

Draft FY 2014–2018 EPA Strategic Plan

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U.S. Environmental Protection Agency

Washington, DC 20460

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(reserved for final)

Introduction

The U.S. Environmental Protection Agency's (EPA's) mission is to protect human health and the environment. The *FY 2014-2018 EPA Strategic Plan* (the *Plan*) advances this mission, supports implementation of the Administration's and the EPA's priorities and will be used routinely by the Agency's senior leadership as a management tool to guide our path forward. Administrator McCarthy identified seven themes [add link] that will drive the Agency's efforts over the next four years, and this *Plan* encompasses these themes as part of the five strategic goals, four cross-cutting strategies, and overarching core values.

EPA's Mission: To protect human health and the environment.

EPA's Strategic Goals

- Goal 1: Addressing 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: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

EPA's Cross-Cutting Fundamental Strategies

- Working Toward a Sustainable Future
- Working to Make a Visible Difference in Communities
- Launching a New Era of State, Tribal, Local, and International Partnerships
- Embracing EPA as a High-Performing Organization

EPA's Core Values: Science, Transparency, Rule of Law

In implementing this *FY 2014-2018 Plan*, EPA will focus on developing and using creative, flexible, cost-effective, and sustainable actions that deliver significant benefits on the ground in protecting and improving human health and the environment. In support of the President's *Climate Action Plan* (June 2013), we will implement strategies to cut carbon pollution while promoting innovation to drive economic growth. We will strengthen our partnerships by building new tools and strategies that enhance coordination and joint priority setting with our state and tribal partners and other federal agencies. We also will focus our grant and incentive-based programs, and provide sound credible scientific advice and technical assistance, to help states, tribes, both rural and urban communities, and the private sector address environmental and human health challenges that matter to them in ways that make sense to them. Additionally, EPA will continue to pursue advances in new tools and technologies and increase the transparency of our data to better serve our customers and deliver significant environmental progress. And we will continue to improve the way we do business as a high-performing organization for the benefit of both our workforce and the public we serve.

Our five strategic goals represent the programmatic mission results we hope to achieve on behalf of the American people. These strategic goals embody the measurable environmental and human health outcomes the public can expect over the next four years and describe how we intend to achieve those results. The strategic goals identify targeted new opportunities and adjustments to ongoing work to protect people's health and the environment. While we have made significant progress over the last few years, our five strategic goals highlight the increasingly complex environmental and human health concerns we are facing at a time of continuing fiscal constraints. This poses both challenges and opportunities for us to further enhance our efficiency and focus and leverage efforts at all levels to achieve results.

The cross-cutting fundamental strategies in the *FY 2014-2018 Plan* focus on how we are working differently to achieve environmental results. Notably, the Administrator's themes play a central role in these strategies. We will incorporate sustainability principles into regulatory, enforcement, incentive-based, and partnership programs. We will strive to enhance the livability and economic vitality of all communities, including those with environmental justice concerns. Millions of minority, low-income, tribal, and indigenous persons are at risk of having poor health outcomes because they live in communities that are overburdened by environmental hazards. And, we will work in concert with the states, tribes, local governments, and sister federal agencies that constitute our country's environmental protection enterprise, to ensure the efficiency, efficacy, and coordination of our overlapping and complementary efforts. We will streamline our processes, increase efficiency, and reduce costs by modernizing business practices to make EPA a high-performing organization.

We anticipate that these approaches will foster a renewed commitment to accountability, transparency, and inclusion, expanding the conversation and engaging with a broad range of stakeholders—federal, state, and local agencies, tribes, agricultural and manufacturing sectors, small businesses, industry, and other stakeholders, including those with which we have not traditionally worked. The continuing transformational changes to improve how we work together and take advantage of advances in technology, expanded access to environmental data, and enhanced outreach to communities and stakeholders through environmental education will usher in a new era of partnerships and broad-based participation in managing human health and environmental risks.

We will continue to affirm the core values of science, transparency and the rule of law in addressing our environmental challenges. Our work will be guided by the best possible data and research and a commitment to transparency and the accountability that comes with it. Science and research are the foundation of all our work at the EPA and the scientific underpinning of decisions and regulatory actions. We have incorporated science and research efforts over the next four years throughout the *Plan* in both our strategic goals and cross-cutting fundamental strategies. Our research will continue to be focused on the most critical issues facing the Agency, and finding more sustainable solutions for addressing human health and environmental problems.

With advances in both monitoring and information technology, we are developing new methods for focusing on the most serious violations and improving compliance. E-Enterprise for the Environment is a joint EPA and state initiative to modernize our business practices to increase

accessibility, efficiency, and responsiveness. Additionally, through Next Generation Compliance, we are promoting the use of advanced monitoring and electronic reporting, designing rules that are easier to implement, expanding transparency and sharing of data, and using innovative enforcement approaches to increase compliance and reduce pollution.

While developing this revised *Plan*, we are also identifying new FY 2014-2015 Agency Priority Goals (APGs), which are a major cornerstone of this Administration's performance management agenda and championed by Agency senior leadership to advance our mission results. Completion of our five FY 2012-2013 APGs informed the development of this new set of two-year APGs.

To achieve the strategic goals, objectives, and 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.

Our measures for the *FY 2014-2018 EPA Strategic Plan* draw upon some of the indicators contained in EPA's *Report on the Environment* (ROE).[1] The indicators help us to monitor trends in the condition of the nation's environment and environmental influences on human health and are intended to inform strategic planning, priority setting, and decision making across EPA and provide information for the public on the state of the environment.

As we work to implement the *FY 2014-2018 EPA Strategic Plan* over the next four years, we recognize that the Agency and numerous entities vital to our success—federal, tribal, state, and local governments, and other cooperating partners and stakeholders—are all operating under resource constraints that could impede our mutual progress. We will collaborate in new ways to address the environmental and human health challenges that lie ahead of us, leverage resources to the greatest extent possible, and continually seek new opportunities to work more effectively and efficiently.

End Note:

[1] See <http://www.epa.gov/roe/indicators.htm>.

**Goal 1:
Addressing Climate Change and Improving Air Quality**

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

Objectives:

Address Climate Change. Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.

Proposed FY 2014-2015 Agency Priority Goal: Reduce greenhouse gas emissions from vehicles and trucks. Through September 30, 2015, EPA, in coordination with Department of Transportation's fuel economy standards program, will be implementing vehicle and truck greenhouse gas standards that are projected to reduce greenhouse gas (GHG) emissions by 6 billion metric tons and reduce oil consumption by about 12 billion barrels over the lifetime of the affected vehicles and trucks.

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

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

Minimize Exposure to Radiation. Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

Strategic measures associated with this Goal are on pages XX through XX.

Overview

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 a changing climate are already evident and will persist into the future regardless of future levels of greenhouse gas (GHG) emissions. For example, average U.S. temperatures are rising, snow and rainfall patterns are shifting, and more extreme climate events—like heavy rainstorms and record high temperatures—are already affecting society, human health and the environment. Potential climate change impacts may also make it more difficult to achieve clean air goals. To better protect human health and the environment, EPA must recognize and consider the challenge a changing climate poses to the environment.

Notwithstanding this challenge, since passage of the Clean Air Act Amendments in 1990, nationwide air quality has improved significantly.[2] Levels of those pollutants linked to the greatest health impacts continue to decline. From 2003 to 2011, population-weighted ambient

concentrations of fine particulate matter (PM_{2.5}) and ozone have decreased 26 percent and 16 percent, respectively. Even with this progress, in 2010 approximately 40 percent of the U.S. population lived in counties with air that did not meet health-based standards for at least one pollutant. Long-term exposure to elevated levels of certain air pollutants has been associated with increased risk of cancer, premature mortality, 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 health concern. Indoor allergens and irritants play a significant role in making asthma worse and triggering asthma attacks. Over 25 million Americans currently have asthma,[4] which annually accounts for over 500,000 hospitalizations, more than 10 million missed school days, and over \$50 billion in economic costs.[5] Exposure to indoor radon is responsible for an estimated 21,000 premature lung cancer deaths each year.[6] Twenty percent of the population spends the day indoors in elementary and secondary schools, where potential problems with leaky roofs and with heating, ventilation, and air conditioning systems can trigger a host of health problems, including asthma and allergies.

Address Climate Change

EPA's strategies to address climate change reflect the President's call to action in his *Climate Action Plan* (June 2013), which, among other initiatives, tasks EPA with setting carbon dioxide (CO₂) standards for power plants and applying its authorities and other tools to address hydrofluorocarbons (HFCs) and methane. These strategies support the President's goal to reduce GHG emissions by 17 percent below 2005 levels by 2020[7]. EPA and its partners are developing and implementing approaches to reduce GHG emissions domestically and internationally through cost-effective, voluntary programs while pursuing additional regulatory actions as needed. Our efforts address the following areas:

Mobile Sources

- Implementing three sets of GHG standards for vehicles and trucks, including: two sets of GHG standards for light-duty cars and trucks (model years 2012-2016 and 2017-2025); and the first set of standards for medium- and heavy-duty trucks and buses (model years 2014-2018). These emission standards, finalized jointly with the National Highway Traffic Safety Administration (NHTSA) fuel economy standards, will result in substantial reductions in new vehicle GHG emissions from model years 2012 through 2025. (Reducing greenhouse gas emissions from cars and trucks is a proposed FY 2014-2015 Agency Priority Goal.)[8]
- Building on the progress achieved through the first phase of heavy-duty vehicle GHG standards, the Agency will develop proposal options for a second phase of GHG emission standards for these vehicles, including exploring a more complete vehicle standard-setting approach and encouraging a wider range of advanced technologies.
- Assessing GHG control options for non-road sources, including evaluating whether and when to commence work on standards setting for GHG emissions from a wide range of non-road equipment, locomotives, marine vessels and aircraft, and transportation fuels.

Stationary Sources

- Using authority under section 111(b) of the Clean Air Act, by September 20, 2013, EPA will issue a new proposal for GHG standards performance standards for new power plants and subsequently finalize that rule after consideration of public comment as appropriate. Using

authority under sections 111(b) and 111(d) of the Act, EPA will issue proposed GHG standards, regulations, or guidelines, as appropriate, for modified, reconstructed, and existing power plants by June 1, 2014, and finalize these standards, regulations, or guidelines by June 1, 2015.

- Collecting and publishing high-quality GHG emissions data from large direct emitters and suppliers of GHGs through the greenhouse gas reporting program to inform the public and support sound, data-driven, policy decisions on climate change.
- Implementing permitting requirements for facilities that emit large amounts of GHGs to encourage design and construction of more sustainable, efficient, and advanced processes that will contribute to a clean energy economy.
- Applying the Significant New Alternatives Policy (SNAP) program to promote the use of low global warming potential (GWP) HFCs and similar chemicals.

International and Other Efforts

- Implementing proven voluntary programs that maximize GHG reductions through the greater use of technologies, products, and practices that promote energy efficiency, and renewables programs and policies that benefit the environment and human health.
- Identifying and assessing substitute chemical and ozone-depleting substances and processes for their global warming potential.
- 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.
- Collaborating with international partners to reduce short-lived climate pollutants, including methane, black carbon, and hydrofluorocarbons, through the Climate and Clean Air Coalition.
- Educating the public about a changing change and actions people can take to reduce GHG emissions.
- Collaborating with state, local, and tribal governments on regulatory and policy initiatives, technical assistance, and voluntary programs related to climate change mitigation and adaptation.

Adaptation

Many of the outcomes the EPA is working to attain are sensitive to weather and climate. Consequently, various actions EPA takes, including promulgating regulations and implementing programs, should take these fluctuations into consideration. For example, potential increases in ground-level ozone due to a changing climate could make attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) more challenging.

EPA must adapt and plan for future changes in climate to continue fulfilling its statutory, regulatory, and programmatic requirements. The Agency will implement its Climate Change Adaptation Plan, and consider where it is appropriate, to integrate and mainstream considerations of a changing climate into its programs, to ensure they are effective under future climatic conditions. EPA will work with state, tribal, and local partners to enhance their adaptive capacity, and continue to collaborate with the U.S. Global Change Research Program and the Interagency Climate Change Adaptation Task Force.[9]

Adaptation initiatives undertaken by EPA will carry out key elements of the President's *Climate Action Plan* (June 2013) and 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 a changing climate. EPA is encouraging and supporting smarter, more resilient investments by integrating considerations of climate change impacts and adaptive measures into major grant, loan, contract, and technical assistance programs, consistent with existing authorities. For example, EPA is integrating climate adaptation criteria into the Clean Water and Drinking Water State Revolving Loan Funds and grants for brownfields cleanup. EPA is also partnering with states, tribes, and urban and rural communities to integrate climate change data, models, information, and other decision-support tools into their planning processes in ways that empower them to anticipate, prepare for, and adapt to a changing climate. For example, EPA is developing a stormwater calculator that will enable users to evaluate the effectiveness of alternative strategies for limiting stormwater runoff that can overwhelm sewer systems and spill into rivers and streams, and identify strategies that ensure the systems are effective under future climatic conditions.

External Factors and Emerging Issues

Energy and transportation policies continue to evolve and influence the Agency's ability to improve air quality and address climate change issues. Impacts of a changing climate, 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.

Improve Air Quality

Taking into account the most current health effects research findings [10], EPA recently completed new, more health-protective national ambient air quality standards for particulate matter (December 2012), lead (October 2008), sulfur dioxide (June 2010), nitrogen dioxide (January 2010), and carbon monoxide (August 2011), and is currently reviewing the standard for ozone. Over the next four years, we will work with states and tribes to develop and implement plans to achieve and maintain these standards. Our efforts provide the tools and information necessary for EPA, states, and tribes to implement air quality standards and controls.

EPA will work with states and tribes to decrease the emissions that contribute to interstate transport of air pollution. These efforts will help many areas of the country attain the standards and achieve significant improvements in human health. Working with states and tribes, EPA will continue implementing cost-effective multi-state regional programs designed to control the significant contributions of power plant and other stationary source emissions of sulfur dioxide (SO₂) and nitrogen oxide (NO_x) to air quality problems (i.e., nonattainment and interference with maintenance of ozone and PM_{2.5} NAAQS) in downwind areas. Operating programs in 2014 will include the Clean Air Interstate Rule (CAIR) or a replacement program for control of transported ozone and PM_{2.5} pollution [11] in addition to the national acid rain SO₂ and NO_x emission reduction programs.

As we implement national air quality standards, we will seek ways to increase efficiency and maximize results. These efforts include working with states to improve the state implementation plan approval process, including the use of full-cycle analysis (i.e., identifying specific actions along a time line needed to facilitate the timely issuance of implementation rules and guidelines), modernizing our training program for state, local, and tribal agencies through an e-learning system, and implementation of electronic emission reporting as part of the Agency's E-Enterprise initiative.

Additionally, EPA will work to ensure that our efforts to improve air quality considers low-income and minority communities that are often disproportionately-impacted by sources of pollution. The Agency will continue to implement the goals of the EJ 2014 strategy that focus on protecting health in communities overburdened by pollution, empowering communities to take action to improve their health and environment, and establishing partnerships with local, state, tribal, and federal organizations to achieve healthy and sustainable communities.

EPA has finalized a number of air pollution control standards over the last decade that have substantially reduced, and will continue to reduce, PM, NO_x, volatile organic chemicals (VOCs), air toxics, and GHG emissions. These standards will cut emissions from new vehicles and engines by over 90 percent, with an estimated \$290 billion in net health benefits by 2030. In addition, EPA partnership programs such as the Diesel Emission Reduction and SmartWay Transport programs are achieving important reductions in emissions from the existing fleet of diesel engines that are not subject to the new standards.

Looking forward, EPA has conducted an analysis of the mobile source emission inventory that will help guide future program priorities. Key observations from this analysis will be used to guide future mobile source control strategies:

- In the 2017-2030 timeframe, off-road engine emissions (including construction, agriculture, marine, locomotive, and aviation) will account for a larger percentage of the mobile source inventory for NO_x, VOCs, and PM_{2.5}, generally accounting for over 50 percent of the emissions.
- Legacy engines—both on-road and non-road—although still a large portion of the inventory in the near term, will account for a much smaller portion of the NO_x and PM_{2.5} emissions inventory by 2030.
- Commercial marine sources will become the largest source of NO_x by 2030, at about half the inventory by 2030.
- Gasoline sources will also account for a larger share of PM_{2.5}, estimated at about half the inventory by 2030.

The Agency also recognizes the importance of fuels work and the critical need to understand the challenges and opportunities this work presents. The EPA will continue to coordinate with the Department of Energy (DOE) and other interagency partners on these issues as appropriate. The Agency plans to focus on streamlining the implementation processes of the renewable fuel standard (RFS) program, including the annual standard-setting process and new fuel pathway approvals. EPA will also strengthen its oversight of industry compliance with RFS standards

and core fuels and fuels additive registration mandates through a voluntary third-party quality assurance program to verify that renewable identification numbers (RINs) have been validly generated. In addition, proposed modifications to the exporter provisions of the RFS program will help to ensure an appropriate number and type of RINs are retired whenever renewable fuel is exported.

Air toxics and other air pollutants can be widespread and/or 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. To support effective air toxic reduction policies, EPA uses data from our national toxics monitoring network and from national and local assessments to provide key information to better characterize risks and assess priorities. EPA also leverages air toxics, pollution prevention, and green expertise to reduce air toxic emissions and associated risk.

EPA recognizes that air toxics pose unique challenges both nationally and at the community level, and we focus on relatively high-risk sources, pollutants, and exposure situations. 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. These regulations are aimed at reducing toxic air pollution from stationary sources and targeted priority source categories, reducing pollution in communities, utilizing a more cost-effective “sector-based” approach, and providing tools to help communities and other stakeholders participate in rulemaking. Priority categories include petroleum refining, iron and steel manufacturing, chemical manufacturing, and Portland cement. EPA takes advantage of the natural overlap of certain air toxics and criteria pollutant rules and coordinates the development and implementation of Maximum Achievable Control Technology (MACT) standards and NSPSs where appropriate. 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 state, local, and tribal agencies; and, enhance cost-effective regulatory approaches. To address unacceptable risks that may remain after implementing national strategies, EPA works with states, tribes, and local agencies and organizations to understand the risks at the local level, target the problem areas, and tailor reduction strategies and approaches to the often unique situations in those areas.

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. The people most exposed to indoor air pollutants are often those most susceptible to the effects—the young, the elderly, and the chronically ill. In addition, EPA collaborates with state and tribal organizations, environmental and public health officials, housing, energy, 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 create, expand, and leverage systems already in place to support communities’ efforts to address indoor air quality health risks.

External Factors and Emerging Issues

- External factors that will affect air quality program implementation include the outcome of the appeal of the Cross-State Air Pollution Rule (CSAPR) decision and continuing legal challenges to stationary source rules.[12]
- Impacts from a changing climate may worsen existing indoor environmental problems and introduce new ones as temperatures change and the frequency and/or severity of adverse outdoor events increase. Examples include increased mold from water damage and more time spent indoors where air may be of poorer quality.

Restore and Protect 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. EPA's contributions to the Multilateral Fund for the Implementation of the Montreal Protocol will help continue support for cost-effective projects designed to build capacity and eliminate ODS production and consumption in over 60 developing countries. EPA will also continue partnership programs that educate the public about the importance of protection from harmful ultraviolet radiation.

External Factors and Emerging Issues

Protection of the ozone layer is a global problem that cannot be solved by domestic action alone—it depends on the mobilization and phase-out efforts of all countries of the world. Much remains to be done in the U.S. and in the global community at large before the ozone layer will be considered safe for current and future generations. Critical emerging issues include the need to help ensure that:

- Ozone depleting substances are replaced by alternatives that reduce overall risk to health and the environment;
- Final controlled uses of the agricultural fumigant methyl bromide are phased out in a manner that continues to protect our vital needs for this substance for international trade; and,
- Remaining ODS phase-out, including the 2013 and 2015 developing-country ODS reduction requirements, is funded and complied with in a manner that is both cost effective and climate friendly.

Minimize 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, the Agency will review and update its radiation protection regulations and guidance and operate RadNet, the Agency's national environmental radiation monitoring system. EPA will also maintain personnel expertise, capabilities, and equipment readiness of the radiological emergency response program, including the Agency's Radiological Emergency Response Team. In addition, EPA will provide regulatory oversight of the Department of Energy's (DOE's) Waste Isolation Pilot Plant (WIPP), inspect DOE WIPP waste

generator facilities, and evaluate WIPP's compliance with EPA's radioactive waste disposal standards and applicable environmental laws and regulations.

External Factors and Emerging Issues

- There are several emerging issues and external factors that will have an impact on how we carry out our radiation program, including new designs and technologies for nuclear power plant facilities as well as new uranium extraction and processing technologies.

Applied Research

Protecting human health and the environment from the impacts of a changing climate and air quality in a sustainable way are central 21st century challenges. These challenges are complicated by the interplay between air quality, the changing climate, and emerging energy options. EPA's air, climate, and energy research will provide cutting-edge scientific information and tools to support air quality and climate change efforts. In particular, EPA will:

- Conduct integrated science assessments of criteria air pollutants and provide new data and approaches for improving these assessments;
- Develop credible models and tools to inform sustainable policies, decisions, and responses to a changing climate;
- Conduct research to change the paradigm for air pollution monitoring, with a focus on lower cost measurements;
- Develop and evaluate models and decision support tools to integrate multi-media processes and systems;
- Develop approaches to assess multi-pollutant exposures and the resulting human and ecological effects of air pollutant mixtures; and,
- Conduct research to inform policies protecting human and ecosystem health in an evolving energy landscape, including impacts of unconventional oil and gas and low-carbon energy sources.

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, 2012. *Our Nation's Air-Status and Trends through 2010*. EPA-454/R-12-001. Available at <http://www.epa.gov/airtrends/2011/>.

[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] Asthma Prevalence: Akinbami, L.J., Mooreman, J.E., Bailey, C., Zahran, H., King, M., Johnson, C., & Liu, X. Centers for Disease Control and Prevention, National Center for Health Statistics. (2012).

Trends in asthma prevalence, health care use, and mortality in the United States, 2001-2010. Retrieved from <http://www.cdc.gov/nchs/data/databriefs/db94.pdf> .

[5] Costs: Centers for Disease Control and Prevention (2011, May). Asthma in the U.S. Vital Signs. Retrieved from <http://cdc.gov/vitalsigns>.

[6] U.S. EPA, 2003. *EPA's Assessment of Risks from Radon in Homes*. EPA 402-R-03-003. Available at <http://www.epa.gov/radiation/docs/assessment/402-r-03-003.pdf>.

[7] See http://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/unitedstatescphaccord_app.1.pdf

[8] Proposed FY 2014-2015 Agency Priority Goal: Reduce greenhouse gas emissions from vehicles and trucks: Through September 30, 2015, EPA in coordination with Department of Transportation's fuel economy standards program will be implementing vehicle and truck greenhouse gas standards that are projected to reduce GHG emissions by 6 billion metric tons and reduce oil consumption by about 12 billion barrels over the lifetime of the affected vehicles and trucks.

[9] 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 [Executive Order 13514, "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.

[10] 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>.

[11] In 2008, the U.S. Court of Appeals for the D.C. Circuit remanded CAIR to EPA but allowed the rule to remain in effect pending replacement by a valid rule. In August 2012, the same court vacated EPA's replacement rule (CSAPR), a decision that the Department of Justice has petitioned the Supreme Court to review. Depending on whether the Supreme Court agrees to hear the appeal and, if so, the outcome of that appeal, CAIR's ultimate replacement could be either CSAPR or the product of a new EPA rulemaking effort.

[12] In an August 21, 2012 opinion, the U.S. Court of Appeals for the D.C. Circuit vacated the CSAPR and ordered EPA to continue implementing CAIR pending development of a valid replacement. On March 29, 2013, the Department of Justice filed a petition seeking Supreme Court review of that decision. Please see <http://www.epa.gov/crossstaterule/> for updates on CSAPR.

Goal 2: Protecting America's Waters

Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

Objectives:

Protect Human Health. Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.

Proposed FY 2014-2015 Agency Priority Goal: Improve public health protection for persons served by small drinking water systems, which account for more than 97 percent of public water systems in the U.S., by strengthening the technical, managerial, and financial capacity of those systems. By September 30, 2015, EPA will engage with an additional ten states (for a total of 30 states) and three tribes to improve small drinking water system capability to provide safe drinking water, an invaluable resource.

Protect and Restore Watersheds and Aquatic Ecosystems. Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

Proposed FY 2014-2015 Agency Priority Goal: Improve, restore, and maintain water quality by enhancing nonpoint source program leveraging, accountability, and on-the-ground effectiveness to address the nation's largest sources of pollution. By September 30, 2015, 100 percent of the states will have updated nonpoint source management programs that comport with the new Section 319 grant guidelines that will result in better targeting of resources through prioritization and increased coordination with USDA.

Strategic measures associated with this Goal are on pages XX through XX.

Overview

The nation's water resources are the lifeblood of our communities, supporting our economy and way of life. Across most of the 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 water bodies 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 (CWA), Safe Drinking Water Act (SDWA), and Marine Protection, Research, and Sanctuaries Act approximately 40 years ago. Today, although the enhanced quality of our surface waters and the greater safety of our drinking water are testaments to decades of environmental protection and

investment, 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.

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 a changing climate. 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] A changing climate will compound these problems, highlighting the need to work with our partners to evaluate options for protecting infrastructure, conserving water, reducing energy use, adopting “green” infrastructure and locally-driven watershed-based practices, and improving the resilience of infrastructural and natural systems, including utilities, watersheds, and estuaries.[2]

Over the next four years, EPA will reinvigorate efforts to improve water quality, working with states, territories, and tribes to better safeguard human health and make America’s water systems sustainable and secure. We will assess the status of and changes in water quality through the National Aquatic Resource Surveys, strengthen the protection of our aquatic ecosystems, improve watershed-based approaches to reduce pollution, implement innovative technologies, implement comprehensive approaches to help maintain healthy watersheds, focus efforts in key geographic areas [3], and take measures to incorporate climate change considerations into clean water and drinking water program planning and implementation. EPA is proposing two Agency Priority Goals for FY 2014-2015 that are continuations from FY 2012-2013: to improve public health protection for persons served by small drinking water systems by strengthening the technical, managerial, and financial capacity of those systems[4]; and, to improve, restore, or maintain water quality by enhancing nonpoint source program accountability, incentives, and effectiveness[5]. In the first priority goal, EPA will continue to work with the states to improve their capacity development, operator certification, and treatment optimization programs. The Agency is continuing to partner with the U.S. Department of Agriculture’s (USDA) Rural Utilities Service to promote drinking water and wastewater system sustainability, foster water sector workforce opportunities in rural America, and coordinate infrastructure funding as appropriate. EPA will continue to provide states with funds, through the drinking water state revolving fund (DWSRF) capitalization grants, for low-interest loans to assist utilities with financing drinking water infrastructure needs. In the second priority goal, EPA is implementing a strengthened nonpoint source (CWA Section 319) grant program[6] to continue yielding on-the-ground water quality results in watersheds nationwide. A significant component of this effort is working with state partners to update their nonpoint source programs, which guide overall priorities and investments for Section 319 funds. Updated nonpoint source programs, combined with collaboration efforts with USDA, state departments of agriculture, and other partners, will result in better protection of water quality from nonpoint sources of pollution.

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 300 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 four years, EPA will help protect human health and make America's water systems sustainable and secure by:

- Providing financial assistance for 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 to address known and emerging contaminants that endanger human health; 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 multi-faceted drinking water strategy. With this approach, EPA seeks to: address chemicals and contaminants by group, as opposed to working on a chemical-by-chemical basis; foster the development of new drinking water treatment technologies; use the authority of multiple statutes in addressing drinking water contamination; and, encourage collaboration with states and tribes to share more complete data from monitoring at public water systems. To this end, the Agency is replacing the federal and state components of EPA's Safe Drinking Water Information System (SDWIS) with a new system. SDWIS NextGen is designed to improve the efficiency of sharing drinking water data between states and the Agency. This will allow for better targeting of federal and state funding and technical assistance resources, and improving data quality while increasing public access to drinking water data.

Science-based water quality criteria are essential to protect our public water systems, groundwater and surface water bodies, and recreational waters. These criteria are the foundation for state and tribal tools to safeguard human health such as advisories for beaches, fish consumption, and drinking water. Over the next four years, we will expand that science to improve our understanding of emerging potential waterborne threats to human health, develop

new criteria, and validate testing methods that provide quicker results and enable faster action on beach safety.

External Factors and Emerging Issues

Underground Sources of Drinking Water: EPA's underground injection control (UIC) program provides a framework to ensure protection of underground sources of drinking water from endangerment related to the construction, operation, permitting, and closure of injection wells that place fluids underground for storage, disposal, enhanced recovery of oil and gas, or minerals recovery. Natural gas plays a key role in our clean energy future. Hydraulic fracturing (HF) is a key way to recover natural gas from sources. EPA will ensure proper oversight of hydraulic fracturing operations where diesel fuel is used by implementing permitting guidance under SDWA's Class II UIC program for hydraulic fracturing. EPA is working with state and tribal organizations, along with other federal agencies to develop and implement voluntary strategies for encouraging the use of alternatives to diesel in hydraulic fracturing and improving compliance with other Class II regulations, including risks from induced seismic events and radionuclides in disposal wells. EPA is also continuing to work with state, tribal, and industry representatives to make state UIC Class II regulations and information more transparent and to implement best practices and promote coordination between UIC and oil and gas agencies.

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.

To provide information on the ecological and recreational condition of the nation's waters and the key stressors impacting those waters, EPA will continue to work with states and tribes to implement the National Aquatic Resource Surveys, including the National Rivers and Streams Assessment, the National Coastal Condition Assessment, the National Wetland Condition Assessment, and the National Lakes Assessment.[7] These probability-based surveys provide nationally consistent and scientifically-defensible assessments of our nation's waters. These data will support EPA and our partners in identifying priority actions to protect and restore water quality, and, over time, in assessing whether our collective efforts are improving water quality.

Over the next four years, EPA will continue efforts to restore water bodies 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. The Agency will use the National Aquatic Resource Survey to track the effectiveness of these combined efforts at protecting and improving water quality over time.

Results from the National Aquatic Resource Survey reinforce EPA's commitment to address nitrogen and phosphorus pollution as among the most serious and pervasive water quality problems. Programs for controlling nonpoint sources of pollution are key to reducing the number of impaired waters nationwide. The programs provide a multi-faceted approach to the problem, combining innovative development strategies to help leverage traditional tools. In addition to working with state, tribal, and local partners, EPA is collaborating with USDA to implement its National Water Quality Initiative and collaborating on other geographically-based initiatives. Coordination of EPA's nonpoint source (Section 319) grant funds and USDA Farm Bill funds is intended to protect water quality more effectively from runoff from agricultural lands and demonstrate improved effectiveness. USDA launched the National Water Quality Initiative (NWQI) in FY 2012, which targets 5 percent of USDA's Environmental Quality Incentives Program resources for water quality improvements in 165 specific watersheds across the nation. EPA is collaborating closely with USDA as it implements this program, and is now requiring states to assess water quality results in NWQI watersheds through Section 319 grant funds or other funding sources.

Development and implementation of Total Maximum Daily Loads (TMDLs) for CWA Section 303(d) listed impaired waterbodies is a critical tool for meeting water quality restoration goals. The CWA 303(d) listing and TMDL program has engaged with states to implement a new 10-year vision for the program to more effectively achieve the water quality goals of each state. The approach involves fostering effective integration across multiple programs, statutes, and agencies—CWA point and nonpoint source programs, other statutory programs within EPA's jurisdiction (e.g., the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA], Resource Conservation and Recovery Act [RCRA], SDWA, and Clean Air Act [CAA]), and the water quality efforts of other federal agencies (e.g., the Departments of Agriculture, Interior, and Commerce). As part of this effort, EPA will continue to encourage states to identify priority waters for assessment, development of TMDLs and other restoration plans for impaired segments, and pursuit of protection approaches for unimpaired waters. EPA will work with states and other partners to develop and implement activities and watershed plans to restore and protect these waters.

In partnership with states, tribes, and local communities, EPA is implementing a clean water strategy that explores ways to improve the condition of the urban waterways that may have been overlooked or under-represented in local environmental problem solving. The Agency will continue to play an active role as a member of the Urban Waters Federal Partnership to promote more efficient and effective use of federal resources and build new partnerships with states, local entities, and the private sector. 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.[8]

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 through the Great Lakes Restoration Initiative.[9] 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 continue to take necessary actions to support efforts of federal and state trustees in the natural resource damage assessment to restore the Gulf of Mexico ecosystem. EPA shares in the role of being a Natural Resource Trustee to conduct the natural resource damage assessment from the spill. In addition, EPA is also a member of the Gulf Coast Ecosystem Restoration Council, established under the RESTORE Act[10], to restore the ecosystem and economy of the Gulf Coast region. Monitoring in the Gulf of Mexico under the National Aquatic Resource Survey will be important to fully document the long-term impacts of the spill and track the recovery of wetland and near-shore estuarine resources. This long-term effort by EPA and the states is an important complement to the project-specific and special-focus monitoring efforts underway as part of the Natural Resource Damage Assessment and BP Research funds.

To respond and adapt to the current and potential impacts of a changing climate on aquatic resources, including the current and potential impacts associated with warming temperatures, changes in rainfall amount and intensity, and sea level rise, EPA has developed a “National Water Program 2012 Strategy: Response to Climate Change.” This strategy sets out long-term goals and specific actions contributing to national efforts to prepare for, and build resilience to, impacts of a changing climate on water resources. EPA is working with state, tribal, and local governments, as well as other partners, to implement actions addressing climate change challenges to protecting water infrastructure, coastal and ocean waters, watersheds, and water quality.[11]

External Factors and Emerging Issues

- *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 is carefully examining the potential impacts of and solutions to these issues, including effects on water quality and quantity that could result in the long term from a changing climate. The Agency will continue implementing the National Aquatic Resource Surveys to support collection of nationally consistent data to support these efforts.
- *Population Density:* In 2010, 52 percent of the U.S. population lived in coastal watershed counties which comprise less than 20 percent of the total land area of the U.S., excluding Alaska. The population density of coastal watershed counties is over five times greater than the corresponding inland counties. If current population trends continue, the already crowded

U.S. coast will see population grow from 123 million people to nearly 134 million people by 2020, placing more of the population at increased risk from a changing climate and exposing these fragile coastal ecosystems to greater pressures. Population growth in coastal watershed counties is impacting water quality and other coastal resources within National Estuary Programs (NEP) study areas. NEPs work to address the impacts of growth by focusing their long-term management and annual work plans on priorities such as stormwater management, reduction of excess nutrient loadings, and promotion of low-impact development and green infrastructure. Also, EPA's climate-ready estuaries program provides the capacity for NEPs and coastal stakeholders to develop vulnerability assessments.[12]

- *Technology Market Opportunities:* EPA is working both internally and with external partners and stakeholders to discuss plans for advancing innovative technologies that will be important to the continued protection and restoration of waters. Some key market opportunities for innovative technology identified in EPA's "Blueprint for Integrating Technology Innovation into the National Water Program" to help address current and emerging water resource issues include:
 - Energy reduction and recovery at drinking water and wastewater facilities;
 - Nutrient recovery from wastewater;
 - Improving and "greening" of the nation's infrastructure;
 - Water reuse;
 - Improved and less expensive monitoring;
 - Improving reliability of small drinking water systems;
 - Technology evaluation and performance;
 - Reducing water impacts from domestic energy production;
 - Resiliency of water infrastructure; and,
 - Improving water quality of oceans, estuaries, and watersheds.[13]

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:

- Gathering, synthesizing, and mapping the necessary environmental, economic, and social information of watersheds, from local to national scales, to determine the condition, future prospects, and restoration potential of the nation's watersheds;
- Conducting and integrating EPA nitrogen and co-pollutant research efforts across multiple media and various temporal and spatial scales including support for developing numeric nutrient criteria, decision support tools, and cost-effective approaches to nutrient reduction;
- Promoting the economic recovery of water, energy, and nutrient resources through innovative municipal water services and whole-of-system assessment tools;
- Developing innovative tools, technologies, and strategies for managing water resources (including stormwater); and,

- Evaluating individual and groups of contaminants for the protection of human health and the environment.

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 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, 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] Proposed FY 2014-2015 Agency Priority Goal: Improve public health protection for persons served by small drinking water systems, which account for more than 97 percent of public water systems in the U.S., by strengthening the technical, managerial, and financial capacity of those systems. By September 30, 2015, EPA will engage with an additional ten states (for a total of 30 states) and three tribes to improve small drinking water system capability to provide safe drinking water, an invaluable resource.

[5] Proposed FY 2014-2015 Agency Priority Goal: Improve, restore, and maintain water quality by enhancing nonpoint source program leveraging, accountability, and on-the-ground effectiveness to address the nation's largest sources of pollution. By September 30, 2015, 100 percent of the states will have updated nonpoint source management programs that comport with the new Section 319 grant guidelines that will result in better targeting of resources through prioritization and increased coordination with USDA.

[6] [Add citation for revised nonpoint source grant program guidance.]

[7] For information on National Aquatic Resource Surveys, see http://water.epa.gov/type/watersheds/monitoring/aquaticsurvey_index.cfm.

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

[9] Great Lakes Restoration Initiative, information available at <http://greatlakesrestoration.us/>.

[10] [RESTORE Act citation to be added]

[11] EPA National Water Program 2012 Strategy: Response to Climate Change, information available at <http://water.epa.gov/scitech/climatechange/2012-National-Water-Program-Strategy.cfm>. United States Global Change Research Program, information available at <http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>.

[12] [Climate-ready estuary citation to be added]

[13] “Blueprint for Integrating Technology Innovation into the National Water Program,” information is available at <http://water.epa.gov/blueprint.cfm>.

Goal 3:
Cleaning Up Communities and Advancing Sustainable Development

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

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, redevelopment and reuse of contaminated and formerly contaminated sites, and the equitable distribution of environmental benefits.

Preserve Land. Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.

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

Strengthen Human Health and Environmental Protection in Indian Country. Directly implement federal environmental programs in Indian country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable environmental programs in Indian country.

Proposed FY 2014-2015 Agency Priority Goal: Clean up contaminated sites to enhance the livability and economic vitality of communities. By 2015, an additional 18,970 sites will be made ready for anticipated use protecting Americans and the environment one community at a time.

Strategic measures associated with this Goal are on pages XX through XX.

Overview

Uncontrolled releases of waste and hazardous substances can contaminate our drinking water and land and threaten healthy ecosystems. Local land use and infrastructure investments can also generate unanticipated environmental consequences, such as increased stormwater runoff, loss of open space, and increased greenhouse gas emissions. EPA leads efforts to preserve, restore, and protect our land, air, and water so that these precious resources are available for both current and future generations. We will continue our work to prevent and reduce exposure to contaminants, accelerate the pace of cleanups and reduce the environmental impacts associated with land use across the country. EPA works collaboratively with international, state, and tribal partners to achieve these aims. In addition, we will work with communities to address risks posed by intentional and accidental releases of hazardous substances into the environment and ensure that communities have an opportunity to participate 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 the goals of urban, suburban, and rural communities to grow in ways that improve the environment, human health, and quality of life for their residents.[1] With the support of partners working hand in hand across all levels of government, communities can grow in ways that also strengthen the economy, help them adapt to a changing climate, improve their resiliency to disasters, use public resources more efficiently, revitalize neighborhoods, and improve access to jobs and amenities. By making sustainable infrastructure investments, communities can successfully build innovative and functional systems on neighborhood streets and sidewalks to deal with the runoff from stormwater and still provide easy access for pedestrians, bicyclists, on-street parking, and other beneficial uses. By adopting local planning and zoning codes that account for the environmental impacts of development, the private sector can more easily construct market-ready “green” buildings serving a range of housing needs. Communities also can benefit from tools, technology, and research that better engage citizens and inform local decision making to support smart and sustainable growth.

EPA recognizes environmental justice, children’s health, and sustainable development are all at the intersection of people and place. These goals are not mutually exclusive. Throughout all our work to achieve more livable communities, EPA is committed to ensuring we focus on children’s health and environmental justice.[2] Recognizing that minority 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 decisions and efforts to plan for future growth and development that directly affect residents.[3] EPA’s ability to optimize the benefits of sustainability requires making environmental justice a normal part of how EPA does business rather than an ad hoc activity.

Sustainable and livable communities balance their economic and natural assets so that the diverse needs of residents can be met with limited environmental impacts. EPA’s community-based programs help to accomplish these goals by working with communities, other federal agencies, state, tribal, and regional governments, private and nonprofit sectors, and national experts to encourage equitable development strategies that have better outcomes for air quality, water quality, and land preservation and revitalization. In particular, EPA’s smart growth program delivers technical assistance to communities through contract- and grant-based programs to help them base their growth and development decisions on strategies that are smart, sustainable, and supportive of improved environmental, public health, and economic outcomes.

For example, EPA has been working with the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Transportation (DOT) since 2009 to align federal resources and improve the environmental outcomes from development. Through technical assistance, grants, and training, these three agencies have worked together to assist hundreds of communities to plan for and invest in growth that improves access to affordable housing, increases transportation options, and expands choices for all citizens.[4] All three

agencies use a common set of “livability principles” to better coordinate their efforts and investments in a manner that will better protect the environment, promote equitable development, and help address the challenges of a changing climate.

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 that are contaminated, or perceived to be contaminated, with hazardous substances and/or petroleum contamination and by providing job training opportunities, particularly in underserved communities.[5] A 2012 EPA program evaluation concluded that cleaning up brownfield properties leads to residential property value increases of 5.1 to 12.8 percent.[6] In addition, a 2011 study of five pilot projects revealed that cleaning up contaminated properties for neighborhood commercial use may contribute to a 32 to 57 percent reduction in vehicle miles traveled compared to alternative development scenarios.[7] This reduction results from increased accessibility of neighborhood-based services and goods, requiring less frequent trips by residents outside the immediate area.

The brownfields program also provides funding for state and tribal environmental response programs as well as outreach and technical assistance to communities. Area-wide planning approaches for brownfields work help identify important local factors in a coordinated manner: viable end uses of individual or groups of brownfield properties; beneficial air and water infrastructure investments in these areas; and, added environmental improvements in the surrounding area to revitalize the community. Taken together, these efforts will enhance the livability and economic vitality of neighborhoods in and around brownfield sites.

In addition to the brownfields activities, EPA promotes livable communities through its efforts to prevent chemical accidents. EPA's risk management program requires facilities with one or more covered chemicals in a process to analyze the potential for accidental releases and possible consequences, develop an accident prevention program, and coordinate with the community to ensure that all are prepared for responding to a release. The facility must include this information in a Risk Management Plan (RMP) and submit this RMP electronically to EPA, which will make the information available to federal, state, and local officials (e.g., fire fighters) who work on chemical accident preparedness, prevention, and response. There are approximately 13,000 active RMPs currently on file.

External Factors and Emerging Issues

There are several external factors and emerging issues that may affect the overall success of the Agency’s brownfields, chemical risk management and smart growth programs. These include:

- The continued challenges posed by foreclosures and vacant, blighted, and neglected properties. Increased attention may be required for the siting of new domestic manufacturing in formerly abandoned or blighted areas and the potential impacts on local communities.
- The impacts of increased extremes of weather on a community’s redevelopment and revitalization plans, including whether these projects are resilient enough to withstand the threat of flooding or loss of power from natural or man-made disasters.

- The lack of capacity in many local, regional, and state governments to adequately identify the environmental outcomes associated with land use and infrastructure decisions, particularly given the demands on already tight budgets.
- The importance of engaging in efforts that involve stakeholders beyond federal agencies, including supporting local responders, advancing additional chemical plant safety measures, and standardizing the best practices of industry leaders.
- The need to explore how EPA's legal authorities and policies can be used to further improve coordination among federal agencies and these stakeholders in our efforts to identify and address the potential hazards in chemical plant safety.

Preserve Land

To prevent future environmental contamination and to protect the health of the estimated 20 million people living within a mile of hazardous waste management facilities [8], EPA and its state partners continue their efforts to issue, update or maintain Resource Conservation and Recovery Act (RCRA) permits for approximately 20,000 hazardous waste units (such as incinerators and landfills) at these facilities. EPA also will issue polychlorinated biphenyl (PCB) cleanup, storage, and disposal approvals each year since this work cannot be delegated to the states. With the January 2012 enactment of the Hazardous Waste Electronic Manifest Establishment Act, improving and modernizing hazardous waste transportation and tracking has become an important Agency focus. EPA will be working with state agencies, other partners and stakeholders, and the public to implement the requirements of the new law. These include the use of electronic tracking (e-Manifest), which will provide superior data availability, transparency, and cost savings when compared with the use of paper manifests, and the establishment of an advisory board to provide recommendations to the Agency on the implementation of this new e-Manifest approach.

EPA is currently promoting three national strategies, the Federal Green Challenge, the Electronics Challenge, and the Food Recovery Challenge, focused on using less environmentally intensive and toxic materials and employing downstream solutions, like reuse and recycling, to conserve our resources for future generations.[9] EPA is working with other federal agencies, state and tribal governments, and non-governmental organizations to promote sustainability goals through these and other initiatives. For example, EPA and USDA are partnering through the U.S. Food Waste Challenge to address sustainable food management from farm to final disposition.[10] With respect to RCRA's mandate to conserve resources and energy, EPA will continue to create innovative strategies that emphasize sustainable materials management by identifying and reducing or minimizing the impact of waste and capturing resultant greenhouse gas (GHG) benefits at all life-cycle stages, from extraction of raw materials through end of life.[11]

To reduce the risk posed by underground storage tanks (USTs) located at more than 200,000 facilities throughout the country, EPA and states are working to ensure that every UST system is inspected at least once every 3 years and all facility operators are trained. As fuel types change,

UST systems must be equipped to safely store the new fuels. For example, EPA is working to ensure biofuels are stored in compatible UST systems.

External Factors and Emerging Issues

EPA must be prepared to address significant waste management issues anticipated for the future.

- The potential impacts of a changing climate, including extreme weather events, such as tornadoes and hurricanes.
- Continued changes in technology and the emergence of new waste streams that result from new methods of domestic energy development, among other contributing sources.
- General trend away from landfills and toward the recycling of materials using new technologies that will require further evaluation.

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. Together with our federal, state and tribal partners, EPA's Superfund program, RCRA corrective actions, leaking underground storage tank and brownfields cleanup programs, and the Toxic Substances Control Act (TSCA) cleanups of PCBs reduce risks to human health and the environment through site cleanup and the return of restored land to productive use. EPA is proposing an Agency Priority Goal for FY 2014-2015, which is a continuation of the Priority Goal for FY 2012-2013, to measure and report progress in reducing risks to human health and the environment by assessing and cleaning up sites to maintain or put them back into productive use. EPA's Superfund, RCRA corrective action, leaking underground storage tank (LUST), and brownfields cleanup programs all contribute to the Priority Goal to make sites ready for anticipated use.[12]

There are multiple benefits associated with cleaning up contaminated sites: reducing mortality and morbidity risk; preventing and reducing human exposure to contaminants; making land available for commercial, residential, industrial, or recreational reuse; and promoting community economic development. A 2011 study suggests that Superfund cleanups reduce the incidence of congenital anomalies in infants by roughly 20-25 percent to mothers living within 2,000 meters of a site.[13] In another case, EPA contracted with researchers at Duke University and the University of Pittsburgh to conduct a study to determine the effects of Superfund site status on housing values. The study found that when sites are cleaned up and deleted from the National Priorities List (NPL), properties within three miles of the sites experience an 18.6 to 24.5 percent increase in value.[14]

Over the past three years, EPA has implemented the Integrated Cleanup Initiative (ICI) in an effort to improve the efficiency and effectiveness of its land cleanup programs. More than 150 different actions were conducted under ICI from FY 2010 through FY 2012 by the various land cleanup programs involved in the effort. These actions to improve efficiency and effectiveness

are now part of current business procedures and cleanup processes. For example, EPA initiated a series of project management pilots to explore options for accelerating the pace of Superfund site cleanups from the remedial investigation/feasibility study (RI/FS) phase of cleanup through site completion. Three of these pilots improved the remedial design/remedial action (RD/RA) process and were completed in FY 2012. EPA's Superfund program will consider applying the time- and cost-saving approaches examined in these pilots wherever appropriate.[15]

EPA's Superfund program is undertaking a comprehensive review of all aspects of the program. The goal of this review is to determine the best way to maintain the program's effectiveness in protecting human health and the environment by more efficiently managing its site cleanup process and program resources. In the same spirit, in early 2013, EPA worked with state partners and stakeholders to pilot an ambitious effort to apply "Lean" principles to the facility investigation phase of RCRA corrective action cleanup as a means to accelerate the process for a typical facility by several years.[16] By applying Lean techniques, EPA expects to achieve performance improvements and to continue setting and achieving ambitious goals for environmental progress. The Agency will continue to solicit new ideas and practices to improve EPA's cleanup programs.

Another challenge to protecting our land resources from contamination is pollution from leaking underground storage tanks (USTs). While considerable progress has been made to clean up leaks from USTs, a backlog of over 80,000 sites remains. To understand the makeup of remaining UST releases and why the number of cleanups per year is decreasing, EPA undertook a two-phase, data-driven analysis of UST cleanups as of 2006 and 2009. The study compiled and analyzed available data from 14 state [L]UST programs and identified key findings and potential opportunities to help reduce the number of remaining UST cleanups. To address new and existing LUST sites, EPA, in partnership with state and tribal programs, is developing and implementing strategies to address technical challenges, leverage best practices, and support management, oversight and enforcement activities. In addition, as EPA has implemented improvements in the LUST prevention program by increasing inspection frequency and other prevention efforts, there has been a decrease in new confirmed releases. The efforts of the prevention program and the continued reduction in new confirmed releases, along with the earlier detection of releases, will remain critical factors in backlog reduction.[17]

In addition to cleanup and revitalization, EPA's hazardous waste programs also are working to reduce the energy use and environmental footprint during the investigation and remediation of hazardous waste sites. As part of this effort, EPA's Superfund program evaluated its "green" remediation strategy to assess its experiences in implementing the strategy, to determine a baseline against which to measure future progress and to develop the best metrics for measuring the program's success. The evaluation's findings are being used to prepare the next phase of the strategy to reduce the energy, water and materials used during site cleanups while at the same time ensuring that protective remedies are implemented.[18]

Throughout this work, EPA is enhancing its engagement 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. Enhancing community engagement helps to ensure transparent and accessible decision-making processes, to deliver

information that communities can use to participate effectively, to improve EPA responsiveness to community perspectives and to ensure timely cleanup decisions.

National preparedness is an essential component in EPA's work responding to large-scale emergencies that may involve chemicals, oil, biological agents, radiation, weapons of mass destruction, or natural catastrophes. In recent years, the U.S. has faced considerable challenges in responding to nationally significant incidents, including Hurricane Katrina, the Deepwater Horizon oil spill, the Fukushima Daiichi nuclear power plant emergency in Japan, and Super Storm Sandy. Maintaining our preparedness level and ensuring that emergency responders are able to address chemical spills, other unplanned releases of hazardous materials, and other catastrophes is a vital responsibility. Consistent with the government-wide National Response Framework and the National Disaster Recovery Framework, EPA prepares for the possibility of multiple, simultaneous, nationally significant incidents across several regions and provides guidance and technical assistance to state, tribal, and local planning and response organizations.

External Factors and Emerging Issues

Hazardous waste programs are intended to provide permanent solutions to contamination at sites or facilities to the extent practicable. As appropriate, EPA must incorporate emerging science into decision making to maintain its commitment to provide permanent solutions.

- Complications can arise when new scientific information (e.g., new toxicity information or a new analytical method) calls into question previous determinations about the need for or scope and methods of cleanup at a site. Such scientific and technological developments may complicate relations with affected communities, risk communication, site investigation, remedy selection and resource allocation within the program.
- Changes in precipitation, sea level rise, and storm surge, for example, may impact remedies and alter their effectiveness. Some evidence of this was apparent during the Hurricane Sandy event along the coasts and waterways of New Jersey, New York, Connecticut, and Rhode Island. EPA might appropriately consider the effects on planned, current, and completed cleanups that will occur from the impacts of a changing climate.

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 has been steadfast for nearly 30 years, as formally established in the Agency's 1984 Indian Policy.[19] EPA works with over 560 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 ten acres to more than 14 million acres. [20] 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 government partners, EPA will engage in a two-part strategy for strengthening human health and environmental protection in Indian country. First, EPA will ensure that its environmental protection programs are implemented in Indian country either by EPA or through implementation of environmental programs by tribes themselves. Second, EPA will provide resources through grant funds and technical assistance for federally-recognized tribes to create and maintain effective environmental program capacity.

External Factors and Emerging Issues

Tribal environmental and human health needs are significant. For example, the lack of access to safe drinking water and basic sanitation for tribes continues to threaten the public health of American Indian and Alaska Native (AI/AN) communities. Approximately 12 percent of AI/AN homes do not have safe water and/or basic sanitation facilities.[21] This is high compared with the 0.6 percent of non-native homes in the U.S. that lacks such infrastructure. EPA, along with over 20 federal departments and agencies, collectively provide a range of federal programs to tribes, consistent with our legal authorities and the federal trust responsibility.

There is a broad spectrum among tribes with respect to population, culture, income, geography, economic development, environmental program management expertise, and priorities. EPA also recognizes that many tribes may not have the capacity to implement programs in a manner similar to a state (TAS), where programmatically available. Further, the decision to be treated in a manner similar to a state is voluntary, and may not be a priority to a tribe. Currently, over 200 tribes are not legally able to apply for TAS, yet they are building programmatic capacity in other ways. EPA continues to play a critical role in ensuring environmental protection in Indian country.

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 and promote human health and ecosystems, and provide the products and services needed for mitigation, management, remediation and long-term stewardship of contaminated sites. It will provide Agency, 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, resulting in:

- More options for eliminating waste, safer options for disposal of unavoidable waste, and access to more options for beneficial re-use and recovery of materials and energy from waste.
- Reduced risk from contaminated sites, less costly remediation and faster return of property to economic use and more comprehensive protection of valuable ground water resources.
- Enhanced ability to adequately consider children's unique susceptibilities and vulnerabilities.

End Notes:

[1] For more information about the impact of the built environment on the natural environment and public health, see “Our Built and Natural Environments: A Technical Review of the Interactions Between Land Use, Transportation, and Environmental Quality (Second Edition, 2013)” at <http://www.epa.gov/smartgrowth/built.htm>.

[2] For more information about EPA’s focus on Environmental Justice. Please see <http://www.epa.gov/environmentaljustice/index.html>

[3] For more information about the connections between smart growth and environmental justice, see “Creating Equitable, Healthy, and Sustainable Communities: Strategies for Advancing Smart Growth, Environmental Justice, and Equitable Development” (EPA 231-K-10-005, 2013) at http://epa.gov/smartgrowth/equitable_development_report.htm

[4] For more information about the HUD-DOT-EPA Partnership for Sustainable Communities, see <http://www.sustainablecommunities.gov>.

[5] For more information about EPA’s brownfields program, see <http://www.epa.gov/brownfields>.

[6] Haninger, Kevin; Ma, Lala; and Timmins, Christopher. 2012. “Estimating the Impacts of Brownfields Remediation on Housing Property Values.” *Duke Environmental Economics Working Paper Series*. Working Paper EE12-08. The program evaluation is available at <http://sites.nicholasinstitute.duke.edu/environmentaleconomics/files/2013/01/WP-EE-12-08.pdf>

[7] U.S. EPA, Office of Brownfields and Land Revitalization, *Air and Water Impacts of Brownfields Redevelopment: A Study of Five Communities, April 2011, EPA-560-F-10-232*.

[8] Estimate drawn from OSWER Near Site Population Database, an internal EPA database that merges facility size and location information from RCRAInfo with population data, at the block and block group levels, from the U.S. Census Bureau’s 2000 Census. The demographics were captured around the total number of facilities that have approved controls in place that result in the protection of this population (20 million people).

[9] For more information on the Federal Green Challenge, see <http://www.epa.gov/federalgreenchallenge>. For more information on the Electronics Challenge, see <http://www.epa.gov/wastes/conservesmm/electronics/>. For more information on the Food Recovery Challenge, see <http://www.epa.gov/wastes/conservesmm/foodrecovery/>.

[10] For more information on the U.S. Food to Waste Challenge, see [link to be provided].

[11] For more information on sustainable materials management, see *Sustainable Materials Management: The Road Ahead*. EPA 530R-09-009. Available at <http://www.epa.gov/smm/pdf/vision2.pdf>

[12] Proposed FY 2014-2015 Agency Priority Goal: Clean up contaminated sites to enhance the livability and economic vitality of communities. By 2015, an additional 18,970 sites will be made ready for anticipated use, protecting Americans and the environment one community at a time.

[13] Currie, Janet; Michael Greenstone, and Enrico Moretti. 2011. "Superfund Cleanups and Infant Health." *American Economic Review*, 101(3): 435-41.

[14] S. Gamper-Rabindran, C. Timmins. 2013. "Does cleanup of hazardous waste sites raise housing values? Evidence of spatially localized benefits," *Journal of Environmental Economics and Management*.

[15] A recent directive from EPA's Superfund program shares the lessons learned from these RD/RA pilot studies. This directive can be found at http://www.epa.gov/oswer/docs/ici/broader_applications_rd_ra_pilot_project_lessons_learned.pdf

[16] Lean principles focus on identifying and enhancing valuable process steps while reducing wasteful steps and managing toward perfection. See also <http://www.epa.gov/lean>.

[17] For more information, please see *The National LUST Cleanup Backlog: A Study of Opportunities* at <http://www.epa.gov/swerust1/cat/backlog.html>.

[18] More information about Superfund and green remediation at EPA is available at <http://www.epa.gov/superfund/greenremediation>.

[19] The "EPA Policy for the Administration of Environmental Programs on Indian Reservations" can be found at <http://www.epa.gov/tp/pdf/indian-policy-84.pdf>.

[20] US Census Bureau: Population, Housing Units, Area, and Density: 2010 - United States -- American Indian Area/Alaska Native Area.

[21] [Citation to be added.]

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.

Overview

Objectives:

Ensure Chemical Safety. Reduce the risk and increase the safety of chemicals that enter our products, our environment, and our bodies.

Proposed FY 2014-2015 Agency Priority Goal: Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce. By September 30, 2015, EPA will have completed more than 250 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment, including the potential for some of these chemicals to disrupt endocrine systems. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural and/or industrial uses.

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

Strategic measures associated with this Goal are on pages XX through XX.

The Agency's chemical safety and pollution prevention programs are at the forefront of EPA's efforts to advance a sustainable future. Chemicals are often released into the environment as a result of their manufacture, processing, use, and disposal. The Agency uses a variety of approaches and tools to assess, prevent, and reduce chemical releases and exposures (e.g., conducting risk assessments, assessing chemical alternatives, and taking other risk management actions). The Agency engages and empowers a variety of stakeholders and partners to drive innovation and address related social and economic issues, especially in communities with vulnerable populations or environmental justice concerns. Vulnerable populations including low-income and minority and indigenous populations, may be disproportionately impacted by, and thus particularly at risk from, exposure to chemicals. In addition, research shows that children receive greater relative exposures to chemicals because they inhale or ingest more air, food, or water on a body-weight basis than adults do.[1] The Agency empowers stakeholders by working to ensure access to the latest data, information, analytical tools, and expertise.

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. The Agency continues to believe that the principles it announced in 2009 for modernizing the Toxic Substances Control Act (TSCA) are critical to 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. There remain large, troubling gaps in the available data and state of knowledge on many widely used chemicals in commerce, and EPA's authority to require development and submission of information and testing data is limited by legal hurdles and procedural requirements. Accordingly, the Administration in September 2009 issued a statement on Essential Principles for Reform of Chemicals Management Legislation to help inform efforts by the Congress to reauthorize and strengthen TSCA. The enactment of legislation reflecting those principles would give EPA the mechanisms and authorities it needs to expeditiously assess and regulate new and existing chemicals.

Another statute that helps EPA in its work to address chemical risks is the 1990 Pollution Prevention Act (PPA).[3] Under this law, which established as a national policy the prevention of pollution before it is generated, EPA fosters the development of source reduction innovations and practices, and promotes the adoption, use, and market penetration of those innovations and practices. These strategies have proven highly effective in advancing sustainability, resulting in major reductions in hazardous materials, greenhouse gases, and water use while at the same time increasing the use of safer products and stimulating economic growth, and job creation. EPA will continue these successful strategies, which include: providing technical assistance and training to states, tribes, businesses, and others on pollution prevention (P2) solutions; developing resources and tools, such as calculators and guidelines, to facilitate P2 solutions; and, further enhancing the ability of the public and the business sector to make environmentally-friendly purchasing decisions and other important choices.

Ensure Chemical Safety

Chemical safety remains one of EPA's highest priorities. EPA employs a variety of strategies under several statutes to ensure the safety of chemicals, adequately protect against unreasonable public health or environmental risks, and foster sustainability. These include:

- Acting under TSCA to ensure that new industrial and commercial chemicals do not pose unreasonable risk before they are introduced into commerce;
- Assessing the thousands of existing chemicals already in use before TSCA took effect and acting to reduce identified risks and to identify and promote safer alternatives;
- Empowering the public and other decision makers by making chemical safety information more widely available and usable;
- Acting under the Federal Insecticide, Rodenticide, and Fungicide Act (FIFRA) and the Endangered Species Act to ensure that pesticides are used safely and effectively; and,
- Developing and applying protocols to assess chemicals' potential to interact with the endocrine system.

EPA uses predictive techniques to assess the safety of new chemicals in the face of information limitations imposed by TSCA. More daunting has been the challenge of assessing and acting where needed on the more than 60,000 existing chemicals "grandfathered" in under TSCA. On that front, the Agency has made considerable progress in recent years, working in cooperation with stakeholders by using all available information to put these chemicals through a

prioritization methodology. This effort led to the identification of a set of more than 80 chemicals (TSCA “work plan” chemicals) for risk assessment. EPA believes that these chemicals are most in need of risk assessment and that adequate data exists to support such assessment. The first five of these risk assessments were made available by EPA for public and peer review less than a year later. Assessments of 23 additional chemicals—including 20 flame retardants—were announced in 2013. Looking forward, EPA plans to conduct risk assessments for all of the remaining work plan chemicals, to initiate risk management actions as appropriate, and to identify a second set of work plan chemicals for subsequent priority assessment. EPA is proposing an FY 2014-2015 Agency Priority Goal for this effort.[4]

Recognizing the crucial role that the public, state, tribal, and local partners, institutions, and industry play in ensuring chemical safety, EPA has expanded web access to the Agency’s chemical information and assessment tools, with a focus on identifying safer chemicals. At the same time, two newly developed electronic tools will greatly improve data quality and public accessibility. These are the Chemical Information System (CIS), which will speed the Agency’s transition to electronic reporting and processing for required chemical safety information; and the interactive ChemView Portal, which will enable both internal and external users to access TSCA chemical data stored in EPA systems quickly and easily. Planned enhancements to CIS will extend electronic reporting to nearly all required TSCA submissions and integrate the system with scientific tools, dashboards, and models used in making chemical management decisions. In addition, EPA is working to expand the Chem View Portal to further broaden public access to TSCA chemical information and has, plans to enable faster, automated posting of non-confidential TSCA data to EPA’s public websites.

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 renovators and contractors on lead hazard management (more than 461,000 individuals certified by EPA alone and nearly 130,000 firms certified by EPA and states through April 2013). We are also working with these partners to expand public awareness of lead risks in accordance with requirements for the use of lead-safe practices in renovation, remodeling, and painting activities in millions of older homes.[5][6]

On a broader scale, EPA is looking comprehensively across statutes to determine the best tools to apply to specific problems. For example, the Agency is exploring how to use 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.

Over the next four 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's new data requirement rule for antimicrobial pesticides will ensure that pesticide risk management decisions are based on the best available science and will contribute to a more efficient and transparent registration process through increased certainty about the data requirements. 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.[7]
- EPA has reviewed its agricultural worker protection regulation and its pesticide applicator certification regulation and will publish for public comment proposed changes to both. The proposed rulemakings are designed to ensure improved pesticide worker safety standards and pesticide applicator competency standards in the coming years.
- EPA is implementing a comprehensive testing program to screen for chemicals' potential to interact with the endocrine system.[8] In response to a recently-concluded program evaluation, EPA has developed a comprehensive management plan for the endocrine disruptor screening program, providing a clear workplan, projected milestones, and vision for developing a more efficient and effective screening and testing program through the application of computational toxicological methods.

To ensure the continued effectiveness of the various chemical programs, EPA will conduct several evaluations over the next 4 years. In FY 2014, EPA will initiate a review of critical factors that have an impact on the effectiveness of the Agency's risk assessment efforts for TSCA work plan chemicals. In FY 2015, the Agency will evaluate the effectiveness of recently implemented efficiencies to the registration review process to identify further enhancements and efficiencies to the process. EPA will also conduct biennial reviews in 2015 and 2017 to determine whether the level of fees charged to the submitters of New Chemical Pre-Manufacture Notices and to the applicants for certification to perform lead renovation, repair, and painting work and lead abatement work are appropriate.

External Factors and Emerging Issues

As we look to the future, it is important to continue working 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. Potential legislative action to reauthorize the Toxic Substances Control Act (TSCA) is both a key external factor and a key emerging issue. Consistent with the Administration's essential principles, EPA's authority under TSCA should be modernized and strengthened to increase confidence that chemicals used in commerce are safe and do not endanger public health and welfare. EPA is committed to working with the

Congress, members of the public, the environmental community, and industry to reauthorize TSCA.

On April 30, 2013, the National Academy of Sciences' National Research Council (NRC) released their recommendations for assessing risks from pesticides to listed species under the Endangered Species Act (ESA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The Environmental Protection Agency, U.S. Department of Agriculture, U.S. Fish and Wildlife Service, and National Marine Fisheries Service are working collaboratively and expeditiously to review the report and identify improvements in the current scientific procedures used in evaluating the potential impacts of pesticides to endangered and threatened species. The federal agencies expect to develop an implementation plan within the next 90 days to provide a time line and approach for responding to the panel's recommendations and implementing the appropriated revisions to these procedures and approaches. We currently anticipate that implementation of the recommendations could take 18-24 months, which could have an impact on our progress in developing preliminary risk assessments and completing decisions for pesticides as part of the registration review program.

Finally, a number of chemical safety programs are affected by changing levels of economic activity. For example, EPA's work in certifying firms to perform lead renovation, repair and painting work depends partly on fluctuations in the level of demand for such services, which are related in turn to economic conditions in the housing market.

Promote Pollution Prevention

The Pollution Prevention Act of 1990 established national policy for the use of pollution prevention (P2) as the first choice in addressing pollution at the source. 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 P2 principles into its policies, regulations, and actions.

EPA strives to prevent pollution by fostering the development of P2 innovations and practices and promoting increased use of those approaches. The aim of these strategies is to achieve significant reductions in the use of hazardous materials, energy, and water and in the generation of greenhouse gases, while significantly increasing the use of safer chemicals and products, and enabling businesses and governments to reduce their costs. These strategies are key elements of EPA's approach to achieving a sustainable future. Specific activities conducted to implement these strategies include:

- Fostering the development of P2 innovations:
 - Promoting green chemistry and green engineering, and developing educational curricula;
 - Establishing technical criteria for chemical alternatives assessments;
 - Participating in the development of voluntary consensus standards and other safer chemicals products criteria, including participating in international cooperative efforts;
 - Establishing greener purchasing and management practices (i.e., environmentally preferable purchasing); and
 - Incorporating P2 solutions in regulatory options or requirements.

- Promoting increased use of P2 innovations:
 - Providing and promoting technical assistance, such as establishing Economy, Energy and Environment (E3) Partnerships (in conjunction with the Departments of Agriculture, Commerce, Energy, and Labor and the Small Business Administration) or providing technical assistance on manufacturing, green sports, or other business sectors;
 - Demonstrating the benefits of P2 solutions;
 - Labeling safer products by working with key stakeholders through the Design for the Environment (DfE) program; and,
 - Leveraging the power of federal purchasing.

External Factors and Emerging Issues

The Agency's multi-media pollution prevention efforts are affected by changes in economic conditions. Much of EPA's pollution prevention work is voluntary, so success depends in part on participation levels by industry, government agencies, and members of the public.

Applied Research

EPA chemicals research will provide the scientific foundation required to support safe, sustainable use of chemicals to promote human and environmental health, as well as to protect vulnerable species and populations. This work includes enhancing the Integrated Risk Information System (IRIS) program to ensure the highest quality human health assessments are produced in a timely fashion. Innovative research will provide the tools to:

- Assess safety of high priority chemicals and advance our understanding of the cumulative risks that may result from multiple chemical and non-chemical stressors.
- Enhance chemical screening and testing approaches for priority-setting and context-relevant chemical assessment and management.
- Inform Agency actions and help local decision makers manage and mitigate exposures to contaminants of greatest concern.
- Promote innovations in "green" chemistry and "green" engineering to help encourage use of safer chemicals in commerce.
- Evaluate human health and ecological risks associated with new chemical substitutes designed to promote safer alternatives.
- Provide the systems understanding needed to adequately protect the health of children and other vulnerable groups.

EPA homeland security research helps the Agency carry out its mission to prepare for and respond to man-made disasters (e.g., terrorism, industrial accidents) and natural disasters (e.g., hurricanes, floods), leading to more resilient communities. Specifically, EPA conducts research on:

- Improving the resiliency of the nation's water infrastructure to disasters.
- Cleanup of indoor and outdoor contamination following a disaster.

- Analytical methods for EPA's Environmental Response Laboratory Network that tests samples from disaster sites.

End Notes:

[1] The following links are to selected government sources that provide useful information on environmental health risks to children:

- [A Framework for Assessing Health Risk of Environmental Exposures to Children](#) (2006)
- [Child-Specific Exposure Factors Handbook](#) (2008)
- [Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants](#) (2005)
- [Guide to Considering Children's Health When Developing EPA Actions: Implementing Executive Order 13045 and EPA's Policy on Evaluating Health Risks to Children \(PDF\)](#) (42 pp, 728KB) (2006)
- [Policy on Evaluating Risk to Children](#) (1995)
- [Summary Report of the Technical Workshop on Issues Associated with Considering Developmental Changes in Behavior and Anatomy When Assessing Exposure to Children](#) (2001)
- [Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens](#) (2005)

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

[3] The text of the Pollution Prevention Act (PPA) can be found at <http://www.epa.gov/p2/pubs/p2policy/act1990.htm>

[4] Proposed FY 2014-2015 Agency Priority Goal: Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce. By September 30, 2015, EPA will have completed more than 250 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment, including the potential for some of these chemicals to disrupt endocrine systems. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural, and/or industrial uses.

[5] Information about childhood lead poisoning is available at <http://www.leadfreekids.org>

[6] EPA Lead-Safe Certification Program. Available at <http://www.epa.gov/lead/pubs/toolkits.htm>

[7] EPA pesticides program information is available at <http://www.epa.gov/pesticides>.

[8] Information about the EPA Endocrine Disruptor Screening Program is available at <http://www.epa.gov/scipoly/oscpendo/index.htm>.

Goal 5: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

Objective:

Enforce Environmental Laws to Achieve Compliance. Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to improve compliance and reduce pollution.

Strategic measures associated with this Goal are on pages XX through XX.

Overview

Vigorous enforcement supports EPA's ambitious mission to protect human health and the environment. Achieving our goals for water that is safe to drink, lakes and streams that are fishable and swimmable, air that is clean 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, state, tribal, and EPA civil and criminal enforcement cases directly reduce pollution and risk, and deter others from violating the law.

EPA is also investing in a new paradigm called "Next Generation Compliance" to improve compliance and reduce pollution. Robust enforcement is critically important for addressing violations and promoting deterrence. But enforcement alone will not be enough to achieve compliance results that protect public health or to assure that businesses that comply with the law do not have to compete with companies that do not play by the rules. Next Generation Compliance takes advantage of new information and monitoring technologies to enable EPA, states, and tribes to get better compliance results, and tackle today's compliance challenges.

Enforce Environmental Laws to Achieve Compliance

Vigorous civil and criminal enforcement plays a central role in achieving the goals EPA has set for protection of health and the environment.

- **Addressing Climate Change and Improving Air Quality:** EPA will continue to take effective actions to reduce air pollution from the largest sources, including coal-fired power plants and the cement, acid, glass, and other sectors, to improve air quality. Enforcement to cut toxic air pollution in communities improves the health of communities, particularly communities that are disproportionately affected by pollution. EPA will work to assure

compliance by the energy extraction sector, where violations can lead to air and water impacts that pose a potential risk to human health. EPA will also work to ensure compliance with climate change standards, including the Greenhouse Gas Reporting rules.

- **Protecting America's Waters:** EPA has been working with states and cities to make progress on the most important water pollution problems. The Agency will continue to focus on getting raw sewage out of water and reducing pollution from stormwater runoff, using common sense and affordable approaches to tackle the most important problems first and incorporating green infrastructure for cost-effective reduction of pollution while enhancing communities. EPA is committed to working with communities to incorporate green infrastructure, such as green roofs, rain gardens, and permeable pavement, into permitting and enforcement actions to reduce stormwater pollution and sewer overflows where applicable. The enforcement program is also working to address pollution from animal waste, helping to clean up large aquatic ecosystems ("Great Waters") like the Chesapeake Bay, and assisting 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, and improve the quality of Safe Drinking Water Act (SDWA) data reported by states to ensure compliance.[1]
- **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 and reducing exposure to pesticides and other toxics 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's criminal enforcement program will continue to work collaboratively with its state and local law enforcement counterparts, as well as the U.S. Department of Justice. Many successful and important EPA criminal investigations result from enhanced coordination among all levels of government. An example is the prosecutions surrounding the Deepwater Horizon explosion, which led to the death of 11 people and was the largest environmental disaster in U.S. history. EPA's criminal enforcement program worked with multiple federal and state agencies and the U.S. Department of Justice which resulted in the single largest criminal resolution in the history of the U.S. as of 2013.

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. The Agency also has a responsibility to oversee EPA-authorized 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 tackling noncompliance 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.

EPA's investment in a new paradigm called "Next Generation Compliance" will improve compliance and reduce pollution. Next Generation Compliance will achieve better compliance results by taking advantage of new information and monitoring technologies. Advanced pollution monitoring technologies allow us to identify pollution issues, and can be used by both government and industry to find and fix pollution and violation problems. Next Generation Compliance supports EPA's new E-Enterprise initiative by promoting electronic reporting, advanced monitoring, and transparency. Electronic reporting allows for more accurate and timely information on pollution sources, as well as public access to pollution and compliance information.

EPA can also do more to design regulations and permits that are easier to implement and that will result in higher compliance and improved environmental outcomes. Regulations and permits are easier for regulated entities and government alike to implement when they are clear and easily understood, and when they build in approaches that drive better compliance, such as improved monitoring, self- and third-party certifications, public disclosure/transparency, and easily monitored product designs or physical structures in facilities. As part of Next Generation Compliance, EPA is building upon recent, measureable successes in innovative compliance approaches such as its "Drinking Water Targeting Tool," developed in 2009 to prioritize non-compliant public water systems for enforcement response based on the number and severity of violations those systems were experiencing. Use of the tool resulted in a decrease of approximately 69 percent in the number of public water systems classified as "priority" between January 2010 and April 2013. EPA is enhancing the Agency's ability to find and document violations through new targeting tools and data analysis to better identify, publicize, and respond to the most serious violations.

The Agency is also exploring innovative enforcement approaches such as providing electronic responses to electronically reported violations, and expanding the use of Next Generation Compliance tools in enforcement settlements. Through these and other Next Generation Compliance efforts, EPA will design the compliance programs of the future and work to improve compliance even in a time of declining resources. EPA, states, tribes, and other partner agencies are beginning to invest in this transformation together—and anticipate realizing both efficiencies and cost savings while protecting human health and the environment. The proposed NPDES Electronic Reporting Rule, as one example, will save money for states, tribes, and territories as well as EPA and NPDES permittees, while resulting in a more complete, accurate, and nationally-consistent set of data about the NPDES program. Upon successful implementation,

the proposed rule would provide states with regulatory relief from reporting associated with the Quarterly Noncompliance Report (QNCR), the Annual Noncompliance Report (ANCR), the Semi-Annual Statistical Summary Report, and the biosolids information required to be submitted to EPA annually by states.

External Factors and Emerging Issues

Advanced monitoring technology and information technology are rapidly evolving fields. Until recently, for example, air pollution measurement was primarily left to trained scientists and technicians employing sophisticated instruments and methodologies to evaluate data quality. New breakthroughs in sensor technology, as well as advances in smart phone, GPS and other information technology, have made inexpensive, portable monitoring and measurement of air pollution possible today, not only for government regulators, but for the public as well. In promulgating rules, developing policies, and targeting compliance monitoring and enforcement, EPA has always welcomed and considered relevant data from all sources. EPA will need to work closely with states, tribes, and the public to help interpret and provide context for data derived from such new technologies.

End Note:

[1] An FY 2011 Government Accountability Office (GAO) report highlighted the seriousness of underreporting SDWA data. EPA followed up and will continue to take action to improve the quality of data reported by states.

Summary of Program Evaluation

The Administration is encouraging departments and agencies across the federal government to use a broad range of analytical and measurement tools (“an evidence infrastructure”) to learn what works and what does not to improve performance results.[1] Among the most important analytical tools is program evaluation, producing rigorous evidence about program effectiveness as well as identifying lessons that may be helpful in shaping agency strategic planning in the future. EPA has used program evaluation and applied research to inform its approach to meeting the strategic objectives in the *FY 2014-2018 EPA Strategic Plan*.

Program evaluation results may affirm existing strategies or identify opportunities for improvement or may lead to changes in policy, resource decisions, or program implementation. For example, EPA undertook an evaluation of how effectively the Agency is managing the human health and environmental risks of nanomaterials, substances smaller than one tenth of a micrometer because of their unique properties. The evaluation has led to a more concerted effort to promote research on nanomaterials and make more effective use of our regulatory authorities—the Federal Insecticide, Fungicide, and Rodenticide Act and the Toxics Substances Control Act—to address these chemicals. Nanomaterials increasingly are being used in a wide range of scientific, environmental, industrial, and medical applications, and there is growing concern about the lack of environmental and health and safety data about them. Results from an Agency evaluation of the Superfund Green Remediation Strategy are being used to determine whether the program’s 40 specific action items are adequately encouraging environmentally beneficial clean up and resource conservation at Superfund sites. An assessment of the ENERGY STAR product labeling program has given us a better understanding of which products are delivering the greatest program savings and which product categories still have untapped potential for greater gains. Other findings have helped the program revise or augment marketing and communication strategies to get the most impact from public recognition of the ENERGY STAR label and consumer buying patterns and habits.

We also look to the results of planned upcoming program evaluations projects to inform our program strategies in the future. Three of these planned evaluations include: (1) a mid-point assessment of the progress toward meeting and maintaining reduced nutrient and sediment pollution loads in the Chesapeake Bay as part of the 2025 goals of the Chesapeake Bay Program Partnership; (2) an examination of third-party inspection and clean-up programs in the underground storage tank program to identify key components of successful programs that can be shared with state partners and used as models for state adoption; and, (3) research under the National Air Toxics Assessment (NATA), which will continue the work done in 2005, to identify and prioritize air toxics, types of emission sources, and geographic locations that pose the greatest potential risk to the population and to serve as a basis for determining further steps toward reduction of emissions, as necessary.

EPA has included in the goal chapters some illustrative examples of how the results of program evaluations and applied research have informed Agency strategies in this *Strategic Plan*. Additional information about recently completed program evaluations and research that informed the *EPA Strategic Plan* and a preliminary list of future program evaluations is available at the *EPA Strategic Plan* website.[2]

End Notes:

[1] Fiscal Year 2014 Budget, Analytical Perspectives, Performance and Management Section, Chapter 7 “Delivering High Performance Government” and Chapter 8, “Program Evaluation and Data Analysis.”
http://www.whitehouse.gov/omb/budget/Analytical_Perspectives

[2] Information is available at [insert web site]. [Reserved for final]

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 Agency'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 and core values of science, transparency, and the rule of law. This *Plan* describes the vision and operating principles for each of the cross-cutting strategies:

- Working toward a sustainable future;
- Working to make a visible difference in communities;
- Launching a new era of state, tribal, local, and international partnerships; and,
- Embracing EPA as a high-performing organization.

For each of these strategies, the Agency will develop annual action plans with commitments that align with existing planning, budget, and accountability processes, and that support EPA's research and development agenda as appropriate. In implementing these strategies through annual action plans, we are committing to a focused effort to undertake tangible, measurable actions to transform the way we deliver environmental and human health protection.

Cross-Cutting Fundamental Strategy: Working Toward a Sustainable Future

Advance sustainable environmental outcomes and optimize economic and social outcomes through Agency decisions and actions, which include expanding the conversation on environmentalism and engaging a broad range of stakeholders.

EPA will consider and apply sustainability principles to its work on a regular basis, collaborating closely with stakeholders. Our traditional approaches to risk reduction and pollution control can only go so far to deliver the long-term and broad environmental quality we seek. The interplay between different environmental statutes and programs also requires renewed attention to improve “synergy” and long-term solutions. To this end, EPA will also embrace a commitment to focused innovation to support solutions that will advance sustainable outcomes. This Cross-Cutting Fundamental Strategy advances the Administrator’s theme of Working Toward a Sustainable Future, and the national goal established in the National Environmental Policy Act of 1969 (NEPA) and repeated in President Obama’s Executive Order 13514 (2009), to create and maintain “conditions under which humans and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations.”

To integrate sustainability into the Agency’s day-to-day operations, all headquarters and regional offices will routinely consider the following principles in their decisions and actions, as appropriate:

1. Conserve, protect, restore, and improve the supply and quality of natural resources and environmental media (energy, water, materials, ecosystems, land, and air) over the long term;
2. Align and integrate programs, tools, incentives, and indicators to achieve as many positive outcomes as possible in environmental, economic, and social systems; and,
3. Consider the full life cycles of multiple natural resources, processes, and pollutants in order to prevent pollution, reduce waste, and create a sustainable future.

We will work within and across programs, use all available tools, and implement innovative approaches. We will build on our wide range of existing sustainability-related activities, including community-based sustainability activities. We will use incentive-based efforts to complement our foundation of regulations. We will encourage technology-based innovation through challenges and partnerships. We will review new and key existing regulations to examine sustainable enhancements. We will integrate efforts with a new commitment to innovation and greater and more strategic (“high level”) use of sustainability-related data and information. This strategy specifically focuses on several actions to enhance EPA’s sustainability work:

- **Identify selected cross-program opportunities that maximize EPA’s ability to advance sustainability objectives and take appropriate actions to:**
 - Incorporate sustainability principles into regulatory, enforcement, incentive-based, and partnership programs;
 - Use available incentives, education, information, and disclosure to enhance the ability of markets to reward sustainability;

- Coordinate grants, contracts, and technical assistance to promote sustainable outcomes;
 - Advance sustainability science, indicators[1], and tools;
 - Promote new ways to encourage technology-focused innovation that supports Agency priorities for sustainability. Use EPA's Technology Innovation Roadmap to guide EPA in stimulating and supporting technology innovation around key environmental challenges; and
 - Use systems-based approaches that account for linkages between different environmental systems.
- **Engage and empower EPA staff.** Build on staff knowledge of and experience with sustainability and innovation through multiple forms of in-reach, education, and guidance for incorporating sustainability principles into Agency work in a multi-disciplinary way. Develop clear Agency leadership expectations for training at all levels to help equip employees with necessary data and tools to identify appropriate opportunities, network internally and externally, establish governance and accountability structures, provide everyday encouragement and recognition, and lead by example in our own operations. These efforts will improve the ability of all staff to be effective environmental stewards and to help secure a healthy, just, and flourishing quality of life for current and future generations.
 - **Expand the conversation on environmentalism by engaging and empowering stakeholders, including groups with which EPA has not traditionally worked, using multiple forms of outreach, collaboration, and information.** Beginning with the priority program and cross-program opportunities identified, we will communicate and partner with key stakeholders, including federal, state, and local agencies, tribes, the agricultural and manufacturing sectors, small businesses, industry, non-governmental organizations, the research community, international organizations, communities with environmental justice concerns, citizens, and other partners, both urban and rural, including those who have been underrepresented, to achieve more innovative and sustainable outcomes. In keeping with our objective to strengthen partnerships, EPA will emphasize transparency and clarity in its communications, including environmental education outreach. Through collaboration and research, we will improve our ability to drive innovation and expand the conversation on environmentalism to address related social and economic issues, especially in communities with vulnerable populations or environmental justice concerns.

End Note:

[1] EPA has developed a Proposed FY 2014-2015 Agency Priority Goal for sustainability indicators: Advance sustainability by collaborating with a broad range of stakeholders to select sustainability indicators that can be widely understood and that can help drive the diverse public and private actions that are essential for achieving the long-term environmental quality. By September 30, 2015, EPA will collaborate with a broad range of stakeholders to select a small set of sustainability indicators covering three initial topics—energy use, water use, and materials use—and prepare to pilot them within and across EPA programs.

**Cross-Cutting Fundamental Strategy:
Working to Make a Visible Difference in Communities**

Align community-based activities to provide seamless assistance to communities, both urban and rural, while maximizing efficiency and results. Expand support of community efforts to build healthy, sustainable, green neighborhoods and reduce and prevent harmful exposures and health risks to children and underserved, overburdened communities.

EPA must work collaboratively across all programs and hand in hand with other federal agencies, states, tribes, and local communities to improve the health of all families and protect the environment. EPA must expand the work we do to enhance the resiliency, health, and economic vitality of neighborhoods through increased analysis, better science, and enhanced community engagement while continuing to advance environmental justice and ensure the protection of basic fundamental rights.

Public health and environmental protection impacts most significantly affect us where we live—at the community level. Both urban and rural communities reap the benefits of a healthier environment in the form of safe drinking water, less polluted air, greater access to green space, and more environmentally-sustainable choices for daily living. Community partnerships are integral to EPA efforts to, among other things, work for environmental justice, protect children's health, and reduce exposures and consider cumulative risks for vulnerable populations. The benefits of these efforts and commitments lead to better results for all communities.

While EPA efforts have a direct, positive impact on the health and environmental quality of communities, EPA will place additional focus on changing the way we work so that communities can easily identify and achieve their full potential. EPA believes environmental progress can be better supported, demonstrated, and measured in communities, including communities with environmental justice concerns, so that all are on an equal footing and receive the benefits of human health and environmental protection. Millions of minority, low-income, tribal, and indigenous individuals are at risk of having poor health outcomes because they live in underserved, overburdened communities. EPA can make a greater and more visible difference by embracing strategies that incorporate an Agency-wide focus on communities. Specifically, EPA will rely on a variety of approaches, including improved meaningful outreach to communities, better internal alignment and coordination of resources across community-based programs, increased incorporation of EPA community-focused approaches and analyses within regulatory and enforcement actions, and expanded technical assistance and research. Partnering with federal, state, and local governments, as well as other entities, is key to cultivating healthy and sustainable neighborhood solutions that reflect effective land use, green development, and social and economic growth.

To achieve this goal, EPA will proactively work to:

- **Improve internal coordination, alignment, and accountability for EPA community-based activities, programs, and tools in order to advance environmental results for communities.** Incorporate community-based strategies as a fundamental, organizing principle in EPA core programs and policies by consistently sharing experience and

expertise, adopting promising tools, and replicating relevant models (e.g., [Promising Practices to Improve Community Performance and Sustainability](#)[1], [Plan EJ 2014](#), [Urban Waters Initiative](#)). These models engage multiple partners in the community (local and federal government partners, nonprofits, local businesses, and residents) to identify issues and solutions across environmental media, and deliver funding and technical assistance to address the environmental risks, train the community, and share best practices. Leverage EPA resources, increase awareness and understanding of community needs and risks and related solutions, invest in innovative research and science-based approaches, develop and use appropriate indicators, coordinate data, and track accomplishments. An ongoing priority area will be to continue to advance the work on environmental justice and children's environmental health in rulemaking, permitting, enforcement and compliance, grants, and policy-making decisions (e.g., use potential supplemental environmental projects to address community needs and increase technical assistance efficiencies).

- **Increase public access to EPA community-based resources, helping communities recognize their full engagement potential and problem-solving capacity.** Empower community dialogue, engagement, understanding, and action through effective information sharing, including outreach and environmental education that informs the public about policy choices and environmental stewardship to benefit current and future generations. The sharing of critical, up-to-date information (such as skills and services, best practices and success stories, useful contacts, relevant grants and technical assistance, data, and multi-media strategies) supports effective community involvement. Improved information sharing builds public capacity to engage in citizen science (e.g., contribute to environmental research, complement EPA science in support of state or local problem solving, and enhance environmental protection), and encourages environmental education and environmental justice activities. Create mechanisms at the regional and program levels to better communicate the community-based benefits of EPA's work in terms of improved public health and the environment at the local level.
- **Build on existing partnerships to create lasting, inclusive, collaborative community networks that include government and other public and private entities.** Work with federal agencies through existing partnerships (e.g., the Department of Housing and Urban Development-Department of Transportation-EPA Partnership for Sustainable Communities, Environmental Justice Interagency Workgroup), as well as with states, tribes, communities, and other stakeholders to leverage resources, funding opportunities, and technical expertise and assistance to support healthy, sustainable, and green neighborhood solutions. Partner with research organizations and academic institutions to focus and advance basic research and create models and measures to expand the conversation on environmental and human health concerns to address priority-focused, locally based problems, specifically including environmental justice and children's environmental health issues.

End Note:

[1] Putting Community First: A Promising Approach to Federal Collaboration for Environmental Improvement, A Report by a Panel of the National Academy of Public Administration for the United States Environmental Protection Agency. May 2009.

**Cross-Cutting Fundamental Strategy:
Launching a New Era of State, Tribal, Local, and International Partnerships**

Strengthen partnerships with states, tribes, local governments, and the global community that are central to the success of the national environmental protection program through consultation, collaboration, and shared accountability. Modernize the EPA-state relationship, including revitalizing the National Environmental Performance Partnership System and jointly pursuing E-Enterprise, a transformative approach to make environmental information and data more accessible, efficient, and evidence-based through advances in monitoring, reporting, and information technology.

Good government, as well as the reality of scarcer resources, requires that EPA work in concert with our partners to improve coordination, promote innovation, and maximize efficiencies to ensure our continued success. 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 develop innovative approaches that use and leverage all available resources to achieve 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 that state, tribal, and federal 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 a key component of the nation's environmental protection system, EPA will:

- Improve implementation of national environmental programs through closer consultation and collaboration to seek the most efficient use of resources, leverage all available opportunities to share work and expertise, develop and promote innovative solutions, and further our shared governance framework by revitalizing the National Environmental Performance Partnership System (NEPPS).[1] We will strengthen joint EPA-state priority setting by better aligning NEPPS with EPA's national program manager guidances[2], focusing on flexible, innovative approaches to achieve results.
- Work collaboratively with state partners to develop innovative strategies and modernize our environmental programs through the E-Enterprise Initiative[3], a 21st century approach that will support the nation's environmental protection responsibilities through enhanced

information sharing, increased transparency, and reduced regulatory burden, supported by advanced monitoring tools and information technologies.

- Consult with state 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 accelerate program improvements.
- Ensure a level playing field across states to improve compliance and address the most serious violations.
- Collaborate with state research organizations to share information on EPA's scientific and technical capabilities and solicit input to make our tools, models, and research useful and practical for the states in carrying out their environmental responsibilities.

With Tribes

The relationship between the United States government and federally-recognized tribes is unique; we work with tribes on a government-to-government basis on Agency decisions that may affect tribal interests. Our responsibility to consult with tribal governments is distinct from the general consultations we have with states and nations outside the U.S. border; as such, our consultations with tribes are governed by the EPA Policy for the Administration of Environmental Programs on Indian Reservations, November 8, 1984, Executive Order 13175 and the Agency's *Policy on Consultation and Coordination with Indian Tribes*, May 4, 2011. In strengthening this relationship with tribes, 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.[4]
- Enhance our effort to 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 Local Partners:

EPA has a unique relationship with local governments given that local governments can be both co-implementers and regulated entities under national and state environmental laws.

Recognizing that local governments vary considerably[5], are dealing with significant resource constraints as they work to build capacity (particularly in smaller communities), and often provide innovative leadership in environmental stewardship, EPA will:

- Maintain consistent and meaningful communications with local officials and optimize outreach efforts to improve environmental program implementation at the local level and receive recommendations on environmental issues that are important to local governments.

- Consult with local governments, as with states, on rules and policies that impact them, consistent with the principles of *EPA's Action Development Process: Guidance on Executive Order 13132 (Federalism)*.
- Promote and facilitate best practices among local officials to address pressing local environmental matters that advance shared priorities.

With International Partners

To achieve our domestic environmental and human health goals, international partnerships, including those with the business community and entrepreneurs, are essential. Pollution is often carried by winds and water across national boundaries, posing risks to human health and ecosystems many hundreds and thousands of miles away. Many concerns, like climate change, are universal and, to address these and other environmental challenges in the international arena, EPA will:

- Enhance sustainability principles through expanded partnership efforts in multilateral forums and in key bilateral relationships.
- Strengthen existing and build new international partnerships to encourage increased international commitment to sustainability goals and to promote a new era of global environmental stewardship based on common interests, shared values, and mutual respect.

End Notes:

[1] NEPPS is an environmental performance system established in 1995 and designed to improve the efficiency and effectiveness of state environmental programs and EPA-state partnerships. It is a system of principles and tools to drive performance, efficiency, and flexibility in the EPA-state relationship. It enables EPA and states to leverage their collective resources most efficiently and effectively by taking full advantage of the unique capacities and capabilities of each partner to achieve the maximum environmental and human health protection. The primary tools for establishing priorities and deploying resources are Performance Partnership Agreements (PPAs) and Performance Partnership Grants (PPGs). PPGs allow states to combine categorical grants for greater spending flexibility on state priorities. PPAs are strategic negotiated plans that articulate joint goals and priorities, key activities, and roles and responsibilities.

[2] EPA's national program manager (NPM) guidances translate the Agency's budget decisions into operational program priorities, strategies, and performance measures. Issued by the five major environmental programs (air, water, waste, chemical safety and pollution prevention, and enforcement and compliance assurance), the NPM guidances inform the development of EPA work plans and grant agreements with states and tribes, including Performance Partnership Agreements, Performance Partnership Grants, and/or programmatic grants.

[3] EPA has developed a Proposed FY 2014-2015 Agency Priority Goal for E-Enterprise for the Environment: Use advanced monitoring, information technologies, optimized business processes, and increased transparency to improve environmental outcomes and enhance service to the regulated community. By September 30, 2015 reduce reporting burdens to EPA by one million hours through streamlined regulations, provide real-time environmental data to at least two communities, and establish a new portal to service the regulated community and public.

[4] EPA recently issued new guidance for the Indian Environmental General Assistance Program, “Guidance on the Award and Management of General Assistance Agreements for Tribes and Intertribal Consortia,” May 15, 2013. The General Assistance Program Guidance is designed to enhance the EPA-tribal partnership by establishing a framework for joint strategic planning, identification of mutual responsibilities, and targeting resources to build tribal environmental program capacities. Additionally, it augments existing GAP Guidance with a Guidebook of program development indicators, providing “pathways” for capacity building and ways to measure development of programs over time.

[5] Local governments can include counties, cities, water districts, air districts, ports, municipal waste management associations, economic development councils, metropolitan councils of government, and other entities.

Cross-Cutting Fundamental Strategy: Embracing EPA as a High-Performing Organization

Maintain and attract EPA's diverse and engaged workforce of the future with a more collaborative work environment. Modernize our business practices, including through E-Enterprise, and take advantage of new tools and technologies. Improve the way we work as a high performing Agency by ensuring we add value in every transaction with our workforce, our co-regulators, our partners, industry, and the people we serve.

As today's environmental problems continue to increase in complexity, EPA's ability to respond creatively, flexibly, and effectively will demand cross-Agency approaches to problem-solving and the use of new tools and technologies. EPA will support these efforts by establishing a high-performing organization characterized by business practices that are modern, efficient, and cost-effective, as well as a work environment that supports staff growth and development, and is collaborative and results-driven.

EPA's compelling mission to protect human health and the environment attracts workers eager to make a difference. EPA cultivates a highly skilled and diverse workforce, with employees energized by opportunities to learn and work collaboratively, and equipped to do their best work for the American people. In building a high-performing organization, the Agency is working to provide employees with a modern, inclusive, and flexible work environment, enabled by advanced information technologies and tools that enhance communication, transparency, and cooperative problem solving across the Agency and with our partners.

E-Enterprise for the Environment is a major joint EPA and state initiative to modernize our business practices to increase accessibility, efficiency, and responsiveness. This effort will move us from using paper to electronic transactions, increase the use of advanced monitoring technologies to obtain better, more complete information on environmental conditions and pollution sources, and deliver data that is transparent, readily available, and understandable to EPA, the states, and the general public. Through E-Enterprise, the entire environmental protection enterprise (federal, state, local, and tribal partners) will be able to regularly conduct two-way business electronically in an integrated way, reducing costs while enhancing environmental protection.

Consistent with E-Enterprise, EPA is also moving forward to adopt Next Generation Compliance tools and processes, which position us to take advantage of advances in research and pollutant monitoring and information technology to reduce pollution and improve results. These tools, combined with a focus on designing rules and permits that are easier to implement, enable EPA, states, and tribes to focus on the most serious environmental problems and to better protect communities.

The Agency will focus on streamlining internal business processes and decision making at all levels. To stay current, programs must be constantly reevaluated to ensure they are well focused and cutting edge. Promulgated regulations should maximize environmental benefit while minimizing costs. EPA is committed to process improvement through the application of Lean methodologies and other business practice improvement techniques, as well as the engagement

of the expertise and insights of Agency employees to identify opportunities to increase efficiency and effectiveness.

By combining the strengths of a supportive work environment with a streamlined and collaborative business culture, EPA will establish itself as a high-performing organization known for advancing the talents, drive, and interests of employees, as well as the collaborative work in support of our common mission and the public we serve. EPA will:

- Maintain and attract the workforce of the future to ensure that EPA's employees represent diverse backgrounds and perspectives, are equipped with the most current technical skills, tools and knowledge, and are positioned to effectively accomplish the Agency's mission and meet evolving environmental and sustainability challenges.
- Cultivate a work environment that offers a high quality work life for all employees by engaging them in shaping Agency decisions and improving processes, and providing flexible work practices, fair and inclusive employee-friendly policies, and opportunities for continuous learning. EPA will modernize the workplace and develop and promote collaboration tools to improve communication, cross-program integration, access to information, and transparency.
- Advance the E-Enterprise for the Environment initiative to improve environmental outcomes, enhance service to the regulated community and public, and reduce burden and improve collaborative management among EPA, states, tribes and others. E-Enterprise will increase collaboration with the states as we modernize regulations to make e-reporting the "new normal" and use advanced monitoring to provide more complete and useful environmental data. Key parts of E-Enterprise will be shared information technology services and tools that states and EPA programs use and, in collaboration with the states, the development of a regulatory portal that will help regulated entities electronically report to the states and EPA. The development of E-Enterprise is one of EPA's Priority Goals.[1]
- Implement Next Generation Compliance by promoting the use of advanced monitoring and electronic reporting, designing rules that are easier to implement, expanding transparency, and using innovative enforcement approaches to increase compliance and reduce pollution.
- Streamline the Agency's internal business practices, core program processes, and decision making in areas such as acquisition and grants management, rulemaking, and permitting to ensure they are cutting edge, enhance collaboration, and improve efficiency and cost-effectiveness while maximizing environmental benefits.
- Practice outstanding financial resource stewardship to ensure that all Agency programs use resources efficiently, operate with fiscal responsibility and management integrity, are effectively and consistently delivered nationwide, and demonstrate results.
- Achieve or exceed federal sustainability targets. These efforts, enhanced by sustainable workplace choices that can be routinely practiced by Agency employees, will continue to reduce EPA's environmental footprint by increasing energy efficiency, reducing greenhouse

gas emissions, advancing water conservation, and reducing waste, and will provide lessons learned to share with other federal agencies.

End Note:

[1] See the Proposed FY 2014-2015 Agency Priority Goal for E-Enterprise for the Environment under the cross-cutting strategy entitled “Launching a New Era of State, Tribal, Local, and International Partnerships.”

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 four 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 help 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 including program evaluations and environmental indicators. A number of the strategic measures in this *Strategic Plan* are closely related to indicators in EPA's *Report on the Environment* (ROE). The ROE identifies a set of peer-reviewed human health and environmental indicators that 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*. EPA's updated ROE will provide web-based access to explore, display, and analyze the underlying data for 85 indicators for air, water, land, human exposure and health, and ecological conditions along with several new sustainability indicators.

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

Planned Changes in the Strategic Measurement Framework

Using the *FY 2011-2015 EPA Strategic Plan* as a foundation, we have continued our focus on creating the smallest, most meaningful set of strategic measures that the Agency leadership can use as a management tool. We have also updated the strategic measures to reflect targets and baselines appropriate for the FY 2014-2018 time horizon.

We will continue over the next several years to make further revisions in key areas. Our anticipated future efforts are described below.

Tribal Capacity Building

The Agency will begin to revise how it measures and reports on the progress tribes have made in developing and implementing environmental protection programs in Indian country. This effort will build on the new Indian General Assistance Program (GAP) guidance[1] designed to improve tribal capacity development milestones beyond the current indicator, which shows the percent of tribes implementing federal regulatory programs.

For example, while some tribes may not seek primacy, authorization, approval, or delegation of federal programs, they nonetheless remain important partners in ensuring environmental protection. In other cases, a tribal government works with EPA to assist with the implementation of federal environmental programs in Indian country. The Agency will establish effective measures that capture the capacity development progress of tribes seeking to establish and implement programs in these two areas while also continuing to measure and report on tribes that EPA treats in a manner similar to a state.[2]

New measures to reflect the progress EPA is making in building tribal capacity will be derived from a multi-year effort. As a first step, the Agency recently completed the development of a suite of environmental protection program capacity-building indicators and published them in the new GAP guidance. Tribes will use these indicators as they develop specific program capacities under the GAP. These indicators reflect examples of the range of program capacities that tribes develop, up to the program implementation phase. EPA will collect baseline data in FY 2014 to help inform the development of appropriate measures and targets in FY 2015 for reporting in FY 2016-FY 2018.

Water Quality

EPA is evaluating and seeking comment on a new approach for measuring local improvements in water quality. This new approach would use the National Hydrography Dataset Plus (NHDPlus) to calculate watershed area for priority areas where waters that had not previously been attaining water quality standards are now attaining standards. To complete the picture on water quality, EPA will continue to encourage the use of state-wide indicators for water quality for areas beyond the focus of state priority areas. State survey results contribute information to help set future priorities and to communicate with the public on state-wide water quality status and trends as a supplement to reporting on waters within priority areas.

EPA is also evaluating this new NHDPlus approach as a means for tracking water quality improvements using the watershed approach. This new calculation would be used for tracking incremental improvements in water quality conditions for watershed boundaries established at the “12-digit” scale by the U.S. Geological Survey (USGS).

New measures developed through this effort would replace existing strategic measures for attaining water quality standards and for improving water quality conditions in impaired waterbodies.

Enforcement and Compliance Assurance

The *FY 2014-2018 Strategic Plan* provides an opportunity to re-assess the usefulness of our current performance measures and to consider new ones. Historically, the enforcement program's measures in the *Strategic Plan* have focused on counting our level of activity (e.g., numbers of inspections) and also case specific results for enforcement cases (e.g., pounds of pollutants reduced) to communicate the environmental benefits of our enforcement actions. These measures provide information about how the Agency is actively and consistently performing the activities necessary to find polluters, take appropriate action, and monitor defendants' compliance with settled enforcement cases, targeting these activities toward the most serious human health and environmental problems across a variety of regulatory programs.

These metrics tell only part of the story. An effective program should target the biggest problems first. Under this approach, the environmental outcomes for many conventional performance measures should continually decrease over time. For example, as EPA addresses the worst pollution first in identified sectors, the pounds of pollution reduced in that sector as a result of enforcement actions should decrease over time. Our historic enforcement measures also treat all pollution the same, even though different pollutants pose different risks. We recognize that preventing problems is both cheaper and more effective than taking action after they happen; however, our traditional metrics do not adequately account for work to prevent pollution. By focusing only on enforcement actions the measures can have the inadvertent effect of discouraging innovative approaches that could improve compliance, and undervalue strong work by states to improve compliance.

These challenges in our performance measures have led us to think about new ways to measure the effectiveness of our work. Fortunately, advances in both pollution monitoring and information technologies may help to provide answers. These advances are at the heart of our new paradigm called Next Generation Compliance.

Next Generation Compliance is focused on the following five areas:

1. Designing regulations and permits that are easier to implement, with a goal of improved compliance and environmental outcomes.
2. Using and promoting advanced emissions/pollutant detection technology so that regulated entities, the government, and the public can more easily see quantified pollutant discharges, environmental conditions, and noncompliance.
3. Shifting toward electronic reporting by regulated entities so that we have more accurate, complete, and timely information on pollution sources, pollution, and compliance, saving time and money while improving effectiveness and public transparency.
4. Expanding transparency by making the information we have today more accessible, and making new information obtained from advanced emissions monitoring and electronic reporting more readily available to the public.
5. Developing and using innovative enforcement approaches (e.g., data analytics and targeting) to achieve more widespread compliance.

Progress toward Next Generation Compliance should eventually make new measures of effectiveness possible. For example, if we and our state and tribal partners were able through electronic reporting to more reliably measure compliance across the universe of a regulated sector, something that cannot be done for most sectors today, we could have a measure that is closer to a compliance “rate.” Such a measure would credit innovative work to avoid violations, include state, tribal, and federal work toward this shared objective, and allow us to promote prevention as well as pollution reductions. If we and the states were able through advanced monitoring technologies to more reliably measure actual pollution, and rely less on estimates as is done today, we could have a measure that accounted for the amount of pollution over permitted limits, allowing us to know what kinds of violations matter the most to real pollution problems. Next Generation approaches will also support our ability and that of the states to adopt more evidence-based approaches, as measurement of effectiveness becomes easier, faster, and cheaper.

While these new strategies should allow us to improve our measures in the future, we are not there yet. We are working with states and tribes to increase electronic reporting, but it will take years to fully implement this transition. Advanced monitoring is being used increasingly in government and by industry, but is far from widespread. Rather than wait, and continue to rely exclusively on measures that tell an incomplete and sometimes misleading story, we plan to experiment with interim measures. These interim measures do not reflect where we want to end up, but they help to shine a light on the path ahead, and draw attention to our investment in these new approaches. We expect that these ideas will lead in the future to both better results and stronger metrics to measure our success and the success of our state and tribal partners. Through this *Strategic Plan* we are hoping to begin a dialogue with states, tribes, and the public on these new directions.

Table 1 sets out a few examples of new measures that illustrate the kind of metrics that may be discussed as part of the national dialogue we expect to have on this issue. The measures in italics are not currently part of our suite of measures. We are keenly aware of the need to avoid increasing reporting burden, so after the dialogue with states and the public, we expect to select only a limited number of new interim measures. Of course, for any new interim measures, we will need to define what they mean and how they will be counted. We are also reassessing the usefulness of current measures (i.e., measures in the first two columns of Table 1).

Table 1: Strategic Enforcement and Compliance Measures

Enforcement Presence Measures	Compliance, Deterrence, and Outcome Measures	Next Generation Compliance Measures <i>EPA is initiating a discussion with states and the public about ways to incorporate Next Gen approaches into our measures. Below are a few examples of the types of measures that may be discussed.</i>
<ul style="list-style-type: none"> • Inspections & evaluations • Initiated & concluded civil judicial & administrative enforcement cases • Compliance status of open, non-Superfund consent decrees • Address cost recovery statute of limitations cases with total past costs above \$500,000 • Reaching settlement with potentially responsible parties (PRPs) • Criminal cases with charges filed • Criminal cases with defendants convicted 	<ul style="list-style-type: none"> • Air, water, hazardous waste, toxic, and pesticide pollutants reduced as a result of enforcement actions • Contaminated media reduced through enforcement actions • Criminal cases with most significant impacts • Criminal cases with individual defendants 	<ul style="list-style-type: none"> • <i>Number of enforcement settlements that resulted from or that incorporate advanced monitoring technologies</i> • <i>Regulated sources using advanced monitoring to measure their own emissions</i> • <i>Percent of facilities electronically reporting Clean Water Act NPDES data to authorized states and tribes and EPA</i> • <i>Public use of compliance transparency tools (ECHO, pollutant loading tool, etc.)</i> • <i>Sectors for which measureable compliance rate strategies adopted</i>

EPA’s Proposed FY 2014-2015 Priority Goals (Agency Priority Goals)

As part of this *Plan* revision, we are identifying new FY 2014-2015 Agency Priority Goals (APGs), our third round of APGs. In addition to our long-term strategic measures, these Agency Priority Goals, which have 18- to 24-month operational targets, advance our strategic goals and serve as key indicators of our near-term work. EPA will report progress on the FY 2014-2015 APGs in the *Annual Plan and Budget* and results will be available quarterly via [www.Performance.gov](http://www.performance.gov) [3]. A complete list of the proposed FY 2014-2015 Agency Priority Goals can be found in the Appendix.

End Notes:

[1] Final guidance on EPA’s Indian Environmental General Assistance Program (GAP) with indicators was published May 15, 2013 and is available at www.epa.gov/tribal.

[2] For more information on TAS, please see <http://www.epa.gov/tp/laws/tas.htm>.

[3] The EPA also participates in one mission-focused and several management Cross-Agency Priority (CAP) Goals. The EPA directly contributes to the Energy Efficiency CAP goal through work currently conducted under the Agency's Energy Star and Transportation and Air Quality programs. The EPA also provides data via existing mechanisms (e.g., databases used for other reporting requirements such as the Federal Information Security Management Act) toward the achievement of the following management goals: Cybersecurity, Sustainability, Real Property, Improper Payments, Data Center Consolidation, and Closing Skills Gaps. Per the GPRA Modernization Act requirement to address CAP Goals in the Agency *Strategic Plan*, the *Annual Performance Plan*, and the *Annual Performance Report*, please refer to www.Performance.gov for the Agency's contributions to these goals and progress, where applicable.

Strategic Measurement Framework

Goal 1: Addressing 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. Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.

Strategic Measures:

Address Climate Change

- By the end of 2018, implementation of the EPA and NHTSA national program to reduce greenhouse gas (GHG) emissions and improve fuel economy from light-duty and heavy-duty vehicles will achieve a cumulative reduction of 460 MMTCO₂Eq. (Baseline 2011: 0 MMTCO₂Eq.)
- By 2018, additional programs from across EPA will promote practices to help Americans save energy and conserve resources, leading to expected greenhouse gas emissions reductions of 1,095.5 MMTCO₂Eq. from a baseline without adoption of efficient practices.

Building Programs	215.5 MMTCO ₂ Eq.
Industrial Programs[1]	651.4 MMTCO ₂ Eq.
Smartway Transportation Partnership	48 MMTCO ₂ Eq.
Pollution Prevention Programs	40 MMTCO ₂ Eq.
Sustainable Materials Management Programs[2]	117.4 MMTCO ₂ Eq.
WaterSense Program	23 MMTCO ₂ Eq.
Executive Order 13514[3] GHG Reduction Program	0.21 MMTCO ₂ Eq.

This reduction compares to 616.8 MMTCO₂Eq. reduced in 2011. Baseline FY 2011:

Building Programs	189.0 MMTCO ₂ Eq.
Industrial Programs[1]	357.9 MMTCO ₂ Eq.
Smartway Transportation Partnership	23.6 MMTCO ₂ Eq.
Pollution Prevention Programs	17 MMTCO ₂ Eq.
Sustainable Materials Management Programs[2]	22.1 MMTCO ₂ Eq.
WaterSense Program	7 MMTCO ₂ Eq.
Executive Order 13514[3] GHG Reduction Program	0.18 MMTCO ₂ Eq.

- By 2018, 240 state, tribal, and community partners will integrate climate change data, models, information, and other decision support tools developed by EPA for climate change adaptation into their planning processes. [Baseline to be developed.][4][5]

- By 2018, 240 state, tribal, and community partners will incorporate climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements). [Baseline to be developed.] [5]
- By 2018, 6 existing or new EPA-developed training programs will incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings). [Baseline to be developed.] [5]

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

Strategic Measures:

Reduce Criteria Pollutants and Regional Haze

- By 2018, the population-weighted average concentrations of ozone (smog) in all monitored counties will decrease to 0.072 ppm compared to the average of 0.076 ppm in 2011, a reduction of 5%.
- By 2018, the population-weighted average concentrations of inhalable fine particles in all monitored counties will decrease to 9.5 $\mu\text{g}/\text{m}^3$ compared to the average of 10.4 $\mu\text{g}/\text{m}^3$ in 2011, a reduction of 9%.
- Through 2018, maintain emissions of sulfur dioxide (SO_2) from electric power generation sources to 5.0 million tons per year compared to the 2009 level of 5.7 million tons emitted. (In 2011, these sources emitted 4.5 million tons.) (Rationale for baseline year: 2009 is the year immediately preceding the first year of SO_2 compliance under the Clean Air Interstate Rule [CAIR] and full implementation of Acid Rain's permanent cap on utility SO_2 emissions.)
- 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 2018, with EPA support including training, policy, and administrative and technical assistance, tribes will receive 15 additional approvals to implement the Clean Air Act in Indian country (as demonstrated by successful completion of an eligibility determination under the Tribal Authority Rule). The cumulative total will be 62 approved eligibility determinations, from the 2012 baseline of 47.

Reduce Air Toxics

- Through 2018, maintain air toxics (toxicity-weighted for cancer) emissions reductions to 4.2 million tons from the 1993 toxicity-weighted baseline of 7.2 million tons. [6]

Reduce the Adverse Ecological Effects of Acid Deposition

- Through 2018, maintain improvements to approximately 10 percent of the chronically-acidic lakes and stream reaches in the east identified in the 2001 baseline survey of stream and lake measurements conducted in the 1990s and maintain associated ecosystem health gains in acid-sensitive regions of the northern and eastern United States.

Reduce Exposure to Indoor Air Pollutants

- By 2018, the number of future premature lung cancer deaths prevented annually through lowered radon exposure will increase to 1,056 from the 2008 baseline of 756 future premature lung cancer deaths prevented. The 2011 benchmark is 905 future premature lung cancer deaths prevented.
- By 2018, the number of people taking all essential actions to reduce exposure to indoor environmental asthma triggers in homes and schools will increase to 9 million from the 2003 baseline of 3.0 million. EPA will place special emphasis on reducing racial and ethnic asthma disparities among children. The 2012 benchmark is 6.5 million people taking all essential actions to reduce exposure to indoor environmental asthma triggers.

Objective 1.3: Restore and Protect the Ozone Layer. Restore and protect 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). [Note: This strategic measure will not be adjusted at this time because the baseline dates and milestones are set through the international treaty, the Montreal Protocol.]

Objective 1.4: Minimize Exposure to Radiation. Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

Strategic Measure:

Prepare for Radiological Emergencies

- Through 2018, EPA will maintain a 93 percent level of readiness of radiation emergency response program personnel and assets that meet functional requirements necessary to support federal radiological emergency response and recovery operations. (The 2012 readiness baseline is 91.5 percent. The level of readiness measure is based on the Agency's Core National Approach to Response assessment process.[7])

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] For this Plan, Sustainable Materials Management Programs include 10% National Recycling Tonnage and 100% Electronics Challenge Participant, Federal Green Challenge Participant, and Food Recovery Challenge Participant Results.

[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] EPA maintains strong partnerships with other federal agencies by working closely with them to develop decision-support tools for climate adaptation. EPA often uses data, models, and tools from other agencies as it develops new decision-support tools focused specifically on integrating adaptation planning into its programs and policies. For example, EPA's Water Erosion Prediction Project Climate Assessment Tool (WEPPCAT) provides users with a capability to assess the potential impacts of climate change on sediment loading to streams using the U.S. Department of Agriculture's Water Erosion Prediction Project (WEPP) Model. Similarly, EPA shares decision tools that it develops, such as the Climate Resilience Evaluation and Awareness Tool (CREAT), with other federal agencies. EPA actively pursues these collaborative efforts through the Council on Environmental Quality (CEQ) Agency Adaptation Working Group, through the U.S. Global Change Research Program's Adaptation Science Work Group, and through project-based collaborations.

[5] This measure reflects outcomes from the cumulative efforts across all of the Agency's media programs (air, water, waste, and toxics and pesticides programs) and regional offices.

[6] The 2018 target is an estimate based on the 2008 National Emissions Inventory (NEI) released in 2011.

[7-6] The level of readiness measure is based on the Agency's Core-NAR (National Approach to Response) assessment process. Core-NAR is an Agency-wide process that provides a comprehensive numerical assessment of each aspect of the Agency's emergency response programs, including the Radiological Emergency Response Team and supporting radiation emergency response program.

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

Objective 2.1: Protect Human Health. Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.

Strategic Measures:

Water Safe to Drink

- By 2018, 92 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. FY 2012 universe: 300.7 million people served by community water systems. Status as of FY 2012: 91 percent.)
- By 2018, 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. FY 2012 universe: 984,236 people in Indian country served by community water systems. Status as of FY 2012: 84 percent.)
- By 2018 in coordination with other federal agencies, provide access to safe drinking water for 148,100 American Indian and Alaska Native homes. (FY 2012 Baseline: 104,000 homes, Universe: 406,000 homes.)

Fish and Shellfish Safe to Eat

- By 2018, reduce the percentage of women of childbearing age having mercury levels in blood above the level of concern to 2.1 percent. (2012 baseline (2009-2010 data): 2.3 percent of women of childbearing age have mercury blood levels above levels of concern identified by the National Health and Nutrition Examination Survey (NHANES).)

Water Safe for Swimming

- By 2018, 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. (2012 baseline (2011 data): Beaches open 95 percent of the 694,191 days of the beach season (beach season days are equal to 3,650 monitored beaches multiplied by variable number of days of beach season at each beach). Status as of FY 2012: 95 percent.)

Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems. Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

Strategic Measures:

Improve Water Quality on a Watershed Basis

- [Under Development] EPA is evaluating and seeking comment on a new approach for measuring local improvements in water quality. This new approach would use the National Hydrography Dataset Plus (NHDPlus) to calculate watershed area for priority areas where waters that had not previously been attaining water quality standards are now attaining standards. As part of this effort, EPA will continue to encourage states to identify priority waters for assessment, protection, and restoration and to keep track of conditions statewide using statistical surveys.[1]
- [Under Development] EPA is also evaluating this new NHDPlus approach as a means for tracking water quality improvements using the watershed approach. This new calculation would be used for tracking incremental improvements in water quality conditions for watershed boundaries established at the “12-digit” scale by the U.S. Geological Survey (USGS).[1]
- Through 2018, ensure that the condition of the Nation’s rivers and streams, lakes, wetlands, and coastal water 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; 2014 baseline for wetlands TBD. 2014 baseline for coastal: TBD.)
- By 2018, 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 2018, in coordination with other federal agencies, provide access to basic sanitation for 91,900 American Indian and Alaska Native homes. (FY 2012 baseline: 63,000 homes. Universe: 406,000 homes.)

Improve Coastal and Ocean Waters

- By 2018, improve regional coastal aquatic ecosystem health, as measured on the “good/fair/poor” scale of the National Coastal Condition Report. (FY 2012 baseline: National rating of “fair” or 3.0 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 2018, 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). (2012 baseline: 97 percent. FY 2012 universe is 67.) (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 2018, working with partners, protect or restore an additional (i.e., measuring from 2012 forward) 600,000 acres of habitat within the study areas for the 28 estuaries that are part of the National Estuary Program. (2012 baseline: 1,167,733 acres of habitat protected or restored, cumulative from 2002-2012. In FY 2012, 114,579 acres were protected or restored.)

Increase Wetlands

- By 2018, 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. (2012 baseline: 110.1 million acres of wetlands in the conterminous United States, and 62,300 wetland acres were lost over 2004-2009.)

Great Lakes

- By 2018, implement all management actions necessary for later delisting at 12 Areas of Concern in the Great Lakes (cumulative). (2012 baseline: 2)[2]
- By 2018, implement and evaluate actions necessary to protect, restore, or enhance 20 percent of U.S. Great Lakes coastal wetlands greater than 10 acres. (2012 baseline: 0)[3]

Chesapeake Bay

- By 2018, achieve 45 percent attainment of water quality standards for dissolved oxygen, water clarity/underwater grasses, and chlorophyll a in Chesapeake Bay and tidal tributaries. (2011 Baseline: 40 percent)[4]

Gulf of Mexico

- By 2018, support best management practices and projects to reduce releases of nutrients throughout the Mississippi River Basin to aid in the reduction of the size of the hypoxic zone in the Gulf of Mexico to less than 5,000 km², as measured by the 5-year running average of the size of the zone. (Baseline: 2005-2009 running average size is 15,670 km².)[5]

Long Island Sound

- By 2018, 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 2000-2017. 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.)

Puget Sound Basin

- By 2018, improve water quality and enable the lifting of harvest restrictions in 6,000 acres of shellfish bed growing areas impacted by degraded or declining water quality in the Puget Sound. (2012 baseline: 2,489 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.)

U.S.-Mexico Border Environmental Health

- By 2018, provide access to safe drinking water and adequate wastewater sanitation to 75 percent and 90 percent, respectively, 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. 2018 target: 73,886 homes provided with access to safe drinking water and 621,651 homes with adequate wastewater sanitation.

End Notes:

[1] The two new measures under development will substitute for the following two measures:

- By 2018, attain water quality standards for all pollutants and impairments in more than 5,000 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 2012: 3,527 water bodies attained standards.)
- By 2018, improve water quality conditions in 620 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 2012: 332 improved watersheds.)

[2] “Great Lakes management actions necessary for later delisting” are the identified local, state, and federal actions that are believed to be necessary to remove the beneficial use impairments of the Area of Concern. Once taken, these actions are expected to allow environmental conditions to improve over time which will lead to eventual delisting of the Area of Concern.

[3] Only about 600 coastal wetlands greater than 10 acres in size remain on the roughly 5,500 miles of Great Lakes shoreline in the U.S. Coastal wetlands are immensely important ecologically and economically. The proposed actions will demonstrate quantitative and qualitative results from strategic efforts to protect, restore, and enhance the coastal wetlands assessed under the Great Lakes Restoration Initiative.

[4] Achievement of the 2018 target will be evaluated using monitoring data from 2015, 2016, and 2017 to assess attainment of applicable water quality standards in each of the Bay's 291 designated-use segments. The 2011 baseline reflects monitoring data from 2008, 2009, and 2010.

[5] The size of hypoxic zone in the Gulf of Mexico is influenced by multiple factors, including releases of nutrients. The reduction of nutrient releases from the Mississippi River Basin is influenced by action, practices, and resources from the collaboration of federal, state, tribal, and local stakeholders.

Goal 3: Cleaning Up Communities and Advancing Sustainable Development. Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority 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, redevelopment and reuse of contaminated and formerly contaminated sites, and the equitable distribution of environmental benefits.

Strategic Measures:

Promote Sustainable Communities

- By 2018, 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 tribal governments, local municipalities, regional entities, and state governments, through activities resulting from EPA and federal partner actions. (Baseline: In FY 2013, an estimated 102 communities will be assisted.)[1]

Assess and Clean Up Brownfields

- By 2018, conduct environmental assessments at 26,350 (cumulative) brownfield properties. (Baseline: As of the end of FY 2012, EPA assessed 19,154 properties.)
- By 2018, make an additional 16,800 acres of brownfield properties ready for reuse from the 2012 baseline. (Baseline: As of the end of FY 2012, EPA made 25,408 acres ready for reuse.)

Reduce Chemical Risks at Facilities and in Communities

- By 2018, conduct 2,300 inspections at risk management plan (RMP) facilities. (Baseline: Between FY 2000 and FY 2012, more than 7,400 RMP inspections were completed.)

Objective 3.2: Preserve Land. Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.

Strategic Measures:

Waste Generation and Recycling

- By 2018, increase by 500,000 tons the amount of virgin materials that were offset by the reuse or recycling of waste products through the use of sustainable materials management.

(Baseline: In FY 2013, an estimated 8,500,000 tons of waste products will be reused or recycled through sustainable materials management practices.)

- By 2018, increase by 50 the number of tribes covered by an integrated waste management plan compared to FY 2013. (Baseline: As of March 2013, 160 of 574 federally recognized tribes were covered by an integrated waste management plan.)[2]

Minimize Releases of Hazardous Waste and Petroleum Products

- By 2018, prevent releases at 500 additional hazardous waste management facilities by issuing initial approved controls or updated controls resulting in the protection of an estimated 20 million people living within a mile of all facilities with controls.[3] (Baseline: At the end of FY 2013, an estimated 1,220 facilities will require these controls out of the universe of 6,600 facilities, with over 20,000 process units.)
- By 2018, prevent exposures at polychlorinated biphenyl (PCB) sites by issuing 750 approvals for PCB cleanup, storage, and disposal activities.
- Each year through 2018, 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 an estimated 70 percent in 2014 to 72 percent in 2018.)
- Each year through 2018, reduce the number of confirmed releases at UST facilities to 5 percent fewer than the prior year's target. (Baseline: Between FY 2008 and FY 2012, confirmed UST releases averaged 6,500.)

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

Strategic Measures:

Emergency Preparedness and Response

- By 2018, achieve and maintain at least 85 percent of the maximum score on the Core National Approach to Response (NAR) evaluation criteria. (Baseline: In FY 2012, the average Core NAR Score was 76 percent for EPA headquarters, regions, and special teams prepared for responding to emergencies.)[4]
- By 2018, complete an additional 1,700 Superfund removals.(Baseline: In FY 2012, there were 428 Superfund removal actions completed.)
- By 2018, bring into compliance 60 percent of FRP inspected facilities found to be non-compliant. (Baseline: In FY2010, 268 FRP facilities were inspected and 121 were found to be non-compliant, an initial compliance rate of 55 percent.)

- By 2018, bring into compliance 60 percent of SPCC inspected facilities found to be non-compliant. (Baseline: In FY2010, 781 SPCC facilities were inspected and 456 were found to be non-compliant, an initial compliance rate of 42 percent.)

Clean Up Contaminated Land

- By 2018, complete 95,500 assessments at potential hazardous waste sites to determine if they warrant Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedial response or other cleanup activities. (Baseline: As of 2012, the cumulative total number of assessments completed was 91,300.)
- By 2018, increase to 92 percent the number of Superfund sites and RCRA facilities where human exposures to toxins from contaminated sites are under control. (Baseline: As of October 2013, an estimated 83 percent of Superfund sites and 85 percent of RCRA facilities will have human exposures under control out of a combined universe of 5,451.)[5]
- By 2018, increase to 86 percent the number of Resource Conservation and Recovery Act (RCRA) facilities with migration of contaminated groundwater under control. (Baseline: At the end of FY 2013, the migration of contaminated groundwater will be controlled at an estimated 73 percent of all 3,779 facilities needing corrective action.)
- By 2018, increase to 73 percent the number of RCRA facilities with final remedies constructed. (Baseline: At the end of FY 2013, all cleanup remedies will be constructed at an estimated 51 percent of all 3,779 facilities needing corrective action.)
- By 2018, increase to 25 percent the number of RCRA facilities with corrective action performance standards attained (Baseline: At the end of FY 2013, performance standards will be attained at an estimated 20 percent of all 3,779 RCRA facilities requiring corrective action.) [6]
- Each year through 2018, 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 16 percent in 2012 to 10 percent in 2018. (At the end of FY 2012, there were 82,903 releases not yet cleaned up.)
- Each year through 2018, 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 23 percent in 2012 to 17 percent in 2018.
- By 2018, ensure that 946 Superfund sites are "sitewide ready for anticipated use." (Baseline: As of October 2012, 606 Superfund sites had achieved "sitewide ready for anticipated use" out of a universe of 1,742 sites.)[7]

Objective 3.4: Strengthen Human Health and Environmental Protection in Indian Country. Directly implement federal environmental programs in Indian country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable 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 25 percent. (FY 2009 baseline: 22 percent of 572 tribes.)
- By 2015, increase the percent of tribes conducting EPA-approved environmental monitoring and assessment activities in Indian country to 58 percent. (FY 2012 baseline: 54 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] The number of inspections may change based on higher priorities coming from the Executive Order on Chemical Plant Safety and Security.

[3] EPA is discontinuing the tribal open dump closure and clean up measure in this *Strategic Plan* to focus on EPA's main tribal solid waste priority, which is the promotion of sustainable tribal waste management programs through the development and implementation of Integrated Waste Management Plans (IWMPs).

[4] Estimate drawn from OSWER Near Site Population Database, an internal EPA database that merges facility size and location information from RCRAInfo with population data, at the block and block group levels, from the U.S. Census Bureau's 2000 Census. The demographics were captured around the total number of facilities that have approved controls in place that result in the protection of this population (20 million people).

[5] 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.

[6] Superfund sites include sites placed on or deleted from the Final National Priorities List (NPL) and sites addressed under the Superfund Alternative Approach process. 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.

[7] Attaining performance standards is the final cleanup step for a corrective action facility (e.g., soil cleanup standards met, groundwater cleanup levels achieved). Other measures for controlling human exposures and groundwater migration and for completing remedy construction identify critical interim steps in the cleanup process.

[8] Superfund sites include sites placed on or deleted from the Final National Priorities List (NPL) and sites addressed under the Superfund Alternative Approach process.

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 and increase the safety of chemicals that enter our products, our environment and our bodies.

Strategic Measures:

Protect Human Health from Chemical Risks

- By 2018, reduce by 30 percent the number of moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population. (Baseline for moderate to severe exposure incidents reported during 2011 is 274, as reported in the American Association of Poison Control Centers' National Poisoning Data System (NPDS) for organophosphates and carbamate pesticides.)
- Through 2018, work to ensure that the percentage of children with blood lead levels above 5 µg/dl does not rise above the 1.0 percent target for FY 2014 and work to make further reductions in blood lead levels. (Baseline is 2.6 percent of children ages 1-5 had elevated blood lead levels (5 µg/dl or greater) in the 2007-2010 sampling period according to the Centers for Disease Control and Prevention's (CDC's) National Health and Nutritional Evaluation Survey (NHANES).)
- By 2018, reduce the percent difference in the geometric mean blood lead level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old to 10.0 percent. (Baseline is 28.4 percent difference in the geometric mean blood lead level in low-income children ages 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old in 2007-2010 sampling period according to CDC National Health and Nutritional Evaluation Survey (NHANES).)
- By 2018, reduce the concentration of perfluoro-octanoic acid (PFOA) in blood serum in the general population by 20 percent. (PFOA baseline is based on 2009-2010 geometric mean data in serum (3.07 µg/L) from the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES).)
- By 2018, complete Endocrine Disruptor Screening Program (EDSP) decisions for 100 percent of chemicals for which complete EDSP data is expected to be available by the end of 2017. (Baseline is 15 decisions have been completed through 2012 for any of the chemicals for which complete EDSP information is anticipated to be available by the end of 2017. 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.)
- By 2018, reduce rodenticide exposure incidents by 75 percent in children ages 1-6. (The baseline total number of confirmed and likely rodenticide exposures to children ages 1-6 in

2011 is 10,259 according to data by the Poison Control Centers' National Poison Data System.)

- By 2018, EPA will have issued draft risk assessments for all currently identified TSCA Work Plan Chemicals. (Baseline is zero risk assessments finalized for the 83 initially identified TSCA Work Plan Chemicals through 2012.)

Protect Ecosystems from Chemical Risks

- By 2018, no watersheds will exceed aquatic life benchmarks for targeted pesticides. (Data for 2012 provides the most recent percent of agricultural watersheds sampled by the USGS National Water Quality Assessment (NAWQA) program that exceeds the National Pesticide Program aquatic life benchmarks for azinphos-methyl (7 percent) and chlorpyrifos (7 percent). Urban watersheds sampled by the NAWQA program that exceeds the National Pesticide Program aquatic life benchmarks for diazinon (0 percent), chlorpyrifos (0 percent), and carbaryl (9 percent).)

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

Strategic Measures:

- By 2018, reduce 17 billion pounds of hazardous materials cumulatively through pollution prevention. (Baseline is 9 billion pounds reduced through 2011.)
- By 2018, reduce 45 million metric tons of carbon dioxide equivalent (MMTCO₂Eq.) cumulatively through pollution prevention. (Baseline is 17.7 MMTCO₂Eq. reduced through 2011. The data from this measure are also calculated into the Agency's overall GHG measure under Goal 1.)
- By 2018, reduce 297 billion gallons of water use cumulatively through pollution prevention. (Baseline is 141 billion gallons reduced through 2011.)
- By 2018, save \$ 10 billion in business, institutional, and government costs cumulatively through pollution prevention improvements. (Baseline is \$ 6 billion saved through 2011.)
- By 2018, increase the use of safer chemicals cumulatively by 30 percent. (Baseline: 770 million pounds of safer chemicals used in 2012 as reported to be in commerce by Design for the Environment program.)

Goal 5: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance. Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

Objective 5.1: Enforce Environmental Laws to Achieve Compliance. Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to improve compliance and reduce pollution.

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. In this *Plan*, EPA also notes that it is beginning to solicit comments on measures that would focus on the Next Generation Compliance approach in order to evaluate the effectiveness of the Agency's enforcement and compliance program.

Maintain Enforcement Presence

- By 2018, conduct 70,000 federal inspections and evaluations (5-year cumulative). (FY 2005-2009 baseline: 21,000 annually. Status for FY 2012: 20,000.)
- By 2018, initiate 11,600 civil judicial and administrative enforcement cases (5-year cumulative). (FY 2005-2009 baseline: 3,900 annually. Status as of FY 2012: 3,000.)
- By 2018, conclude 10,000 civil judicial and administrative enforcement cases (5-year cumulative). (FY 2005-2009 baseline: 3,800 annually. Status as of FY 2012: 3,000.)
- By 2018, maintain review of the overall compliance status of 100 percent of the open consent decrees. (Baseline 2009: 100 percent. Status as of FY 2012: 91 percent.)
- Each year through 2018, support clean ups 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 \$500,000. ((1) FY 2007-2009 annual average baseline: 99 percent of sites reaching a settlement or EPA taking an enforcement action. (Status as of FY 2012: 100 percent); (2) FY 2009 baseline: 100 percent cost recovery statute of limitation cases addressed. (Status as of FY 2012: 100 percent.))

Support Addressing Climate Change and Improving Air Quality

- By 2018, reduce, treat, or eliminate 1,360 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. Status as of FY 2012: 250 million pounds.)

Support Protecting America's Waters

- By 2018, reduce, treat, or eliminate 1,100 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. Status as of FY 2012: .500 million pounds.)

Support Cleaning Up Communities and Advancing Sustainable Development

- By 2018, treat, minimize, or properly dispose of 9,200 million estimated pounds of hazardous waste as a result of concluded enforcement actions (5-year cumulative). (FY 2008 baseline: 6,500 million pounds. Status as of FY 2012: 4,400 million pounds.)
- By 2018, obtain commitments to clean up 905 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. Status as of FY 2012: 400 million cubic yards.)

Support Ensuring the Safety of Chemicals and Preventing Pollution

- By 2018, reduce, treat, or eliminate 11 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. Status as of FY 2012: 1,400 million pounds.)

Enhance Strategic Deterrence through Criminal Enforcement

- By 2018, increase the percentage of criminal cases having the most significant health, environmental, and deterrence impacts to 45 percent. (FY 2010 baseline: 36 percent. Status as of FY 2012: 45 percent.)[2]
- By 2018, maintain 75 percent of criminal cases with an individual defendant. (FY 2006-2008 baseline: 75 percent. Status as of FY 2012: 70 percent.)
- By 2018, increase the percentage of criminal cases with charges filed to 45 percent. (FY 2006-2010 baseline: 36 percent. Status as of FY 2012: 44 percent.)
- By 2018, maintain an 85 percent conviction rate for criminal defendants. (FY 2006-2010 baseline: 85 percent. Status as of FY 2012: 95 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. All numbers used throughout the measures section are rounded.

[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.

Appendix: EPA Proposed FY 2014-2015 Agency Priority Goals

Goal 1: Addressing Climate Change and Improving Air Quality *Continues FY 2012-2013 APG

Reduce greenhouse gas emissions from vehicles and trucks. Through September 30, 2015, EPA, in coordination with Department of Transportation's fuel economy standards program, will be implementing vehicle and truck greenhouse gas standards that are projected to reduce greenhouse gas (GHG) emissions by 6 billion metric tons and reduce oil consumption by about 12 billion barrels over the lifetime of the affected vehicles and trucks.

Goal 2: Protecting America's Waters *Continues FY 2012-13 APGs

Improve public health protection for persons served by small drinking water systems, which account for more than 97 percent of public water systems in the U.S., by strengthening the technical, managerial, and financial capacity of those systems. By September 30, 2015, EPA will engage with an additional ten states (for a total of 30 states) and three tribes to improve small drinking water system capability to provide safe drinking water, an invaluable resource.

Improve, restore, and maintain water quality by enhancing nonpoint source program leveraging, accountability, and on-the-ground effectiveness to address the nation's largest sources of pollution. By September 30, 2015, 100 percent of the states will have updated nonpoint source management programs that comport with the new Section 319 grant guidelines that will result in better targeting of resources through prioritization and increased coordination with USDA.

Goal 3: Cleaning up Communities and Advancing Sustainable Development *Continues FY 2012-13 APG

Clean up contaminated sites to enhance the livability and economic vitality of communities. By 2015, an additional 18,970 sites will be made ready for anticipated use, protecting Americans and the environment one community at a time.

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution *New APG

Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce. By September 30, 2015, EPA will have completed more than 250 assessments of pesticides and other commercially available chemicals to evaluate risks they may pose to human health and the environment, including the potential for some of these chemicals to disrupt endocrine systems. These assessments are essential in determining whether products containing these chemicals can be used safely for commercial, agricultural, and/or industrial uses.

Cross-Program: E-Enterprise *Continues/expands FY 2012-13 APG on e-Reporting

Use advanced monitoring, information technologies, optimized business processes, and increased transparency to improve environmental outcomes and enhance service to the regulated community. By September 30, 2015 reduce reporting burdens to EPA by one million hours through streamlined regulations, provide real-time environmental data to at least two communities, and establish a new portal to service the regulated community and public.

Cross-Program: Sustainability **New APG*

Advance sustainability by collaborating with a broad range of stakeholders to select sustainability indicators that can be widely understood and that can help drive the diverse public and private actions that are essential for achieving the long-term environmental quality. By September 30, 2015, EPA will collaborate with a broad range of stakeholders to select a small set of sustainability indicators covering three initial topics—energy use, water use, and materials use—and prepare to pilot them within and across EPA programs.