other piloting mechanisms will achieve, on average, an 8 percent or greater improvement in environmental results (such as reductions in air or water discharges, improvements in ambient air or water air quality, or improvements in compliance rates), or a 5 percent or greater improvement in cost effectiveness and efficiency. (Each project's achievement will be measured by the goals established in the grantee's proposal. Baselines for ambient conditions or pollutant discharges or costs of compliance will be developed at the beginning of each project, and improvements for each project will be measured after full implementation of the innovative practice.)

MEANS AND STRATEGIES FOR IMPROVING ENVIRONMENTAL PERFORMANCE

EPA is committed to developing and promoting innovative strategies that achieve better environmental results, reduce costs, and promote environmental stewardship. In collaboration with states and tribes, we will continue to focus on innovations that will help small businesses and communities improve both their environmental and economic performance.

The Pollution Prevention Act of 1990 encourages prevention and source reduction as preferred methods for keeping pollutants from release to the environment. EPA will

promote partnerships to achieve our pollution prevention goals and encourage responsible stewardship, sustainability, and accountability. We will work with industry to design manufacturing processes and products that prevent pollution and will team with states, tribes, and governments at all levels to find innovative, cost-effective approaches for preventing pollution. A key element of our strategy is the Pollution Prevention State Grant Program. Annually, EPA provides approximately \$5 million to states and tribes to support their efforts to provide industry with technical assistance, information sharing, and outreach.

As mandated by Executive Order 13101, we will work with federal agencies to ensure that their purchasing decisions minimize damage to the environment. Through our Environmentally Preferable Purchasing Program (www.epa.gov/epp), and such initiatives as the Federal Electronics Challenge (www.federalelectronicschallenge.net) and the Electronic Products Environmental Assessment Tool (www.epeat.net/ and <http://epa.gov/oppt/epp/pubs/products/epeat.htm>), we will continue to promote purchasing, operating, and disposing of electronic products in ways that protect the environment. In addition, we will work with our partners and key stakeholders to enhance international awareness and use of pollution prevention measures and environmental stewardship approaches, in particular by focusing on key trading partner countries that are major emitters of critical transboundary pollutants.

Our Innovations Strategy relies on continued outreach to states, tribes, and businesses to help identify innovative approaches that merit testing, evaluation, and implementation. To provide leadership on the cutting edge of environmental policy, EPA works continually to identify, test, and implement innovative strategies that are effective and efficient. Some innovations

relate to policies and programs, such as permitting or the regulation of small sources. Other innovations change the way EPA does business. For example, we will utilize our staff expertise in working with state, community, and business leaders to strengthen partnerships that encourage collaboration and meaningful public involvement. To bring innovations to full-scale implementation, we will initiate regulatory change, such as more flexible permitting approaches, and encourage states to adopt new strategies.



IMPROVING ENVIRONMENTAL PERFORMANCE

EPA will advance environmental protection through innovative and collaborative approaches with business and government that produce measurable environmental results. For example, our National Environmental Performance Track Program is a public-private partnership that encourages continuous environmental improvement through the use of environmental management systems, local community involvement, and measurable environmental results. Performance Track motivates high-performing facilities to measurably reduce their environmental footprint beyond legal requirements and changes the way government regulates these facilities. Through the Performance Track Program, we will establish new relationships with business

based on recognition, mentoring, sharing knowledge, incentives (including placing a lower priority on routine inspections), and a sustained pattern of superior performance.

Under our Sectors Strategy Program, we will continue to work with sectors of the U.S. economy that make a significant impact on the environment to improve their environmental performance. Although overall the program is intended to promote environmental stewardship while minimizing regulatory burden, individual sector projects address our specific air, water, land, and ecosystem objectives as well. The Sectors Strategy Program supports the Administrator's goal to "accelerate the pace of environmental protection" by addressing the "driver and barrier" factors in each sector that affect environmental management decisions. We will emphasize results and accountability by tracking sector-wide trends in pollutant emissions and resource conservation in the *Sector Strategies Performance Report*, available at www.epa.gov/sectors/performance.html.



EPA will continue to promote widespread use of environmental management systems (EMSs) domestically and internationally. EMSs provide a structured system and approach for managing environmental

responsibilities (including areas not subject to regulation, such as product design, resource conservation, energy efficiency, and other sustainable practices) to improve overall environmental performance. Through a variety of partnership programs and our EMS website, we will provide information and technical assistance for organizations implementing EMSs. We will also fund research on the effectiveness of EMSs in the private and public sectors.

We also remain committed to identifying and testing new approaches to improving environmental performance by partnering with states, tribes, and industry through the State Innovation Grant Program. We will use this grant program to fund projects that promote innovative approaches to permitting or improve corporate environmental performance. One example of an innovative program receiving a State Innovation Grant is the Environmental Results Program, an approach first developed by the Commonwealth of Massachusetts to regulate small sources such as drycleaners and printers more cost effectively. We will measure and track results for the State Innovation Grant program by requiring grantees to include performance measures in project planning, to report regularly on implementation of their projects, and to file a final report on results achieved. We plan to conduct an evaluation of the State Innovation Grant Program by 2011.

COST SAVING TECHNOLOGIES THAT PREVENT POLLUTION

We will continue to conduct EPA programs to prevent pollution while realizing economic savings:

- Our Green Chemistry Program⁵ supports research and fosters innovative chemical technologies to prevent pollution in a scientifically sound, cost-effective manner.

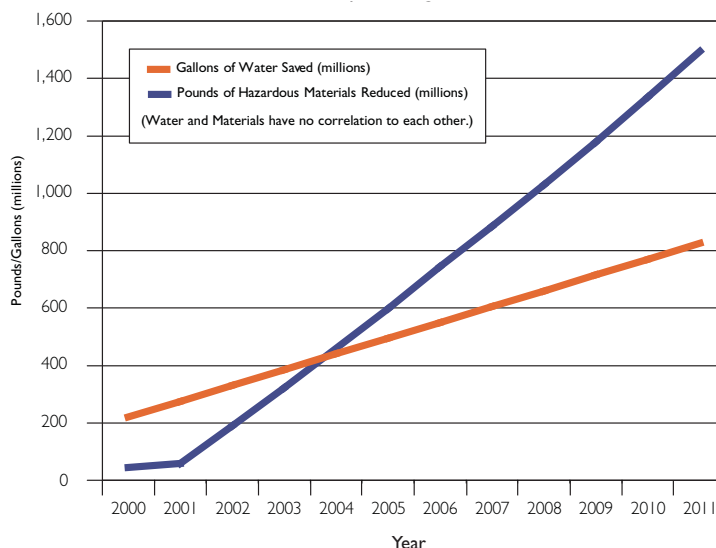
- The Green Suppliers Network works with the U.S. Department of Commerce's Manufacturing Extension Program and state technical assistance programs to provide manufacturing suppliers with information on cost saving opportunities and technologies to eliminate waste and increase energy efficiency.
- The Presidential Green Chemistry Challenge Award Program recognizes superior achievement in the design of chemical products and encourages chemical designers to prevent pollution, conserve water, and reduce energy use in achieving measurable results.
- Our Design for the Environment⁶ Industry Partnership Program offers technology assessments and outreach to encourage businesses to adopt cleaner, cheaper, and smarter pollution prevention practices.

We will continue to work with industry sectors to measure results in reducing risks to human health and the environment, improve performance, and save costs associated with existing and alternative pollution prevention technologies or processes.

WASTE MINIMIZATION

To reduce priority chemicals in wastes going to landfills, EPA focuses on key waste streams and waste generators. For example, through the NPEP, a part of the Agency's Resource Conservation Challenge, we will encourage state and local governments, manufacturers, and other nongovernmental organizations to form partnerships to reduce the generation of waste containing any of the 31 priority chemicals. Companies that become NPEP partners are publicly recognized for their contribution to the national waste reduction goal.

Green Chemistry Challenge Cumulative Results



We will continue to protect the environment and children's health through innovative and collaborative approaches that produce measurable environmental results. Our Schools Chemical Cleanout Campaign will help to decrease the number of injuries and school days lost due to poor chemical management and chemical spills. Working with other federal agencies, states, tribes, and local governments, we will provide technical assistance and grant funding to clean out chemicals and prevent future chemical management problems.

PREVENTING ENVIRONMENTAL IMPACTS THROUGH NEPA REVIEW

Working with the White House Council on Environmental Quality, EPA will prevent adverse environmental impacts associated with large federal projects subject to National Environmental Policy Act (NEPA) review⁷. Section 309 of the Clean Air Act requires EPA to review and make public its comments on the environmental impacts of other federal agencies. We will also assist other federal agencies developing environmental impact statements, help them develop projects to

avoid adverse environmental impacts, support streamlined environmental review processes, and participate in rotational assignment programs and interagency work groups.

POLLUTION PREVENTION WORK WITH TRIBAL PARTNERS

The environmental and public health issues facing tribes are a priority for EPA, and one focus of our effort to

ensure environmental justice. We will expand green technologies on tribal lands,⁸ especially for buildings constructed decades ago. We are working with the U.S. Department of Housing and Urban Development to provide tribes with information and training on “green buildings,” to incorporate green building guidance in tribal housing grants, and to implement advisory group recommendations.

OBJECTIVE 5.3: IMPROVE HUMAN HEALTH AND THE ENVIRONMENT IN INDIAN COUNTRY

PROTECT HUMAN HEALTH AND THE ENVIRONMENT ON TRIBAL LANDS BY ASSISTING FEDERALLY-RECOGNIZED TRIBES TO BUILD ENVIRONMENTAL MANAGEMENT CAPACITY, ASSESS ENVIRONMENTAL CONDITIONS AND MEASURE RESULTS, AND IMPLEMENT ENVIRONMENTAL PROGRAMS IN INDIAN COUNTRY.

Strategic Targets

- By 2011, increase the percent of tribes implementing federal environmental programs in Indian country to 9 percent. (FY 2005 baseline: 5 percent of 572 tribes.)
- By 2011, increase the percent of tribes conducting EPA-approved environmental monitoring and assessment activities in Indian country to 26 percent. (FY 2005 baseline: 20 percent of 572 tribes.)
- By 2011, increase the percent of tribes with an environmental program to 67 percent.⁹ (FY 2005 baseline: 54 percent of 572 tribes.)

MEANS AND STRATEGIES FOR IMPROVING HEALTH AND THE ENVIRONMENT IN INDIAN COUNTRY

Under federal environmental statutes, EPA is responsible for protecting human health and the environment in Indian country. Our American Indian Environmental Office (AIEO) leads an Agency-wide effort to work with 572 federally-recognized tribes, as well as intertribal consortia,¹⁰ located in 9 of EPA’s 10 regions. The land in Indian country totals more than 70 million acres, and reservations range from less than 10 to more than 14 million acres.

EPA’s strategy for achieving our objectives in Indian country has three major components. First, we will continue to distribute Indian General Assistance Program (GAP) capacity-building grants. GAP grants help tribes





cover the cost of planning, developing, and establishing environmental protection programs. Our goal is help every federally-recognized tribe establish an environmental presence. To demonstrate the results achieved by these funds more effectively, we are developing more and better environmental and public health measures to track tribal environmental progress.

Second, we will develop the information technology infrastructure needed to assess environmental conditions in Indian country and measure the results achieved by the environmental programs operating on those and related lands. The Tribal Program Enterprise Architecture (TPEA) complements GAP by organizing environmental data on a tribal basis and providing a picture of current environmental conditions at the local level. As tribes assume management of their own environmental programs (through the “treatment in a manner similar to a state” process available under several environmental statutes or by developing a tribal program under tribal law), they will be able to use TPEA data to help identify program priorities. We will continue to coordinate EPA’s efforts with those of other federal agencies (including the U.S. Department of the Interior’s Geological Survey and Bureau of Reclamation and the U.S. Department of Health and Human Services’ Indian Health Service) to create a comprehensive,

integrated Tribal Enterprise Architecture. TPEA will supplement our national systems by allowing tribes and EPA regional offices to supply information on local environmental conditions. As data gaps are identified, EPA will work with tribes to obtain the data needed to address high risks in Indian country.

Third, we will guide and closely track the implementation of our programs directly on Indian lands.¹¹ In reaching out to tribes, EPA’s water, air, land, pollution prevention, and enforcement and compliance programs have developed specific tribal strategies. As part of our strategic planning, we will continue to consult and collaborate with tribes. The Tribal Caucus, which has provided input to EPA on tribal issues for several years, will continue to serve as our focal point and help develop and strengthen EPA-tribal partnerships. We will also engage other EPA-sponsored tribal groups, such as the Tribal Committee of the Forum on State and Tribal Toxics Action, the Tribal Pesticides Program Council, the Tribal Science Council, the National Tribal Air Association, and the Tribal Water Council.

Beyond improving environmental conditions in Indian country, our engagement with the tribes will support their work as the first stewards of our nation’s environment. All of EPA’s environmental programs will benefit by integrating tribal stewardship perspectives.



OBJECTIVE 5.4: ENHANCE SOCIETY'S CAPACITY FOR SUSTAINABILITY THROUGH SCIENCE AND RESEARCH

CONDUCT LEADING-EDGE, SOUND SCIENTIFIC RESEARCH ON POLLUTION PREVENTION, NEW TECHNOLOGY DEVELOPMENT, SOCIOECONOMICS, SUSTAINABLE SYSTEMS, AND DECISION-MAKING TOOLS. BY 2011, THE PRODUCTS OF THIS RESEARCH WILL BE INDEPENDENTLY RECOGNIZED AS PROVIDING CRITICAL AND KEY EVIDENCE IN INFORMING AGENCY POLICES AND DECISIONS AND SOLVING PROBLEMS FOR THE AGENCY AND ITS PARTNERS AND STAKEHOLDERS.

MEANS AND STRATEGIES FOR ENHANCING SUSTAINABILITY THROUGH SCIENCE AND RESEARCH

The principles of environmental stewardship are based on the belief that our nation's natural resources are the common property of all society. Effective stewards of the environment enhance environmental protection and achieve sustainable outcomes. Science and research programs supporting this strategic goal help identify efficient and sustainable practices, materials, and technologies to improve environmental performance and advance stewardship.



SCIENCE AND TECHNOLOGY FOR SUSTAINABILITY

The Science and Technology for Sustainability (STS) research program develops models, tools, and technologies that provide decision makers with options that can promote stewardship and lead to sustainable outcomes. STS research will achieve measurable results by providing the enhanced science and technology that can catalyze innovation and advance environmental protection; developing more efficient and sustainable practices, materials, and technologies; and providing science to support sound management decisions, policies, and practices for sustainable resource management. Fundamental research under the STS program includes developing Life Cycle Assessment and Material Flow Analysis methodologies; theoretical modeling of sustainable systems; developing new science-based sustainability metrics and indicators; and the People, Prosperity, and the Planet Student Design Competition program.

STS research will support the regulated community in implementing more efficient, sustainable, and protective practices and using materials and technologies that can improve performance while protecting the environment. We will work with our industry partners to research new methods, alternative chemicals, and industrial practices and to develop tools, for example, that bench chemists can use to evaluate the environmental dimensions of new chemicals and

production pathways. We have expanded our Environmental Technology Verification Program to include an effort focused on sustainability, the Environmentally Sustainable Technologies Evaluation Program. We will develop quality-controlled test protocols to help verify the capabilities of new technologies. In addition, we will continue to conduct our Sustainable Environmental Systems research program, which draws on economics, ecology, law, and engineering to find systems-based solutions to regional environmental problems.

ECONOMICS AND DECISION SCIENCES

EPA's Economics and Decision Sciences (EDS) research provides methods and data to conduct economic analyses and evaluate the effectiveness of our policies. The results of

these analyses will inform our decision making and help us develop innovative, cost-effective approaches.

EDS research will focus on three areas. First, to improve EPA's cost-benefit analyses, researchers will develop benefit transfer methods and original estimates for health and ecological benefits. Second, researchers will analyze information and education strategies for changing behavior, helping us to promote compliance, improved performance, and environmental stewardship. Finally, we will conduct EDS research on using trading programs for new pollutants, media, or geographical areas. This research will help design market-based programs to improve environmental performance at the lowest cost. We will also be investigating the implications that trading programs may have for environmental justice issues

HUMAN CAPITAL

To achieve our goals for compliance and environmental stewardship, we must be proficient in a number of areas. Our staff must understand applicable requirements, possess sector-specific knowledge about business and industrial processes, keep current on best practices, and be able to assess a situation and advise regulated entities seeking help and guidance.

To improve our interaction with the regulated community, we will recruit skilled facilitators and communicators, and we will encourage current employees to take advantage of rotations and other opportunities at the state and local level. Experience in addressing local or regional problems will provide staff a broader perspective on the challenges facing regulators and the regulated community. We recognize that a broad spectrum of regulatory and stewardship approaches will be necessary to advance environmental protection and that a well-informed EPA workforce, skilled in collaborative approaches, will be the key to our success.

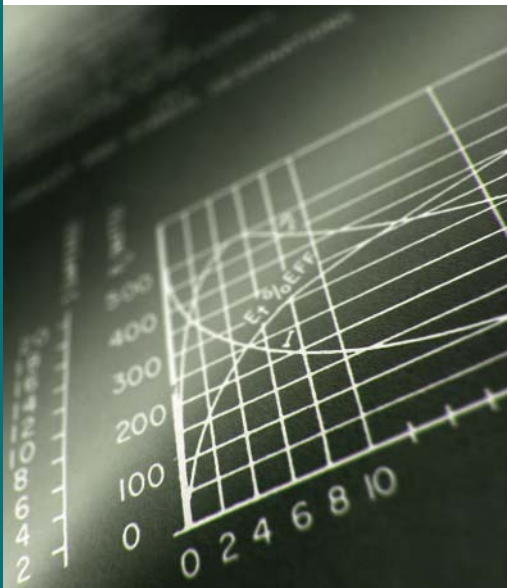
To conduct our compliance assistance program and develop incentives for compliance, EPA attorney-advisors, engineers, environmental protection specialists, and others review material submitted by the regulated community, assess compliance, and craft the Agency's response, which could include fines or penalties. EPA will work to ensure that staff have the necessary skill sets to carry out compliance monitoring and enforcement programs (including inspections), civil and criminal investigations, and administrative and judicial enforcement actions.



PERFORMANCE MEASUREMENT

EPA's compliance strategy is based on activities that will reduce pollutants entering the environment, treat them appropriately, or eliminate them entirely. To assess our progress, we track pounds of pollution estimated to have been reduced, treated, or eliminated—a measure also included in OMB's Program Assessment Rating Tool (PART) assessment of the compliance program. We have also incorporated the PART long-term, outcome-oriented measures for EPA's GAP grants into this *Strategic Plan*.

To track our annual progress toward our research objectives, we will use a number of objective measures of customer satisfaction, product impact and quality, and efficiency. For example, we rely on independent expert review panel ratings, client surveys on the usefulness of our products, and analyses demonstrating the actual use of EPA research products.



IMPROVING PERFORMANCE MEASUREMENT

For the compliance objective of Goal 5, EPA will begin a process for redesigning the objective, sub-objectives, and measures. This redesign will change the focus of the program, moving from a tool-oriented approach that measures outcomes from assistance, incentives, monitoring, and enforcement, to a problem-oriented approach that measures the extent to which key environmental problems are reduced or eliminated. To more accurately characterize the state of compliance for particular sectors and regulations, our compliance program uses statistically-valid compliance

rates. Our focus will be on environmental problems with significant environmental risks and important patterns of noncompliance, specifically in national priority areas.

We are also working to supplement our pollutant reduction outcome measure with information that characterizes the hazards presented by pollutants and potential public exposure. We are using air pollution models to estimate the human health benefits of reduced air pollutants. As a result, in FY 2005, the compliance assurance program reported that the 10 largest air pollution cases produced annual human health benefits valued at more than \$4.6 billion dollars by reducing pollutants by more than 620 million pounds annually. The compliance and air programs will continue working together to expand the types of information on human health benefits that can be reported for air pollution cases, and we are exploring opportunities to report similar information for cases involving other environmental media.

EPA will use a set of nationally consistent environmental justice indicators of health, environment, compliance, and demographics to identify "Areas with Potential Environmental Concerns." We will then emphasize activities in these areas. This effort will better protect all communities, including minority and/or low-income communities. We will report on the impact of our compliance efforts on these areas, including minority and/or low-income communities. Based on our experience with the indicators, we will develop specific environmental justice measures and targets for compliance assurance activities.

EPA is committed to developing meaningful performance measures that will allow us to assess our pollution prevention programs. We will continue to collaborate with states and tribes to improve our performance measures and, through the PART process, review and refine them to be more outcome oriented.

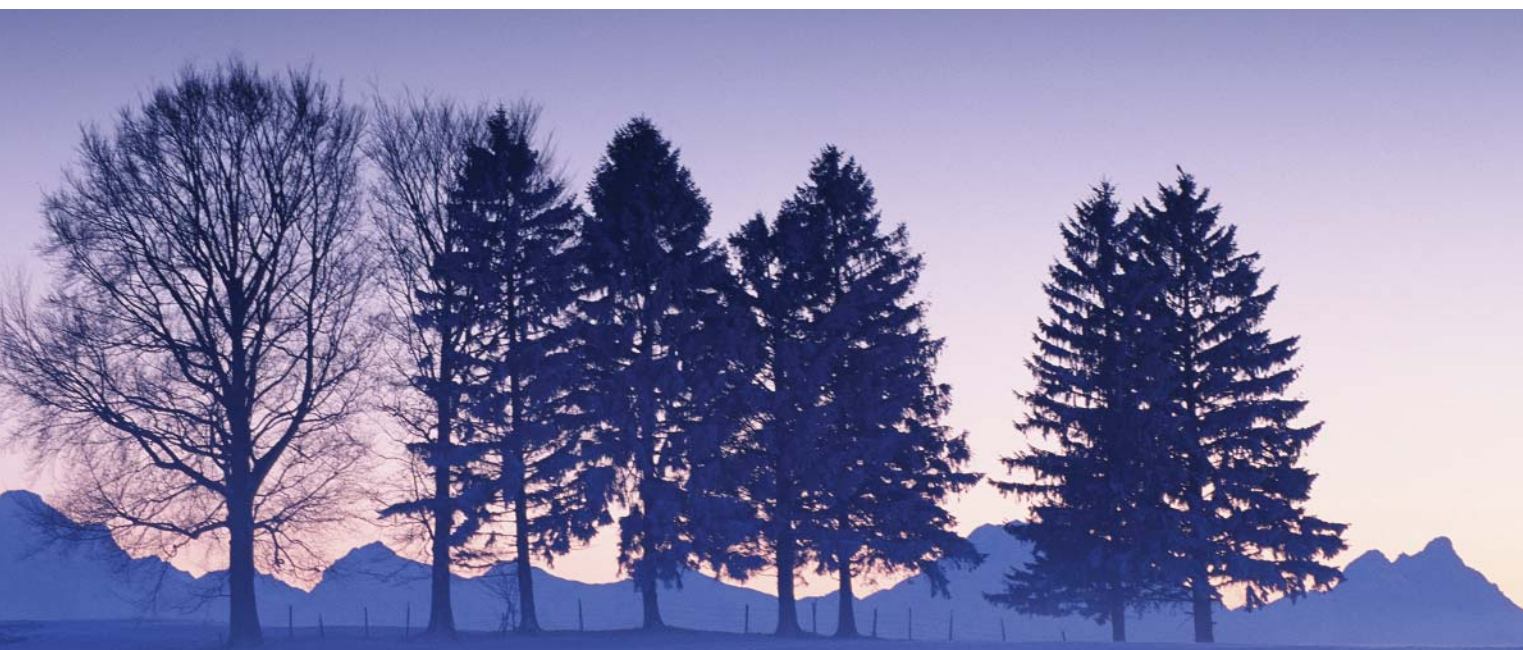
USING FEEDBACK FROM PERFORMANCE ASSESSMENTS AND PROGRAM EVALUATIONS

EPA met its original goal for reducing priority chemicals in 2003 (2 years earlier than anticipated), and we have achieved further reductions while re-setting the goal for this 2006–2011 *Strategic Plan*. Our early success is not proving easily sustainable, however, as we have begun to exhaust the more obvious opportunities for waste minimization. Achieving future reductions will be more difficult and require a different approach. We are working with states to develop an approach that targets sectors and will allow more direct technology transfer between facilities involved in similar industrial processes.

The Harvard Regulatory Policy Program evaluated several aspects of EPA's Performance Track Program, including differences among facilities applying for the program, characteristics of facilities motivated to apply, and the differences in environmental performance between Track members and non-members. The evaluation affirmed the value of EPA recognition as an incentive for

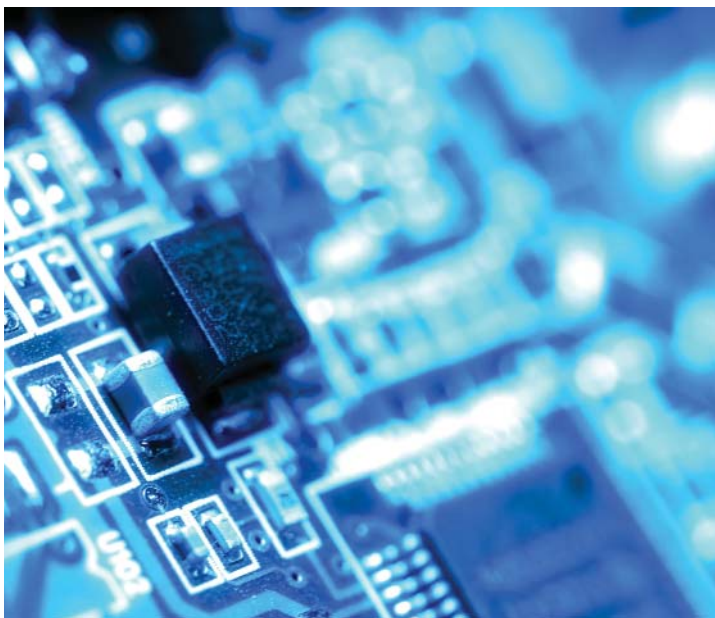
environmental improvements. The study also stressed the importance of low transaction costs as a way of encouraging participation in innovative programs. We will work to increase recognition of Performance Track and the branding associated with the program, and we will identify firms that are providing environmental leadership and refocus our recruiting efforts at the corporate level.

EPA's Enforcement and Compliance Program has undergone three PART assessments since FY 2003: civil enforcement (2003), criminal enforcement (2004), and pesticides grants (2005). OMB recommendations resulting from these PART assessments have been focused on individual program areas and limited to certain aspects of the Enforcement and Compliance Program's management. The program will continue to improve and refine outcome measurement and to expand use of statistically-valid compliance rates. These activities are directly related to PART follow-up actions.



EMERGING ISSUES AND EXTERNAL FACTORS

Rapidly changing technology presents EPA with unique opportunities and challenges. By 2011, we can expect several significant scientific external factors arising in nanotechnology, genomic research, computational toxicology, computer sciences, and the cognitive and behavioral sciences. Developing and applying nanotechnologies, biotechnologies, and sensor technologies could significantly enhance our ability to protect human health and the environment. Progress in these areas will also determine the future direction of our research programs.



Advances in measurement technology could also have a significant effect on EPA programs. As more sensitive technology for detecting and measuring emissions is installed in facilities, emissions reporting will become more accurate. As a result, we may find emission rates to be higher or lower than previously reported.

Distributed sensor network technologies, remote sensing, and hyperspectral imaging are developing rapidly. These technologies have the potential to support compliance monitoring by increasing the frequency and speed of data collection and transmission; improving data quality; enabling data integration; and facilitating data access and data sharing. Sensors might also facilitate the acquisition and use of empirical data and aid in tracking and analyzing the flow of materials and elements throughout the industrial cycle.

Nanotechnology could present new opportunities for pollution prevention and environmental stewardship (see www.epa.gov/osa/nanotech.htm). Emerging nanotechnology applications could potentially reduce energy demand, develop cleaner energy, and improve the efficiency of manufacturing processes, reducing material use and waste generation. Pollution prevention programs can provide a forum for industry and academia to exchange information on the environmental effects and benefits of innovative nanomaterials and promote environmentally responsible manufacturing processes and product design. A growing number of institutional players are encouraging policymakers to study nanotechnology and develop responses.

These emerging technologies may also present novel risks. Anticipating the risks and developing tools to identify them will become increasingly important as these technologies develop and enter the marketplace.



NOTES:

1. Use of the terms “Indian country,” “Indian lands,” “tribal lands,” “tribal waters,” and “tribal areas” within this *Strategic Plan* is not intended to provide any legal guidance on the scope of any program being described, nor is their use intended to expand or restrict the scope of any such programs.
2. Pounds of pollutants “reduced, treated, or eliminated” is an EPA measure of the quantity of pollutants that will no longer be released to the environment as a result of a noncomplying facility returning to its allowable limits through the successful completion of an enforcement settlement. (Facilities may further reduce pollutants by carrying out voluntary Supplemental Environmental Projects.) Online compliance information is available to the public via EPA’s Enforcement and Compliance History Online (ECHO) Web Site: www.epa.gov/echo/ EPA’s Office of Enforcement and Compliance Assurance. Washington, DC. Access July 25, 2006.
3. “Environmental management practices” refers to a specific set of activities EPA tracks to evaluate changes brought about through assistance, incentives, and concluded enforcement actions. Implementing or improving environmental management practices—for example, by changing industrial processes; discharges; or testing, auditing, and reporting—may assist a regulated facility in remaining in compliance with environmental requirements. Further information on environmental management practices is available in EPA’s *Case Conclusion Data Sheet Training Booklet*, available online at: www.epa.gov/compliance/resources/publications/planning/caseconc.pdf; EPA’s Office of Enforcement and Compliance Assurance. Washington, DC.
4. Complying actions are actions taken by a facility to address deficiencies, which are potential violations, identified during on-site inspections and evaluations. Examples of a complying action include correcting record keeping deficiencies, requesting a permit application, improving pollutant identification (labeling, manifesting, etc.), improving management practices (storage, training, etc.) or reducing pollution through use reduction, industrial process change, or emissions or discharge change.
5. U.S. EPA, Office of Pollution Prevention and Toxics. Green Chemistry Web Site, www.epa.gov/greenchemistry. Washington, DC. Access September 9, 2006.
6. U.S. EPA, Office of Pollution Prevention and Toxics. Design for the Environment Web Site: www.epa.gov/dfe. Washington, DC. Access September 9, 2006.
7. U.S. EPA, Office of Enforcement and Compliance Assurance. National Environmental Policy Act Web Site: www.epa.gov/compliance/basics/nepa.html#requirement. Washington, DC. Access September 9, 2006.
8. Use of the terms “Indian country,” “Indian lands,” “tribal lands,” “tribal waters,” and “tribal areas” within this *Strategic Plan* is not intended to provide any legal guidance on the scope of any program being described, nor is their use intended to expand or restrict the scope of any such programs.
9. A tribe is counted as having an environmental program for the purposes of this measure if the tribal government has taken at least one of the following actions, in combination with having “an organizational structure which includes EPA-funded environmental office or coordinator that has been staffed in the most recent year”:
 - (a) Complete a Tier III TEA, as evidenced by a document signed by the tribal government and EPA.
 - (b) Establish environmental laws, codes, regulations, ordinances, resolutions, policies, or environmental compliance programs, as evidenced by a document signed by the tribal government.
 - (c) Complete solid and/or hazardous waste implementation activities.
 - (d) Complete an inter-governmental environmental agreement (e.g., state-tribe MOA, federal-tribe MOA, etc).
10. Intertribal consortia are groups of federally-recognized tribes that meet the criteria for EPA purposes that join to work together.
11. Use of the terms “Indian country,” “Indian lands,” “tribal lands,” “tribal waters,” and “tribal areas” within this *Strategic Plan* is not intended to provide any legal guidance on the scope of any program being described, nor is their use intended to expand or restrict the scope of any such programs.