U.S. ENVIRONMENTAL PROTECTION AGENCY

FY 2011–2015 EPA Strategic Plan

Achieving Our Vision

EPA's Mission:

To Protect Human Health and the Environment

Strategic Goals

Goal 1: Taking Action on Climate Change and Improving Air Quality

Goal 2: Protecting America's Waters

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution

Goal 5: Enforcing Environmental Laws

Cross-Cutting Fundamental Strategies

Expanding the Conversation on Environmentalism

Working for Environmental Justice and Children's Health

Advancing Science, Research, and Technological Innovation

Strengthening State, Tribal, and International Partnerships

Strengthening EPA's Workforce and Capabilities

Core Values:

Science, Transparency, Rule of Law

Fiscal Year 2011–2015 EPA Strategic Plan

Achieving Our Vision

U.S. Environmental Protection Agency
September 30, 2010

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Message from the Administrator

Since beginning my tenure as Administrator of the U.S. Environmental Protection Agency, I have been challenged by the difficult issues we face and inspired by the talent and dedication of our extraordinary work force. There is no doubt the EPA is on the job. We have made exceptional progress in protecting the environment of America's communities and restoring the trust of the American people. And we have made a number of historic environmental advances along the way. The year 2010 marks the EPA's 40th anniversary. It is a moment of celebration but also a time when we face some of the most complex and far-reaching environmental challenges in the history of the EPA, our nation and our planet. It is critical that we work harder and look further ahead.

The EPA's *FY 2011–2015 Strategic Plan* provides a blueprint for accomplishing our priorities for the next five years. This plan presents five strategic goals for advancing our environmental and human-health mission outcomes, accompanied by five cross-cutting fundamental strategies that seek to focus the EPA's work to meet the growing environmental protection needs of the day. To follow the Administration's focus on strengthening programs and achieving results, the EPA is implementing near-term Priority Goals that serve as key indicators of progress toward our five strategic goals. We will continue to affirm the core values of science, transparency and the rule of law in addressing these priorities. These are the most urgent issues we must confront through 2015.

As we prepared this strategic plan, we also were responding to one of the nation's worst environmental disasters, the Deepwater Horizon BP oil spill, which seriously affected the ecological and economic health of the Gulf Coast's communities. A sustained, effective recovery and restoration effort will require significant commitments of resources, scientific and technical expertise and coordination with a range of partners in the months and years ahead. This strategic plan offers a solid foundation for the EPA's long-term response to the impacts of the BP oil spill. As President Obama has said, our government will do "everything in our power to protect our natural resources, compensate those who have been harmed, rebuild what has been damaged, and help this region persevere like it has done so many times before." The EPA will work tirelessly to address the environmental and human-health effects and set the Gulf Coast on the path to recovery.

The EPA's Strategic Goals

Taking Action on Climate Change and Improving Air Quality: America's communities face serious health and environmental challenges from air pollution and the growing effects of climate change. During my first year as Administrator, the EPA finalized an endangerment finding on greenhouse gases, proposed the first national rules to reduce greenhouse-gas emissions under the Clean Air Act and initiated a national reporting system for greenhouse-gas emissions. All of these advances signaled historic progress in the fight against climate change. Climate change must be considered and integrated into all aspects of our work. While the EPA stands ready to help Congress craft strong, science-based climate legislation that addresses the spectrum of issues, we will assess and develop regulatory tools as warranted under law using the authority of the Clean Air Act.

We have strengthened the ambient air-quality standards for nitrogen dioxide and sulfur dioxide and proposed stronger standards for ozone, which will help millions of Americans breathe easier and lead healthier lives. We also are developing a comprehensive strategy for a cleaner and more efficient power sector, with strong and achievable emission-reduction goals for sulfur dioxide, nitrogen oxide, mercury and other air toxics. Strengthening the ambient air-quality standards consistent with the latest scientific information and gaining additional reductions in air toxics from a range of industrial facilities will significantly improve air quality and reduce risks to communities across the country. Improved monitoring, timely and thorough permitting and vigorous enforcement are our key tools for air-quality improvement.

Protecting America's Waters: Despite considerable progress, America's waters remain imperiled. From nutrient loadings and stormwater runoff to invasive species and drinking-water contaminants, water quality and enforcement programs face complex challenges that demand both traditional and innovative strategies. We will work hand-in-hand with states and tribes to develop nutrient limits and intensify our work to restore and protect the quality of the nation's streams, rivers, lakes, bays, oceans and aquifers. The EPA also will use its authority to protect and restore threatened natural treasures such as the Great Lakes, the Chesapeake Bay and the Gulf of Mexico; to address our neglected urban rivers; to ensure safe drinking water; and to reduce pollution from nonpoint and industrial dischargers. We will initiate measures to address post-construction runoff, water-quality impairments from surface mining and drinking-water contamination.

Cleaning Up Communities and Advancing Sustainable Development: Using all the tools at our disposal, including targeted enforcement and compliance efforts, the EPA will continue to make our communities safer and healthier. We are accelerating these efforts through our Superfund program to confront significant local environmental challenges. The collapse of a coal-ash impoundment in Kingston, Tenn., focused the EPA's attention on how these disposal facilities are managed nationwide. In response, the EPA proposed options for the nation's first rules to address the risks from the disposal of coal ash generated by coal-fired power plants. By maximizing the potential of our brownfields program to spur environmental cleanups and by fostering stronger partnerships with stakeholders affected by our cleanups, we are moving toward our goal of building sustainable, healthy, economically vibrant communities. And by strengthening our work with tribal communities, we are advancing our efforts to build environmental-management capacity and program implementation in Indian country.

Ensuring the Safety of Chemicals and Preventing Pollution: One of our highest priorities is ensuring the safety of the chemicals that make up the building blocks of modern society. Increasingly, the chemicals used to make our products, build our homes and support our way of life end up in the environment and in our bodies. Last year, the Administration announced principles for modernizing the more than 30-year-old Toxic Substances Control Act, under which we assess and regulate chemicals. To move forward and to make long-overdue progress, we are shifting our focus to filling in critical missing information on the chemicals most widely produced and used in commerce and addressing chemicals that pose unreasonable risk to the environment or human health. Pending legislative action by Congress, the EPA is strengthening its chemical safety program by coordinating with appropriate federal agencies to maximize use of current TSCA authorities, supported by the best available science, to aggressively assess and manage the risks of chemicals used in consumer products, the workplace and the environment. Additionally, under the Federal Insecticide, Fungicide, and Rodenticide Act, the EPA and the states register or license pesticides for use in the U.S. The EPA also is taking steps to increase transparency and public access to TSCA-related chemical information, committing to review and, where appropriate, to challenge and declassify Confidential Business Information claims for hundreds of annual new submissions and more than 20,000 previous submissions through FY 2015. By encouraging pollution prevention, we will promote the use of safer chemical alternatives, implement conservation techniques, promote efficient reuse of materials and better align the chemical-production processes with the principles of green chemistry.

Enforcing Environmental Laws: Effective, consistent enforcement is critical to achieving the human-health and environmental benefits expected from our environmental laws. The EPA, through the rule of law, will

ensure compliance with environmental requirements and, as warranted, will employ vigorous and targeted civil and criminal enforcement. We will achieve significant environmental results by focusing our efforts on the most serious water, air and chemical hazards and by working closely with states and tribes. We will protect the public by criminally prosecuting willful, intentional and serious violations of federal environmental laws.

The EPA's Cross-Cutting Fundamental Strategies

As a companion to our strategic goals, which chart the Agency's direction for achieving mission results during the next five years, the EPA's five cross-cutting fundamental strategies set explicit expectations for changing the way we approach our work. These five strategies will inform the work of every program and regional office and help us meet the challenges we face today.

Expanding the Conversation on Environmentalism: Every American has a stake in clean air and water, chemical safety, restoring contaminated industrial and mining sites and strong enforcement of environmental statutes. Every community must be part of the conversation. We will take broad steps to expand the conversation on environmentalism to communities across America, building capacity, increasing transparency and listening to the public. We will engage citizens to hear all the voices that must be part of our nation's dialogue on environmental issues.

Working for Environmental Justice and Children's Health: We will work alongside entities that bear important responsibilities for the day-to-day mission of environmental protection and strengthen oversight to ensure programs are consistently delivered nationwide. We will use a variety of approaches, including regulations, enforcement, research, community-based programs and outreach to protect children and low-income, minority and tribal populations disproportionately impacted by environmental and human-health hazards.

Advancing Science, Research and Technological Innovation: The EPA will advance the scientific research and technological innovation that is essential to enhancing our ability to protect human health and the environment.

Strengthening State, Tribal and International Partnerships: We will strengthen partnerships with states, tribes and the international community. Hand-in-hand with these partnership efforts and inclusive environmentalism, we will address pollution problems and protect human health.

Strengthening the EPA's Work Force and Capabilities: We will adopt improved, innovative and creative management approaches and exemplify stewardship, transparency and accountability in addressing increasingly complex environmental and human-health challenges. We will foster a culture of excellence and provide the infrastructure, technology, training and tools to support a talented, diverse, and highly motivated work force that supports the Administration's human capital and acquisition priorities.

Forty years after the birth of the EPA, we have a rare opportunity to spark a new era of environmental and human-health protection. The American people and countries around the world look to us for leadership. It is up to us to embrace this moment, so our children and grandchildren can have a cleaner, healthier future. We will face new challenges, new opportunities and new possibilities for achieving our vision of a cleaner, greener and more sustainable environment. I have tremendous confidence in the talent and spirit of our work force, and I know we will meet our challenges head-on, as One EPA. Fueled by our energy, our ideas, and our passion, this strategic plan will help guide our path to success.

Lisa P. Jackson

Introduction

Recent events in the Gulf Coast region and elsewhere have brought to the forefront how much we value our environment. Our homes, our livelihoods, our health and that of our children depend on clean water to drink, clean air to breathe, and healthy ecosystems that produce our food and the raw materials that support modern life. The U.S. Environmental Protection Agency (EPA) and its mission to protect human health and the environment have never been more vital than they are today.

The *Fiscal Year (FY) 2011–2015 EPA Strategic Plan* responds to this increasing degree of environmental awareness and the challenges that lie ahead.[1] We have created a streamlined, executive-level *Plan* that sets the Agency's direction, advances the Administrator's priorities, and will be used routinely by the Agency's senior leadership as a management tool. We have sharpened our strategic goals and objectives and offer a more focused set of strategic measures to better inform our understanding of progress and challenges alike in managing our programs. We intend to pursue these goals and objectives as One EPA, through meaningful collaboration across the Agency. Our new cross-cutting fundamental strategies are directed at refocusing and tangibly changing the way we carry out our work. We anticipate that this new approach will foster a renewed commitment to accountability, transparency, and inclusion.

Our five strategic goals represent a simplified and meaningful approach to our work and reflect the results we hope to achieve on behalf of the American people:

- Goal 1: Taking Action on Climate Change and Improving Air Quality
- Goal 2: Protecting America's Waters
- Goal 3: Cleaning Up Communities and Advancing Sustainable Development
- Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution
- Goal 5: Enforcing Environmental Laws

To achieve the long-term goals and associated objectives and strategic measures set out in this *Plan*, we will track progress through annual performance measures, which are presented in EPA's *Annual Performance Plans and Budgets*. We will report on our performance against these annual measures in our *Annual Performance Reports*, and use this performance information as we establish priorities, develop future budget submissions, and manage programs. Additionally, EPA reports on High Priority Performance Goals (Priority Goals), a new component of this Administration's performance management framework. Priority Goals are specific, measurable, ambitious, near-term targets that align with our long-term strategic measures and annual measures. The Priority Goals communicate the performance improvements we will accomplish relative to our priorities using existing legislative authority and resources. The Priority Goals constitute 18- to 24-month operational targets the Agency will work to accomplish, distinguishing the Priority Goals from the longer-term measures. This process will come full circle as we evaluate these performance data to develop future *Strategic Plans*.

Our measures for the *FY 2011–2015 EPA Strategic Plan* draw upon some of the indicators contained in

EPA's 2008 Report on the Environment (ROE).[2] The indicators help us to monitor trends in environmental conditions and environmental influences on human health. Our efforts to develop the report and regularly update the indicators have advanced our performance measurement work by bringing together existing and new analytical information on the environment and human health.

During the five-year horizon of this *Plan*, we know that we will face unanticipated challenges and opportunities that will affect our ability to achieve our objectives and the specific measurable results that we have described. In particular, we recognize that numerous entities vital to our success—federal[3], state, tribal, and local governments, and cooperating partners and stakeholders—are operating under resource constraints that could impede our joint progress. This *Plan* provides the framework to address these challenges and make necessary adjustments.

This *FY 2011–2015 EPA Strategic Plan* sets forth our vision and commitment to preserve the environment for future generations and to protect human health in the places where people live, work, learn, and play. It is our hope that you will join us as we undertake the important work that lies ahead.

Consultation Efforts

The Government Performance and Results Act of 1993 directs all federal departments and agencies to consult with parties interested in or likely to be affected by a strategic plan. Consultation with EPA's federal, state, local, and tribal government partners and our many stakeholders is an integral part of the Agency's strategic planning process. To that end, EPA:

Engaged with key partners and co-regulators throughout the effort to develop the *Draft Plan*.

Significantly expanded our outreach efforts for public review of the *Draft FY 2011–2015 EPA Strategic Plan* to enhance transparency and inclusion. We issued, for the first time, a news release in both English and Spanish and a *Federal Register Notice* and used www.regulations.gov to encourage feedback on the *Draft Plan*.

Sent notification letters to over 800 organizations and individuals to request input. These entities included leaders of the Agency's Congressional authorizing and appropriations committees; states and state associations; all federally-recognized tribes; tribal organizations; local government representatives; other federal agencies; public health organizations; environmental, public interest, and public policy groups; and representatives of the regulated community.

Established an on-line discussion forum to engage with the public on implementing the cross-cutting fundamental strategies to tangibly change the way we work. Comments received through the discussion forum can be viewed at https://blog.epa.gov/strategicplan.

Our efforts to significantly expand our outreach for public review of the *Draft Plan* resulted in over 500 public comments, compared to approximately 50 public comments for prior *Draft Strategic Plans*.

End Notes:

1 The *Fiscal Year 2011–2015 EPA Strategic Plan* covers the timeframe from October 1, 2010 through September 30, 2015 unless otherwise noted.

2 EPA electronic *Report on the Environment* is available at http://www.epa.gov/roe.

3 Federal entities with whom we expect continued cooperation or coordination for EPA's five strategic goals include: Agriculture, Army Corps of Engineers, Commerce, Consumer Product Safety Commission, Defense, Education, Energy, Federal Emergency Management Agency, General Services Administration, Health and Human Services, Homeland Security, Housing and Urban Development, Interior, Justice, Labor, National Aeronautics and Space Administration, National Science Foundation, Nuclear Regulatory Commission, Small Business Administration, State, Transportation, Treasury, Tennessee Valley Authority, U.S. Agency for International Development, and U.S. Trade Representative.

Goal 1: Taking Action on Climate Change and Improving Air Quality

Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality.

Climate change poses risks to human health, the environment, cultural resources, the economy, and quality of life.[1] These changes are expected to create further challenges to protecting human health and welfare. Many effects of climate change are already evident and will persist into the future regardless of future levels of greenhouse gas (GHG) emissions. Potential climate change impacts may include, for example, increased smog levels in many regions of the country, making it more difficult to attain or maintain clean air. A rise in sea level or increased precipitation intensity may increase flooding, which would affect water quality, as large volumes of water can transport contaminants and overload storm and wastewater systems. In order to protect human health and the environment, EPA must recognize and consider the challenge a changing climate poses to the environment.

Since passage of the Clean Air Act Amendments in 1990, nationwide air quality has improved significantly.[2] Despite this progress, about 127 million Americans lived in counties that did not meet air quality standards for at least one pollutant in 2008. Long-term exposure to air pollution can cause cancer and damage to the immune, neurological, reproductive, cardiovascular, and respiratory systems.[3] Because people spend much of their lives indoors, the quality of indoor air is also a major concern. Twenty percent of the population spends the day indoors in elementary and secondary schools, where problems with leaky roofs and with heating, ventilation, and air conditioning systems can trigger a host of health problems, including asthma and allergies. Exposure to indoor radon is responsible for an estimated 20,000 premature lung cancer deaths each year.[4]

Objectives:

- **Address Climate Change.** Reduce the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help communities and ecosystems become more resilient to the effects of climate change.
- **Improve Air Quality.** Achieve and maintain health-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.
- **Restore the Ozone Layer.** Restore the earth's stratospheric ozone layer and protect the public from the harmful effects of ultraviolet (UV) radiation.
- **Reduce Unnecessary Exposure to Radiation.** Minimize unnecessary releases of radiation and be prepared to minimize impacts should unwanted releases occur.

Strategic Measures associated with this Goal are on pages 43 through 45.

Reduce GHG Emissions and Develop Adaptation Strategies to Address Climate Change

EPA's strategies to address climate change support the President's GHG emissions reduction goals. EPA and its partners will reduce GHG emissions domestically and internationally through cost-effective, voluntary programs while pursuing additional regulatory actions as needed. Our efforts include:

- Developing and implementing a national system for reporting GHG emissions. (Implementing the mandatory GHG reporting rule is one of the Agency's Priority Goals.)[5]
- Issuing new standards to reduce emissions from cars and light-duty trucks for model years 2012 through 2016, extending that program to model year 2017 and beyond, and creating a similar program to reduce GHGs from medium- and heavy-duty trucks for model years 2014–2018. (Implementing the light-duty GHG rule is one of the Agency's Priority Goals.)[6]
- Developing standards to reduce GHG emissions from nonroad sources such as marine and aircraft and land-based nonroad equipment and locomotives.
- Implementing permitting requirements for facilities that emit large amounts of GHGs to encourage design and construction of more efficient and advanced processes that will contribute to a clean energy economy.
- Implementing refocused voluntary programs that maximize GHG reductions through the greater use of energy-efficient technologies, products, and practices, and promoting energy and transportation policies that benefit the environment and human health.
- Collaborating with state, local, and tribal governments on regulatory and policy initiatives, technical assistance, and voluntary programs related to climate change mitigation and adaption.
- Collaborating with countries and other international partners to reduce methane emissions and deliver clean energy to markets around the world through the Global Methane Initiative.
- Developing a comprehensive report to Congress on black carbon that will provide a foundation for evaluating future approaches to black carbon mitigation.
- Pursuing a sustainable, life-cycle approach to managing materials.
- Identifying and assessing substitute chemical and ozone-depleting substances and processes for their global-warming potential.
- Educating the public about climate change and actions people can take to reduce GHG emissions.

Adaptation initiatives aim to increase the resilience of communities and ecosystems to climate change by increasing their ability to anticipate, prepare for, respond to, and recover from the impacts of climate change. Many of the outcomes EPA is working to attain are sensitive to weather and climate. Consequently, every action EPA takes, including promulgating regulations and implementing programs, should take these fluctuations into consideration. For example, EPA models the ways in which weather affects air quality when it develops air quality standards, and cannot assume that climate is constant, an assumption typically made in the rulemaking process.

EPA must adapt and plan for future changes in climate, work with state, tribal, and local partners, and continue to collaborate with the U.S. Global Change Research Program and the Interagency Task Force on Climate Change Adaptation.[7] The Agency must incorporate the anticipated, unprecedented changes in climate into its programs and rules, drawing on the critical information and tools provided by EPA researchers, to continue to fulfill statutory, regulatory, and programmatic requirements.

Improve Air Quality

Taking into account the most current health effects research findings[8], EPA recently completed new, more health-protective standards for lead, sulfur dioxide, and nitrogen dioxide. We are in the process of reviewing the ozone, particulate matter, and carbon monoxide standards. Over the next five years, we will

work with states and tribes to develop and implement plans to achieve and maintain these standards. Our research provides the tools and information necessary for EPA, states, and tribes to implement air quality standards and controls.

In 2011, we expect to complete and begin implementing a rule to replace the Clean Air Interstate Rule that was remanded to us by the courts in 2008. Strengthening the standards and decreasing the emissions that contribute to interstate transport of air pollution will help many areas of the country attain the standards and achieve significant improvements in human health. As we implement the standards, we will do so in a way that protects disproportionately-impacted low-income and minority communities. We are also working with partners and stakeholders to improve the overall air quality management system and to address air quality challenges expected over the next 10 to 20 years. These efforts include improving the state implementation plan approval process, implementing a national training strategy, and developing effective air quality strategies that address multiple pollutants and consider the interplay between air quality and factors such as land use, energy, transportation, and climate.

We will address emissions from vehicles, engines, and fuels through an integrated strategy that combines regulatory approaches that take advantage of technological advances and cleaner fuels with voluntary programs that reduce vehicle, engine, and equipment activity and emissions. We are working with refiners, renewable fuel producers, and others to implement regulations to increase the amount of renewable fuel blended into gasoline. Through the National Clean Diesel Campaign, we support diesel emission reductions that can be achieved through such actions as switching to cleaner fuels; engine retrofit, repair, and replacement; and idle reduction.

Air toxics are both widespread and community-specific. They are emitted by large industry, small businesses, motor vehicles, and many other common activities. While certain chemicals are ubiquitous throughout the country, in some areas of concentrated industrial and/or mobile source activity, concentrations may be significantly greater. EPA will continue to set and enforce control technology-based air toxics emissions standards and, where needed, amend those standards to address residual risk and technology advancements.

EPA is developing a strategy aimed at reducing toxic air pollution from stationary sources in a way that targets priority categories of sources, reduces pollution in communities, utilizes a more cost-effective 'sector-based' approach, and provides tools to help communities and other stakeholders participate in rulemaking. These priority categories include petroleum refining, iron and steel, chemical manufacturing, utilities, non-utility boilers, oil and gas, and Portland cement. As part of this strategy, EPA will take advantage of the natural overlap of certain air toxics and criteria pollutant rules and coordinate the development and implementation of Maximum Achievable Control Technology (MACT) and New Source Performance Standards (NSPS) where it makes sense. Often, there are opportunities to control air toxic and criteria pollutants together. By coordinating MACT standard

development for specific source categories with other rulemaking efforts, EPA can substantially reduce the resources needed to develop standards; provide more certainty and lower cost for industry; simplify implementation for states, local, and tribal agencies; and, enhance cost-effective regulatory approaches.

Along with these regulatory efforts, EPA has a wide range of voluntary efforts to reduce emissions, including programs to reduce multi-media and cumulative risks. Through data from our national toxics monitoring network and from national and local assessments, we are able to better characterize risks and assess priorities. We work with state and local agencies, tribes, schools, and community groups to identify communities where air toxics pollution is occurring at unsafe levels and aggressively take action to reduce air toxics pollution within those areas.

Often the people most exposed to air pollutants are those most susceptible to the effects—the young, the elderly, and the chronically ill. To improve indoor air quality, EPA deploys programs that educate the public about indoor air quality concerns, including radon, and promotes public action to reduce potential risks in homes, schools, and workplaces. EPA also collaborates with state and tribal organizations, environmental and public health officials, housing and building organizations, school personnel who manage school environments, and health care providers, who treat children prone to or suffering disproportionately from asthma. The focus of these efforts is to support communities' efforts to address indoor air quality health risks. We also provide policy and technical support and financially assist states and tribes in developing and implementing effective radon programs.

Restore the Ozone Layer

EPA will implement programs that reduce and control ozone-depleting substances (ODS), enforce rules on their production, import, and emission, and facilitate the transition to substitutes that reduce GHG emissions and save energy. We will continue partnership programs that minimize the release of ODS and programs that educate the public about the importance of protection from ultra-violet radiation.

Reduce Unnecessary Exposure to Radiation

Recognizing the potential hazards of radiation, Congress charged EPA with the primary responsibility for protecting people and the environment from harmful and avoidable exposures. In fulfilling this responsibility, we will review and update our radiation protection regulations and guidance, operate the national radiation monitoring system, maintain radiological emergency response capabilities, oversee the disposal of radioactive waste at the Waste Isolation Pilot Plant, inspect waste generator facilities, and evaluate compliance with applicable environmental laws and regulations.

Applied Research

EPA's research efforts will focus on a number of air quality and climate areas over the next several years. In particular, EPA will:

- Conduct integrated science assessments of criteria air pollutants and provide new data and approaches for improving these assessments;
- Improve inventory and risk information to better inform Agency actions relative to air toxics;
- Promote resilience and adaptation by connecting air quality, water quality, and land use managers with climate change information and decision-support tools;
- Promote systems research and life-cycle analysis in analyzing the health and environmental impacts of energy production and operation, including biofuels; and,
- Investigate the influence of climate change on clean air, as well as the impacts of emissions from low-carbon fuels in transportation.

End Notes:

1 Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson (eds.). 2009. Global Climate Change Impacts in the United States (New York, New York: Cambridge University Press). Available at http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf.

2 U.S. EPA, 2010. *Our Nation's Air-Status and Trends through 2008.* EPA-454/R-09-002. Available at http://epa.gov/airtrends/2010/index.html.

3 U.S. EPA, 2007. *The Plain English Guide to the Clean Air Act.* EPA-456/K-07-001. Available at http://www.epa.gov/air/peg/peg.pdf.

4 U.S. EPA, 2003. *EPA's Assessment of Risks from Radon in Homes.* EPA 402-R-03-003. Available at http://www.epa.gov/radon/pdfs/402-r-03-003.pdf

5 Implementing the mandatory GHG reporting rule is one of the Agency's Priority Goals: By June 15, 2011, EPA will make publicly available 100 percent of facility-level GHG emissions data submitted to EPA in accordance with the GHG Reporting Rule, compliant with policies protecting confidential business information (CBI).

6 Implementing the light-duty GHG rule is one of the Agency's Priority Goals: In 2011, EPA, working with DOT, will begin implementation of regulations designed to reduce the GHG emissions from light-duty vehicles sold in the U.S. starting with model year 2012.

7 The U.S. Global Change Research Program coordinates and integrates federal research on changes in the global environment and their implications for society. It was mandated by Congress in the Global Change Research Act of 1990 (P.L. 101-606). In 2009, the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration initiated the Interagency Climate Change Adaptation Task Force. When the President signed the Executive Order on Federal Leadership in Environmental, Energy, and Economic Performance in October 2009, he called on the Task Force to develop federal recommendations for adapting to climate change impacts both domestically and internationally.

8 U.S. EPA, 2006. *Air Quality Criteria for Lead (2006) Final Report.* EPA/600/R-05/144aF-bF. Available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=158823.

U.S. EPA, 2008. *Integrated Science Assessment (ISA) for Sulfur Oxides–Health Criteria (Final Report).* EPA/600/R-08/047F. Available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=198843.

U.S. EPA, 2008. *Integrated Science Assessment for Oxides of Nitrogen–Health Criteria (Final Report).* EPA/600/R-08/071. Available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=194645.

Goal 2: Protecting America's Waters

Protect and restore our waters to ensure that drinking water is safe, and that aquatic ecosystems sustain fish, plants and wildlife, and economic, recreational, and subsistence activities.

The nation's water resources are the lifeblood of our communities, supporting our economy and way of life. Across most of our country, we enjoy and depend upon reliable sources of clean and safe water. Several decades ago, however, many of our drinking water systems provided water to the tap with very limited treatment. Drinking water was often the cause of illnesses linked to microbiological and other contaminants. Many of our surface waters would not have met today's water quality standards. Some of the nation's rivers were open sewers, posing health risks, and many waterbodies were so polluted that safe swimming, fishing, and recreation were not possible.

We have made significant progress since enactment of the landmark Clean Water Act and Safe Drinking Water Act almost 40 years ago. Today, the enhanced quality of our surface waters and the greater safety of our drinking water are testaments to decades of environmental protection and investment, but serious challenges remain. Small drinking water systems are particularly challenged by the need to improve infrastructure and develop the capacity to meet new and existing standards. Tens of thousands of homes, primarily in tribal and disadvantaged communities and the territories, still lack access to basic sanitation and drinking water. The rate at which new waters are listed for water quality impairments exceeds the pace at which restored waters are removed from the list.

Objectives:

- **Protect Human Health.** Reduce human exposure to contaminants in drinking water, fish and shellfish, and recreational waters, including protecting source waters.
- **Protect and Restore Watersheds and Aquatic Ecosystems.** Protect the quality of rivers, lakes, streams, and wetlands on a watershed basis, and protect urban, coastal, and ocean waters.

Strategic Measures associated with this Goal are on pages 46 through 48.

Pollution discharged from industrial, municipal, agricultural, and stormwater sources continue to be causes of water quality problems, but other significant contributors include loss of habitat and habitat fragmentation, hydrologic alteration, the spread of invasive species, and climate change. For many years, nonpoint source pollution—principally nitrogen, phosphorus, and sediments—has been recognized as the largest remaining impediment to improving water quality. Recent national surveys have found that our waters are stressed by nutrient pollution, excess sedimentation, and degradation of shoreline vegetation, which affect upwards of 50 percent of our lakes and streams.[1] Climate change will compound these

problems, highlighting the urgency to evaluate with our partners options for protecting infrastructure, conserving water, reducing energy use, adopting "green" infrastructure and watershed-based practices, and improving the resilience of infrastructural and natural systems, including utilities, watersheds, and estuaries.[2]

Over the next five years, EPA will work with states, territories, and tribes to safeguard human health, make America's water systems sustainable and secure, strengthen the protection of our aquatic ecosystems, improve watershed-based approaches, focus efforts in key geographic areas[3], and take action on climate change. EPA has established two Priority Goals for the revision of drinking water standards to strengthen public health protection[4] and the development of state watershed implementation plans in support of the Chesapeake Bay total maximum daily load called for in the Chesapeake Bay Protection and Restoration Executive Order.[5] Working with our partners, the Agency's effort to protect our waters is aimed at two objectives—protecting human health and protecting and restoring watersheds and aquatic ecosystems.

Protect Human Health

Sustaining the quality and supply of our water resources is essential to safeguarding human health. More than 290 million people living in the United States rely on the safety of tap water provided by public water systems that are subject to national drinking water standards. Over the next five years, EPA will help protect human health and make America's water systems sustainable and secure by:

- Financing public water system infrastructure to protect and maintain drinking water quality;
- Strengthening compliance with drinking water standards;
- Continuing to protect sources of drinking water from contamination;
- Developing new and revising existing drinking water standards; and,
- Supporting states, tribes, territories, and local water systems in implementing these standards.

While promoting sustainable management of drinking water infrastructure, we will provide needed oversight and technical assistance to states, territories, and tribes so that their water systems comply with or exceed existing standards and are able to comply with new standards. We will also promote the construction of infrastructure that brings safe drinking water into the homes of small, rural, and disadvantaged communities and increase efforts to guard the nation's critical drinking water infrastructure.

In addition, EPA is actively working Agency-wide and with external partners and stakeholders to implement a new, multi-faceted drinking water strategy. It is designed to streamline decision making and expand protection to meet the needs of rural, urban, and other communities. This shift in approach seeks to address chemicals and contaminants by group, as opposed to working on a chemical-by-chemical basis; fostering the development of new drinking water treatment technologies; using the authority of multiple statutes; and, encouraging collaboration with states and tribes to share more complete data from monitoring at public water systems.

Science-based standards are essential to protect our public water systems, groundwater and surface waterbodies, and recreational waters. These standards are the foundation for tools to safeguard human health such as advisories for beaches, fish consumption, and drinking water. Over the next five years, we will expand that science to improve our understanding of emerging potential waterborne threats to human health. We will also increase efforts to protect and improve beach water quality for our communities, including the development of new criteria and testing methods that provide quicker results and enable faster action on beach safety.

Protect and Restore Watersheds and Aquatic Ecosystems

People and the ecological integrity of aquatic systems rely on healthy watersheds. EPA employs a suite of programs to protect and improve water quality in the nation's watersheds—rivers, lakes, wetlands, and streams—as well as in our estuarine, coastal, and ocean waters. In partnership with states, territories, local governments, and tribes, EPA's core water programs help:

- Protect, restore, maintain, and improve water quality by financing wastewater treatment infrastructure;
- Conduct monitoring and assessment;
- Establish pollution reduction targets;
- Update water quality standards;
- Issue and enforce discharge permits; and,
- Implement programs to prevent or reduce nonpoint source pollution.

Over the next five years, EPA will continue efforts to restore waterbodies that do not meet water quality standards, preserve and protect high quality aquatic resources, and protect, restore, and improve wetland acreage and quality. The Agency will improve the way existing tools are used, explore how innovative tools can be applied, and enhance efforts and cross-media collaboration to protect and prevent water quality impairment in healthy watersheds.

In partnership with states, tribes, and local communities, EPA is developing a clean water strategy that will outline objectives for advancing the vision of the Clean Water Act and actions EPA will take to achieve those objectives. The Agency will explore ways to improve the condition of the urban waterways that may have been overlooked or under-represented in local environmental problem solving. We will also work more aggressively to reduce and control pollutants that are discharged from industrial, municipal, agricultural, and stormwater sources, and vessels, as well as to implement programs to prevent and reduce pollution that washes off the land during rain events. By promoting "green" infrastructure and sustainable landscape management, EPA will help restore natural hydrologic systems and reduce pollution from stormwater events.[6]

EPA will also lead efforts to restore and protect aquatic ecosystems and wetlands, particularly in key geographic areas[3], to address complex and cross-boundary challenges. EPA is heading up a multi-agency effort to restore and protect the Great Lakes, one of America's great waters, through the Great Lakes Restoration Initiative.[7] In other parts of the nation, we will focus on nutrient pollution, which threatens the long-term health of important ecosystems such as the Chesapeake Bay. Further, given the environmental catastrophe resulting from the Deepwater Horizon BP oil spill, EPA will take necessary actions to support efforts to remove oil from and restore the Gulf of Mexico ecosystem. EPA will provide assistance to other federal, state, tribal, and local partners as they work to restore the water, wetlands, beaches, and surrounding communities of this vital area. We will also begin to identify actions to respond and adapt to the current and potential impacts of climate change on aquatic resources, including the current and potential impacts associated with warming temperatures, changes in rainfall amount and intensity, and sea level rise.[8]

Applied Research

EPA's research will help ensure that natural and engineered water systems have the capacity and resiliency to meet current and future water needs for the range of water-use and ecological requirements. These efforts will help position the Agency to meet the future needs in water resources management by:

- Evaluating individual and groups of contaminants for the protection of human health and the environment;
- Developing innovative tools, technologies, and strategies for managing water resources (including stormwater); and,
- Supporting a systems approach for protecting and restoring aquatic systems. The development of watershed-level data, tools, and approaches is crucial to our ability to provide adequate and safe water resources.

End Notes:

1 U.S. EPA, 2006. *Wadeable Streams Assessment: A Collaborative Survey of the Nation's Streams.* EPA 841-B-06-002. Available at http://www.epa.gov/owow/streamsurvey. See also EPA, 2010. *National Lakes Assessment: A Collaborative Survey of the Nation's Lakes.* EPA 841-R-09-001. Available at http://www.epa.gov/lakessurvey/pdf/nla_chapter0.pdf.

2 Resilience is the ability of a system to absorb change and disturbance and still retain its fundamental function and/or structure.

3 Key geographic areas in the national water program include the Chesapeake Bay, the Great Lakes, the Gulf of Mexico, the U.S.–Mexico Border region, the Pacific Islands, the Long Island Sound, the South Florida Ecosystem, the Puget Sound Basin, the Columbia River Basin, and the San Francisco Bay Delta Estuary. For more information on these programs and their performance measures, see the annual National Water Program Guidance, available at http://www.epa.gov/water/waterplan/index.html.

4 EPA has developed a Priority Goal as part of the drinking water strategy efforts: Over the next two years, EPA will initiate review/revision of at least four drinking water standards to strengthen public health protection.

5 EPA has developed a Priority Goal to support the Chesapeake Bay Executive Order: Chesapeake Bay watershed states (including the District of Columbia) will develop and submit Phase I watershed implementation plans by the end of CY 2010 and Phase II plans by the end of CY 2011 in support of EPA's final Chesapeake Bay total maximum daily load (TMDL) and consistent with the expectations and schedule described in EPA's letters of November 4 and December 29, 2009, and June 11, 2010. For more information, see http://executiveorder.chesapeakebay.net.

6 For information on managing wet weather with green infrastructure, see http://cfpub.epa.gov/npdes/home.cfm?program_id=298.

7 Great Lakes Restoration Initiative, information available at http://greatlakesrestoration.us/.

8 United States Global Change Research Program, information available at http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts.

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

Clean up communities, advance sustainable development, and protect disproportionately impacted low-income, minority, and tribal communities. Prevent releases of harmful substances and clean up and restore contaminated areas.

Uncontrolled releases of waste and hazardous substances can contaminate our drinking water and threaten healthy ecosystems. EPA leads efforts to preserve, restore, and protect these precious resources so they are available for both current and future generations. Over the next several years, our highest priorities under this goal are to prevent and reduce exposure to contaminants and accelerate the pace of cleanups across the country. EPA works collaboratively with international, state, and tribal partners to achieve these aims and with communities to ensure that they have a say in environmental decisions that affect them. Our efforts are guided by scientific data, research, and tools that alert us to emerging issues and inform decisions on managing materials and addressing contaminated properties.

Promote Sustainable and Livable Communities

EPA supports urban, suburban, and rural community goals of improving environmental, human health, and quality-of-life outcomes through partnerships that also promote economic opportunities, energy efficiency, and revitalized neighborhoods. Sustainable communities balance their economic and natural assets so that the diverse needs of local residents can be met now and in the future with limited environmental

Objectives:

- **Promote Sustainable and Livable Communities.** Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, brownfield redevelopment, and the equitable distribution of environmental benefits.
- **Preserve Land.** Conserve resources and prevent land contamination by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products.
- **Restore Land.** Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites.
- **Strengthen Human Health and Environmental Protection in Indian Country.** Support federally-recognized tribes to build environmental management capacity, assess environmental conditions and measure results, and implement environmental programs in Indian country.

Strategic Measures associated with this Goal are on pages 49 through 51.

impacts. EPA accomplishes these outcomes by working with communities, other federal agencies, states, and national experts to develop and encourage development strategies that have better outcomes for air quality, water quality, and land preservation and revitalization.

Development and building construction practices may result in a broad range of impacts on human health and the environment. EPA is working with other federal, state, and local partners to develop best practices and guidance on aspects of sustainability related to how and where development occurs, including promoting smarter growth patterns and encouraging widespread adoption of green building technologies to support our strategic goals.

For example, EPA has joined with the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Transportation (DOT) to minimize the environmental impacts of development, which may include improved access to affordable housing, more transportation options, and lower transportation costs.[1] Through a set of guiding "livability" principles and a partnership agreement that will guide the agencies' efforts, this partnership is coordinating federal housing, transportation, water, and other infrastructure investments to protect the environment, promote equitable development, and help to address the challenges of climate change.

EPA is committed to ensuring environmental justice regardless of race, color, national origin, or income. Recognizing that minority and/or low-income communities may face disproportionate environmental risks, we work to protect these communities from adverse health and environmental effects and to ensure they are given the opportunity to participate meaningfully in environmental cleanup decisions.

EPA's brownfields program emphasizes environmental and human health protection in a manner that stimulates economic development and job creation by awarding competitive grants to assess and clean up brownfield properties and providing job training opportunities, particularly in underserved communities.[2] We also provide outreach and technical assistance to communities, including area-wide planning approaches, to identify: viable end uses of a single, large property or groups of brownfield properties; associated air and water infrastructure investments; and, environmental improvements in the surrounding area to revitalize the community. Under EPA's brownfields Priority Goal, area-wide planning will be conducted with the participation of other federal agencies, states, tribes, and local governments and communities to identify resources and approvals necessary to carry out actions identified in area-wide plans.[3] This new approach differs from the way EPA brownfields resources have traditionally been used, recognizing that approaching the assessment and cleanup needs of a brownfields-impacted area can be more effective than focusing on individual sites in isolation of the adjacent or surrounding area.

Preserve Land

EPA and authorized states issue and enforce permits for the treatment, storage, or disposal of hazardous wastes to ensure that facilities subject to Resource Conservation and Recovery Act (RCRA) regulations operate safely. To prevent future environmental contamination and to protect the health of the estimated three million people living within a mile of hazardous waste management facilities[4], EPA and its state partners continue their efforts to issue, update, or maintain RCRA permits for approximately 10,000 hazardous waste units (such as incinerators and landfills) at these facilities.

EPA is increasing emphasis on life-cycle based materials management. In order to respond to RCRA's mandate to conserve resources and energy, EPA will focus on strategies that emphasize sustainable materials management by identifying and reducing or minimizing waste at all life-cycle stages, from extraction of raw materials through end of life.[5] Through this approach, EPA will focus on improving resource use through evaluating the environmental impacts of life-cycle stages of a material, product, or service, including identifying GHG benefits. EPA will develop national strategies that consider using less environmentally intensive and toxic materials and continue to promote downstream solutions, like reuse and recycling, to conserve our resources for future generations.

To reduce the risk posed by underground storage tanks (USTs) located at nearly a quarter of a million facilities throughout the country, EPA and states are working to ensure that every UST system is inspected

at least once every three years. As fuel types change, UST systems must be equipped to safely store the new fuels. EPA is working to ensure biofuels are stored in compatible UST systems.

Restore Land

Challenging and complex environmental problems, such as contaminated soil, sediment, and groundwater that can cause human health concerns, persist at many contaminated properties. EPA's Superfund, RCRA corrective action, leaking underground storage tank, and brownfields cleanup programs, and Toxic Substances Control Act (TSCA) cleanups of polychlorinated biphenyls (PCBs), reduce risks to human health and the environment by assessing and cleaning up these sites to maintain or put them back into productive use.

In an effort to improve the accountability, transparency, and effectiveness of EPA's cleanup programs, EPA has initiated the Integrated Cleanup Initiative (ICI), a multi-year effort to better use the most appropriate assessment and cleanup authorities to address a greater number of sites, accelerate cleanups, and put sites back into productive use while protecting human health and the environment. By using the relevant tools available in each of the cleanup programs, including enforcement, EPA will better leverage the resources available to address needs at individual sites. EPA will examine all aspects of the cleanup programs, identifying key process improvements and enhanced efficiencies. As part of the ICI, EPA will develop a new suite of performance measures that will support comprehensive management of the cleanup life cycle by addressing three critical points in the cleanup process—starting, advancing, and completing site cleanup.

EPA is continuing to improve its readiness to respond to releases of harmful substances, including oil spills, by clarifying authorities, training personnel, and providing proper equipment. Given the Deepwater Horizon BP oil spill and the efforts to clean up and restore the Gulf of Mexico, EPA will review its current rules, guidelines and procedures on oil spills. EPA will ensure that it has the appropriate tools to prevent, prepare for, respond to, and recover from such incidents within its jurisdiction.[6]

National preparedness is essential to ensure that emergency responders are able to address multiple, large-scale emergencies, including those that may involve chemicals, oil, biological agents, radiation, or weapons of mass destruction. Consistent with the government-wide National Response Framework, EPA prepares for the possibility of multiple, simultaneous, nationally significant incidents across several regions and provides guidance and technical assistance to state and local planning and response organizations.

EPA's hazardous waste programs are working to reduce the energy use and environmental footprint during the investigation and remediation of sites. As part of this effort, EPA's Superfund program will implement its green remediation strategy to reduce the energy, water, and materials used during site cleanups while ensuring that protective remedies are implemented.[7]

EPA is also implementing its Community Engagement Initiative designed to enhance our involvement with local communities and stakeholders so that they may meaningfully participate in decisions on land cleanup, emergency response, and management of hazardous substances and waste. The goals of this initiative are to ensure transparent -and accessible decision-making processes, to deliver information that communities can use to participate meaningfully, to improve EPA responsiveness to community perspectives, and to ensure timely cleanup decisions.

Strengthen Human Health and Environmental Protection in Indian Country

Under federal environmental statutes, EPA is responsible for protecting human health and the environment in Indian country. EPA's commitment to tribal environmental and human health protection, through the recognition of tribal sovereignty and self-determination, has been steadfast for over 25 years, as formally established in the Agency's 1984 Indian Policy.[8] EPA works with over 500 federally-recognized tribes located across the United States to improve environmental and human health outcomes. Indian country totals more than 70 million acres with reservations ranging from less than 10 acres to more than 14 million acres. Difficult environmental and health challenges remain in many of these areas, including lack of access to safe drinking water, sanitation, adequate waste facilities, and other environmental safeguards taken for granted elsewhere.

In collaboration with our tribal partners and fulfilling our government-to-government responsibilities, EPA will engage in a two-part strategy for strengthening human health and environmental protection in Indian country. First, EPA will provide the opportunity for federally-recognized tribes to create an effective and results-oriented environmental capacity-building presence. Second, EPA will ensure that its programs are implemented in Indian country either by EPA or through opportunities for implementation of environmental programs by tribes themselves.

Applied Research

In the area of cleaning up communities, research will allow EPA to identify and apply approaches that better inform and guide environmentally sustainable behavior, protect human health and ecosystems, and provide the products and services needed for mitigation, management, remediation, and long-term stewardship of contaminated sites. It will also provide state, tribal, and local decision makers with the knowledge needed to make smart, systems-based decisions that will inform a balanced approach to their cleanup and development needs.

End Notes:

1 Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation, and Environmental Quality. Information available at http://www.epa.gov/dced/built.htm.

2 For more information about EPA's brownfields program, see http://www.epa.gov/brownfields.

3 EPA has developed a Priority Goal for brownfields: By 2012, EPA will have initiated 20 enhanced brownfields community level projects that will include a new area-wide planning effort to benefit under-served and economically disadvantaged communities. This will allow those communities to assess and address a single large or multiple brownfields sites within their boundaries, thereby advancing area-wide planning to enable redevelopment of brownfields properties on a broader scale. EPA will provide technical assistance, coordinate its enforcement, water, and air quality programs, and work with other federal agencies, states, tribes, and local governments to implement associated targeted environmental improvements identified in each community's area-wide plan.

4 This refers to the total estimated number of people that live within a mile of each of the RCRA hazardous waste facilities that have approved controls in place. Site-specific data can be queried from the Enforcement and Compliance History On-line database, which provides fast, integrated searches of EPA and state data for regulated facilities (see http://www.epa-otis.gov/echo/compliance_report_rcra.html). Population data included in the database is from the 2000 U.S. Census.

5 For more information on sustainable materials management, see *Sustainable Materials Management: The Road Ahead.* EPA 530R-09-009. Available at http://www.epa.gov/osw/inforesources/pubs/vision2.pdf

6 Several federal agencies have jurisdiction and authority for oil spill preparedness, response, and recovery in the U.S. in addition to EPA, including the Department of Transportation and the Coast Guard. EPA's efforts will focus on those aspects of the national oil spill program for which they have authority and responsibility, primarily the inland area and fixed facilities, as well as sharing best practices, pertinent research, and lessons learned with its federal partners.

7 More information about Superfund and green remediation at EPA is available at http://www.epa.gov/superfund/greenremediation.

8 The 1984 EPA Policy for the Administration of Environmental Programs on Indian Reservations is available at http://www.epa.gov/tribal/pdf/indian-policy-84.pdf.

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution

Reduce the risk and increase the safety of chemicals and prevent pollution at the source.

Chemicals are involved in the production of everything from our homes and cars to the cell phones we carry and the food we eat. Thousands of chemicals have become ubiquitous in our everyday lives and everyday products, as well as in our environment and our bodies. Chemicals are often released into the environment as a result of their manufacture, processing, use, and disposal. Research shows that children receive greater exposures to chemicals because they inhale or ingest more air, food, or water on a body-weight basis than adults do.[1] Other vulnerable groups, including low-income, minority, and indigenous populations, are also disproportionately impacted by, and thus particularly at risk from, chemicals.

Objectives:

- **Ensure Chemical Safety.** Reduce the risk of chemicals that enter our products, our environment, and our bodies.
- **Promote Pollution Prevention.** Conserve and protect natural resources by promoting pollution prevention and the adoption of other stewardship practices by companies, communities, governmental organizations, and individuals.

Strategic Measures associated with this Goal are on pages 52 through 53.

In 2009, the Administration announced principles for modernizing the Toxic Substances Control Act (TSCA) to help inform efforts underway in Congress to reauthorize and significantly strengthen EPA's ability to assess the safety of industrial chemicals and adequately protect against unreasonable environmental or public health risks.[2] TSCA is outdated and should be revised to provide stronger and clearer authority for EPA to collect and act upon critical data regarding chemical risks. While TSCA does provide some authority to EPA to collect chemical information and mandate industry to conduct testing, there remain large, troubling gaps in the available data and state of knowledge on many widely used chemicals in commerce. EPA's authority to require development and submission of information and testing data is limited by legal hurdles and procedural requirements. As we look to the future, it is important to work together with Congress and stakeholders to modernize and strengthen the tools available under TSCA to prevent harmful chemicals from entering the marketplace and to increase confidence that those chemicals that remain are safe and do not endanger the environment or human health, especially for consumers, workers, and sensitive subpopulations like children.

The 1990 Pollution Prevention Act established preventing pollution before it is generated as national environmental policy. EPA is enhancing cross-cutting efforts to advance sustainable practices, safer chemicals, greener processes and practices, and safer products.

Ensure Chemical Safety

Chemical safety is one of EPA's highest priorities. EPA's approach to chemical risk management leverages expertise, information, and resources by collaborating with other countries, federal agencies, states, tribes, and the public to improve chemical safety.[3] Children and other disproportionately exposed and affected groups, including low-income, minority, and indigenous populations, require more explicit consideration in EPA's chemical risk assessments and management actions, in accordance with the Executive Orders and guidance on children's health and environmental justice.[4]

EPA employs a variety of strategies under several statutes to ensure the safety of chemicals. These include:

- Controlling the risks of new chemicals before they are introduced or reintroduced into commerce;
- Evaluating chemicals already in use;
- Developing and implementing regulatory and other actions to eliminate or reduce identified chemical risks; and,
- Making public the data necessary to assess chemical safety to the extent allowed by law.[5,6]

EPA has enhanced its work to ensure the safety of existing chemicals by taking action to restrict the production and use of chemicals posing unreasonable risks and better assess chemicals that may pose environmental or public health concerns. This will quicken the Agency's pace in characterizing the hazards posed by the highest volume chemicals, maximize use of existing TSCA authorities to increase the availability of chemical information, and accelerate work to identify safer alternatives.

Over the next five years, the Agency will implement risk management actions for chemicals that pose unreasonable risk to the environment or human health, carefully considering how the most vulnerable populations are potentially affected. EPA is strengthening rules to keep track of chemicals in commerce and adding chemicals and data requirements to better inform both EPA and the public about releases of toxic chemicals into the environment. EPA is

increasing its evaluation of claims of confidentiality in order to make all health and safety data for chemicals in commerce more publicly available to the extent allowed by law. EPA is also applying increasingly sophisticated scientific tools in reviewing hundreds of new chemical submissions each year under TSCA and increasing the efficiency and effectiveness of these reviews through the implementation of electronic submission and management systems.[7]

EPA will make major strides in guarding against exposure to chemicals that continue to pose potential risks to human health and the environment even after their hazards have been identified and certain uses have been phased out. For example, to continue to reduce childhood blood lead levels, EPA is working in partnership with states and tribes to certify hundreds of thousands of lead-paint professionals and expand public awareness of lead risks by implementing requirements for the use of lead-safe practices in renovation, remodeling, and painting activities in millions of older homes.[8,9]

Over the next five years, EPA will manage a comprehensive pesticide risk reduction program through science-based registration and reevaluation processes, a worker safety program, certification and training

activities, and support for integrated pest management. EPA's current pesticide review processes focus on ensuring that pesticide registrations comply with the Endangered Species Act and achieve broader Agency objectives for water quality protection. The review processes will continue to place emphasis on the protection of potentially sensitive populations, such as children, by reducing exposures from pesticides used in and around homes, schools, and other public areas. EPA is reviewing its worker safety certification and training regulations to ensure that they are adequately protective. EPA's review processes ensure that pesticides can be used safely and are available for use to maintain a safe and affordable food supply, to address public health outbreaks, and to minimize property damage that can occur from insects and pests.[10]

EPA is also working to identify and address any potential risks of nanoscale materials during new and existing chemical review and on improving data collection efforts.[11] In addition, EPA is implementing a comprehensive testing program to screen for chemicals' potential to interact with the endocrine system.[12] More broadly, EPA is looking comprehensively across statutes to determine the best tools to apply to specific problems. For example, under a new drinking water strategy, the Agency is exploring how to use the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and TSCA to ensure that drinking water is protected from pesticides and industrial chemicals and that chemicals found in drinking water are being screened for endocrine disrupting properties using the authorities of the Safe Drinking Water Act (SDWA), the Federal Food, Drug, and Cosmetic Act (FFDCA), and FIFRA.

Prevent Pollution at the Source

The Pollution Prevention Act of 1990 established national pollution prevention policy. Time and experience have added to our understanding and appreciation of the value of preventing pollution before it occurs. Pollution prevention is central to all of EPA's sustainability strategies, and EPA will continue to incorporate pollution prevention principles into our policies, regulations, and actions. Pollution prevention, a long-standing priority for EPA, encourages companies, communities, governmental organizations, and individuals to prevent pollution and waste before generation by implementing conservation techniques, promoting efficient re-use of materials, making production processes more sustainable, and promoting the use of safer substances. Together with new technology development, these pollution prevention practices result in significant co-benefits, such as the conservation of raw materials, water, and energy; reduction in the use of hazardous and high global-warming-potential materials; promotion of safer chemical substitutes; reduction of greenhouse gas emissions; and, the elimination of pollutant transfers across air, water, and land. EPA will collaborate with states and other partners to review pollution prevention results and identify enhanced pollution prevention strategies. This will also include continuing grants to states to support vital state pollution prevention infrastructures and fund technical assistance for local businesses.

EPA promotes "green" chemistry through the development and use of innovative chemical technologies. The Agency advances environmentally-conscious design, commercialization, and use of "green" engineering processes and sets standards for labeling programs that meet stringent criteria giving consumers assurance about the environmental integrity of the products they use. In addition, EPA helps agencies across the federal government comply with green purchasing requirements, thereby stimulating demand for "greener" products and services.[13]

Research

EPA chemicals research will continue to provide the scientific foundation for addressing the risks of chemical exposure in humans and wildlife. It will include enhanced chemical screening and testing approaches for priority-setting and context-relevant chemical assessment and management. Research will inform Agency actions and help local decision makers address contaminants of greatest concern to them, particularly with respect to air toxics and drinking water issues. EPA will continue assessments of high priority chemicals. EPA's research program also will promote discoveries and innovations in green chemistry and green engineering to help encourage use of safer chemicals in commerce.

End Notes:

1 Environmental Working Group, 2005. *Body Burden–The Pollution in Newborns*. Available at http://www.ewg.org/reports/bodyburden2/execsumm.php.

2 Essential Principles for Reform of Chemicals Management Legislation. Available at http://www.epa.gov/oppt/existingchemicals/pubs/principles.html.

3 "EPA Increases Transparency of Chemical Risk Information: Action part of continued comprehensive reform of toxic substances laws." EPA News Release, January 21, 2010. Available at http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceeac8525735900400c27/631cf22eb540c4db852576b2004eca47!OpenDocument.

4 Executive Orders include: E.O. 13045 (Protection of Children from Environmental Health Risks and Safety Risks) and E.O. 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations). Relevant guidance documents can be found on EPA's environmental justice and children's health websites, http://www.epa.gov/compliance/environmentaljustice/index.html and http://yosemite.epa.gov/ochp/ochpweb.nsf/content/homepage.htm.

5 Collecting and Assessing Information on Chemicals. Available at http://www.epa.gov/oppt/existingchemicals/pubs/collectinfo.html.

6 Managing Chemical Risk. Available at http://www.epa.gov/oppt/existingchemicals/pubs/managechemrisk.html.

7 Overview of EPA New Chemicals Program. Available at http://www.epa.gov/oppt/newchems.

8 Information about childhood lead poisoning is available at http://www.leadfreekids.org

9 EPA Lead-Safe Certification Program. Available at http://www.epa.gov/lead/pubs/toolkits.htm

10 EPA pesticides program information is available at http://www.epa.gov/pesticides.

11 Information about nanotechnology is available at http://www.epa.gov/ncer/nano/factsheet/.

12 Information about the EPA Endocrine Disruptor Screening Program is available at http://www.epa.gov/scipoly/oscpendo/index.htm.

13 Information about the EPA Environmentally Preferable Purchasing Program is available at http://www.epa.gov/epp/pubs/about/about.htm.

Goal 5: Enforcing Environmental Laws

Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Assure compliance with environmental laws.

Vigorous enforcement supports EPA's ambitious goals to protect human health and the environment. Achieving these goals for safe drinking water, lakes and streams that are fishable and swimmable, clean air to breathe, and communities and neighborhoods that are free from chemical contamination requires both new strategies and compliance with the rules we already have. By addressing noncompliance swiftly and effectively, EPA's civil and criminal enforcement cases directly reduce pollution and risk, and deter others from violating the law.

EPA enforcement takes aggressive action against pollution problems that make a difference in communities. Through vigorous civil and criminal enforcement and other compliance tools, EPA targets the most serious water, air, and chemical hazards, and advances environmental justice by protecting low-income, minority, and tribal communities that are disproportionately impacted by such hazards.

Vigorous civil and criminal enforcement plays a central role in achieving the bold goals below that the Administrator has set for EPA:

- **Taking Action on Climate Change and Improving Air Quality:** EPA will take effective actions to reduce air pollution from the largest sources, including coal-fired power plants and the cement, acid, and glass sectors, to improve air quality. Enforcement to cut toxic air pollution in communities improves the health of communities, particularly low-income, minority, and tribal communities that are disproportionately impacted by pollution. Enforcement supports reductions in greenhouse gases (GHG) through enforcement settlements that encourage GHG emission reductions. EPA will also work to ensure compliance with new standards and reporting requirements for GHG emissions as they are developed.
- **Protecting America's Waters:** EPA is revamping enforcement and working with state permitting authorities under the Clean Water Act Action Plan[1] to make progress on the most important water pollution problems. This work includes, as a Priority Goal, increasing enforcement actions in waters that do not meet water quality standards. In addition the Agency will

Objective:

- **Enforce Environmental Laws.** Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide.

Strategic Measures associated with this Goal are on pages 54 through 55.

continue to focus on getting raw sewage out of water, cutting pollution from animal waste, and reducing pollution from stormwater runoff.[2] Enforcement will help to clean up great waters like the Chesapeake Bay and will assist in revitalizing urban communities by protecting urban waters. Enforcement will also support the goal of assuring safe drinking water for all communities, including in Indian country.

- **Cleaning Up Communities and Advancing Sustainable Development:** EPA protects communities by requiring responsible parties to conduct cleanups, saving federal dollars for sites where there are no other alternatives. Aggressively pursuing these parties to clean up sites ultimately reduces direct human exposures to hazardous pollutants and contaminants, provides for long-term human health protection, and makes contaminated properties available for reuse.

- **Ensuring the Safety of Chemicals and Preventing Pollution:** Reforming chemical management enforcement and reducing exposure to pesticides will help protect human health. Enforcement reduces direct human exposures to toxic chemicals and pesticides and supports long-term human health protection.

Criminal enforcement underlines our commitment to pursuing the most serious pollution violations. EPA's criminal enforcement program will focus on cases across all media that involve serious harm or injury; hazardous or toxic releases; ongoing, repetitive, or multiple releases; serious documented exposure to pollutants; and, violators with significant repeat or chronic noncompliance or prior criminal conviction.

EPA shares accountability for environmental and human health protection with states and tribes. We work together to target the most important pollution violations and ensure that companies that do the right thing and are responsible neighbors are not put at a competitive disadvantage. EPA also has a responsibility to oversee state and tribal implementation of federal laws to ensure that the same level of protection for the environment and the public applies across the country.

Enforcement can help to promote environmental justice by targeting pollution problems that disproportionately impact low-income, minority, and tribal communities. Ensuring compliance with environmental laws is particularly important in communities that are exposed to greater environmental health risks. EPA fosters community involvement by making information about compliance and government action available to the public.[3]

Increased transparency is an effective tool for improving compliance. By making information on violations both available and understandable, EPA empowers citizens to demand better compliance.

End Notes:

1 An overview of the Clean Water Action Plan is available at http://www.epa.gov/oecaerth/civil/cwa/cwaenfplan.html.

2 EPA has developed a Priority Goal for water enforcement: EPA will increase pollutant reducing enforcement actions in waters that do not meet water quality standards, and post results and analysis on the web.

3 Information about compliance and government action is available at http://www.epa.gov/compliance/index.html.

External Factors and Emerging Issues

EPA sets goals and objectives in carrying out its mission to protect human health and the environment, but there are always factors outside of EPA's control that affect our ability to do our work. For example, the changing economic, legal, and regulatory landscape often affects the Agency's resources, anticipated activities, and direction. As part of a dynamic global community addressing technological changes, EPA is confronted with challenges, emerging issues, and opportunities every day. An oil spill, flood, hurricane, tragedy, or other disasters can swiftly divert the Agency's anticipated focus. Other issues, such as climate change and population growth, can create long-term challenges that run deep and across many EPA programs. Additionally, EPA accomplishes much of its work through partnerships, particularly with states and tribes, and any budget shortfalls they experience can affect our ability to achieve our goals.

External factors and emerging issues present both opportunities and challenges to EPA. Specifically, over the next five years, EPA will be actively engaged in a variety of areas:

- **Climate Change:** Energy and transportation policies continue to evolve and influence the Agency's ability to improve air quality and address climate change issues. Impacts of climate change, such as changes in rainfall amount and intensity, shifting weather and seasonal patterns, and increases in flood plain elevations and sea levels, will also affect progress towards many of the goals. Yet other developments may have positive environmental impacts. The growth of alternative energy sources and increased investments in energy efficiency can reduce greenhouse gas emissions and improve local air quality.
- **American Reinvestment and Recovery Act (ARRA):** We expect the long-term impact of ARRA[1] funding will advance assessment and cleanup activities at former industrial sites, help address local water infrastructure needs, and spur technological innovation, promoting energy efficiency, alternative energy supplies, and new technologies and innovation in water infrastructure.
- **Water Quality:** Water quality programs face challenges such as increases in nutrient loadings and stormwater runoff, aging infrastructure, and population growth (which can increase water consumption and place additional stress on aging water infrastructures). The Agency needs to examine carefully the potential impacts of and solutions to these issues, including effects on water quality and quantity that could result in the long term from climate change.
- **Waste Management:** Our necessary reliance on private parties, state and tribal partners, the use of new and innovative control technologies, and the involvement of other federal agencies in remediation efforts can all affect our efforts to remediate contaminated sites and prevent waste. New waste streams are continually emerging, such as those from mining of rare earth elements which are used in clean-energy technologies, potentially presenting increased opportunities for recycling of valuable materials and challenges for safe disposal of new waste streams.
- **Protective Site Cleanup:** Hazardous waste programs are intended to provide permanent solutions to contaminated media at sites or facilities to the extent practicable. Complications can arise when new scientific information concerning contaminants at a site suggests that a risk assessment that was protective when a remedy was selected is no longer protective given the contaminant levels remaining at a site and their potential exposure pathways and uses. As appropriate, EPA must incorporate emerging science into decision making to maintain its commitment to provide permanent solutions.
- **Chemical Safety:** Legislative reforms to the Toxic Substances Control Act in line with the Administration's principles would provide EPA

with the ability to obtain and publicly disclose critical information on the risks posed by chemicals. This will strengthen our chemical risk assessment and management programs, and significantly improve federal and state ability to manage and mitigate risk from industrial chemicals.

- **Communities:** Citizen science—individual citizens and community groups that monitor and document environmental trends—can expand the reach of EPA's own field presence. Communities have access to more environmental, economic, and social data than ever before that can be synthesized and analyzed through varying tools and technologies. With this information, communities can make smarter management decisions which may lead to increasingly effective stewardship. While citizen science requires expert support to ensure the quality of environmental data and to facilitate knowledge-building, with the right tools, communities can spur local industry and others to do a better job of complying with environmental laws and regulations.

The world in which EPA works continues to change rapidly. The recent oil spill in the Gulf of Mexico is a catastrophic environmental problem that will have significant consequences and require innovative technological and other solutions. A wide range of new technologies are on the horizon in areas as diverse as nanotechnology catalysts and nanosolar cells, nanomaterials for rehabilitation of water pipes, advanced battery technologies, accurate and inexpensive portable and real-time sensors, and the application of synthetic biology to algal biofuel production. Emerging technologies may present new environmental problems that need to be understood and addressed, and at the same time will create opportunities for building an advanced technological infrastructure. EPA will continue to do its best to anticipate change and be prepared to address the inevitable challenges and opportunities that we will face in the future.

End Note:

1 Information about the American Reinvestment and Recovery Act is available at http://www.recovery.gov.

Summary of Program Evaluation

The Administration has emphasized the importance of using program evaluation to provide the evidence needed to demonstrate that our programs are meeting their intended outcomes. By assessing how well a program is working and *why*, program evaluation can help EPA identify where our activities have the greatest impact on protecting human health and the environment, provide the road map needed to replicate successes, and conversely, identify areas needing improvement. This is particularly important as EPA meets its obligations for transparency and accountability.

For the *Strategic Plan*, we look to the results of past evaluations to inform our program strategies for the next five years. Evaluation results may affirm existing strategies or identify opportunities for improvement and may lead to changes in policy, resource decisions, and program implementation. For example, the Government Accountability Office's 2007 evaluation of the Toxic Substances Control Act helped frame Administrator Jackson's September 2009 announcement of an integrated approach to chemical management and a set of principles for reform. Additionally, EPA commissioned the National Academy of Public Administration (NAPA) to conduct an independent evaluation of the Community Action for a Renewed Environment (CARE) Demonstration Program, a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment.[1] Recommendations and feedback from this evaluation have informed EPA's strategic changes and investment decisions in the program.

Our plans for future program evaluations include cyclical reviews of our research and development programs. These are geared to ensure that our research priorities meet our future challenges. Examples of other future evaluations include assessing the impact of our "green" chemical labeling program on consumer purchasing habits and measuring the success of less resource-intensive remediation strategies to clean up hazardous waste sites across the country.

While EPA conducts a variety of design, process, and outcome evaluations, under the Administration's government-wide evaluation initiative, EPA is working to evolve and expand our portfolio to conduct more rigorous impact evaluations that will enhance program effectiveness. Recently completed process and program evaluations from EPA and external organizations that informed the strategies in the *Strategic Plan* and a preliminary list of future program evaluations EPA plans to conduct are described in more detail at the *EPA Strategic Plan* website.[2]

End Notes:

1 National Academy of Public Administration, 2009. *Putting Community First: A Promising Approach to Federal Collaboration for Environmental Improvement.* Available at http://www.napawash.org/pc_management_studies/CARE/5-21-09_Final_Evaluation_Report.pdf.

2 EPA *Strategic Plan* website: http://www.epa.gov/ocfo/plan/plan.htm.

Cross-Cutting Fundamental Strategies

Introduction

Since EPA's inception over 40 years ago, we have focused not only on our mission to achieve environmental and human health results but also on how we work to accomplish those results. Achievement of each of these goals and objectives is shared across EPA. Through this *Plan*, EPA is placing an increased focus on how we work to achieve those results.

We have developed a set of cross-cutting strategies that stem from the Administrator's priorities and are designed to fundamentally change how we work, both internally and externally, to achieve the mission outcomes articulated under our five strategic goals. This *Plan* describes the vision and operating principles for each of the cross-cutting strategies:

- Expanding the conversation on environmentalism;
- Working for environmental justice and children's health;
- Advancing science, research, and technological innovation;
- Strengthening state, tribal, and international partnerships; and,
- Strengthening EPA's workforce and capabilities.

The Agency will develop annual action plans with commitments that align with existing planning, budget, and accountability processes. In implementing these strategies through annual action plans, we are embarking on a deliberate, focused effort to take tangible, measurable actions to transform the way we deliver environmental and human health protection.

Expanding the Conversation on Environmentalism

Engage and empower communities and partners, including those who have been historically under-represented, in order to support and advance environmental protection and human health nationwide.

We have begun a new era of outreach at EPA and seek to include a broader range of people and communities in our work and expand our engagement with communities historically under-represented in our decision-making processes. We will build stronger working relationships throughout the country, particularly with tribes, communities of color, economically-distressed cities and towns, young people, and others.

To accomplish these goals, we will:

- Call for innovation and bold thinking and ask all employees to bring their creativity and talents to their everyday work to enhance outreach and transparency in all our programs.
- Ensure that our science is explained clearly and accessible to all communities, communicating and educating in plain language the complexities of environmental, health, policy, and regulatory issues.
- Educate and empower individuals, communities, and Agency partners in decision making through public access to environmental information and data.
- Ensure that the Agency's regulations, policies, budget, and decision-making processes are transparent and accessible through increased access to environmental data sources, community right-to-know tools, and direct stakeholder engagement.
- Address barriers to improve engagement with historically under-represented sectors of the nation.
- Use traditional and new media to inform and educate the public about Agency activities and provide opportunities for community feedback.
- Encourage citizens to understand the complexities and impacts of environmental issues and environmental stewardship, and provide avenues and tools that enhance their ability to participate in processes that could affect them.

Working for Environmental Justice and Children's Health

Work to reduce and prevent harmful exposures and health risks to children and underserved, disproportionately impacted low-income, minority, and tribal communities, and support community efforts to build healthy, sustainable green neighborhoods.

Advancing environmental justice and protecting children's health must be driving forces in our decisions across all EPA programs. The underlying principles for this commitment are reducing exposures for those at greatest risk and ensuring that environmental justice and children's health protection are integral to all Agency activities. All populations—including minority, low-income, and indigenous populations—that are vulnerable to environmental pollution are at risk of having poor health outcomes. These vulnerabilities may arise because of higher exposures to pollution in places where they work, live, and play, and/or diminished abilities to withstand, cope with, or recover from exposure to environmental pollution.[1] Children are often most acutely affected by environmental stressors. Research has demonstrated that prenatal and early life exposures to environmental hazards can cause lifelong diseases, medical conditions, and disabilities.[2]

Environmental justice and children's health protection will be achieved when all Americans, regardless of age, race, economic status, or ethnicity, have access to clean water, clean air, and healthy communities. To accomplish this, EPA will use a variety of approaches, including regulation, enforcement, research, outreach, community-based programs, and partnerships to protect children and disproportionately impacted, overburdened populations from environmental and human health hazards. Our success in advancing environmental justice and children's health protection will result from fully incorporating these priorities into all of our activities across each of the strategic goals of the Agency. We anticipate that our leadership in advancing environmental justice and children's health protection will inspire and engage a broad spectrum of partners in the public and private sector to do the same.

Specifically, EPA will:

- In our regulatory capacity, implement the nation's environmental laws using the best science and environmental monitoring data to address the potential for adverse health effects from environmental factors in disproportionately impacted, overburdened populations and vulnerable age groups. EPA programs will incorporate environmental justice and children's health considerations at each stage of the Agency's regulation development process and in implementation of environmental regulations.
- Develop and use environmental and human health indicators to measure improvements in environmental conditions and health in disproportionately impacted communities and among vulnerable age groups.

- In our work on safe management of pesticides and industrial chemicals, take into account disproportionately impacted, overburdened populations, and women of child-bearing age, infants, children, and adolescents, and encourage the use of "green chemistry" to spur the development of safer chemicals and production processes.
- Apply the best available scientific methods to assess the potential for disproportionate exposures and health impacts resulting from environmental hazards on minority, low-income, and indigenous populations, women of child-bearing age, infants, children, and adolescents, to support EPA decision making, and to develop the tools to assess risk from multiple stressors.
- Engage communities in our work to protect human health and the environment. EPA will align multiple community-based programs to provide funding and technical assistance to communities to build capacity to address critical issues affecting children's health and disproportionately impacted populations.
- Work with other federal agencies[3] to engage communities and coordinate funding and technical support for efforts to build healthy, sustainable, and green neighborhoods, and work with residents to promote equitable development.

End Notes:

1 See the following sources:

World Health Organization, 2006. *Principles for Evaluating Health Risks in Children.* Environmental Health Criteria, 237. Available at http://whqlibdoc.who.int/publications/2006/924157237X_eng.pdf;

EPA, 2003. Framework for Cumulative Risk Assessment. Risk Assessment Forum. EPA/630/P-02/001F. Available at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=54944; and,

EPA, 2004. *Ensuring Risk Reduction in Communities with Multiple Stressors: Environmental Justice and Cumulative Risks/Impacts.* Available at http://www.epa.gov/environmentaljustice/resources/publications/nejac/nejac-cum-risk-rpt-122104.pdf.

2 National Institutes of Health, National Institute of Environmental Health Sciences, 2008. *Linking Early Environmental Exposures to Adult Diseases.* Available at http://www.niehs.nih.gov/health/docs/linking-exposures.pdf.

3 Including the Departments of Housing Urban and Development, Health and Human Services, Energy, Agriculture, Transportation, Interior, Labor, and Education.

Advancing Science, Research, and Technological Innovation

Advance a rigorous basic and applied science research and development agenda that informs, enables, and empowers and delivers innovative and sustainable solutions to environmental problems. Provide relevant and robust scientific data and findings to support the Agency's policy and decision-making needs.

The major challenges we face to human health and the environment are not incremental problems, and they do not lend themselves to incremental solutions. EPA will promote innovative solutions to environmental problems that reduce or eliminate pollution while avoiding unintended and/or unwanted consequences, addressing pollutants, chemicals, and materials throughout their life cycle from raw material to final disposition.

The Office of Management and Budget (OMB) has reiterated the critical and timely need for innovation in science and technology, building on the President's *Strategy for American Innovation*.[1,2] OMB identifies priorities that include new approaches to multi-disciplinary research, new approaches for accelerating technology commercialization and innovation, interagency and international collaborations, and better communication with the public on science, technology, and innovation.

Environmental sustainability is a guidepost for science, research, and technological innovation at EPA.[3] Sustainability is a broader approach to environmental protection that considers trade-offs in production processes and materials use. Sustainable solutions prevent chemicals from entering the environment or eliminate, rather than simply reduce, the production of waste through better materials management.

EPA must help drive high quality research, sound science, and technology innovation to sustainably address air quality, climate change, water quality and quantity, unreasonable risks from toxic chemicals, ecosystem degradation, and other environmental issues. EPA will inform, enable, and stimulate the development of sustainable solutions to current and future challenges because sustainable and innovative environmental solutions can also be more economically efficient.

EPA science and research must always inform the decisions that are essential to the protection of human health and the environment and empower the broader community that supports our mission. To address challenging environmental problems in this manner, EPA research will:

- **Provide timely, responsive, and relevant solutions:** EPA's science, research, and technological innovation depend on partnerships and a continuing dialogue with internal and external partners and stakeholders to ensure that EPA efforts focus on the highest priority problems faced by the Agency and the nation. Building on traditional collaboration efforts, EPA will also leverage the scientific discoveries of others to achieve even more responsive solutions to the environmental problems that our communities face.

- **Transcend traditional scientific disciplines:** A broad perspective—one that integrates knowledge from a wide variety of sources—is key to developing sustainable solutions. In all aspects of our work, from problem identification, to research design and conduct, to implementation and adoption of solutions, EPA must rely on diverse disciplines. Environmental problems often raise complex scientific and technological issues that require non-traditional approaches. If EPA is to advance progress on these challenging problems, we must rely on integrated, trans-disciplinary research that complements traditional, single-discipline approaches.

- **Communicate widely and openly:** Great work, done invisibly, cannot have an impact. To maximize the impact and utility of our research, EPA will communicate the design, definition, conduct, transfer, and implementation of the work we do. We will translate our science so that it is accessible, understandable, relevant to, and used by stakeholders and the general public. EPA must document our successes to maximize the value of our scientific work.

- **Catalyze sustainable innovation:** EPA's efforts alone will not be enough to address the environmental challenges our nation faces. As we develop and promote these technology innovations, EPA must account for life-cycle perspectives and support technologies that fully consider environmental and social impacts, and collaborate with partners in academia, government, and industry to assess impacts and promote effective product stewardship. EPA must also guide sustainable solutions on the path from conceptual and proof-of-concept stages, through research and development, to commercialization and deployment. EPA must understand and engage the marketplace to ensure the effectiveness of these solutions. Additionally, EPA must be receptive to external innovations in science, research, and technology that can enhance EPA's effectiveness in fulfilling our mission.

End Notes:

1 OMB Memorandum M-10-30, July 21, 2010. "Science and Technology Priorities for the FY2012 Budget." Available at http://www.whitehouse.gov/sites/default/files/omb/memoranda/2010/m10-30.pdf.

2 Press Release from the White House Office of the Press Secretary, September 21, 2009. "President Obama Lays Out Strategy for American Innovation." Available at http://www.whitehouse.gov/the_press_office/President-Obama-Lays-Out-Strategy-for-American-Innovation/.

3 Information on the EPA Sustainability Program is available at http://www.epa.gov/sustainability/.

Strengthening State, Tribal, and International Partnerships

Deliver on our commitment to a clean and healthy environment through consultation and shared accountability with states, tribes, and the global community for addressing the highest priority problems.

EPA will strengthen its state, tribal, and international partnerships to achieve our mutual environmental and human health goals. As we work together, our relationships must continue to be based on integrity, trust, and shared accountability to make the most effective use of our respective bodies of knowledge, our existing authorities, our resources, and our talents.

Successful partnerships will be based on four working principles: consultation, collaboration, cooperation, and accountability. By *consulting*, we will engage our partners in a timely fashion as we consider approaches to our environmental work so that each partner can make an early and meaningful contribution toward the final result. By *collaborating*, we will not only share information, but we will actively work together with our partners to use all available resources to reach our environmental and human health goals. As our work progresses, we will *cooperate*, viewing each other with respect as allies who must work successfully together if our goals are to be achieved. Through shared *accountability*, we will ensure that environmental benefits are consistently delivered nationwide. In carrying out these responsibilities, EPA will ensure through oversight that state and tribal implementation of federal laws achieves a consistent level of protection for the environment and human health.

With States

Under our federal environmental laws, EPA and the states share responsibility for protecting human health and the environment. With this relationship as the cornerstone of the nation's environmental protection system, EPA will:

- Improve implementation and consistent delivery of national environmental programs through closer consultation and transparency.
- Work with states to seek efficient use of resources through work-sharing, joint planning using data analysis and targeting to address priorities, and other approaches.
- Play a stronger management role to facilitate the exchange of data with states to improve program effectiveness and efficiency.
- Consult with state and local governments on a routine basis to ensure that the development and implementation of rules is consistent with *EPA's Action Development Process: Guidance on Executive Order 13132* (Federalism), which recognizes the division of governmental responsibilities between the federal government and the states.

- Strengthen state–EPA shared accountability by focusing oversight on the most significant and pressing state program performance challenges, using data and analysis to speed program improvements.
- Ensure a level playing field across states to improve compliance and address the most serious violations.

With Tribes

The relationship between the United States Government and federally-recognized tribes is unique and has developed throughout the course of the nation's history. In strengthening this relationship, EPA will:

- Focus on increasing tribal capacity to establish and implement environmental programs while ensuring that our national programs are as effective in Indian country as they are throughout the rest of the nation.
- Enhance our effort as we work with tribes on a government-to-government basis, based upon the Constitution, treaties, laws, executive orders, and a long history of Supreme Court rulings.
- Strengthen our cross-cultural sensitivity with tribes, recognizing that tribes have cultural, jurisdictional, and legal features that must be considered when coordinating and implementing environmental programs in Indian country.

With Other Countries

To achieve our domestic environmental and human health goals, international partnerships are essential. Pollution is often carried by winds and water across national boundaries, posing risks many hundreds and thousands of miles away. Many concerns, like climate change, are universal. In the international arena, EPA will:

- Expand our partnership efforts in multilateral forums and in key bilateral relationships.
- Enhance existing and nurture new international partnerships to promote a new era of global environmental stewardship based on common interests, shared values, and mutual respect.

Strengthening EPA's Workforce and Capabilities

Continuously improve EPA's internal management, encourage innovation and creativity in all aspects of our work, and ensure that EPA is an excellent workplace that attracts and retains a topnotch, diverse workforce, positioned to meet and address the environmental challenges of the 21st century.

Achieving positive environmental and human health outcomes through cleaner and safer air, water, and land, and through protection of our natural resources is the focal point of all our work at EPA. This compelling mission attracts workers eager to make a difference and drives employees across the Agency to work together. EPA fully supports the Administration's efforts to reform the federal government's hiring system to ensure highly qualified individuals are available to strengthen EPA's workforce. EPA believes these reforms will improve the Agency's ability to protect human health and the environment more effectively and efficiently.

EPA is a complex organization. This is both an asset and a challenge. To achieve its mission, EPA is continuously building and nurturing a skilled workforce, finding new ways to use the power of information, working together through enhanced communication, and demanding transparency and accountability at all levels. With innovative and creative management and a talented, diverse, and highly motivated workforce, EPA will be positioned to meet head-on the complex environmental challenges of the present and future.

To achieve this goal, EPA will:

- Recruit, develop, and retain a diverse and creative workforce, equipped with the technical skill and knowledge needed to accomplish the Agency's mission and to meet evolving environmental challenges.
- Cultivate a workplace that values a high quality work life, provides employee-friendly policies and facilities, and invests in the information infrastructure, technology, and security essential to support a mobile workforce.
- Practice outstanding resource stewardship to ensure that all Agency programs operate with fiscal responsibility and management integrity, are efficiently and consistently delivered nationwide, and demonstrate results.
- Take advantage of existing and emerging tools to improve and enhance communication, transparency, and accountability.
- Integrate energy efficiency and environmental considerations into our work practices as core components of Agency business models and operations.
- Improve the effectiveness and efficiency of the Agency's acquisition function by strengthening requirements development, contract management, and internal review practices; maximizing the use of competition in contracting, reducing high-risk contracts; improving how contracts are structured; building the skills of the acquisition workforce; and improving management of the EPA acquisition workforce.

Strategic Measurement Framework

Introduction

The *Strategic Plan* provides the foundation for EPA's performance management system—planning, budgeting, performance measurement, and accountability. The *Plan* contains EPA's strategic measurement framework of long-term goals, objectives, and strategic measures, which describe the measurable human health and environmental results the Agency is working to achieve over the next five years.

To achieve the long-term goals, objectives, and strategic measures set out in this *Plan*, EPA designs annual performance measures which are presented in EPA's *Annual Performance Plans and Budgets*. The Agency reports on our performance against these annual measures in *Annual Performance Reports*, and uses this performance information to establish priorities and develop future budget submissions. The Agency also uses this performance data to evaluate our progress and develop future *Strategic Plans*.

EPA's strategic planning and decision-making benefits from other sources of information as well, including program evaluations and environmental indicators. A number of the strategic measures in this *Strategic Plan* are based on indicators contained in EPA's *2008 Report on the Environment* (ROE). The ROE identifies a set of peer-reviewed human health and environmental indicators that allows EPA to track trends in environmental conditions and environmental influences on human health. This information also helps us better articulate and improve the strategic measurement framework in EPA's *Strategic Plan*.

The Agency continues to look for new data and information sources to better characterize the environmental conditions targeted by our programs and improve our understanding of the integrated and complex relationships involved in maintaining human health and environmental well-being.

Significant Changes in the Strategic Measurement Framework

We have made significant changes to our measurement framework in this *Plan*. We revised our five strategic goals to sharpen and align them with the Administrator's priorities, including a heightened focus on cross-program activities addressing climate change adaptation and mitigation, sustainable communities, and chemical safety. We revised our suite of strategic measures—the measurable environmental and human health outcomes we are working to achieve—in several significant ways. First, we significantly reduced the number of strategic measures by focusing on the key outcomes most important to advance the Administrator's priorities and the Agency's mission. The goal was to create a *smaller, more strategic, and more meaningful set that Agency leadership uses to manage*. Second, for consistency purposes, we placed all the quantified measurable results at the lowest level in the framework—the strategic measures. Third, we updated the strategic measures to reflect targets and baselines appropriate for the FY 2011–2015 time

horizon. Lastly, we removed the separate objectives and strategic measures for the Agency's research and development program from the *Plan* and integrated this work into the programmatic objectives; this critical work supports many of our strategic measures and will continue to be tracked through annual performance measures.

Some of the new strategic directions in our measures are reflected in this *Plan*, but efforts will continue over the next several years to make further revisions in key areas. Highlights of the new measures and continuing efforts are described below.

- **Deepwater Horizon BP Oil Spill in the Gulf of Mexico:** While we are still assessing the unprecedented environmental damage from the Deepwater Horizon BP oil spill and the Agency actions necessary to address the damage and prevent similar disasters in the future, we have added a new strategic measure as a preliminary step to reflect the challenge ahead. This measure addresses efforts to conduct a thorough review of our oil spill program regulations to ensure that these regulations are up to date and effective. The magnitude of the impacts has yet to be fully understood and assessed, so further adjustments may be needed in the future. In addition, EPA is working to develop a water-oriented measure in response to the Deepwater Horizon BP oil spill in the Gulf of Mexico. The measure will reflect efforts to assist in the restoration of the Gulf of Mexico ecosystem, including water, wetlands, beaches, and surrounding communities. Currently, EPA has two program-specific water measures, one that relates to Gulf of Mexico hypoxia and the other to regional coastal aquatic ecosystem health that will be reassessed for impact from the oil spill.

- **Climate Change Adaptation and Mitigation:** The ability of communities to respond to changes in climate over the next decade is critical to achieving many of the environmental outcomes in this *Strategic Plan*. We have incorporated consideration of climate change across all five goals of the *Strategic Plan* and will continue to collaborate with stakeholders, the US Global Change Research Program, the Interagency Taskforce on Climate Change Adaptation, and others. We have added three strategic measures for climate change adaptation under Goal 1. In addition, we have expanded the existing greenhouse gas (GHG) mitigation measure to capture reductions Agency-wide and added a measure to reflect expected GHG reductions resulting from the light-duty vehicle greenhouse gas rule.

- **Land Cleanup:** EPA has begun an Integrated Cleanup Initiative, a multi-year effort to better use assessment and cleanup authorities to address a greater number of sites, accelerate cleanups, and put those sites back into productive use while protecting human health and the environment. The Agency is working to develop a suite of measures that will allow for comprehensive management across cleanup programs and across the cleanup life cycle, with a focus on three critical points in the cleanup process—starting, advancing, and completing site cleanups. As a first step in this process, we are shifting our definition of success at a Superfund site from where the construction of a remedy is complete, to when the site is actually "ready for anticipated use" in a community. In addition, a new site assessment measure has been developed that fully captures the entire assessment workload at the beginning of the Superfund process, a measure which also may be expanded to include progress of other cleanup programs in the future.[1]

- **Chemical Safety:** One of EPA's highest priorities over the next five years is to ensure the safety of chemicals and pesticides used in this country. As part of this effort, EPA is taking a more integrated approach to managing chemical and pesticide risk reduction and, in coordination with other relevant federal agencies, is focusing on consumers, workers, and sensitive subpopulations like children. EPA is enhancing its ability to measure the effects of chemicals and pesticides on human health and the environment by introducing new measures to reduce the concentration of targeted chemicals and pesticides in the general population and children.

- **Enforcement and Compliance Assurance:** The Agency's enforcement and compliance assurance program is moving from a tool-based

(e.g., assistance, incentives, monitoring, and enforcement) to an environmental problem-based (e.g., air, water) approach to addressing noncompliance and environmental harms. Our current approach, rooted largely in the traditional inspection and enforcement model, has shown substantial environmental and human health benefits, but will not be able to keep up with expanding universes of regulated sources. For example, the universe of National Pollutant Discharge Elimination System (NPDES) sources has expanded from about one hundred thousand when the Clean Water Act (CWA) was passed to almost one million today. This is especially true in light of the current economic challenges faced by states, which perform the majority of inspections and enforcement actions. For those programs and sectors that have been the focus of EPA and state attention, the level of noncompliance shows us that serious violations are likely widespread, all but ensuring that there are areas across the country where basic health protections for Americans are in jeopardy.

EPA is adopting new strategic approaches to deal with these challenges that do not solely depend on inspections and enforcement to address serious violations, including:

- Building self-monitoring and reporting requirements into rules, which will allow government to better understand the compliance status at regulated facilities.
- Using 21st century technologies to facilitate the electronic transmission of data directly from regulated sources and states that generate the data, to government agencies that receive the data, which will improve the quality and timeliness of data available to make decisions.
- Making more information available to the public in an easy-to-use, understandable format so the public can demand better facility and government performance.

As part of this new approach, the Agency's enforcement program is developing a suite of measures that expand its ability to communicate to the public. As part of this suite, the Agency is including measures for its criminal enforcement program for the first time in the *Strategic Plan*. The suite of measures addresses:

- **Enforcement Presence/Level-of-Effort Measures:** The extent of the general enforcement and compliance assurance presence in communities;
- **Case-Linked Outcome Indicators:** The annual and long-term trends in environmental benefits resulting from EPA enforcement actions; and
- **Strategic Enforcement Measures:** The results of EPA's focused efforts to address specific, high-priority problems that make a difference to communities.

When viewed together, this suite of measures provides a more comprehensive understanding of the program than has been available previously. This suite of measures is captured in the figure on the next page.

Suite of Strategic Enforcement and Compliance Assurance Measures

Measures in the FY 2011–2015 Strategic Plan		Measures under Development
Enforcement Presence/ Level of Effort Measures	**Case-Linked Outcome Indicators**	**Strategic Enforcement Measures (under development)**
Inspections & evaluations	AIR	AIR
Initiated & concluded civil judicial & administrative enforcement cases	Air pollutants reduced	Air toxics
Compliance status of open, non-Superfund consent decrees	WATER	Criteria air pollutants
Address cost recovery statute of limitations cases with total past costs above $200,000	Water pollutants reduced	WATER
Reaching settlement with potentially responsible parties (PRPs)	WASTE	Raw sewage
Criminal cases with charges filed	Hazardous waste reduced	Animal waste
Criminal cases with defendants convicted	Contaminated media reduced	Water compliance
	CHEMICALS	WASTE
	Toxic and pesticide pollutants	Wastes from mineral processing
	CRIMINAL	Clean up hazardous waste sites in communities
	Criminal cases with most significant impacts	CHEMICALS
	Criminal cases with individual defendants	Reduce exposure to pesticides
		Enforce chemical management rules

The *Strategic Plan* includes five-year measures for EPA's enforcement presence and outcome indicators for which EPA will develop annual performance measures for inclusion in the *Annual Plan and Budget*, similar to all strategic measures included in this *Plan*.

The Agency has historically relied on enforcement presence or level-of-effort measures to communicate its enforcement and compliance presence to the public and regulated industry. These measures illustrate that the Agency is actively and consistently performing the activities necessary to find polluters, take appropriate action, and monitor defendants' compliance with settled enforcement cases. The Agency targets these activities toward the most serious human health and environmental problems across a variety of regulatory programs.

The Agency uses case-linked outcome indicators to communicate the environmental benefits gained from completed enforcement and compliance activities such as compliance assistance, compliance incentives, and enforcement cases. While linked, there is not a linear or proportional relationship between the activities and the outcomes.

Unlike level-of-effort results, which tend to be relatively consistent on a yearly basis, these outcome measures are dominated by very large enforcement cases and will typically vary widely over time depending on the pollution problems being addressed. For example, the measure of pounds of pollution reduced by enforcement actions varies widely from year to year and is not expected to trend upwards from one year to the next. In fact, as the most

significant pollution sources are addressed, the amount of pollution reduced by enforcement in a particular industrial sector should go down over time.

Over the next five years, the Agency will develop a new category of measurement—strategic enforcement measures—designed to demonstrate progress toward achieving its national enforcement goal of aggressively going after specific pollution problems that matter to communities. In addition, the strategic enforcement measures will illustrate the work done in Goal 5 to support Goals 1-4 of this *Strategic Plan*.

To launch this effort, the Agency's enforcement program will focus initially on developing measures that demonstrate progress toward the goals of its six national enforcement initiatives.[2] These initiatives target nationally important pollution problems where enforcement can play an important role to address serious noncompliance. We will develop strategic measures that chart our progress in addressing these significant compliance problems, recognizing that the measures, like the solutions, will vary with the problem. Two examples include: (1) targeting the sectors that contribute the largest amount of serious air pollution that causes significant harm to human health, which include coal-fired utilities and acid, glass, and cement plants; and (2) working to improve compliance by the tens of thousands of animal feeding operations that contribute to water pollution in many communities. We need both aggressive enforcement actions and new creative strategies to tackle sector compliance issues for these important, but very different, problems. Our measures will reflect those strategies, and attempt to do a more complete job of providing meaningful information to the public about our progress than the traditional measures alone can do. What we learn from measures developed for the national enforcement initiatives will be applied in setting measures for our other national enforcement goals.

One of the challenges in improving compliance and reducing pollution is the lack of solid information about facility releases and compliance. These information gaps make it harder to target facilities for enforcement, to understand and develop measures for compliance performance, and for communities to know what pollution is occurring in their own neighborhoods. EPA recognizes that we need to improve facility monitoring of pollution and make that information available to the public using 21st century technologies including more comprehensive electronic reporting. These efforts will increase transparency and create incentives to reduce pollution and to comply with the law, while also giving state and federal governments the information they need to target enforcement and track progress. Over the longer term, as efforts to increase electronically reported facility information take effect, consistently reported, sector-wide data may enable us to generate realistic compliance rates for some sectors. These efforts will help us to strengthen both performance and measures in the years ahead.

Where data, baselines, and targets are available to support the measures, EPA will include new measures for the national initiatives in the *FY 2012 Annual Plan and Budget* in February 2011 and will amend the *Strategic Plan* to include those that are suitable strategic measures. For those measures where EPA does not have existing data, EPA will identify necessary data sources and begin to collect the information with the intention of developing baselines and targets for additional strategic enforcement measures to be included in future *Annual Plans*.

The Agency will also work closely with its state partners to explore how to be more transparent regarding our joint accountability to protect the environment and public health by showing to the public, before FY 2015, both federal and state progress and problems in enforcement and compliance programs, as well as compliance monitoring coverage levels.

EPA's High Priority Performance Goals (Priority Goals)

In addition to the long-term strategic measures, EPA established six near-term Priority Goals in FY 2010 with 18- to 24-month operational targets that advance our strategic goals and serve as key indicators of our work. EPA will report progress on these Priority Goals in the *Annual Plan and Budget* and through the Office of Management and Budget, with results regularly available to the public at www.performance.gov.

EPA's Priority Goals

EPA will improve the country's ability to measure and control greenhouse gas (GHG) emissions. Building a foundation for action is essential.

By June 15, 2011, EPA will make publicly available 100 percent of facility-level GHG emissions data submitted to EPA in accordance with the GHG Reporting Rule, compliant with policies protecting confidential business information (CBI).

In 2011, EPA, working with DOT, will begin implementation of regulations designed to reduce the GHG emissions from light-duty vehicles sold in the U.S. starting with model year 2012.

Clean water is essential for our quality of life and the health of our communities. EPA will take actions over the next two years to improve water quality.

Chesapeake Bay watershed states (including the District of Columbia) will develop and submit Phase I watershed implementation plans by the end of CY 2010 and Phase II plans by the end of CY 2011 in support of EPA's final Chesapeake Bay total maximum daily load (TMDL) and consistent with the expectations and schedule described in EPA's letters of November 4 and December 29, 2009, and June 11, 2010.[3]

Increase pollutant reducing enforcement actions in waters that do not meet water quality standards, and post results and analysis on the web.

Over the next two years, EPA will initiate review/revision of at least four drinking water standards to strengthen public health protection.

EPA will ensure that environmental health and protection is delivered to our communities.

By 2012, EPA will have initiated 20 enhanced brownfields community level projects that will include a new area-wide planning effort to benefit under-served and economically disadvantaged communities. This will allow those communities to assess and address a single large or multiple brownfields sites within their boundaries, thereby advancing area-wide planning to enable redevelopment of brownfields properties on a broader scale. EPA will provide technical assistance, coordinate its enforcement, water, and air quality programs, and work with other federal agencies, states, tribes, and local governments to implement associated targeted environmental improvements identified in each community's area-wide plan.

End Notes:

1 EPA will continue to report site construction completions as an annual performance measure in its *Annual Plan and Budget*.

2 Information about EPA's National Enforcement Initiatives for Fiscal Years 2011–2013 is available at http://www.epa.gov/compliance/data/planning/initiatives/initiatives.html. EPA solicited feedback on its FY 2011–2013 national enforcement initiatives in a Federal Register Notice in January 2010 and in an on-line discussion forum (see http://blog.epa.gov/enforcementnationalpriority).

3 EPA letters available at http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/tmdl_implementation_letter_110409.pdf, http://www.epa.gov/region03/chesapeake/bay_letter_1209.pdf, and http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/TMDLScheduleLetter.pdf.

Goal 1: Taking Action on Climate Change and Improving Air Quality. Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality.

Objective 1.1: Address Climate Change. Reduce the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help communities and ecosystems become more resilient to the effects of climate change.

Strategic Measures:

Address Climate Change

- By 2015, the light-duty vehicle greenhouse gas rule will achieve reductions of 99 $MMTCO_2Eq$. (Baseline FY 2010: 0 $MMTCO_2Eq$.)
- By 2015, additional programs from across EPA will promote practices to help Americans save energy and conserve resources, leading to expected greenhouse gas emissions reductions of 740.1 $MMTCO_2Eq$. from a baseline without adoption of efficient practices. This reduction compares to 500.4 $MMTCO_2Eq$. reduced in 2008. (Baseline FY 2008: ENERGY STAR 140.8 $MMTCO_2Eq$., Industrial Programs[1] 314.2 $MMTCO_2Eq$., Smartway Transportation Partnership 4.2 $MMTCO_2Eq$., Pollution Prevention Programs 6.5 $MMTCO_2Eq$., Sustainable Materials Management Programs[2] 34.3 $MMTCO_2Eq$., WaterSense Program 0.4 $MMTCO_2Eq$., Executive Order 13514[3] GHG Reduction Program 0.0 $MMTCO_2Eq$.)
- By 2015, EPA will integrate climate change science trend and scenario information into five major scientific models and/or decision-support tools used in implementing Agency environmental management programs to further EPA's mission, consistent with existing authorities (preference for one related to air quality, water quality, cleanup programs, and chemical safety).[4] (Baseline FY 2010: 4 scientific models)
- By 2015, EPA will account for climate change by integrating climate change science trend and scenario information into five rule-making processes to further EPA's mission, consistent with existing authorities (preference for one related to air quality, water quality, cleanup programs, and chemical safety).[4] (Baseline FY 2010: 0)
- By 2015, EPA will build resilience to climate change by integrating considerations of climate change impacts and adaptive measures into five major grant, loan, contract, or technical assistance programs to further EPA's mission, consistent with existing authorities (preference for one related to air quality, water quality, cleanup programs, and scientific research).[4] (Baseline FY 2010: 0)

Objective 1.2: Improve Air Quality. Achieve and maintain health-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.

Strategic Measures:

Reduce Criteria Pollutants and Regional Haze

- By 2015, the population-weighted average concentrations of ozone (smog) in all monitored counties will decrease to 0.073 ppm compared to the average of 0.078 ppm in 2009.
- By 2015, the population-weighted average concentrations of inhalable fine particles in all monitored counties will decrease to 10.5 $\mu g/m^3$ compared to the average of 11.7 $\mu g/m^3$ in 2009.

- By 2015, reduce emissions of nitrogen oxides (NO_x) to 14.7 million tons per year compared to the 2009 level of 19.4 million tons emitted.
- By 2015, reduce emissions of sulfur dioxide (SO_2) to 7.4 million tons per year compared to the 2009 level of 13.8 million tons emitted.
- By 2015, reduce emissions of direct particulate matter (PM) to 3.9 million tons per year compared to the 2009 level of 4.2 million tons emitted.
- By 2018, visibility in scenic parks and wilderness areas will improve by 15 percent in the East and 5 percent in the West, on the 20 percent worst visibility days, as compared to visibility on the 20 percent worst days during the 2000–2004 baseline.
- By 2015, with EPA support for developing capability including training, policy, and administrative and technical support, 15 additional tribes will possess the expertise and capability to implement the Clean Air Act in Indian country (as demonstrated by successful completion of an eligibility determination under the Tribal Authority Rule), for a cumulative total of 62 from the 2009 baseline of 47 tribes.

Reduce Air Toxics

- By 2015, reduce emissions of air toxics (toxicity-weighted for cancer) to 4.2 million tons from the 1993 toxicity-weighted baseline of 7.2 million tons.[5]

Reduce the Adverse Ecological Effects of Acid Deposition

- By 2015, air pollution emissions reductions will reduce the number of chronically acidic water bodies and improve associated ecosystem health in acid-sensitive regions of the northern and eastern United States by approximately 10 percent below the 2001 baseline of approximately 500 lakes and 5,000 kilometers of stream length.

Reduce Exposure to Indoor Air Pollutants

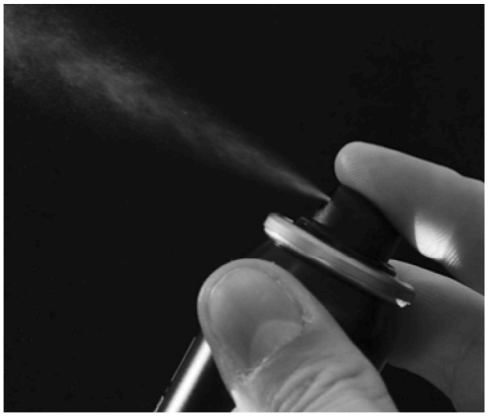
- By 2015, the number of future premature lung cancer deaths prevented annually through lowered radon exposure will increase to 1,460 from the 2008 baseline of 756 future premature lung cancer deaths prevented.
- By 2015, the number of people taking all essential actions to reduce exposure to indoor environmental asthma triggers will increase to 7.6 million from the 2003 baseline of 3.0 million. EPA will place special emphasis on children at home and in schools, and on other disproportionately impacted populations.

Objective 1.3: Restore the Ozone Layer. Restore the earth's stratospheric ozone layer and protect the public from the harmful effects of ultraviolet (UV) radiation.

Strategic Measure:

Reduce Consumption of Ozone-Depleting Substances

- By 2015, U.S. consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, will be less than 1,520 tons per year of ozone depletion potential from the 2009 baseline of 9,900 tons per year. By this time, as a result of worldwide reduction in ozone-depleting substances, the level of "equivalent effective stratospheric chlorine" (EESC) in the atmosphere will have peaked at 3.185 parts per billion (ppb) of air by volume and begun its gradual decline to less than 1.800 ppb (1980 level).



Objective 1.4: Reduce Unnecessary Exposure to Radiation. Minimize unnecessary releases of radiation and be prepared to minimize impacts should unwanted releases occur.

Strategic Measure:

Prepare for Radiological Emergencies

- Through 2015, EPA will maintain a 90 percent level of readiness of radiation program personnel and assets to support federal radiological emergency response and recovery operations, maintaining the 2010 baseline of 90 percent.

End Notes:

1 Industrial Programs include ENERGY STAR for Industry, Natural Gas STAR, Coalbed Methane Outreach Program (CMOP), Landfill Methane Outreach Program (LMOP), Green Power Partnership, Combined Heat and Power Partnership (CHP), Voluntary Aluminum Industry Partnership (VAIP), HFC-23 Emission Reduction Partnerships, Mobile Air Conditioning Climate Protection Partnership (MAC), Environmental Stewardship Initiative, Significant New Alternatives Policy Program (SNAP), Responsible Appliance Disposal Program (RAD), GreenChill Advanced Refrigeration Partnership, and Landfill Rule.

2 Sustainable Materials Management Programs include WasteWise, National Waste Recycling, and Coal Combustion Products Recycling (C2P2).

3 The Federal Leadership in Environmental, Energy, and Economic Performance Executive Order was signed on October 5, 2009. The Executive Order sets sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance.

4 The climate is changing and this can impact EPA's ability to achieve its mission and strategic goals. EPA is currently participating in an Interagency Climate Change Adaptation Task Force which will develop recommendations towards a national climate change adaptation strategy in the fall of 2010. EPA's adaptation measures provide a snapshot of EPA's overall effort to integrate climate change adaptation into mainstream decision making within EPA. As the work of the Task Force continues, future measures may be developed that assess the effectiveness of adaptation actions or that reflect a more refined set of climate change adaptation priorities.

5 The 2015 target is an estimate based on the 2005 National Emissions Inventory (NEI) released in 2008, which does not include the impacts of post-2007 rulemakings. Updated estimates that do include the impacts of more recent rulemakings will be available after the release of the 2008 NEI in 2011.

Goal 2: Protecting America's Waters. Protect and restore our waters to ensure that drinking water is safe, and that aquatic ecosystems sustain fish, plants and wildlife, and economic, recreational, and subsistence activities.

Objective 2.1: Protect Human Health. Reduce human exposure to contaminants in drinking water, fish and shellfish, and recreational waters, including protecting source waters.

Strategic Measures:

Water Safe to Drink

- By 2015, 90 percent of community water systems will provide drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection. (2005 baseline: 89 percent. Status as of FY 2009: 89 percent.)
- By 2015, 88 percent of the population in Indian country served by community water systems will receive drinking water that meets all applicable health-based drinking water standards. (2005 baseline: 86 percent. Status as of FY 2009: 81 percent.)
- By 2015, in coordination with other federal agencies, provide access to safe drinking water for 136,100 American Indian and Alaska Native homes. (FY 2009 baseline: 80,900 homes. Universe: 360,000 homes.)

Fish and Shellfish Safe to Eat

- By 2015, reduce the percentage of women of childbearing age having mercury levels in blood above the level of concern to 4.6 percent. (2002 baseline: 5.7 percent of women of childbearing age have mercury blood levels above levels of concern identified by the National Health and Nutrition Examination Survey (NHANES).)[1]

Water Safe for Swimming

- By 2015, maintain the percentage of days of the beach season that coastal and Great Lakes beaches monitored by state beach safety programs are open and safe for swimming at 95 percent. (2007 baseline: Beaches open 95 percent of the 679,589 days of the beach season (beach season days are equal to 3,647 beaches multiplied by variable number of days of beach season at each beach). Status as of FY 2009: 95 percent.)[2]

Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems. Protect the quality of rivers, lakes, streams, and wetlands on a watershed basis, and protect urban, coastal, and ocean waters.

Strategic Measures:

Improve Water Quality on a Watershed Basis

- By 2015, attain water quality standards for all pollutants and impairments in more than 3,360 water bodies identified in 2002 as not attaining standards (cumulative). (2002 universe: 39,798 water bodies identified by states and tribes as not meeting water quality standards. Water bodies where mercury is among multiple pollutants causing impairment may be counted toward this target when all pollutants but mercury attain standards, but must be identified as still needing restoration for mercury; 1,703 impaired water bodies are impaired by multiple pollutants including mercury, and 6,501 are impaired by mercury alone. Status as of FY 2009: 2,505 water bodies attained standards.)

- By 2015, improve water quality conditions in 330 impaired watersheds nationwide using the watershed approach (cumulative). (2002 baseline: Zero watersheds improved of an estimated 4,800 impaired watersheds of focus having one or more water bodies impaired. The watershed boundaries for this measure are those established at the "12-digit" scale by the U.S. Geological Survey (USGS). Watersheds at this scale average 22 square miles in size. "Improved" means that one or more of the impairment causes identified in 2002 are removed for at least 40 percent of the impaired water bodies or impaired miles/acres, or there is significant watershed-wide improvement, as demonstrated by valid scientific information, in one or more water quality parameters associated with the impairments. Status as of FY 2009: 104 improved watersheds.)

- Through 2015, ensure that the condition of the Nation's streams and lakes does not degrade (i.e., there is no statistically significant increase in the percent rated "poor" and no statistically significant decrease rated "good.") (2006 baseline for streams: 28 percent in good condition; 25 percent in fair condition; 42 percent in poor condition. 2010 baseline for lakes: 56 percent in good condition; 21 percent in fair condition; 22 percent in poor condition.)

- By 2015, improve water quality in Indian country at 50 or more baseline monitoring stations in tribal waters (cumulative) (i.e., show improvement in one or more of seven key parameters: dissolved oxygen, pH, water temperature, total nitrogen, total phosphorus, pathogen indicators, and turbidity) and identify monitoring stations on tribal lands that are showing no degradation in water quality (meaning the waters are meeting uses). (2006 baseline: 185 monitoring stations on tribal waters located where water quality has been depressed and activities are underway or planned to improve water quality, out of an estimated 2,037 stations operated by tribes.)

- By 2015, in coordination with other federal agencies, provide access to basic sanitation for 67,900 American Indian and Alaska Native homes. (FY 2009 baseline: 43,600 homes. Universe: 360,000 homes.)

Improve Coastal and Ocean Waters

- By 2015, improve regional coastal aquatic ecosystem health, as measured on the "good/fair/poor" scale of the National Coastal Condition Report. (FY 2009 baseline: National rating of "fair" or 2.8 where the rating is based on a 4-point system ranging from 1.0 to 5.0 in which 1 is poor and 5 is good using the National Coastal Condition Report indicators for water and sediment, coastal habitat, benthic index, and fish contamination.)

- By 2015, 95 percent of active dredged material ocean dumping sites, as determined by 3-year average, will have achieved environmentally acceptable conditions (as reflected in each site's management plan and measured through onsite monitoring programs). (2009 baseline: 99 percent. FY 2009 universe is 65.) (Due to variability in the universe of sites, results vary from year to year (e.g., between 85 percent and 99 percent). While this much variability is not expected every year, the results are expected to have some change each year.)

- By 2015, working with partners, protect or restore an additional (i.e., measuring from 2009 forward) 600,000 acres of habitat within the study areas for the 28 estuaries that are part of the National Estuary Program. (2009 baseline: 900,956 acres of habitat protected or restored, cumulative from 2002–2009. In FY 2009, 125,437 acres were protected or restored.)

Increase Wetlands

- By 2015, working with partners, achieve a net increase of wetlands nationwide, with additional focus on coastal wetlands, and biological and functional measures and assessment of wetland condition. (2004 baseline: 32,000 acres annual net national wetland gain.)

Improve the Health of the Great Lakes

- By 2015, prevent water pollution and protect aquatic systems so that the overall ecosystem health of the Great Lakes is at least 24.7 points on a 40-point scale. (2009 baseline: Great Lakes rating of 22.5 (expected) on the 40-point scale where the rating uses select Great Lakes State of the Lakes Ecosystem indicators based on a 1 to 5 rating system for each indicator, where 1 is poor and 5 is good.)

- By 2015, remediate a cumulative total of 10.2 million cubic yards of contaminated sediment in the Great Lakes. (2009 baseline: Of the 46.5 million cubic yards once estimated to need remediation in the Great Lakes, 6.0 million cubic yards of contaminated sediments have been remediated from 1997 through 2008.)

Improve the Health of the Chesapeake Bay Ecosystem

- By 2015, achieve 50 percent (92,500 acres) of the 185,000 acres of submerged aquatic vegetation necessary to achieve Chesapeake Bay water quality standards. (2008 baseline: 35 percent, 64,912 acres.)

Restore and Protect the Gulf of Mexico

- By 2015, reduce releases of nutrients throughout the Mississippi River Basin to reduce the size of the hypoxic zone in the Gulf of Mexico to less than 5,000 km^2, as measured by the 5-year running average of the size of the zone. (Baseline: 2005–2009 running average size is 15,670 km^2.)

Restore and Protect the Long Island Sound

- By 2015, reduce the maximum area of hypoxia in Long Island Sound by 15 percent from the pre-TMDL average of 208 square miles as measured by the 5-year running average size of the zone. (Baseline: Pre-total maximum daily load (TMDL) average conditions based on 1987–1999 data is 208 square miles. Post-TMDL includes years 2000–2014. Universe: The total surface area of Long Island Sound is approximately 1,268 square miles; the potential for the maximum area of hypoxia would be 1,268 square miles.)

Restore and Protect the Puget Sound Basin

- By 2015, improve water quality and enable the lifting of harvest restrictions in 4,300 acres of shellfish bed growing areas impacted by degraded or declining water quality in the Puget Sound. (2009 baseline: 1,730 acres of shellfish beds with harvest restrictions in 2006 had their restrictions lifted. Universe: 30,000 acres of commercial shellfish beds with harvest restrictions in 2006.)

Sustain and Restore the U.S.–Mexico Border Environmental Health

- By 2015, provide safe drinking water or adequate wastewater sanitation to 75 percent of the homes in the U.S.–Mexico Border area that lacked access to either service in 2003. (2003 Universe: 98,515 homes lacked drinking water and 690,723 homes lacked adequate wastewater sanitation based on a 2003 assessment of homes in the U.S.–Mexico Border area. 2015 target: 73,886 homes provided with safe drinking water and 518,042 homes with adequate wastewater sanitation.)

End Notes:

1 EPA is in the process of developing a consistent methodology for analyzing the data from Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) reports. The baseline and target may be reset when the analysis is complete at the end of CY 2010.

2 In 2007, EPA added Guam, American Samoa, and the Northern Marianas, which resulted in a lower baseline and target.

Goal 3: Cleaning Up Communities and Advancing Sustainable Development. Clean up communities, advance sustainable development, and protect disproportionately impacted low-income, minority, and tribal communities. Prevent releases of harmful substances and clean up and restore contaminated areas.

Objective 3.1: Promote Sustainable and Livable Communities. Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, brownfield redevelopment, and the equitable distribution of environmental benefits.

Strategic Measures:

Promote Sustainable Communities

- By 2015, reduce the air, water, land, and human health impacts of new growth and development through the use of smart growth and sustainable development strategies in 600 (cumulative) communities, which includes local municipalities, regional entities, and state governments, through activities resulting from EPA and federal partner actions. (Baseline: In FY 2010, an estimated 34 communities will be assisted.)[1]

Assess and Cleanup Brownfields

- By 2015, conduct environmental assessments at 20,600 (cumulative) brownfield properties. (Baseline: As of the end of FY 2009, EPA assessed 14,600 properties.)
- By 2015, make an additional 17,800 acres of brownfield properties ready for reuse from the 2009 baseline. (Baseline: As of the end of FY 2009, EPA made 11,800 acres ready for reuse.)

Reduce Chemical Risks at Facilities and in Communities

- By 2015, continue to maintain the Risk Management Plan (RMP) prevention program and further reduce by 10 percent the number of accidents at RMP facilities. (Baseline: There was an annual average of 190 accidents based on RMP program data between 2005 and 2009.)

Objective 3.2: Preserve Land. Conserve resources and prevent land contamination by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products.

Strategic Measures:

Waste Generation and Recycling

- By 2015, increase the amount of municipal solid waste reduced, reused, or recycled by 2.5 billion pounds. (At the end of FY 2008, 22.5 billion pounds of municipal solid waste had been reduced, reused, or recycled.)
- By 2015, increase beneficial use of coal combustion ash to 50 percent from 40 percent in 2008.
- By 2015, increase by 78 the number of tribes covered by an integrated waste management plan compared to FY 2009. (At the end of FY 2009, 94 of 572 federally recognized tribes were covered by an integrated waste management plan.)
- By 2015, close, clean up, or upgrade 281 open dumps in Indian country and on other tribal lands compared to FY 2009. (At the end of FY 2009, 412 open dumps were closed, cleaned up, or upgraded. As of April 2010, 3,464 open dumps were listed in the

Indian Health Service Operation and Maintenance System Database, which is dynamic because of the ongoing assessment of open dumps.)

Minimize Releases of Hazardous Waste and Petroleum Products

- By 2015, prevent releases at 500 hazardous waste management facilities with initial approved controls or updated controls resulting in the protection of an estimated 3 million people living within a mile of all facilities with controls. (Baseline: At the end of FY 2009, it was estimated that 789 facilities will require these controls out of the universe of 2,468 facilities with about 10,000 process units. The goal of 500 represents 63 percent of the facilities needing controls.)
- Each year through 2015, increase the percentage of underground storage tank (UST) facilities that are in significant operational compliance (SOC) with both release detection and release prevention requirements by 0.5 percent over the previous year's target. (Baseline: This means an increase of facilities in SOC from 65.5 percent in 2010 to 68 percent in 2015.)
- Each year through 2015, reduce the number of confirmed releases at UST facilities to 5 percent fewer than the prior year's target. (Baseline: Between FY 1999 and FY 2009, confirmed UST releases averaged 8,113.)

Objective 3.3: Restore Land. Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites.

Strategic Measures:

Deepwater Horizon BP Oil Spill: Oil Spill Program Review

- By 2015, in response to the Deepwater Horizon BP oil spill in the Gulf of Mexico, EPA will conduct a thorough assessment of its rules, guidelines, and procedures relating to all relevant aspects of EPA's oil spill program, including prevention of, preparedness for, response to, and recovery efforts, and update them as needed, and ensure that the Agency has the appropriate tools to respond to environmental disasters of this scale.

Emergency Preparedness and Response

- By 2015, achieve and maintain at least 80 percent of the maximum score on the Core National Approach to Response (NAR) evaluation criteria. (Baseline: In FY 2009, the average Core NAR Score was 84 percent for EPA headquarters, regions, and special teams prepared for responding to emergencies.)[2]
- By 2015, complete an additional 1,700 Superfund removals through Agency-financed actions and through oversight of removals conducted by potentially responsible parties (PRPs). (Baseline: In FY 2009, there were 434 Superfund removal actions completed including 214 funded by the Agency and 220 overseen by the Agency that were conducted by PRPs under a voluntary agreement, an administrative order on consent, or a unilateral administrative order.)
- By 2015, no more than 1.5 million gallons will be spilled annually at Facility Response Plan (FRP) facilities, a 15 percent reduction from the annual average of 1.7 million gallons spilled from 2005–2009.

Cleanup Contaminated Land

- By 2015, complete 93,400 assessments at potential hazardous waste sites to determine if they warrant Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) remedial response or other cleanup activities. (Baseline: As of 2010, the cumulative total number of assessments completed was 88,000.)[3]
- By 2015, increase to 84 percent the number of Superfund final and deleted NPL sites and RCRA facilities where human exposures to toxins from contaminated sites are under control. (Baseline: As of October 2009, 70 percent Superfund final and deleted NPL sites and RCRA facilities have human exposures under control out of a universe of 5,330.)[4]
- By 2015, increase to 78 percent the number of Resource Conservation and Recovery Act (RCRA) facilities with migration of contaminated groundwater under control. (Baseline: At the

end of FY 2009, the migration of contaminated groundwater was controlled at 58 percent of all 3,746 facilities needing corrective action.)

- By 2015, increase to 56 percent the number of RCRA facilities with final remedies constructed. (Baseline: At the end of FY 2009, all cleanup remedies had been constructed at 32 percent of all 3,746 facilities needing corrective action.)
- Each year through 2015, reduce the backlog of LUST cleanups (confirmed releases that have yet to be cleaned up) that do not meet risk-based standards for human exposure and groundwater migration by 1 percent. This means a decrease from 21 percent in 2009 to 14 percent in 2015. (At the end of FY 2009, there were 100,165 releases not yet cleaned up.)
- Each year through 2015, reduce the backlog of LUST cleanups (confirmed releases that have yet to be cleaned up) in Indian country that do not meet applicable risk-based standards for human exposure and groundwater migration by 1 percent. This means a decrease from 28 percent in 2009 to 22 percent in 2015.
- By 2015, ensure that 799 Superfund NPL sites are "sitewide ready for anticipated use." (Baseline: As of October 2009, 409 final and deleted NPL sites had achieved "sitewide ready for anticipated use.")[5]

Objective 3.4: Strengthen Human Health and Environmental Protection in Indian Country. Support federally-recognized tribes to build environmental management capacity, assess environmental conditions and measure results, and implement environmental programs in Indian country.

Strategic Measures:

Improve Human Health and the Environment in Indian Country

- By 2015, increase the percent of tribes implementing federal regulatory environmental programs in Indian country to 18 percent. (FY 2009 baseline: 13 percent of 572 tribes)
- By 2015, increase the percent of tribes conducting EPA-approved environmental monitoring and assessment activities in Indian country to 50 percent. (FY 2009 baseline: 40 percent of 572 tribes)

End Notes:

1 Included in the cumulative number are communities receiving assistance from: (1) direct EPA technical assistance programs; (2) EPA-funded grants and cooperative agreements to non-governmental organizations; and (3) in a limited number of communities (i.e., 6 of the total 34 communities in the FY 2010 baseline), technical assistance done in collaboration with other EPA programs (such as EPA's brownfields program) and other federal agencies (such as the Federal Emergency Management Agency and the U.S. Departments of Transportation and Housing and Urban Development).

2 Consistent with the government-wide National Response Framework (NRF), EPA will work to fully implement the priorities under its internal NAR so that the Agency is prepared to respond to multiple nationally significant incidents. Core NAR builds upon the Core Emergency Response concept while integrating the priority elements of EPA's NAR Preparedness Plan, and the Homeland Security Priority Workplan, to reflect an Agency-wide assessment of progress.

3 This new strategic measure accounts for all remedial assessments performed at sites addressed under the Superfund program, whereas the measure in the previous (2006–2011) *Strategic Plan* captured only a subset of these assessments (i.e., the final assessments completed at sites). By capturing the assessment work leading to final assessment decisions, including the initial screening assessments to determine Superfund eligibility, the new measure more fully accounts for the work performed during the Superfund site assessment process.

4 EPA is currently revising its dioxin risk assessment which may affect the targets and baselines for the human exposures under control and sitewide ready for anticipated use measures.

5 As part of the Integrated Cleanup Initiative, EPA is evaluating "sitewide ready for anticipated use" across all cleanup programs and may modify the above Superfund measure in the future to include corresponding brownfields, RCRA corrective action, and leaking underground storage tank program goals.

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution. Reduce the risk and increase the safety of chemicals and prevent pollution at the source.

Objective 4.1: Ensure Chemical Safety. Reduce the risk of chemicals that enter our products, our environment, and our bodies.

Strategic Measures:

Protect Human Health from Chemical Risks

- By 2015, reduce by 40 percent the number of moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population. (Baseline is 316 moderate and severe incidents reported to the Poison Control Center (PCC) National Poison Data System (NPDS) in 2008 for organophosphate and carbamate pesticides.)
- By 2014, reduce the percentage of children with blood lead levels above 5 µg/dl to 1.0 percent or less. (Baseline is 3.0 percent in the 2005–2008 sampling period.)[1]
- By 2014, reduce the percent difference in the geometric mean blood lead level in low-income children 1 to 5 years old as compared to the geometric mean for non-low income children 1 to 5 years old to 10.0 percent. (Baseline is 23.4 percent difference in the geometric mean blood lead level in low-income children 1 to 5 years old as compared to the geometric mean for non-low-income children 1 to 5 years old in 2005–2008.)[1]
- By 2014, reduce the concentration in the general population for the following chemicals: non-specific organophosphate metabolites by 75 percent; chlorpyrifos metabolite (TCPy) by 75 percent; and perfluoro-octanoic acid (PFOA) in serum by 2 percent. (Baselines are derived from the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) concentration data in the general population and results are reported biennially. Pesticide baselines are based on 2001–2002 95th percentile data for non-specific organophosphate metabolites (0.45 µmol/L) and chlorpyrifos metabolite (TCPy) (12.4 µg/L). PFOA baseline is based on 2005–2006 geometric mean data in serum (3.92 µg/L).)
- By 2014, reduce concentration for the following chemicals in children: non-specific organophosphate metabolites by 75 percent and chlorpyrifos metabolite (TCPy) by 75 percent. (Baselines are derived from the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) metabolite concentration data in children and results are reported biennially. Pesticide baselines are based on 2001–2002 data for non-specific organophosphate metabolites (0.55 µmol/L) and chlorpyrifos metabolite (TCPy) (16.0 µg/L).)
- By 2015, complete endocrine disruptor screening program (EDSP) decisions for 100 percent of chemicals for which complete EDSP information is expected to be available by the end of 2014. (Baseline is no decisions have been completed through 2009 for any of the chemicals for which complete EDSP information is anticipated to be available by the end of 2014. EDSP decisions for a chemical can range from determining potential to interact with the estrogen, androgen, or thyroid hormone systems to otherwise determining whether further endocrine related testing is necessary.)

Protect Ecosystems from Chemical Risks

- By 2015, no watersheds will exceed aquatic life benchmarks for targeted pesticides. (Based on FY 1992–2001 data from the watersheds sampled by the USGS National Water Quality

Assessment (NAWQA) program, urban watersheds that exceed the National Pesticide Program aquatic life benchmarks are 73 percent for diazinon, 37 percent for chlorpyrifos, and 13 percent for carbaryl. Agricultural watersheds that exceed the National Pesticide Program aquatic life benchmarks are 18 percent for azinphos-methyl and 18 percent for chlorpyrifos.)

Ensure Transparency of Chemical Health and Safety Information

- Through 2015, make all health and safety studies available to the public for chemicals in commerce, to the extent allowed by law. (Baseline is 21,994 confidential business information (CBI) cases of Toxic Substances Control Act (TSCA) health and safety studies as defined in TSCA Section 3(6) that were submitted for chemicals potentially in commerce between the enactment of TSCA and January 21, 2010.)

Objective 4.2: Promote Pollution Prevention. Conserve and protect natural resources by promoting pollution prevention and the adoption of other stewardship practices by companies, communities, governmental organizations, and individuals.

Strategic Measures:

Prevent Pollution and Promote Environmental Stewardship

- By 2015, reduce 15 billion pounds of hazardous materials cumulatively through pollution prevention. (Baseline is 4.8 billion pounds reduced through 2008.)
- By 2015, reduce 9 million metric tons of carbon dioxide equivalent ($MMTCO_2Eq.$) cumulatively through pollution prevention. (Baseline is 6.5 $MMTCO_2Eq.$ reduced through 2008. The data from this measure are also calculated into the Agency's overall GHG measure under Goal 1.)
- By 2015, reduce water use by an additional 24 billion gallons cumulatively through pollution prevention. (Baseline is 51 billion gallons reduced through 2008.)
- By 2015, save $1.2 billion through pollution prevention improvements in business, institutional, and government costs cumulatively. (Baseline is $3.1 billion saved through 2008.)
- Through 2015, increase the use of safer chemicals cumulatively by 40 percent. (Baseline: 476 million pounds of safer chemicals used in 2009 as reported to be in commerce by Design for the Environment program.)

End Note:

1 Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) data are collected in 2-year samples and released incrementally with the data typically becoming available 2 to 3 years after the sampling period ends.

Goal 5: Enforcing Environmental Laws. Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Assure compliance with environmental laws.

Objective 5.1: Enforce Environmental Laws. Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide.

Strategic Measures:

Note: The enforcement measures in this *Plan* reflect: (1) the enforcement presence and level-of-effort measures that reflect the Agency's continued and strong investment in enforcement work; and (2) the reductions in pollution achieved through enforcement cases (i.e., case-specific outcome indicators) which are dominated by the very largest cases and will typically vary widely over time depending on the pollution problems being addressed. EPA is also developing enforcement measures for work done to support the strategic outcomes under each of the media-specific goals in this *Plan*; these measures will be described in future *Annual Plans and Budgets* and *Annual Performance Reports.*

Maintain Enforcement Presence

- By 2015, conduct 105,000 federal inspections and evaluations (5-year cumulative). (FY 2005–2009 baseline: 21,000 annually)
- By 2015, initiate 19,500 civil judicial and administrative enforcement cases (5-year cumulative). (FY 2005–2009 baseline: 3,900 annually)
- By 2015, conclude 19,000 civil judicial and administrative enforcement cases (5-year cumulative). (FY 2005–2009 baseline: 3,800 annually)
- By 2015, maintain review of the overall compliance status of 100 percent of the open consent decrees. (Baseline 2009: 100 percent)
- Each year through 2015, support cleanups and save federal dollars for sites where there are no alternatives by: (1) reaching a settlement or taking an enforcement action before the start of a remedial action at 99 percent of Superfund sites having viable responsible parties other than the federal government; and (2) addressing all cost recovery statute of limitation cases with total past costs greater than or equal to $200,000. (Baseline: 99 percent of sites reaching a settlement or EPA taking an enforcement action (FY 2007–2009 annual average); 100 percent cost recovery statute of limitation cases addressed (FY 2009))
- By 2015, increase the percentage of criminal cases with charges filed to 45 percent. (FY 2006–2010 baseline: 36 percent)
- By 2015, maintain an 85 percent conviction rate for criminal defendants. (FY 2006–2010 baseline: 85 percent)

Support Taking Action on Climate Change and Improving Air Quality

- By 2015, reduce, treat, or eliminate 2,400 million estimated pounds of air pollutants as a result of concluded enforcement actions (5-year cumulative). (FY 2005–2008 baseline: 480 million pounds, annual average over the period)

Support Protecting America's Waters

- By 2015, reduce, treat, or eliminate 1,600 million estimated pounds of water pollutants as a result of concluded enforcement actions (5-year cumulative). (FY 2005–2008 baseline: 320 million pounds, annual average over the period)

Support Cleaning Up Communities and Advancing Sustainable Development

- By 2015, reduce, treat, or eliminate 32,000 million estimated pounds of hazardous waste as a result of concluded enforcement actions (5-year cumulative). (FY 2008 baseline: 6,500 million pounds)
- By 2015, obtain commitments to clean up 1,500 million cubic yards of contaminated soil and groundwater media[1] as a result of concluded CERCLA and RCRA corrective action enforcement actions (5-year cumulative). (FY 2007–2009 baseline: 300 million cubic yards of contaminated soil and groundwater media, annual average over the period)

Support Ensuring the Safety of Chemicals and Preventing Pollution

- By 2015, reduce, treat, or eliminate 19.0 million estimated pounds of toxic and pesticide pollutants as a result of concluded enforcement actions (5-year cumulative). (FY 2005–2008 baseline: 3.8 million pounds, annual average over the period)

Enhance Strategic Deterrence through Criminal Enforcement

- By 2015, increase the percentage of criminal cases having the most significant health, environmental, and deterrence impacts to 50 percent. (FY 2010 baseline: 36 percent)[2]
- By 2015, maintain 75 percent of criminal cases with an individual defendant. (FY 2006–2008 baseline: 75 percent)

End Notes:

1 Contaminated groundwater media, as defined for the Superfund and RCRA corrective action programs, is the volume of physical aquifer (both soil and water) that will be addressed by the response action.

2 EPA collects data on a variety of case attributes to describe the range, complexity, and quality of our criminal enforcement national docket. Cases are tiered depending on factors such as the human health (death, injury) and environmental impacts, the nature of the pollutant and the its release into the environment, and the characteristics of the subject(s). This measure reflects the percentage of cases in the upper tiers.

Office of the Chief Financial Officer
Office of Planning, Analysis, and Accountability (2721A)
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
http://www.epa.gov/ocfo/plan/plan.htm
EPA-190-R-10-002
September 2010