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Environmental Protection Agency

FISCAL YEAR 2018

Justification of Appropriation Estimates for the Committee on Appropriations

Tab 14: Program Performance

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Environmental Protection Agency
2018 Annual Performance Plan and Congressional Justification

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FY 2016 Annual Performance Report

Executive Overview

EPA's *FY 2016 Annual Performance Report* (APR) presents the environmental and program performance results the agency achieved in FY 2016 against the annual budget performance measures and targets established in its *FY 2016 Annual Performance Plan and Congressional Justification.* In compliance with requirements of the Government Performance and Results Act Modernization Act of 2010 (GPRAMA) and Office of Management and Budget implementing guidance, EPA's FY 2016 APR presents progress under the five goals, thirteen strategic objectives, and four cross-agency strategies established in the *FY 2014–2018 EPA Strategic Plan*. As illustrated in the performance management framework figure below, EPA analyzes annual performance results and progress toward longer-term strategic objectives, as an integral part of formulating and justifying agency resource requests.

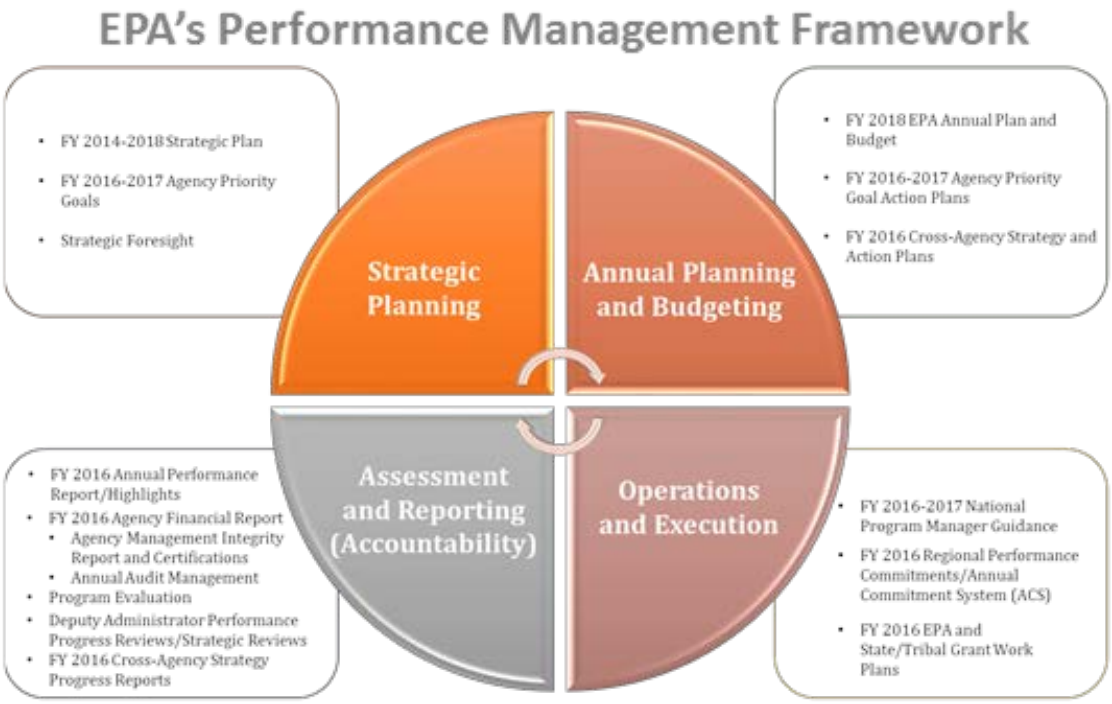
Organization of the FY 2016 APR

EPA's FY 2016 APR is integrated throughout the *FY 2018 Annual Performance Plan and Congressional Justification*. Supplementing this Program Performance and Assessment section:

- The Introduction and Overview section provides EPA's mission statement and organizational structure;
- The Goal and Objective Overview section presents FY 2016 performance results along with trend data from prior years; and
- Appropriation Program/Project Fact Sheets include selected significant FY 2016 performance results as context for budget decisions.

This Program Performance and Assessment section (Tab 13) serves as the primary component of EPA's FY 2016 APR. Following this Executive Overview, it provides a detailed performance measure data table, which is organized by strategic goal along with associated strategic objectives and annual budget performance measures. The table summarizes long-term progress toward each strategic objective and presents results, including explanations for missed or exceeded targets, for each annual budget performance measure. Each strategic goal is introduced by a Goal-at-a-Glance overview, which provides high-level FY 2016 results and funding information. This section also includes a summary of progress longer term under each of EPA's four cross-agency strategies.

To supplement the *FY 2016 APR*, please refer to EPA's *FY 2016 Agency Financial Report (AFR)*, which includes information on EPA's FY 2016 financial performance.



Performance Management in FY 2016

During FY 2016, EPA implemented a number of key initiatives to further strengthen its performance management. Notable efforts included:

Progress Toward Agency Priority Goals. Agency Priority Goals (APGs) designate priorities for agency attention where leadership wants to accomplish near-term achievements or results. EPA reports progress on APG milestones and targets at www.performance.gov. In FY 2016, EPA began work on five FY 2016–2017 APGs:

- Advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in high-risk and vulnerable communities;
- Clean up contaminated sites to enhance the livability and economic vitality of communities;
- Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce;
- Strengthen environmental protections through business process improvements enabled by joint governance and technology; and
- Reduce greenhouse gas emissions from cars and trucks

At the end of FY 2016, the agency was on track for three APGs and achieved mixed results for two. Key results achieved include:

- Providing resilience training and tools to nearly 4,200 operators of small water utilities to address aging infrastructure, significant weather events, and other issues;
- Cleaning up more than 9,600 additional sites and making them ready for anticipated use;
- Completing more than 1,000 chemical assessments related to pesticides and commercially available chemicals;
- Working with state and tribal partners through E-Enterprise for the environment to create web-based mechanisms and mobile phone applications which increase access to information and reduce regulatory compliance and reporting burden; and
- Completing 136 confirmatory tests on emissions and fuel consumption for light-duty vehicles;

EPA faced challenges, however, in completing chemical assessments. The agency did not complete any Toxic Substances Control Act (TSCA) assessments of existing chemicals in FY 2016, as the program's emphasis shifted to implementing the new requirements and timelines for chemical risk evaluation established under the TSCA amendments enacted in June 2016. The agency will use the tools in the new law to ensure the safety of chemicals in or entering the marketplace. Other chemical assessments under this APG, however, were on track.

Contributions to Cross-Agency Priority Goals. Cross-Agency Priority (CAP) Goals are designed to overcome barriers and achieve better performance than one agency can achieve on its own. The President's Management Council, comprising agency Chief Operating Officers, assessed progress on a monthly basis and included EPA's Acting Deputy Administrator's active engagement in FY 2016. Updates on government-wide CAP goals are available at www.performance.gov. EPA participated in most of the 15 CAP goals, including the 8 CAP goals set to achieve the most pressing management priorities within the federal government—such as better customer service, smarter IT, and expanding shared services across federal agencies—and the CAP goal to modernize the federal infrastructure permitting and review process for major infrastructure projects. Under the People and Culture CAP goal, for example, EPA worked with the Office of Personnel Management to add EPA-specific, employee-inspired questions in the FY 2016 Employee Viewpoint Survey and achieved its highest-ever response rate. Notably, EPA's Employee Engagement Index increased by four percentage points, one of the highest improvements for any large federal agency.

Introduced Enterprise Risk Management Through Redesigned Strategic Reviews. EPA redesigned its FY 2016 strategic reviews by implementing a new, structured approach that:

- Focused on risks, challenges, and opportunities and actions the agency might take to address them;
- Aligned strategic reviews with agency internal control reviews; and
- Expanded the scope of the strategic reviews to include, for the first time, EPA's mission-support and research programs.

This effort laid the groundwork for developing EPA's Enterprise Risk Management Program. As a result of the strategic reviews, agency senior leaders identified 69 risks impeding progress toward agency strategic goals and objectives. They then ranked the risks and identified the top five enterprise risk areas—human resources, information technology, information management, acquisitions/contracting, and state/tribal program implementation and EPA oversight—which were the focus of discussion at an agency-wide FY 2016 Strategic Review Midyear Senior Leadership Meeting. The agency established co-champions and implementation teams to identify short- and longer-term actions EPA can take to mitigate the most critical enterprise-level risks. Results of these efforts will inform development of the *FY 2018-2022 EPA Strategic Plan* and annual planning and budget decisions for FY 2018-FY 2019.

Streamlined End-of-Year Performance Reporting and Analysis. In FY 2016, as a result of a June 2015 Lean event, the agency completed implementation of a streamlined end-of-year data gathering, analysis, and communication process to increase the value of performance analysis and products to inform agency decision making. Metrics tracked over 8 months indicate that, as compared to the agency's previous end-of-year process, steps involved in data gathering decreased by 15 percent and days by 50 percent; steps involved in analysis decreased by 33 percent and days by 60 percent; and steps involved in producing the APR decreased by 44 percent and days by 46 percent. Overall, customer satisfaction with the end-of-year process improved by 54 percent.

Implemented First Year of Two-Year National Program Manager Guidance. EPA implemented the first year of the new 2-year National Program Manager (NPM) Guidance, advancing a new era of state, local, tribal, and international partnerships—a cross-agency strategy in the *FY 2014-2018 EPA Strategic Plan*. EPA conducted an on-line assessment of the key changes for early engagement and flexibilities and analyzed agency and state feedback, which was largely positive. The results informed development of the Technical Guidance on the FY 2018-2019 NPM Guidance and Annual Commitment Process, which was issued in FY 2016. EPA also published *FY 2017 Exceptions-based Addendums to the FY 2016-2017 NPM Guidances*, which included only 39 key changes and maintained the integrity of the 2-year guidance process, consistent with the recommendations of the NPM Guidance/National Environment Performance Partnership System (NEPPS) Workgroup composed of state, regional, and national program representatives.

Piloted Strategic Foresight Project. EPA's Offices of the Chief Financial Officer and Science Advisor convened an agency-wide Strategic Foresight Lookout Panel. The Panel identified eight priority emerging issues and actionable recommendations from more than 80 topics to improve the agency's planning and decision-making. EPA also developed a Community of Practice of more than 550 members to build agency capacity and reinvigorate foresight as an integral element of strategic and annual planning, budgeting, and program management. This pilot responded to National Academy of Science, Science Advisory Board, and National Advisory Council for Environmental Policy and Technology recommendations to engage in strategic foresight to anticipate future environmental problems and build EPA's resiliency in light of rapid technological change. The pilot also aligns with government-wide efforts to incorporate strategic foresight as a component of strategic and annual planning and analysis and enterprise risk management.

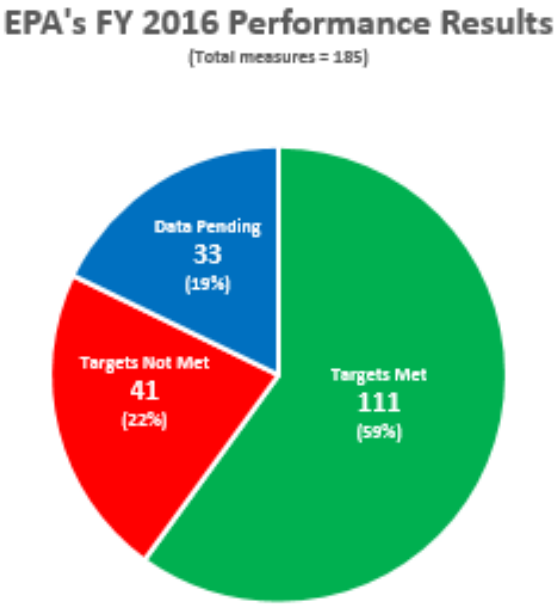
Evidence and Evaluation

Summaries of program evaluations completed during FY 2016 and other evidence use are available at http://www.epa.gov/planandbudget/fy-2016-program-evaluations. Program evaluations and other evidence help provide the information EPA needs to ensure that its programs are meeting their intended outcomes and allow the agency to support more effective and efficient operations. By assessing how well a program is working and why, a program evaluation can help EPA identify activities that benefit human health and the environment, provide the roadmap needed to replicate successes, and identify areas needing improvement. This is particularly important for fostering transparency and accountability.

FY 2016 Performance Data

In its *FY 2016 Annual Performance Plan and Congressional Justification*, EPA committed to 185 annual performance measures/targets. These performance measures/targets and EPA's results are presented in the following table, which includes explanations for missed targets and other results. EPA reviews annual results in terms of long-term performance, and will carefully consider its FY 2016 results and adjust its program strategies and approaches accordingly.

FY 2016 Performance Measure Results



As of December 31, 2016, data are available for 152 of the 185 FY 2016 budget performance measures/targets.[1] The agency met 111 of the performance measures, 73 percent of the performance measures for which data are available. Working with state and local governments, tribes, federal agencies, businesses, and industry leaders, EPA made significant progress toward the long-term strategic goals and objectives established in its Strategic Plan.

Despite its best efforts, however, the agency missed 41 of its FY 2016 performance measures/targets. There are a number of reasons for missed targets, including an unexpected demand for resources or competing priorities; the impact of a changing workforce; the effect of declining resources available for the agency's state, tribal, and local government partners; and other factors. As an integral part of its performance management process, EPA will continue to regularly review its performance, analyze results, and adjust FY 2017 and FY 2018 programmatic approaches and targets as necessary.

[1] Of EPA's 185 FY 2016 performance measures, 25 measures fall under the agency's enabling and support programs (including the Offices of Administration and Resources Management, Environmental Information, and Inspector General) and the Office of Research and Development. These measures are not reflected in the "Goal-at-a Glance" summaries which follow for each of EPA's five strategic goals.

Because final end-of-year data for some measures are not yet available, EPA is not able to report on 33 of its 185 performance measures. Often environmental results do not become apparent within a fiscal year, and assessment is a longer-term effort requiring information over time. Extensive quality assurance/quality control processes can also delay the reporting of performance data. EPA relies heavily on performance data obtained from state, tribal, and local agencies, all of which require time to collect and review for quality. Data lags may also result when reporting cycles do not correspond with the federal fiscal year on which this report is based, for example, data which are reported biennially. Additional FY 2016 results will be available in the agency's FY 2017 *APR*, which will be included in the *FY 2019 Annual Performance Plan* and the "Program Performance and Assessment" section of the *FY 2019 Congressional Justification*.

Previous Fiscal Year Data Now Available

EPA can now report FY 2015 data that became available in FY 2016. In summary, final performance results became available for 24 of the 34 FY 2015 performance measures for which we lacked data at the end of FY 2015. Of these 24 performance measures, EPA met 19 and did not meet 5 of the Agency's targets. Data remain unavailable for 9 measures.[2] One measure was discontinued.[3]

Summary of FY 2016 Performance Results

Goal 1: Addressing Climate Change and Improving Air Quality

FY 2016 Performance Measures		
Met: 15	Not Met: 0	Data Pending: 15
Total Measures: 30		

EPA advanced all four Goal 1 strategic objectives. The United States has steadily phased out the use of ozone depleting substances. Working with partners and co-regulators, EPA developed and implemented national programs that have reduced harmful air pollutants both indoors and

[2] EPA expects to report FY 2015 data for six of these measures in the FY 2017 Annual Performance Report: Performance Measure G02: Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector; Performance Measure G16: Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector; Performance Measure 001: Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline; Performance Measure 002; Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline; Performance Measure SM1: Tons of materials and products offsetting use of virgin resources through sustainable materials management; and Performance Measure 143: Percentage of agricultural acres treated with reduced-risk pesticides. We anticipate that no FY 2015 data will become available for three measures: Performance Measure R50: Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level; Performance Measure R51: Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features; and Performance Measure bpx: Extent of priority areas identified by each state that are addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards.

[3] Performance Measure R16: Percentage of parents of children with asthma aware of the EPA asthma program media campaign.

outdoors. And, EPA continues to protect human health and the environment from harmful and avoidable radiation exposure.

Objective 1.1: Address Climate Change

EPA successfully implemented motor vehicle greenhouse gas emissions (GHG) standards **(FY 2016-2017 APG)**, with automakers beating GHG standards for the fourth straight year and fuel economy, or MPG, for Model Year 2015 new cars and trucks reaching its highest level ever in FY 2015 (most recent year with available data).[4] More than 19,000 organizations and millions of Americans teamed with EPA's climate partnership programs, preventing more than 416 MMTCO2e of GHG emissions and reducing net energy bills by more than $31 billion in FY 2014 (most recent data).[5] In addition, EPA supported climate-resilient investments in communities across the country, meeting or exceeding targets to provide training, data, information, and tools to integrate climate adaptation into their work.

Objective 1.2: Improve Air Quality

EPA continued to design and implement national programs that deliver significant reductions in harmful air pollutants. These actions included setting health-based ambient air quality standards grounded in scientific research, setting fuel and engine standards that improve air quality in communities across the United States, developing regulations that reduce emissions of harmful pollutants from sources that pose the greatest risk to communities, and engaging the public and communities to address indoor air risks. Environmental indicators related to criteria pollutants and air toxics showed improving outdoor air quality trends. For example, between 2000 and 2015 (most recent year with available data),[6] national ambient concentrations of PM2.5 and ozone decreased 37 and 17 percent, respectively. Cleaner air prevents tens of thousands of premature deaths, reduces heart attacks and hospital visits, alleviates hundreds of thousands of asthma attacks among children and sensitive populations, and prevents millions of lost school and work days.[7]

Objective 1.3: Restore and Protect the Ozone Layer

The United States has outperformed its obligations under the Montreal Protocol and has made steady progress in phasing out the use of ozone depleting substances. In FY 2015 (most recent data), U.S. consumption of hydrofluorocarbons (HCFCs) declined to 584 tons of ozone depleting potential, well below the level of 1,520 tons required by the Montreal Protocol. As production of ozone-depleting substances declines and demands for flexibility grow, EPA manages exemption programs to address critical needs.

[4] See: https://www.epa.gov/fueleconomy/trends-report.
[5] See: U.S. EPA. (2016) *Climate Protection Partnerships: 2014 Annual Report.* www.energystar.gov/publications.
[6] Quality assured data for the criteria pollutants are available in early fall for the prior year. The air quality trends report, Our Nation's Air: Status and Trends Through 2015, is available at: https://gispub.epa.gov/air/trendsreport/2016/.
[7] See: https:///www.epa/gov/air-trends.

Objective 1.4: Minimize Exposure to Radiation

EPA protected human health and the environment from harmful and avoidable radiation exposure by developing radiation protection regulations and guidance; informing decision makers and the public about ambient radiation through RadNet, EPA's radiation monitoring network; and maintaining the readiness of its radiological emergency response program assets. While preparedness for radiological emergencies remains strong (EPA achieved a score of 95 percent readiness in FY 2016), maintaining scientific expertise in the radiological field continues to be a challenge due to aging of the original Atomic Age workforce.

Goal 2: Protecting America's Waters

FY 2016 Performance Measures		
Met: 37	Not Met: 14	Data Pending: 4
Total Measures: 55		

EPA made progress toward the two strategic objectives of Protecting Human Health and Improving Water Quality on a Watershed Basis. EPA focused its efforts on addressing aging water and sewer infrastructure challenges, protecting and restoring impaired waterbodies, strengthening and promoting innovative solutions that reduce pollution, building capacity for state and tribal water programs, promoting green infrastructure solutions, and training water stakeholders.

Objective 2.1: Protect Human Health

In FY 2016, 90.4 percent of our population served by community water systems received drinking water that met all applicable health-based drinking water standards. Strategies for improved compliance included targeted enforcement, technical and managerial support, and infrastructure investments. The utilization rate for the Drinking Water State Revolving Fund (DWSRF) has consistently increased over the last few years. From 2014-2016 states signed a record amount of funds into new loans. This resulted from EPA and state implementation of the 2014 Unliquidated Obligation (ULO) Strategy, which led many states to develop agile cash flow models to more accurately balance fund inflows and outflows.

EPA sponsored the 2016 Recreational Waters Conference to discuss issues related to human health in waters used for recreation. EPA also issued draft recreational water quality criteria and/or swimming advisories for the cyanotoxins microcystin and cylindrospermopsin that may result from harmful algal blooms.

While America's drinking water remains among the safest in the world, emerging challenges to maintain its safety are still present. These challenges include aging infrastructure, limited funding and management capacity, degradation of drinking water sources from multiple factors (some factors are out of EPA's control), risks from emerging contaminants, and threats associated with drought and severe weather events affecting source water availability and quality.

To address these challenges, EPA is focused on new approaches to information management and communications through the Compliance Monitoring Data Portal that enables drinking water

utilities and laboratories to report data electronically to primacy agencies leading to more timely and higher-quality monitoring data. EPA also released the Drinking Water Action Plan (PDF). The proposed actions from this plan will modernize technology and infrastructure, provide consumers with readily available information on drinking water quality, ensure robust and efficient oversight of drinking water safety, prevent source water contamination before it happens, safeguard drinking water against extreme weather events, and promote equity in access to safe drinking water and public health protections.

Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems

In FY 2016, the Water Infrastructure and Resiliency Finance Center made significant progress promoting innovative finance solutions for the nation's aging water and sewer infrastructure. The Center provided direct financial planning technical assistance to 10 communities across the country and identified innovative Customer Assistance Programs (PDF) created by utilities to help low and fixed income customers having difficulty paying their water and sewer bills.

Of all the water bodies across the nation that have been assessed and a possible source of impairment identified, 85 percent of rivers and streams and 80 percent of lakes and reservoirs are polluted by nonpoint sources. EPA advanced reductions of nutrient pollution through partnerships with the animal agriculture industry including the Nutrient Recycling Challenge.[8] EPA also provided state and tribal Concentrated Animal Feeding Operation (CAFO) programs with technical assistance to develop specific elements in their CAFO program to improve manure management.

An overwhelming majority of Americans—215 million (more than 70 percent)—live within two miles of a polluted lake, river, stream or coastal area. Moreover, the rate at which new waters are listed for water quality impairments exceeds the pace at which restored waters are removed from the list, due to challenges in protecting and restoring watersheds and aquatic ecosystems. Further, EPA expects delays in restoration of impaired waterbodies due to the complexity of some waterbodies. This complexity points toward the need for new approaches for assessing progress in water quality. EPA is evaluating new approaches for measuring local improvements in water quality to provide consistent methodology for measuring progress, and to more effectively track water quality outcomes from investments in protection and restoration. These new approaches will be complemented by new performance measures such as measuring the percent of priority impaired water areas identified by each state that are addressed by EPA-approved Total Maximum Daily Loads (TMDLs) or alternative restoration approaches. This measure was established in FY 2015; in FY 2016, the first year when data is available, EPA exceeded the target for this measure.

Wetlands are important components of healthy ecosystems and contribute to the protection and restoration of water quality. In May 2016, EPA released the National Wetland Condition Assessment (NWCA) 2011: A Collaborative Survey of the Nation's Wetlands, the first national evaluation of the ecological condition of the nation's wetlands. The study found that nearly half of wetland area (48 percent) is in good condition; 32 percent is in poor condition; and the remaining

[8] EPA is providing this link for informational purposes only and cannot attest to the accuracy of non-EPA information provided by any third-party sites or any other linked site. EPA does not endorse any non-government websites, companies, internet applications or any policies or information expressed therein.

20 percent is in fair condition. The NWCA strengthens EPA's partnership with states and tribes by helping them implement wetland monitoring and assessment programs.

Green infrastructure helps restore natural hydrologic systems and the health of aquatic ecosystems reducing pollution from stormwater events. In FY 2016, EPA released the document Tools, Strategies, and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects that summarizes green infrastructure solutions to reduce stress on the nation's water infrastructure and to create more livable communities through stormwater management. Green Infrastructure captures storm water to prevent flooding and losses (estimated at hundreds of millions of dollars) and enhances filtration before pollutants enter waterways. In FY 2016, EPA's Green Infrastructure efforts assisted 74 communities, advancing resilience in the nation's water infrastructure **(FY 2016-2017 APG)**.

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

FY 2016 Performance Measures		
Met: 21	Not Met: 9	Data Unavailable: 2
Total Measures: 32		

EPA made good progress toward three of four objectives—Sustainable and Livable Communities; Preserve Land; and Restore Land. EPA continued to protect human health and the environment from uncontrolled releases of hazardous substances that could contaminate our land and rivers and threaten healthy ecosystems. EPA focused on preventing and reducing exposure to contaminants, assessing and cleaning up contaminated sites and facilitating their reuse, and strengthening our preparedness and emergency response programs. However, the agency continued to face challenges under Strengthen Human Health and Environmental Protection in Indian Country, designated as Focus Area for Improvement.

Objective 3.1: Promote Sustainable and Livable Communities

EPA's Brownfields Program continued to achieve strong results. In FY 2016, federal brownfields funding made 7,354 acres ready for reuse, leveraged 9,661 jobs, and raised $1.47 billion from public and private sources, exceeding performance targets driving further economic activity. In a peer-reviewed study, residential property values increased 5 to 15 percent after brownfields grant cleanups. Analyzing this data, EPA estimates that local governments near 48 brownfield sites would see a total of $29-97 million in additional taxes in a single year after cleanup (2 to 7 times the $12.4 million EPA contribution).

EPA missed the Risk Management Plan (RMP) inspection target for the second straight year, but the agency continued to make progress protecting workers and communities by prioritizing the highest risk facilities (based on accident history, quantity of chemicals on site, or proximity to large residential populations) and implementing Executive Order 13650 on Improving Chemical Facility Safety and Security. In FY 2016, EPA proposed revisions to the RMP rule to improve chemical process safety and protect communities and first responders.

Objective 3.2: Preserve Land

EPA's waste reduction and waste management programs continued to make progress. In FY 2014 (most recent data), the reuse or recycling of more than 9 million tons of materials and products offset the use of virgin resources through the Sustainable Materials Management (SMM) program. As part of the SMM program, EPA promoted three national strategies: the Federal Green Challenge, Electronics Challenge, and Food Recovery Challenge. These strategies focused on using less environmentally intensive and toxic materials and employing downstream solutions to conserve resources for future generations. EPA co-hosted the first Food Recovery Summit resulting in a framework for wide-scale and sustained reductions in food loss and waste. Participants in the Food Recovery Challenge diverted more than 120 tons of food from landfills, and federal facilities participating through the SMM Federal Green Challenge implemented multiple efforts to reduce waste and electricity usage, saving taxpayers over $21 million.

The number of underground storage tank (UST) facilities in significant operational compliance with leak detection and prevention requirements in FY 2016 increased to 72.5 percent, and the number of UST releases has decreased 10.25 percent over the past 7 years. To continue protecting communities' health and safety, EPA collaborated with states to update state UST regulations consistent with revised federal regulations. The agency also worked with partners to strengthen the tribal notification procedures and provided training to tribes on the incident management system and responses to railroad accidents to improve preparedness and communications. Despite this progress, the Resource Conservation and Recovery Act (RCRA) hazardous waste, Polychlorinated Biphenyls (PCBs) cleanup, and UST prevention programs face difficult implementation issues. Emerging contaminants can be difficult to characterize, and may affect states' and tribes' ability to carry out authorized permitting, cleanup, and compliance programs.

Objective 3.3: Restore Land

With 53 percent of the U.S. population, or 166 million people, living within three miles of a contaminated or potentially contaminated site, assessing and cleaning up sites is a significant achievement for public health. Cleanup programs continued to make progress by reducing the backlog of contaminated sites awaiting assessment, increasing the number of RCRA corrective action sites with human exposure under control, addressing the issue of vapor intrusion at contaminated waste and UST sites, and making an additional 9,640 sites Ready for Anticipated Use in FY 2016 (**FY 2016-2017 APG**). Evidence from high-profile UST sites demonstrates that cleanups increase property values by 4 to 9 percent, while a study of 458 Superfund sites found more than 3,900 businesses generating a total of $29 billion in annual sales in one year.

Despite this progress, the pace of cleanups has slowed in recent years as cleanups become more challenging and complex. The Superfund and RCRA corrective action program missed cleanup targets due to increased complexity of remaining sites, new science regarding emerging and existing contaminants (e.g., perfluorinated compounds), and changing screening/toxicity values.

Objective 3.4: Strengthen Human Health and the Environment in Indian Country

In FY 2016 EPA highlighted this objective as a focus area for improvement for the third consecutive year. External challenges include tribal diversity (population, culture, geography, economic development, expertise, income, priorities), unique legal and policy issues, and the need for improved EPA tribal data and its management. Most tribes are not seeking authority to implement federal regulatory environmental programs, but more tribes are taking on monitoring opportunities. Difficult environmental and health challenges remain in the more than 56 million acres of Indian country, including lack of access to safe drinking water, sanitation, adequate waste facilities, and other environmental safeguards which are elsewhere taken for granted. Internally, EPA also faces competing demands and priorities.

To address these challenges, EPA developed a multi-year, agency-wide strategy primarily focused on a comprehensive needs assessment to examine EPA direct implementation (DI) of programs to protect human health and the environment in Indian country. EPA envisions that this effort will take time, due to the complexities involved in completing the assessments and the competing priorities and resource constraints of the headquarters and regional staff involved agency-wide. Agency senior leaders continue to give attention and visibility to this issue so that it remains a priority. In FY 2016, EPA completed *Direct Implementation of Federal Environmental Programs in Indian Country*, a framework for EPA's DI work, and finalized a nationally consistent methodology for assessing its DI responsibilities and activities on a program-by-program basis. The agency will complete the first DI program assessment, for the Resource Conservation Recovery Act (RCRA) Subtitle C Treatment, Storage and Disposal Facilities (TSDFs) program, in FY 2017. EPA will evaluate and review these assessments to determine future actions to increase efficiency and effectiveness of DI programs and address gaps to ensure that environmental regulatory programs are as effective in Indian country as they are outside of Indian country.

EPA has also worked on two complementary efforts. First, EPA has made progress toward standardizing tribal data by using a tribal identifier code across its data systems to identify regulated facilities in Indian country. In FY 2015, EPA established a methodology to extract data on the universe of regulated entities in Indian country and completed improvements to the "EPA Tribal Areas" layer on the EPA Geoplatform by incorporating 2014 Census data. By FY 2016, EPA had updated its tribal identifier data standard with the Bureau of Indian Affairs list of federally recognized tribes to allow correlation of tribal data across multiple EPA data systems (e.g. Envirofacts, TRI Explorer, Enforcement and Compliance History Online (ECHO), Underground Injection Control database, and Cleanups in My Community). EPA also worked with individual system owners to improve tribal data in EPA data systems (e.g., Integrated Grants Management System (IGMS), Superfund Enterprise Management System (SEMS), Resource Recovery Act Information System (RCRAInfo) and Safe Drinking Water Information System (SDWIS)).

Second, EPA has provided Indian General Assistance Program (GAP) grants to tribes to build tribal capacity. In FY 2014, EPA implemented revised GAP Guidance and developed EPA-Tribal Environmental Plans (ETEPs) to align tribal and EPA priorities through joint planning with the

first 39 tribes. By the end of FY 2016, EPA had completed ETEPs with 62 percent of eligible tribes.

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution

FY 2016 Performance Measures		
Met: 12	Not Met: 6	Data Unavailable: 10
Total Measures: 28		

EPA had mixed results under the Ensure Chemical Safety objective and made good progress under the Promote Pollution Prevention objective.

Objective 4.1: Ensure Chemical Safety

In FY 2016, EPA kept pace with expectations in most areas while addressing such significant new challenges as helping to prevent spread of the Zika virus and responding to the enactment of Toxic Substances Control Act (TSCA) reform, the first major environmental legislation in 20 years. EPA missed its GPRA target for the number of existing chemicals for which risk assessments are finalized, as well as the target for the related APG indicator goal, but is on track for new chemicals, pesticides and endocrine disruptor screening targets (FY 2016-2017 APG).

The Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law in June 2016. The new law, which amends TSCA, will strengthen EPA's ability to ensure the safety of chemicals in or entering the marketplace. The agency developed an action plan for implementing the law's requirements and completed or made substantial progress on planned first-year steps. Proposed rules under TSCA Section 6 have been completed to address risks identified in three of the five risk assessments completed prior to passage of the new law. The new law will reduce challenges the agency has faced in obtaining chemical testing data, assessing chemicals, meeting the thresholds for commencing risk reduction actions and addressing unwarranted confidentiality claims.

EPA made significant progress to meet the Pesticide Registration Improvement Extension Act (PRIA) statutory deadline of completing registration review risk assessments and making decisions by 2022 on all pesticides registered prior to October 1, 2007—exceeding the targets established for FY 2016 in the number of dockets opened (the first step in the registration review process) and final work plans completed. In FY 2016, EPA also acted to reduce spread of Zika using expert technical assistance and communications support; mitigate endangered species risks through the first-ever biological evaluations of three organophosphates; and advanced assessment of the effects of pesticides on pollinators by completing the first comprehensive bee assessment of a neonicotinoid insecticide, suspected of affecting bees.

EPA made faster-than-expected progress in reducing perfluorooctanoic acid (PFOA) human blood serum concentrations, exceeding its GPRA performance targets for FY 2012 and FY 2014, and improved transparency by expanding its online ChemView portal and continuing the review of new Confidential Business Information claims. The agency's progress on PFOA is attributable in

part to the work it has accomplished with industry partners under the voluntary 2010/2015 PFOA Stewardship Program. All eight major participating companies met the goals to which they committed under this program.

EPA scientists launched a new interactive CompTox Dashboard in FY 2016 with information for more than 700,000 chemicals. Available to the public, the dashboard is a gateway to an array of related public domain databases, provides improved access to data and models associated with chemicals of interest, and is a hub that links many EPA research databases. The user-friendly interface provides access to chemical structure information and tens of thousands of physicochemical properties and is used to develop machine-learning models that can make improved predictions about chemical risks. The Dashboard brings EPA one step closer to a "one stop shop" for environmental chemistry data to inform future exposure and risk assessments.

In FY 2016, EPA announced it would use estrogen-related data on thousands of chemicals generated by the Toxicology in the 21st Century (Tox21) research collaboration to screen chemicals for potential endocrine bioactivity. In addition, EPA focused on evaluating the Androgen Receptor (AR) model and developing the steroidogenesis and thyroid pathways/models, three other endocrine related biological areas of interest, to screen chemicals for potential endocrine bioactivity. These methods rely on data gathered from cell samples and computer models, replacing testing using animals.

In FY 2016, EPA's Office of Research and Development posted final assessments for Trimethylbenzenes (TMBs) and Ammonia to EPA's Integrated Risk Information System (IRIS) database. These final assessments implement many of the recommendations provided by the National Academy of Sciences and feature a new streamlined document structure that is more transparent about the methods used and better articulates how decisions were made.

Objective 4.2: Promote Pollution Prevention

In FY 2016, the agency made progress in preventing pollution at the source. The most recent results show performance targets were met for all six of the agency's pollution prevention (P2) measures and in four of these cases were substantially exceeded. The agency nevertheless faced challenges, including the tendency of many P2 grantees to report aggregated results without a breakout of specific P2 practices and corresponding environmental and economic results. The program is testing a proposed template for grantees to use to report specific P2 actions taken at the facility level and any corresponding economic and environmental outcomes (with results expected in FY 2017).

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

FY 2016 Performance Measures		
Met: 9	Not Met: 6	Data Unavailable: 0
Total Measures: 15		

Objective 5.1: Enforce Environmental Laws to Achieve Compliance

By focusing its efforts on larger, more complex, risk-based enforcement cases that drive compliance across industries and have the highest impact on protecting public health and the environment, EPA made strong progress under its enforcement objective in FY 2016. Although total annual enforcement cases have decreased overall, in FY 2016, the agency obtained the largest Clean Water Act penalty (Deepwater Horizon-BP Gulf of Mexico oil spill) in EPA's history, which contributed to a record $5.8 billion in combined federal administrative and civil judicial penalties. EPA also obtained $13.7 billion in administrative and civil judicial complying actions/injunctive relief. In the case of environmental benefits, the agency reached a record RCRA enforcement settlement with Mosaic Fertilizer LLC addressing violations at its phosphate chemical facilities in two states for mismanagement of hazardous wastes. The settlement set a record 62 billion pounds for the quantity of hazardous waste reduced, treated, or eliminated through a concluded enforcement action.

EPA's criminal enforcement program also made strong progress in FY 2016, with a criminal conviction rate of 94 percent. Significant cases often were tied to individual conduct, which resulted in 92 years of incarceration, $192 million in restitution, and $13 million in fines to be paid by individuals and corporations. Aside from this progress however a focus on higher-impact cases, combined with normal year-to-year variability of the enforcement case settlement process, affected some of the agency's FY 2016 enforcement program results, contributing to missed targets for the number of federal inspections and evaluations, pounds of air and water pollutants reduced, and volume of contaminated soil and groundwater media cleaned up.

EPA continued to promote environmental justice (EJ) by targeting noncomplying facilities for their disproportionate impacts on low-income and minority communities. In FY 2016, one-third of non-exempt civil cases initiated by EPA occurred in locations with potential EJ concerns. In settlement agreements, the agency continued its efforts to include Supplemental Environmental Projects (SEPs) which directly benefit communities in settlement agreements, contributing to SEPs value remaining high in FY 2016 ($32M). Looking forward, further advancing the use of Next Generation Compliance tools and strategies throughout the enforcement and compliance program, including enforcement settlements, remains a priority. To date, over fifty enforcement settlements have included tools and approaches consistent with Next Generation Compliance principles. In FY 2016, to promote further use of these tools and approaches, the agency issued Next Generation Enforcement Settlement Highlights to identify where tools such as transparency, electronic reporting and advanced monitoring are already being used to improve compliance and environmental outcomes.

Verification/Validation of Performance Data

The agency develops Data Quality Records (DQRs) to present validation/verification information for selected performance measures and information systems, consistent with guidance from the Office of Management and Budget. A DQR documents the management controls, responsibilities, quality procedures, and other metadata associated with the data lifecycle for individual performance measures, and is intended to enhance the transparency, objectivity, and usefulness of the performance result. EPA's program offices choose the measures for which to develop DQRs, consistent with the agency's goal to document quality procedures associated with a broad range of budget measures. Each DQR can be considered current as of the most recent date for which the agency has published results for the performance measure. All of EPA's current DQRs are available in PDF format at the following URL: http://www.epa.gov/planandbudget/archive#dqr. (If this link does not work, please copy and paste the URL directly into your browser.)

Please note the PDF file includes DQRs that reference supporting documents, which are available upon request by sending an email with the name of the document and DQR to OCFOINFO@epa.gov. The email should indicate the measure number and text associated with the DQR, and the filename shown underneath the icon for the attachment.

E. SCOTT PRUITT
ADMINISTRATOR

Reliability of the EPA's Performance Data

Data used to report performance results are reliable and as complete as possible. Because improvements in human health and the environment may not become immediately apparent, there might be delays between the actions we have taken and results we can measure. Additionally, we cannot provide results data for some of our performance measures for this reporting year. When possible, however, we have portrayed trend data to illustrate progress over time. We also report final performance results for previous years that became available in FY 2016.

Scott Pruitt

E. Scott Pruitt
Administrator

MAY 17 2017

Date

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Goal 1 at a Glance

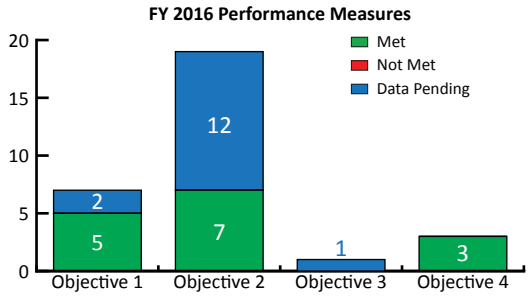
ADDRESSING CLIMATE CHANGE AND IMPROVING AIR QUALITY

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

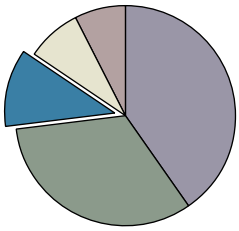
FY 2016 Performance Measures

Met: 15 Not Met: 0 Data Unavailable: 15

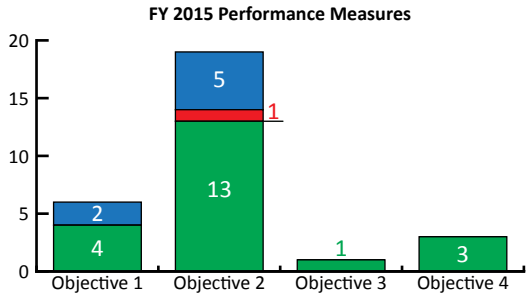
(Total Measures: 30)



FY 2016 Obligations*



- Addressing Climate Change and Improving Air Quality, $1,161,266
- Protecting America's Waters, $4,043,457
- Cleaning Up Communities and Advancing Sustainable Development, $3,290,177
- Ensuring the Safety of Chemicals and Preventing Pollution, $740,573
- Enforcing Environmental Laws, $792,974



Strategic Objective Overview	FY 2016 Obligations*	% of Goal 1 Funds
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.	$226,252	19.5%
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.	$876,307	75.5%
Objective 1.3: Restore and Protect the Ozone Layer. Restore and protect the earth's stratospheric ozone layer and protect the public from harmful effects of ultraviolet radiation.	$18,201	1.6%
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.	$40,505	3.5%
Goal 1 Total	**$1,161,266**	**100.0%**

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 1

Acid Rain Program
Air Toxics
Clean Air Allowance Trading Programs
Clean Air Research
Climate Partnership Programs
Indoor Air Quality and Radon Programs
Mobile Sources
National Ambient Air Quality Standards Development and Implementation
New Source Performance Standards
New Source Review
Radiation Protection and Emergency Response Programs
Regional Haze
Stratospheric Ozone Layer Protection Program

PERFORMANCE: STRATEGIC GOALS 1-5

(The shaded boxes indicate that actual results are not yet available, or that a measure has been discontinued.)

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 - 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.

Summary of progress toward strategic objective:

EPA made progress under this objective by developing greenhouse gas (GHG) programs to curb emissions and working with state and local agencies to permit larger industrial sources of GHG emissions. In addition, EPA built upon its successful partnerships in the consumer products, buildings, industry, homes, power, and transportation sectors. Performance highlights include:

- In FY 2014 (most recent data), EPA worked with the consumer products, building, industrial, homes, power, and transportation sectors to avoid emissions of 971.1 million metric tons of carbon dioxide (CO2) equivalents.
- EPA worked to implement activities and milestones supporting the GHG vehicle standards, including testing vehicles and issuing certificates of vehicle conformity as outlined in EPA's 2016-2017 Agency Priority Goal. Automakers beat GHG emissions standards for the fourth straight year and fuel economy reached its highest level ever recorded in FY 2015. (See: https://www.performance.gov/reduce-greenhouse-gas-emissions-cars-and-trucks and https://www.epa.gov/fueleconomy/trends-report)
- EPA, along with the National Highway Traffic and Safety Administration, finalized standards for medium- and heavy-duty vehicles.
- EPA collected comprehensive GHG data from over 8,000 of the largest facilities and suppliers in the U.S., accounting for about half of total U.S. GHG emissions. EPA verifies and makes the data available to the public through EPA's GHG Reporting Program, providing data for policy, business, and regulatory decisions.

Challenges and opportunities:

Overall, U.S. GHG emissions in FY 2015 were 11.5% below FY 2005 levels. This trend can be attributed to multiple factors, including year-to-year changes in weather and other changes in the electric power sector (See: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks). Through EPA-led efforts including the GHG Reporting Program, U.S. Climate Change Indicators Report, and Clean Air Markets Program Data, EPA learned more about the sources, emissions, and impacts of GHGs. In October 2016, with U.S. leadership, 197 countries adopted an amendment to phase down hydrofluorocarbons (HFCs) under the Montreal Protocol on Substances that Deplete the Ozone Layer, committing to cutting the production and consumption of HFCs by more than 80% over the next 30 years.

Program Area	Performance Measures and Data

(1) Address Climate Change

(PM G02) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	156.9	168.7	182.6	196.2	188.0	201.1	210.4	MMTCO2e
Actual	189.0	221.9	254.2	242.4	Data Avail 12/2017	Data Avail 12/2018		

Explanation of Results: GHG emissions reductions from EPA's buildings sector programs continued to exceed programmatic targets. Methodologies to calculate reduction actuals are refined annually to address the efforts of other government programs, third-party actors, and other program-specific market effects; therefore, results could be higher or lower than a previous year.

(PM G06) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the transportation sector through EPA's SmartWay partnership program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	23.7	28.0	33.0	61	70	76	82	MMTCO2e
Actual	27.9	38.9	51.6	61.7	72.8	84		

Explanation of Results: The results show that in FY 2016, SmartWay helped avoid 11.2 million metric tons of CO2 for a cumulative reduction of 84 MMTCO2E since program inception. The results reflect the efforts of partners to continuously improve the efficiency of their goods movement operations.

Additional Information: SmartWay's emissions reductions are estimated by comparing the emissions performance of trucks in SmartWay with modeled estimates of national truck emissions, which is only one component of SmartWay. In 2004, there were 0.7 million metric tons of carbon dioxide equivalent reductions from the SmartWay program. From 2004 to 2014, EPA projected forward from the 2004 baseline assuming no impact on GHG emissions from U.S. climate change programs. Beginning in 2014, heavy-duty vehicles subject to the Phase 1 Greenhouse Gas rule began to gradually penetrate the national fleet, raising the emissions performance of the national fleet, and reducing the difference between the emissions performance of SmartWay truck carrier partners and the national fleet. Activities by SmartWay's rail, barge, and shipper partners are not currently captured in these estimates.

(PM G16) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	346.2	372.9	421.9	461.8	540.3	676	702.7	MMTCO2e
Actual	386.4	378.1	637.9	669.3	Data Avail 12/2017	Data Avail 12/2018		

Program Area	Performance Measures and Data

Explanation of Results: GHG emissions reductions from EPA's industrial sector programs continued to grow, exceeding programmatic targets. The FY 2014 actual significantly exceeds the FY 2014 target due to greater GHG emissions reductions from the Landfill Rule, not reflected in the target that year.

Additional Information: Combined, energy, agriculture, waste, manufacturing and other industrial sectors generate more than a third of the nation's annual GHG emissions. Industrial sector emissions are produced either from a process itself, from the energy consumed during the process, or to produce electricity. For example, the transformation of raw materials from one "state" to another can result in the release of GHGs such as CO2 and methane. EPA only reports results from those programs that are active in the reporting year.

(PM G18) Percentage of Annual Greenhouse Gas Emission Reports verified by EPA before publication.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			93	95	95	95	95	Percent
Actual			96	98	97	97		

Additional Information: The Greenhouse Gas Reporting Program, established in 2009, has 41 sectors that include more than 8,000 facilities and suppliers. Both facilities and suppliers are required to report their data annually by March 31st. After submission of the data, the agency conducts a verification review that lasts approximately 150 days and includes a combination of electronic checks, staff review, and follow-up with facilities to identify potential reporting errors and have them corrected before publication. The 150-day period includes 60 days for EPA to review reports and identify potential data quality issues, 75 days for reporters to resolve these issues, and 15 days for EPA to review responses or resubmitted reports. EPA typically publishes the data by October 1st each year (see: www.epa.gov/ghgreporting).

(PM AD4) Cumulative number of state, tribal, and community partners that have integrated climate change data, models, information, and other decision-support tools developed by EPA for climate change adaptation into their planning processes.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						50	120	Number of Partners
Actual						50		

Explanation of Results: As of FY 2016, EPA's partners had integrated climate adaptation into planning processes with assistance from EPA's Climate Change Adaptation Resource Center (ARC-X), Climate Ready Utilities Program, Climate Ready Estuaries Program, Brownfield program, and Stormwater Calculator with Climate Assessment Tool.

(PM AD5) Cumulative number of state, tribal, and community partners that have incorporated climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						50	100	Number of Partners
Actual						50		

Program Area	Performance Measures and Data

Explanation of Results: As of FY 2016, EPA's partners had incorporated climate adaptation into environmental programs with assistance from EPA's discretionary grants, the Clean Water and Safe Drinking Water State Revolving Loan Funds Programs (SRF), Brownfield clean-up grants, the Great Lakes Restoration Initiative (GLRI), the Tribal Grants Assistance Program (GAP), the Office of Environmental Justice (OEJ) Small Grants Program, and the Climate Ready Estuaries Program.

(PM AD6) Cumulative number of EPA-developed training programs that incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						3	4	Number
Actual						5		

Explanation of Results: In FY 2016, EPA completed the following training modules: (1) Introductory Climate Adaptation Training for EPA staff; (2) Office of Land and Emergency Management Climate Change Adaptation Training for EPA staff; (3) Climate Adaptation Training for Local Governments; (4) Training on Understanding Climate Change Impacts on Water Resources; and (5) Office of Land and Emergency Management Climate Change Adaptation Training for the public.

Objective 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.

Summary of progress toward strategic objective:

Under this objective EPA, together with its implementation partners, is making progress to improve air quality by designing, developing, and implementing national programs that deliver significant reductions in harmful air pollutants. These actions include setting health-based ambient air quality standards grounded in scientific research, and setting fuel and engine standards that improve air quality in communities across the U.S. Performance highlights include:

- National ambient concentrations of criteria pollutants continued to show steady improvement. From FY 2003 to FY 2015 (most recent data), for example, population-weighted ambient concentrations of fine particulate matter (PM2.5) and ozone decreased 32 and 21%, respectively. In addition, the number of days when the ozone standard was exceeded in Nonattainment Areas and the number of days when the Air Quality Index is considered to be unhealthy for sensitive groups of people is trending downward. Cleaner air prevents tens of thousands of premature deaths, reduces heart attacks and hospital visits, alleviates hundreds of thousands of asthma attacks among children and sensitive populations, and prevents millions of lost school and work days. (See: https://www.epa.gov/air-trends)
- EPA's Acid Rain and Cross-State Air Pollution Rule programs continued to make significant progress in reducing emissions from applicable sources. In FY 2015, U.S. power plants emitted 2.2 million tons of sulfur dioxide (SO2), a 78% decrease from FY 2005 levels. Similarly, annual nitrogen oxides (NOx) emissions in FY 2015 were 1.4 million tons, a 60% decrease from FY 2005 levels. (See: https://www.epa.gov/airmarkets/clean-air-markets-progress)
- EPA is making steady progress to fulfill its commitment to clear the existing State Implementation Plan (SIP) backlog as of October 1, 2013

Objective 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.

and manage the timely review of all other SIPs consistent with Clean Air Act deadlines. Working closely with state and local air agencies, EPA has reduced the overall number of active SIPs by 37% and the number of backlogged SIPs by 46%.

- EPA equipped health, housing, environmental and health insurance programs to effectively support delivery, infrastructure and sustainable financing of environmental asthma interventions in homes and schools. The results reflect a combination of EPA supported technical training and Non-Governmental Organization partnerships. (See: https://www.epa.gov/asthma)

Challenges and opportunities:

A constrained resource environment requires constant balancing of priorities to ensure progress on statutorily required work and court ordered deadlines. Many state, local, and tribal air agencies are finding it more and more challenging to deliver environmental and public health protection.

Program Area	Performance Measures and Data

(1) Reduce Criteria Pollutants and Regional Haze

(PM M9) Cumulative percentage reduction in population-weighted ambient concentration of ozone in monitored counties from 2003 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12	13	15	16	16	17	19	Percent Reduction
Actual	16	13	15	18	21	Data Avail 12/2017		

Explanation of Results: The FY 2015 results show national ozone concentrations have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in this metric can vary from one year to the next because meteorology plays a significant role in ozone formation.

Additional Information: This measure shows progress in reducing ambient ozone concentrations from the 2003 baseline (population-weighted national average of 0.090 ppm). Consistent with the National Ambient Air Quality Standard (NAAQS) for ozone, it is based on a three-year average concentration. The measure assigns more weight to counties with more people by weighting each county's ozone concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-Scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored ozone concentrations.

(PM M92) Cumulative percentage reduction in the number of days with Air Quality Index (AQI) values over 100 since 2003, weighted by population and AQI value.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	37	50	80	80	80	81	83	Percent Reduction
Actual	73	73	74	79	82	Data Avail 12/2017		

Program Area	Performance Measures and Data

Explanation of Results: The FY 2015 results are largely driven by national ozone and PM 2.5 concentrations which have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in this measure can vary from one year to the next because meteorology plays a significant role in ozone and PM 2.5 formation.

Additional Information: This measure shows progress in reducing the number of "unhealthy" air quality days based on the Air Quality Index (AQI) relative to the 2003 baseline. The AQI is an index for reporting daily air quality. An AQI value of 100 generally corresponds to the NAAQS for each of the five pollutants included in the index. When AQI values are above 100, air quality is considered to be unhealthy for certain sensitive groups of people and then for everyone as AQI values get higher. This measure assigns more weight to higher AQI values and counties with more people. Because ozone and PM2.5 typically account for the vast majority of AQI values above 100, this measure largely tracks changes in those two pollutants. The targets for this measure are based on a regression curve using historical data. The actuals are updated annually based on the actual monitored concentrations.

(PM MM9) Cumulative percentage reduction in the average number of days during the ozone season that the ozone standard is exceeded in non-attainment areas, weighted by population.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	29	45	50	50	50	68	70	Percent Reduction
Actual	58	54	59	67	76	Data Avail 12/2017		

Explanation of Results: The FY 2015 results show national ozone concentrations have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in this measure can vary from one year to the next because meteorology plays a significant role in ozone formation.

Additional Information: This measure shows progress in reducing the number of exceedance days in the 1997 ozone nonattainment areas relative to the 2003 baseline. Consistent with the NAAQS for ozone, it is based on a three-year average. The measure assigns more weight to nonattainment areas with more people by weighting each nonattainment area's exceedance count by its population. The targets for this measure are based on a regression curve using historical data. The actuals are updated annually based on the actual monitored concentrations.

(PM N35) Limit the increase of Carbon Monoxide (CO) emissions from mobile sources compared to a 2000 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.86	2.02	2.19	2.36	2.53	2.70	2.87	Tons Emitted
Actual	1.86	2.02	2.19	2.36	2.53	2.70		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: As of 2010, the few areas in the U.S. that had active issues with local levels of CO had controlled their levels to or below EPA's NAAQS for CO. These areas have all been re-designated to attainment with a CAA maintenance plan (i.e., known as "maintenance areas"). In 2000, CO emissions from mobile sources were 79.2 million tons using the 2000 Mobile6 inventory.

(PM O33) Cumulative millions of tons of Volatile Organic Compounds (VOCs) reduced since 2000 from mobile sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.88	2.05	2.23	2.4	2.57	2.74	2.91	Tons Reduced
Actual	1.88	2.05	2.23	2.4	2.57	2.74		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: Volatile organic compounds (VOCs) react in the atmosphere to form ozone and particulate matter, both of which are criteria pollutants for which EPA establishes NAAQS. In addition, some VOCs are air toxics (such as benzene) or react in the atmosphere to form ozone and particulate matter, both of which are criteria pollutants for which EPA establishes NAAQS. Reducing VOC emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants. EPA has reduced VOC emissions from mobile sources through its emissions standards promulgated since 2000 which apply to mobile sources including on-road cars and trucks, nonroad engines and equipment (such as lawn and garden equipment), locomotives, and marine engines. VOC emissions will continue to fall over time as new, cleaner vehicles and engines enter the fleet. In 2000, VOCs emissions from mobile sources were 7.7 million tons using the 2000 Mobile6 inventory.

(PM O34) Cumulative millions of tons of Nitrogen Oxides (NOx) reduced since 2000 from mobile sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3.73	4.07	4.41	4.74	5.08	5.42	5.76	Tons Reduced
Actual	3.73	4.07	4.41	4.74	5.08	5.42		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: Nitrogen oxides (NOx) react in the atmosphere to form ozone, particulate matter, and NO2, all of which are criteria pollutants for which EPA establishes NAAQS. Reducing NOx emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants as well as the ecosystem effects associated with nitrogen deposition to water bodies. EPA has reduced NOx emissions from mobile sources through its emissions standards promulgated since 2000, which apply to mobile sources including on-road cars and trucks, nonroad engines and equipment (such as construction, farming, and lawn and garden equipment), locomotives, aircraft, and marine vessels. NOx emissions will continue to fall over time as new, cleaner vehicles and engines enter the fleet. In 2000, NOx emissions from mobile sources were 11.8 million tons using the 2000 Mobile6 inventory.

(PM M91) Cumulative percentage reduction in population-weighted ambient concentration of fine particulate matter (PM-2.5) in all monitored counties from 2003 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	16	20	28	29	31	32	Percent Reduction
Actual	26	26	29	29	32	Data Avail 12/2017		

Explanation of Results: The FY 2015 results show national PM 2.5 concentrations have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in results can vary from one year to the next because meteorology plays a significant role in PM 2.5 formation.

Additional Information: This measure shows progress in reducing ambient PM 2.5 concentrations with respect to the 2003 baseline (population-weighted national average of 14.1 ug/m3). Consistent with the NAAQS for PM 2.5, it is based on a three-year average concentration. Reducing emissions of PM 2.5 results in decreases in atmospheric concentrations of inhalable fine particles, which in turn lowers the risk of premature mortality, hospital admissions for heart and lung disease, and respiratory symptoms. The measure assigns more weight to counties with more people by weighting each county's PM 2.5 concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-Scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored concentrations.

(PM P34) Cumulative tons of PM-2.5 reduced since 2000 from mobile sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	136,677	146,921	159,164	171,407	183,651	195,895	208,138	Tons Reduced
Actual	136,677	146,921	159,164	171,407	183,651	195,895		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: EPA has reduced PM 2.5 emissions from mobile sources through its emissions standards promulgated since 2000, which apply to mobile sources including on-road cars and trucks, nonroad engines and equipment (such as construction and farming equipment), locomotives, and marine vessels. PM 2.5 emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. In 2000, PM 2.5 emissions from mobile sources were 510,550 tons using the 2000 Mobile6 inventory.

(PM A01) Annual emissions of sulfur dioxide (SO2) from electric power generation sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	5,000,000	5,000,000	Tons Emitted
Actual	4,544,000	3,319,000	3,210,365	3,122,921	2,231,970	Data Avail 12/2017		

Explanation of Results: Actual emissions have consistently been lower than the targets due to a number of factors including use of the large and growing bank of acid rain program allowances and uncertainty regarding market dynamics related to the mix of fuels and power generation sources in the future.

Additional Information: The baseline in 1980 is 17.4 million tons of SO2 emissions from electric utility sources. This inventory was developed by the National Acid Precipitation Assessment Program (NAPAP) and is used as the basis for reduction in Title IV of the 1990 Clean Air Act (CAA) Amendments. Statutory SO2 emissions capped in 2010 at 8.95 million tons, approximately 8.5 million tons below 1980 emissions level. Targets for this measure through 2010 were based on implementation of the nationwide Acid Rain Program (ARP) alone whereas the (lower) target of 6 million tons for FYs 2011-2015 recognized implementation of the Clean Air Interstate Rule (CAIR) Programs in eastern states in combination with ARP. The updated FY 2016 and 2017 targets are based on the ARP and newly established SO2 budgets under the Cross State Air Pollution Rule (CSAPR), which began implementation in January 2015. The FY 2016 and FY 2017 targets incorporate the following assumptions: 1) CSAPR states emit at the full assurance provision level allowed under the rule; 2) sources in non-CSAPR states would continue to emit at historical levels; and 3) potential use of banked ARP allowances.

(PM MM6) Total number of backlogged SIPs remaining.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			No Target	No Target	No Target	300-400	100-200	Number of Backlogged SIPs
Actual			699	649	557	322		

Explanation of Results: At the end of FY 2016, EPA had 322 backlogged SIPs remaining to be acted on. In FY 2016, EPA took action on 466 SIPs; 235 of these actions were on backlogged SIPs and 231 actions were on non-backlogged SIPs. The total number of active SIPs is trending down (37% decrease since 10/1/2013) and EPA is receiving fewer incoming SIPs than in the past.

Additional Information: The CAA requires states to develop a general plan to attain and maintain the NAAQS in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as State Implementation Plans (SIPs), are developed by state and local air quality management agencies and submitted to EPA for approval. SIPs vary in their complexity with more complex SIPs requiring more effort from EPA to act on them. Each year EPA identifies the baseline of total active SIPs, current and backlogged, and considers a range of anticipated incoming SIPs for that year. EPA then estimates the total number of SIP actions it will take in the upcoming year. The SIP baseline changes year to year depending on actions taken in the prior year. The estimated number of actions will also vary year to year depending on the status of EPA rulemakings, state priorities for which SIPs they want acted on, and potential new SIPs or SIP revisions. Targets are presented as a range to reflect this variability.

(PM MM7) Cumulative Percent of State Implementation Plans (SIPs) removed from the historical backlog.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			0	20	40	60	84	Cumulative Percentage Removed
Actual			0	25	48	65		

Explanation of Results: As of October 1, 2016, there are 247 SIPs remaining in the historical backlog. EPA expects that by the end of 2017, the historical backlog will be reduced to approximately 111 historically backlogged SIPs. The National Association of Clean Air Agencies (NACAA)/Environmental Council of the States (ECOS) and the associated Regions and states are aware of the remaining backlogged SIPs.

Additional Information: A SIP is considered backlogged if it has not been acted on within 12 months from its completeness date. In a February 2014 joint EPA/ECOS/NACAA commitment, EPA and states agreed to work toward eliminating, by the end of calendar year 2017, the backlog of SIPs that existed as of October 1, 2013. The baseline for the historical backlog is 699. Net cumulative progress against the baseline is measured for each fiscal year as of September 30th. EPA has revised this measure to more clearly convey EPA's progress to clear the historical SIP backlog that existed at the start of EPA/ECOS/NACAA agreement. Accordingly, EPA has tracked progress for this new measure since FY 2013.

(PM M94) Percent of major NSR permits issued within one year of receiving a complete permit application.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	78	78	78	78	78	78	78	Percent
Actual	73	80	90	59	80	Data Avail 12/2017		

Explanation of Results: The FY 2015 target was met. Most of the completed permit applications involved activities that could be addressed within the one year timeframe. Only the most complicated permits took longer than one year to issue. EPA revised the results for FY 2013 and FY 2014 to reflect more complete state reporting.

Additional Information: New Source Review (NSR) requires stationary sources to obtain permits before they start construction. NSR permits are usually issued by state or local air pollution control agencies; EPA issues permits in some cases (such as in Indian country). States that issue permits are not required by law to report all major source permitting actions to an EPA administered database. EPA calculates the annual percentage based only on the states that choose to report and occasionally the state reports lag by 12 months or more from the end of each reporting year. This measure shows progress against the CAA requirement that NSR prevention of significant deterioration (PSD) permits are issued within one year of determination of complete application.

(PM M95) Percent of significant Title V operating permit revisions issued within 18 months of receiving a complete permit application.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	88	88	88	88	Percent
Actual	84	86	91	91	88	Data Avail 12/2017		

Explanation of Results: The FY 2015 target was met. Most significant revisions to Title V permits are less complex than newly issued permits because revisions address only a subset of applicable requirements. Performance for this measure has historically been in the 80-90% range with only the most difficult of significant Title V permit revisions taking longer than 18 months to issue.

Additional Information: Stationary Source operating permits issued under Title V of the CAA are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate and must be renewed every five years. Title V permits are usually issued by state or local air pollution control agencies; EPA issues the permit in some cases (such as in Indian country). Additionally, when a source (or facility) undergoes a major or "significant" revision to its operations that affects emissions, a revision to the Title V operating permit must be sent to the permitting agency for review. This measures tracks timeliness of significant permit revision issuance within 18 months.

(PM M96) Percent of new Title V operating permits issued within 18 months of receiving a complete permit application.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	99	99	99	75	75	75	75	Percent
Actual	72	76	60	59	67	Data Avail 12/2017		

Explanation of Results: EPA did not meet its FY 2015 target for this measure. The majority of Title V permits are issued by state air agencies and it is difficult to estimate targets for state work. The variation in actual performance is partly attributable to the increasing complexity of permits.

Additional Information: Operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate. Usually, Title V permits are issued by state or local air pollution control agencies; EPA issues the permit in limited cases. Title V permits must be renewed every five years. When a new source (or facility) begins operations and has the potential to emit air pollution beyond a certain threshold, a new Title V operating permit must be sent to the permitting agency for review.

(2) Reduce Air Toxics

(PM 001) Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	36	37	42	42	42	41	41	Percent Reduction
Actual	45	45	45	Data Avail 2017	Data Avail 2017	Data Avail 2017		

Explanation of Results: EPA expects an increase in toxicity weighted (for cancer risk) emissions over the next few years based on projected increases in population and industry growth, as well as better understanding of cancer risk for certain air pollutants.

Additional Information: The toxicity-weighted emission inventory utilizes the National Emissions Inventory (NEI) for air toxics along with EPA's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years. The out-year targets are based on expected emissions derived from the 2011 NEI inventory and adjusted for expected air toxic reductions from proposed or anticipated national air toxic rules. Targets also incorporate population and industry growth estimates, which result in increased air toxic emissions over time. Further, targets are also adjusted based on health benchmark changes resulting from updated science.

(PM 002) Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	59	59	59	59	58	57	57	Percent Reduction
Actual	55	55	55	Data Avail 2017	Data Avail 2017	Data Avail 2017		

Explanation of Results: Emissions estimates over the next few years reflect uncertainties in measuring acrolein emissions, the largest pollutant contributor to this measure, as result of the latest scientific understanding and 2011 NATA.

Additional Information: The toxicity-weighted emission inventory utilizes the NEI for air toxics along with EPA's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years. The out-year targets are based on expected emissions estimates derived from the 2011 NEI inventory and adjusted for expected air toxic reductions from proposed or anticipated national air toxic rules. Targets also incorporate population and industry growth estimates, which result in increased air toxic emissions over time. Further, targets are also adjusted based on health benchmark changes resulting from updated science.

(4) Reduce Exposure to Indoor Air Pollutants

(PM R50) Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12.5	13.3	13.9	13.9	14.9	14.9	14.9	Percent
Actual	12.9	14.1	15	Data Not Avail	Data Not Avail	Data Not Avail		

Explanation of Results: At this time, EPA does not have complete data available for this measure due to an interruption in voluntary reporting by the radon fan manufacturing industry.

Additional Information: In 2003, 6.9% of existing homes estimated to be at or above EPA's 4pCi/L action level had an operating radon mitigation system. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. As a result, radon is the largest source of exposure to naturally occurring radiation.

(PM R51) Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	34.5	36.0	37.5	37.5	40.5	40.5	40.5	Percent
Actual	38.2	44.6	38.9	44.1	Data Not Avail	Data Not Avail		

Explanation of Results: This measure shows that the percentage of homes being built in radon areas with radon-resistant features has been relatively steady and consistently exceeded EPA projections. The results were achieved through progress by leading state programs (supported by State Indoor Radon Grants); increased action on radon, through the National Radon Action Plan expanded from the Federal Radon Action Plan; and through an increased awareness and interest in healthy homes.

Additional Information: In 2003, 20.7% of all new single-family homes estimated to be in high radon potential areas were built with radon reducing features. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. Radon is the largest source of exposure to naturally occurring radiation.

(PM R19) Cumulative number of programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						300	600	Programs
Actual						563		

Explanation of Results: The results show that in the first year of the program, capacity has been built within community-based programs to deliver environmental interventions in homes and schools and likely reflects EPA's success in reaching early adopters. The results reflect a combination of EPA supported technical training (e.g., webinars, stakeholder training events, etc.) and funded partnerships (focused on tribes, school-based health centers, health insurance plans, and states).

Additional Information: The FY 2015 baseline for this new initiative is zero. Through this effort, EPA is equipping health, housing, environmental, and health insurance programs to support delivery, infrastructure and sustainable financing of environmental asthma interventions at home and school. Environmental pollutants in homes can cause and exacerbate asthma. Further evidence indicates that investment in home interventions will improve health outcomes and reduce and/or shift health care costs from medical treatment to secondary prevention.

Objective 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.

Summary of progress toward strategic objective:

EPA made progress under this objective through domestic commitments and leadership in international efforts to restore and protect the ozone layer. The natural layer of ozone in the stratosphere shields and protects the Earth's surface from the sun's harmful ultraviolet (UV) rays, which can lead to more cases of skin cancer, cataracts and other health problems. Stratospheric ozone depletion is the result of a complex set of circumstances and chemistry which includes releases of various human-produced chemicals which can accelerate ozone destruction. All nations recognized by the United Nations have ratified the Montreal Protocol and continue to phase out the production of chemicals that deplete the ozone layer while transitioning to ozone-friendly alternatives.

In FY 2015, hydrochlorofluorocarbons (HCFCs) consumption (production and import) were well below levels required by the Montreal Protocol, showing that the U.S. continues to outperform international commitments and is on track to meet future obligations. Under the Montreal Protocol and the Clean Air Act, total U.S. HCFC production and consumption is capped, and will be completely phased out by 2030. The results are achieved primarily through EPA rulemakings that establish limits on the amount of HCFCs that can be produced and imported in a given year. Additionally, reviewing and listing alternatives for HCFCs under the Significant New Alternatives Policy program, as well as regulations establishing refrigerant management, labeling, and other requirements, have supported this transition. Importantly, industry innovation in developing new alternatives to meet the needs of consumers and industry sectors continue to be critical as the U.S. adopts and promotes these new alternatives in the transition from ozone-depleting substances (ODS).

Challenges and opportunities:

Implementing an allocation plan that both supports a steady phase out of ODS and meets the needs of a diverse group of stakeholders is complex and continues to pose challenges. As the amount of ODS produced declines, the demands for flexibility and specific, tailored solutions to unique situations grow. EPA manages ongoing exemption programs to allow low-quantity continued production of ODS in areas of critical need, such as developing annual, critical-use nominations for methyl bromide, and associated annual rulemakings to operationalize the exemption.

Program Area	Performance Measures and Data							
(1) Reduce Consumption of Ozone-Depleting Substances	**(PM S01) Remaining US Consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, measured in tons of Ozone Depleting Potential (ODP).**							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	<3,811	<3,700	<3,700	<3,700	<1,520	<1,520	<1,520	ODP Tons
	Actual	2,339	1,450	1,640	1,374	584	Data Avail 12/2017		

Program Area	Performance Measures and Data
	Explanation of Results: FY 2015 results show that the U.S. continues to outperform international commitments under the Montreal Protocol, and is on track to meet future obligations. The results are achieved primarily through EPA rulemakings that establish limits on the amount of HCFCs that can be produced and imported in a given calendar year. Additionally, actions reviewing and listing alternatives for HCFCs under EPA's Significant New Alternatives Program (SNAP), as well as regulations establishing refrigerant management, labeling, and other requirements, have supported this transition. Additionally, industry innovation in developing new alternatives to meet the needs of consumers and industry sectors continue to be critical as the U.S. adopts and promotes these new alternatives in the transition from ozone-depleting substances. ***Additional Information:*** The base of comparison for assessing progress is the domestic consumption cap of Class II HCFCs as set by the Parties to the Montreal Protocol. Each ODS is weighted based on the damage it does to the stratospheric ozone - this is, its ozone-depletion potential (ODP). Beginning on January 1, 1996, the cap was set at the sum of 2.8% of the domestic ODP-weighted consumption of chlorofluorocarbons (CFCs) in 1989 plus the ODP-weighted level of HCFCs in 1989 (a total of 15,240 tons). Consumption equals production plus import minus export.

Objective 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.

Summary of progress toward strategic objective:

EPA made progress under this objective by maintaining a high level of readiness to support federal radiological emergency response and recovery operations. In addition, EPA's regulatory and non-regulatory activities supported our mission to protect human health and the environment by minimizing unnecessary exposures to radiation, including operating and maintaining RadNet and developing protective rules and guidance documents. Performance highlights include:

- EPA continued to demonstrate a high level of radiological emergency response readiness, scoring 95% in FY 2016 for the level of readiness.
- EPA reduced the time it takes (65 days in FY 2016) to approve site changes affecting waste characterization at Department of Energy (DOE) waste generator sites to ensure safe disposal of transuranic radioactive waste at the Waste Isolation Pilot Plant (WIPP).
- EPA maintained a nationwide radiation monitoring system, which was demonstrated by recent improvements to RadNet. EPA increased the number of air monitors installed from 124 to 135 and increased the average percentage of operational monitors from 80% in March 2011 to over 92% (monitors are taken down and brought back up for maintenance and/or repair on a routine basis). EPA also piloted dose rate meters on approximately 10% of the existing RadNet monitors. Improvements in data processing and review processes have reduced the time that data are in the review process and are thus available for release during emergencies in less time.

Challenges and opportunities:

Maintaining scientific, technical, and policy expertise in the radiation field continues to be a challenge across the federal government and in organizations requiring this specialized expertise. Unlike many other science, technology, and mathematics fields that are growing, health physics is a unique field of expertise that was born in the Atomic Age in the 1940s. As that original workforce ages, the nation is experiencing a shortage of professionals in the field of radiation protection, nuclear power, and radiobiology.

Objective 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.

Responding to radiation incidents is complex and requires coordination of assets across all levels of government. EPA has built working relationships in the National Response Framework (NRF), which provides context for how the response community works together and how response efforts relate to other parts of national preparedness. In FY 2016, EPA and federal partners began to build an international partnership with the International Atomic Energy Agency's Analytical Laboratories for the Measurement of Environmental Radioactivity (ALMERA) network.

Program Area	Performance Measures and Data
(1) Prepare for Radiological Emergencies	**(PM R35) Level of readiness of radiation program personnel and assets to support federal radiological emergency response and recovery operations.**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	90	90	90	93	93	93	93	Percent
Actual	97	92	99	94	93	95		

Explanation of Results: The Core National Approach to Response (NAR) process currently measures select aspects of EPA's radiological emergency response program and shows a continued high radiological emergency response readiness within EPA.

Additional Information: The level of readiness is measured as the percentage of response team members and assets that meet scenario-based response criteria.

(PM R36) Average time before availability of quality assured ambient radiation air monitoring data during an emergency.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.7	0.5	0.5	0.5	0.3	0.3	0.3	Days
Actual	0.5	0.4	0.3	0.3	0.3	0.1		

Explanation of Results: Over time, improvements in data processing and review processes have reduced the time that data are in the review process and are thus available for release in less time.

Additional Information: In 2005, the average time between collection and availability of data for release by EPA during emergency operations was 2.5 days.

(PM R37) Time to approve site changes affecting waste characterization at DOE waste generator sites to ensure safe disposal of transuranic radioactive waste at WIPP.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	70	70	70	70	70	Days
Actual	64	73	64	66	67	65		

Explanation of Results: EPA has consistently met its targets for this measure, ensuring the Department of Energy's Waste Isolation Pilot Plant (WIPP) waste disposal standards continue to protect human health and the environment.

Goal 2 at a Glance

PROTECTING AMERICA'S WATERS

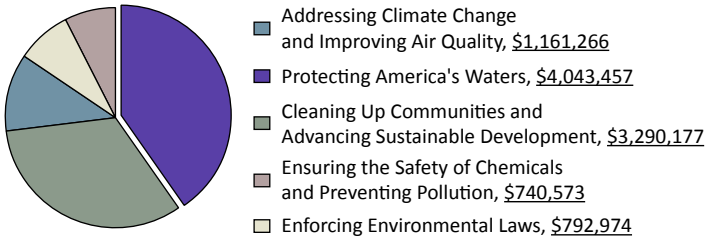
Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

FY 2016 Performance Measures

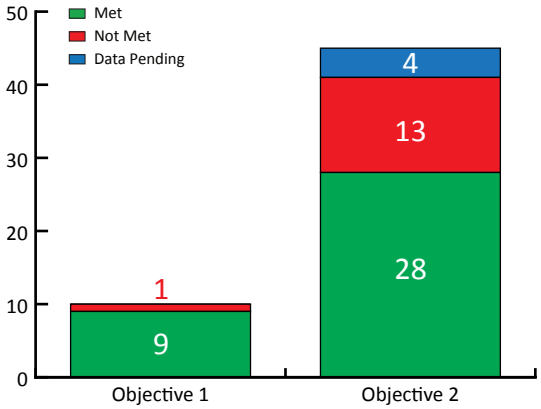
Met: 37 Not Met: 14 Data Unavailable: 4

(Total Measures: 55)

FY 2016 Obligations*



FY 2016 Performance Measures



Strategic Objective Overview	FY 2016 Obligations*	% of Goal 2 Funds
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.	$1,244,273	30.8%
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.	$2,799,184	69.2%
Goal 2 Total	**$4,043,457**	100.0%

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 2

Beach Program Coastal and Ocean Programs Chesapeake Bay Children's Health Protection Clean Water State Revolving Fund Columbia River Estuary Partnership Commission for Environmental Cooperation Drinking Water and Ground Water Protection Programs Drinking Water Research Drinking Water State Revolving Fund Effluent Guidelines Fish Consumption Advisories Great Lakes Gulf of Mexico Human Health and Ecosystem Protection Research Human Health Risk Assessment Long Island Sound Mercury Research National Environmental Monitoring Initiative National Estuary Program/Coastal Waterways	National Pollutant Discharge Elimination System Nonpoint Source Pollution Control Other Geographic Programs (including Lake Pontchartrain and Northwest Forest), Lake Champlain, San Francisco Bay Delta Estuary, South Florida Persistent Organic Pollutants Puget Sound Surface Water Protection Program Sustainable Infrastructure Program Total Maximum Daily Loads Underground Injection Control Program U.S.-Mexico Border Wastewater Management WaterSense Water Monitoring Water Quality Research Water Quality Standards and Criteria Watershed Management Wetlands Marine Pollution

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 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.

Summary of progress toward strategic objective:

EPA is progressing as planned in protecting human health by preserving the safety of our nation's drinking water and increasing protections for recreational waters to enable safe waters for swimming. In FY 2016, 90.4 percent of our population served by community water systems received drinking water that meets all applicable health-based drinking water standards. Strategies for improved compliance include targeted enforcement, technical and managerial support, and infrastructure investments. Building on the June 2015 cyanotoxin drinking water health advisories and support document for states and utilities, EPA released the legislatively-mandated Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water in November 2015. The strategic plan, developed considering public comment from states, utilities, and federal partners, outlined steps to fill information gaps, improve communication and implementation tools, and facilitate sound decision making at the state and federal level. Meeting needs identified in the plan, EPA later released several tools, including a state-requested cyanotoxin risk communication toolbox and cyanotoxin risk management example plans and template.

EPA continues to encourage states to adopt its 2012 recreational water quality criteria recommendations, which are designed to protect people from harmful levels of fecal pathogens while swimming or participating in other similar activities in waters. EPA sponsored the 2016 Recreational Waters Conference to discuss issues related to human health in waters used for recreation, and made grant funds for monitoring coastal beaches contingent upon states providing schedules to adopt the 2012 recreational criteria. EPA has also issued draft recreational water quality criteria and/or swimming advisories for the cyanotoxins microcystin and cylindrospermopsin that may result from harmful algal blooms.

Challenges and opportunities:

While America's drinking water remains among the safest in the world, emerging challenges to maintain its safety are still present – challenges that, if left unaddressed, can pose serious risks to public health and local economies. These challenges include: aging infrastructure, limited funding and management capacity, degradation of drinking water sources from multiple factors (some out of EPA's control), risks from unregulated contaminants, and threats associated with drought and severe weather events affecting source water availability and quality.

Despite these challenges, EPA's work with federal, tribal, state, and local governments and utilities nationwide continues to minimize any health-based violations, while building appropriate technical, managerial, and financial system capability. EPA is focused on new approaches to information management and communications through the Compliance Monitoring Data Portal that enables drinking water utilities and laboratories to report data electronically to primacy agencies leading to more timely and higher-quality monitoring data. Also, promoting partnerships crossing government, utilities and civil society, and lessons learned in over 40 years of implementing the Safe Drinking Water Act (SDWA) bring opportunities to re-energize the safe drinking water enterprise advancing human health protection – this is the main objective of the

Objective 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.

Drinking Water Action Plan (PDF) released by EPA in November 2016. The proposed actions from this plan will modernize technology and infrastructure, provide consumers with readily available information on drinking water quality, ensure robust and efficient oversight of drinking water safety, prevent source water contamination before it happens, safeguard drinking water against extreme weather events, and promote equity in access to safe drinking water and public health protections.

Program Area: (1) Water Safe to Drink

Performance Measures and Data

(PM aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	91	91	92	92	92	92	92	Percent
Actual	93.2	94.7	92	93	91	91.2		

Explanation of Results: Target was missed due to the Los Angeles Department of Water and Power (population of 4M) incurring a Ground Water Rule treatment technique violation in January 2016 for inability to provide 4-log virus inactivation due to a chlorination system failed. The chlorination system was repaired the following day. System has returned to compliance.

Additional Information: In FY 2005, 89 percent of the population served by community water systems received drinking water that met applicable drinking water standards.

(PM apc) Fund utilization rate for the DWSRF.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	89	89	89	89	89	89	89	Percent
Actual	90	90	91	92	94	95		

Explanation of Results: The utilization rate has consistently increased over the last few years. From FY 2014 - FY 2016 states signed a record amount of funds into new loans. This resulted from EPA and state implementation of the FY 2014 Unliquidated Obligation (ULO) Strategy, which led many states to develop agile cash flow models to more accurately balance fund inflows and outflows.

Additional Information: In FY 2005, the fund utilization rate for the Drinking Water State Revolving Fund was 85 percent.

(PM aph) Percent of community water systems that have undergone a sanitary survey within the past three years (five years for outstanding performance or those ground water systems approved by the primacy agency to provide 4-log treatment of viruses).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	95	95	83	79	79	85	Percent
Actual	92	89	93	87	90.8	91.2		

Additional Information: In FY 2007, 92 percent of community water systems had undergone a sanitary survey. Prior to FY 2007, this measure tracked states rather than community water systems in compliance with this regulation. Starting in FY 2014, this measure includes ground water systems in addition to surface water systems. Ground water systems that have been approved by the primacy agency to provide 4-log treatment of viruses or have outstanding performance based on prior sanitary surveys may have sanitary surveys conducted no less than every five years (per 40 CFR 142.16(o)(2)(iii)). Because the universe is larger, the targets starting in FY 2014 have been adjusted accordingly.

(PM apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	90	90	90	90	90	90	90	Percent
Actual	90.7	91	91	91	90	90.4		

Additional Information: In FY 2005, 89 percent of community water systems met all applicable health-based drinking water standards.

(PM aps) Percent of Classes I, II and III salt solution mining wells that have lost mechanical integrity and are returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		90	85	85	85	85	85	Percent
Actual		85	89	89	88	86		

Additional Information: There is no fixed point that can be used as a baseline for this measure, since the activity that we are monitoring - "Mechanical Integrity Loss" - has not yet occurred. The universe of wells losing mechanical integrity is not static.

(PM apt) Number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) [approximately 23,640 in FY 2010] that are closed or permitted (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		20,840	25,225	25,225	25,225	27,783	28,390	Wells
Actual		25,225	26,027	26,560	27,383	28,187		

Additional Information: FY 2012 was the first year of reporting for the measure. EPA is finding fewer and fewer wells suitable for closure or that have not already been permitted.

(PM dw2) Percent of person months during which community water systems provide drinking water that meets all applicable health-based standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	95	95	95	95	95	95	Percent
Actual	97.4	97.8	96.9	97	96	96		

Additional Information: In FY 2005, community water systems provided drinking water that met all applicable health-based drinking water standards during 95 percent of "person months."

(PM pi1) Percent of population in each of the U.S. Pacific Island Territories (served by community water systems) that meets all applicable health-based drinking water standards, measured on a four-quarter rolling average basis.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	80	82	80	80	80	80	Percent
Actual	87	80	81	98	97.7	82.1		

Additional Information: In FY 2005, 95 percent of the population in American Samoa, 10 percent in the Commonwealth of the Northern Mariana Islands (CNMI) and 80 percent in Guam were served by CWSs that received drinking water that met all applicable health-based standards.

(PM E) Percent of the population in Indian Country served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	87	87	87	87	87	87	87	Percent
Actual	81.2	84	77	89	88	88		

Additional Information: In FY 2005, 86 percent of the population served by community water systems received drinking water that met applicable drinking water standards.

(2) Fish and Shellfish Safe to Eat

(PM fs1) Percent of women of childbearing age having mercury levels in blood above the level of concern.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	4.9	No Target Established	4.9	No Target Established	2.3	No Target Established	Percent
Actual	Biennial	2.8	Biennial	2.1	Biennial	3.3		

	Explanation of Results: Although the number went up, there are no statistical differences between this year's percentage and previous years' percentages that we have reported. ***Additional Information:*** In 1999-2000, 7.8 percent of women of childbearing age had blood mercury levels above the level of concern.

Objective 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.

Summary of progress toward strategic objective:

In FY 2016, the Water Infrastructure and Resiliency Finance Center made significant progress promoting innovative finance solutions for the nation's aging water and sewer infrastructure. The Center provided direct financial planning technical assistance to 10 communities across the country and identified innovative Customer Assistance Programs (PDF) created by utilities to help low and fixed income customers having difficulty paying their water and sewer bills. The Water Finance Center also connected leaders from federal, state, local governments, and nongovernmental organizations to share best practices in coordinating funding and showcasing leading-edge local financing solutions.

EPA and state managers continue to prioritize waterbodies listed as not attaining water quality standards. The efforts from EPA and states to restore these impaired waters have resulted in 4,009 waterbodies fully meeting water quality standards as of FY 2016. Additionally, EPA published regulatory procedures for eligible tribes to obtain authority to identify impaired waters on their reservations and to establish Total Maximum Daily Loads (TMDLs), which serve as plans for attaining and maintaining applicable water quality standards.

Of all the water bodies across the nation that have been assessed and a possible source of impairment has been identified, 85 percent of rivers and streams and 80 percent of lakes and reservoirs are polluted by nonpoint sources. EPA provided Section 319 grants to states and tribes to curb nutrient pollution. EPA advanced reductions of nutrient pollution through partnerships with the animal agriculture industry including the Nutrient Recycling Challenge that, in FY 2016, continued accelerating the development of nutrient recovery technologies to reduce discharges into waters. During FY 2016, other EPA partnerships with the animal agriculture industry awarded best practices, and funded a series of U.S. Poultry and Egg videos on water quality protection. Also, animal agriculture education modules on conservation measures were prepared through the EPA's interagency agreement with the National Resource Conservation Service. Moreover, EPA provided state and tribal Concentrated Animal Feeding Operation (CAFO) programs with technical assistance to develop specific elements in their CAFO program to improve manure management.

Wetlands are important components of healthy ecosystems and contribute to the protection and restoration of water quality. In May 2016, EPA released the National Wetland Condition Assessment (NWCA) 2011: A Collaborative Survey of the Nation's Wetlands that is the first national evaluation of the ecological condition of the nation's wetlands. The Survey is designed to answer basic questions about the extent to which our nation's wetlands support healthy ecological conditions and the prevalence of key stressors at the national and regional scale.

Objective 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.

Green infrastructure helps restore natural hydrologic systems and the health of aquatic ecosystems reducing pollution from stormwater events. In FY 2016, EPA released the document Tools, Strategies, and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects that summarizes green infrastructure solutions to reduce stress on the nation's water infrastructure and to create more livable communities through stormwater management. Also, EPA supported the annual competition Campus RainWorks Challenge, which aims to introduce the next generation of planners and engineers to green infrastructure and continues to promote an interdisciplinary approach to stormwater management.

The EPA's National Pollutant Discharge Elimination System (NPDES) program provides tools to protect watersheds and ecosystems. EPA published the guidance Best Practices for NPDES Permit Writers and Pretreatment Coordinators to Address Toxic and Hazardous Chemical Discharges to Publicly Owned Treatment Works (POTWs) (PDF) with recommendations on handling toxic and hazardous chemicals that may affect the integrity of POTW infrastructure as well as the quality of POTW's effluent and biosolids. Also, EPA launched the National Pollutant Discharge Elimination System (NPDES) Whole Effluent Toxicity (WET) Training to educate permit writers and permit holders about the WET permit program's relevant regulations, technical concepts, permitting applications and enforcement activities. Additionally, the U.S. Geological Survey, jointly with EPA, tested the beta version of the Surface Water Toolbox with states and EPA regional permit writers during fall 2016. The Surface Water Toolbox is an application that provides data and methods to estimate critical stream statistics used in low flow analysis and development of water quality standards. Low flow events typically aggravate the effects of water pollution due to the scarcity of water available to dilute effluent loadings from point and nonpoint sources, resulting in higher in-stream concentration of pollutants.

Challenges and opportunities:

The country's water infrastructure is aging and EPA's needs surveys estimate that approximately $660 billion in total investment will be needed over the next twenty years. Each year our country experiences about 240,000 water main breaks, and billions of gallons of raw sewage are discharged into local surface waters from sewer overflows compromising water quality. Many of these problems could be prevented by upgrading and repairing our aging infrastructure. EPA is helping to address these issues with the State Revolving Funds (SRFs), Water Infrastructure Finance and Innovation Act (WIFIA), Water Infrastructure and Resiliency Finance Center (WIRFC) and other assistance efforts, and collaborations with water utility associations to promote Effective Utility Management, which is critical for all utilities to ensure their long-term sustainability.

The proliferation of impervious surfaces increases polluted stormwater runoff that carries nonpoint source pollutants into local water bodies. EPA promotes green infrastructure to water utilities and the communities they serve through science and topic-specific public outreach to keep them strong, safe, and sustainable. By using green infrastructure to slow down and soak in stormwater where it falls communities can prevent polluted runoff from reaching waterways. In addition, they can realize multiple benefits such as recharging groundwater, reducing stress on potable water resources through rainwater harvesting, and reducing combined sewer overflows.

Objective 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.

An overwhelming majority of Americans – 215 million (>70%) – live within 2 miles of a polluted lake, river, stream or coastal area. Moreover, the rate at which new waters are listed for water quality impairments exceeds the pace at which restored waters are removed from the list, due to challenges in protecting and restoring watersheds and aquatic ecosystems. Further, EPA expects delays in restoration of impaired waterbodies due to the complexity of some waterbodies. This complexity points toward the need for new approaches for assessing progress in water quality. EPA is evaluating new approaches for measuring local improvements in water quality to provide consistent methodology for measuring progress, and to more effectively track water quality outcomes from investments in protection and restoration.

Program Area	Performance Measures and Data
(1) Improve Water Quality on a Watershed Basis	**(PM L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3,073	3,324	3,727	3,829	4,016	4,082	4,089	Segments
Actual	3,119	3,527	3,679	3,866	3,944	4,009		

Explanation of Results: The target was missed due to: (1) Meeting standards in a single waterbody segment impaired by multiple pollutants is more difficult than if just one or a few pollutants are impairing the single segment and (2) Many of the impairments which remain in waters identified in 2002 require many years before restoration strategies accomplish full recovery of the waterbody segments.

Additional Information: In FY 2002, 39,798 water bodies were 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; In FY 2002, 1,703 impaired water bodies were impaired by multiple pollutants, including mercury, and 6,501 were impaired by mercury alone.

(PM bpb) Fund utilization rate for the CWSRF.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	94.5	94.5	94.5	94.5	94.5	95	95	Percent
Actual	98	98	97	98	98	98		

Additional Information: In FY 2002, the fund utilization rate was 91 percent. It is calculated using data collected annually from all 51 state Clean Water SRF programs (50 states and Puerto Rico).

(PM bpf) Estimated annual reduction in millions of pounds of phosphorus from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4.5	4.5	4.5	4.5	4.5	4.5	4.5	Pounds (Million)
Actual	4.8	4.4	3.5	2.7	2.1	Data Avail 2017		

Explanation of Results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce nitrogen-loads to waterbodies. States are not required to enter this information into GRTS until after one full year of project implementation, so that field data can be collected to support the model calculations. The FY 2015 target was missed because state-selected nonpoint source projects vary dramatically in their size and scale, the pollutants of focus, and the Best Management Practices (BMPs) that landowners are willing to adopt. In any given year this mix of projects, pollutant of focus, and BMP type and location – while improving water quality at the local scale – could result in a national target being missed.

Additional Information: In 2005, there was a reduction of 558,000 lbs. of phosphorus from nonpoint sources.

(PM bpg) Estimated annual reduction in million pounds of nitrogen from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	8.5	8.5	9.1	9.1	9.1	9.1	9.1	Pounds (Million)
Actual	12.8	9	10.4	11.3	9.6	Data Avail 2017		

Explanation of Results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce nitrogen-loads to waterbodies. States are not required to enter this information into GRTS until after one full year of project implementation, so that field data can be collected to support the model calculations.

Additional Information: In 2005, there was a reduction of 3.7 million lbs. of nitrogen from nonpoint sources.

(PM bph) Estimated annual reduction in thousands of tons of sediment from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	700	700	1,100	1,200	1,200	1,200	1,200	Tons (Thousand)
Actual	2,007	1,100	1,169	1,674	897	Data Avail 2017		

Explanation of Results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce sediment loads to waterbodies. States are not required to enter this information into GRTS until after one full year of project implementation, so that field data can be collected to support the model calculations. The FY 2015 target was missed because state-selected nonpoint source projects vary dramatically in their size and scale, the pollutants of focus, and the best management practices (BMP) that landowners are willing to adopt. In any given year this mix of projects, pollutant of focus, and BMP type and location – while improving water quality at the local scale – could result in a national target being missed.

Additional Information: In 2005, there was a reduction of 1.68 million tons of sediment from nonpoint sources.

(PM bpl) Percent of high-priority state NPDES permits that are issued in the fiscal year.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	80	80	80	80	80	Percent
Actual	135	130	55	80	82	80		

Additional Information: Priority Permits are permits in need of reissuance that have been identified by states as environmentally or programmatically significant. The annual universe of Priority Permits includes the number of permits selected as priority, from which a subset will be issued in the current fiscal year. In 2005, 104% of the designated priority permits were issued in the fiscal year. Starting in FY 2013, results can no longer exceed 100% issuance due to an adjustment of the measure definition, and the targets were revised accordingly. The universe used to calculate percentage results changed from the number of permits committed to issuance in the current fiscal year to the total number of permits selected as priority.

(PM bpv) Percent of high-priority EPA and state NPDES permits (including tribal) that are issued in the fiscal year.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	80	80	80	80	80	Percent
Actual	132	128	55	77	81	78		

Explanation of Results: The Priority Permits target was missed due to delays in issuing final permits caused by various factors, including permit complexity and extensive public comments received.

Additional Information: Priority Permits are permits in need of reissuance that have been identified by states or EPA Regions as environmentally or programmatically significant. The annual universe of Priority Permits includes the number of permits selected as priority, from which a subset will be issued in the current fiscal year. In 2005, 104% of the designated priority permits were issued in the fiscal year. Starting in FY 2013, results can no longer exceed 100% issuance due to an adjustment of the measure definition, and the targets were revised accordingly. The universe used to calculate percentage results changed from the number of permits committed to issuance in the current fiscal year to the total number of permits selected as priority.

(PM bpw) Percent of states and territories that, within the preceding 3-year period, submitted new or revised water quality criteria acceptable to the EPA that reflect new scientific information from the EPA or sources not considered in previous standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	64.3	64.3	64.3	66.1	67.9	67.9	73.2	Percent
Actual	69.6	69.6	58.9	51.8	64.3	69.6		

Additional Information: In FY 2004, 70% of states and territories submitted acceptable water quality criteria reflecting new scientific information.

(PM bpx) Percent of areas associated with state-identified priority waters that are addressed by an EPA-approved TMDL or accepted plan or approach designed to achieve or maintain water quality standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					8	8	31	Percent
Actual					Data Not Reported	9		

Explanation of Results: EPA continued to implement the Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program (originally established in FY 2014). The Program saw a continued dialogue among states and territories, across Clean Water Act Programs, and among various stakeholders about how best to prioritize plans for addressing impaired and healthy waters to demonstrate progress over time in achieving environmental results. Under the new Vision, prioritization is a key component. To assist states in prioritizing impaired and healthy waters, EPA developed tools such as the Recovery Potential Screening Tool and Waterscape. In addition, FY 2016 was a year to get comfortable with the 'look and feel' of the new performance measure to track TMDLs, alternative restoration and protection approaches. This performance measure was the first one to transition to using the Assessment and TMDL Tracking and Implementation System (ATTAINS) database as the data source and the catchment area as the unit of measure to report results.

Additional Information: This is a new measure replacing the measures that tracked Total Maximum Daily Load (TMDL) development. Cumulatively, EPA and states completed more than 72,000 TMDLs through FY 2015. A TMDL is a technical plan for reducing pollutants to a body of water in order to attain water quality standards. The terms "approved" and "established" refer to the completion and approval of the TMDL itself. The universe for the measure is all watershed areas corresponding to priority waters identified by each state. The measure provides the extent of priority areas identified by each state that have been addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters, or protection approaches for unimpaired waters, at the beginning of the year when the baseline is established.

(PM wq2) Remove the specific causes of water body impairment identified by states in 2002 (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	9,016	10,161	11,634	12,134	12,788	12,990	13,110	Causes
Actual	9,527	11,134	11,754	12,288	12,640	12,910		

Explanation of Results: The target was missed because many of the impairments which remain in waters identified in 2002 require many years before restoration strategies accomplish full recovery of the waterbody segments.

Additional Information: In FY 2002, an estimate of 69,677 specific causes of water body impairments were identified by states.

(PM uw1) Number of urban water projects initiated addressing water quality issues in the community.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3	10	30	22	49	25	Projects
Actual		46	9	65	28	48		

Explanation of Results: The initiated projects target is an estimate based on past awards. The actual awards made depends on a variety of factors including the quality of proposed projects and, for the National Fish and Wildlife Foundation grants, the interest of the funding partners. We awarded one less grant in 2016 because we had less money than expected available to fund the small grants program in 2016.

Additional Information: This measure tracks progress in grants that help communities access, improve, and benefit from their urban waters and surrounding land. The target of 49 projects initiated for FY 2016 included 29 projects under EPA's Urban Waters Small Grants (direct grants) and 20 projects under the Five-Star and Urban Waters Restoration Program managed by the National Fish and Wildlife Foundation (sub-grants with EPA and leveraged public and private funds). Projects under both programs advance water quality improvement and EPA investments are consistent with CWA Section 104(b)(3) authority.

(PM uw2) Number of urban water projects completed addressing water quality issues in the community (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					61	78	175	Projects
Actual					60	110		

Explanation of Results: Results include completed Urban Waters Small Grants (54) and grants funded in part by EPA through the Five Star and Urban Waters Restoration Program (56) managed by the National Fish and Wildlife Foundation.

Additional Information: Results include completed Urban Waters Small Grants and grants funded in part by EPA through the Five Star and Urban Waters Restoration Program managed by the National Fish and Wildlife Foundation.

(PM wq3) Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	208	312	370	408	446	484	519	Watersheds
Actual	271	332	376	411	450	485		

Additional Information: In FY 2002, there were 0 watersheds improved of an estimated 4,800 impaired watershed of focus having 1 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. Watersheds at this scale average 22 square miles in size. "Improved" means that that one or more of the impairment causes identified in FY 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.

(PM Opb) Percent of serviceable rural Alaska homes with access to drinking water supply and wastewater disposal.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	92	93	93	93.5	92.5	93	93.5	Percent
Actual	92	91	91	94.4	94.6	93.5		

Additional Information: In 2003, 77 percent of serviceable rural Alaska homes had access to drinking water supply and wastewater disposal.

(2) Improve Coastal and Ocean Waters

(PM sf3) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain Chlorophyll a(CHLA) levels at less than or equal to 0.35 ug l-1 and light clarity (Kd) levels at less than or equal to 0.20 m-1.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	75	75	75	75	75	75	Percent
Actual	85.4	CHLA: 70.9; KD: 72.5	>75 (CHLA: 84.5; KD: 80.4)	CHLA = 86.0; Kd = 87.2	CHLA = 82.0; Kd = 77.3	CHLA = 70.9; Kd = 78.5		

Explanation of Results: The target for CHLA was not met due to a severe drought that occurred in South Florida in 2014 and continued throughout the summer of 2015 resulting in an extensive seagrass die-off in Florida Bay. Seagrass decomposition from the die-off contributed to anomalously high nutrient concentrations in Florida Bay. Those nutrients released from decomposition of seagrass were conveyed to the Sanctuary and detected by the Florida Keys National Marine Sanctuary Water Quality Protection Program long-term water quality monitoring program.

Additional Information: In 2005, total water quality was at CHLA < 0.2 ug/l, light attenuation < 0.13/meter.

(PM sf4) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain dissolved inorganic nitrogen (DIN) levels at less than or equal to 0.75 uM and total phosphorus (TP) levels at less than or equal to 0.25 uM.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	75	75	75	75	75	75	Percent
Actual	73.6	DIN: 81; TP: 89.5	<75 (DIN: 60.0; TP: 82.3)	DIN=72.6; TP=87.6	DIN=61.7; TP=78.3	DIN = 70.8; TP = 89.1		

Explanation of Results: The target for DIN was not met due to a severe drought that occurred in South Florida in 2014 and continued throughout the summer of 2015 resulting in an extensive seagrass die-off in Florida Bay. Seagrass decomposition from the die-off contributed to anomalously high nutrient concentrations in Florida Bay. Those nutrients released from decomposition of seagrass were conveyed to the Sanctuary and detected by the Florida Keys National Marine Sanctuary Water Quality Protection Program long-term water quality monitoring program.

Additional Information: In FY 2005, DIN was <0.75 uM at 76.3 percent of monitored stations; TP was < 0.25 uM at 89.9 percent of monitored stations.

(PM sf6) The number of Everglades Stormwater Treatment Areas (STAs) with the annual total phosphorus (TP) outflow less than or the same as the five-year annual average TP outflow, working towards the long-term goal of meeting the 10 parts per billion annual geometric mean.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					3	3	3	Stormwater Treatment Areas
Actual					4	4		

Additional Information: This was a new measure for FY 2015. The baseline period is the most recent 5 years. The 5-year baseline takes into account variability due to climatic conditions including extremely wet or dry years which are common in South Florida. For FY 2015, the 5-year baseline, 2010 to 2015, was 36 parts per billion (ppb) for STA-1E, 35 ppb for STA-1W, 21 ppb for STA-2, 17 ppb for STA-3/4, and 54 ppb for STA-5/6. The universe is 5 STAs.

(PM co5) Percent of active dredged material ocean dumping sites that will have achieved environmentally acceptable conditions (as reflected in each site's management plan).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	98	95	95	95	95	95	95	Percent
Actual	93	97	96	95	95	97		

Explanation of Results: In FY 2016, 71 sites had achieved environmentally acceptable conditions.

(PM 202) Acres protected or restored in National Estuary Program study areas.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100,000	100,000	100,000	100,000	100,000	100,000	100,000	Acres
Actual	62,213	114,575	127,594	93,557	111,584	70,462		

Explanation of Results: Factors contributing to the number of acres protected and restored each year by EPA and its partners are numerous and complex making it difficult to accurately forecast with any degree of certainty. Some of the challenges that resulted in missing our target include: 1) coordinating work among multiple entities at the Federal, state or local levels, 2) obtaining permits, 3) processing habitat restoration contracts, and 4) unanticipated weather events.

Additional Information: A total of 1,295,323 acres of habitat were protected or restored from FY 2002-2013.

(3) Increase Wetlands

(PM 4E) In partnership with the U.S. Army Corps of Engineers, states, and tribes, achieve no net loss of wetlands each year under the Clean Water Act Section 404 regulatory program. ("No net loss" of wetlands is based on requirements for mitigation in CWA 404 permits and not the actual mitigation attained.)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	Acres
Actual	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss		

Additional Information: EPA receives data for this measure from the Army Corps of Engineers (ACE).

(PM 4G) Number of acres restored and improved under the 5-Star, NEP, 319, and great water body programs (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	150,000	170,000	190,000	220,000	230,000	290,000	305,000	Acres
Actual	154,000	180,000	207,000	221,000	275,555	291,055		

Additional Information: This measure describes the wetland acres restored through only EPA programs. Information on the national status of wetland gains and losses regardless of the cause is provided every five years by the U.S. Fish and Wildlife Service (USFWS). The most recent report (U.S. FWS, Status and Trends of Wetlands in the Conterminous United States 2004 to 2009: http://www.fws.gov/wetlands/Status-And-Trends-2009/index.html) noted an annual net loss of 13,800 acres.

(4) Great Lakes

(PM 625) Areas of Concern Beneficial Use Impairments removed (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	26	33	41	46	60	65	72	BUIs
Actual	26	33	41	52	60	65		

Additional Information: Results from this measure are achieved through Great Lakes Restoration Initiative (GLRI) funding as well as other non-GLRI federal and/or state funding. Universe is 255. Reviews of this measure conducted during the preparation of GLRI Action Plan II in FY 2014 identified overstatements of the number of beneficial use impairments removed. The cumulative results shown above are two less than were achieved through FY 2011, FY 2012, and FY 2013. Corrected results are shown from FY 2014 onward.

(PM 626) Number of Areas of Concern in the Great Lakes where all management actions necessary for delisting have been implemented (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	3	4	5	8	9	11	AOCs
Actual	2	2	3	7	7	8		

Explanation of Results: Area of Concern (AOC) Management Actions were completed at the St. Clair River AOC. In addition, the program expects to complete Management Actions at the River Raison AOC by the end of the calendar year 2016. The completed Management Actions in the River Raisin AOC were delayed due to the complexity of the sediment cleanup.

Additional Information: Universe of 31. Results from this measure are achieved through GLRI funding as well as other non-GLRI federal and/or state funding.

(PM 628) Number of acres controlled by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,500	15,500	34,000	38,000	94,500	110,000	120,000	Acres
Actual	13,045	31,474	35,924	84,500	101,392	115,889		

Additional Information: There were zero acres managed for populations of invasive species controlled to a target level in 2005.

(PM 629) Number of GLRI-funded Great Lakes rapid responses or exercises conducted.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4	8	14	9	8	8	8	Responses/Exercises
Actual	8	15	7	8	21	11		

Additional Information: There were zero multi-agency rapid response plans established, mock exercises to practice responses carried out under those plans, and/or actual response actions in 2005.

(PM 638) Projected phosphorus reductions from GLRI-funded projects in targeted watersheds (measured in pounds).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					130,000	310,000	525,000	Pounds
Actual					160,117	402,943		

Additional Information: Cumulative measure of average annual projected reduction, starting in FY 2015.

(PM 639) Projected volume of untreated urban runoff captured or treated by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					30	70	120	Gallons (millions)
Actual					37	116		

Additional Information: Cumulative measure of average annual projected reduction, starting in FY 2015.

(PM 640) Number of miles of Great Lakes tributaries reopened by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					2,200	4,200	4,900	Miles
Actual					3,855	4,615		

Additional Information: As of October 1, 2014, 3,475 miles of tributaries were reopened by GLRI-funded projects. Universe: N/A.

(PM 641) Number of miles of Great Lakes shoreline and riparian corridors protected, restored, and enhanced by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					75	350	725	Miles
Actual					313	662		

Additional Information: As of October 1, 2014, there were 0 miles of shoreline and riparian corridors known to have been protected, restored, and enhanced by GLRI-funded projects. Universe: N/A.

(PM 642) Number of acres of Great Lakes coastal wetlands protected, restored, and enhanced by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					7,000	15,000	30,000	Acres
Actual					7,033	17,540		

Additional Information: As of October 1, 2014, there were 0 miles of wetlands known to have been protected, restored, and enhanced by GLRI-funded projects. Universe is 260,000 acres.

(PM 643) Number of acres of other habitats in the Great Lakes basin protected, restored, and enhanced by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					127,000	167,000	187,000	Acres
Actual					146,815	167,218		

Additional Information: As of October 1, 2013, there were 117,000 acres of other habitats protected, restored, and enhanced by GLRI-funded projects. Universe is 1,290,000 acres.

(5) Chesapeake Bay

(PM 234) Reduce per capita nitrogen loads (pounds per person per year) to levels necessary to achieve Chesapeake Bay Total Maximum Daily Load allocations.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			15.17	15	14.5	14		Pounds/Person/ Year
Actual			14.92	14.7	14.8	14.3		

Explanation of Results: Meeting the annual target for this measure is dependent on meeting the targets for measure PM cb6. Note: measure deleted after FY 2016.

Additional Information: In FY 1986, the per caipta load was 27 pounds of nitrogen/person/year. This measure replaced PM 233 starting in FY 2013.

(PM cb6) Percent of goal achieved for implementing nitrogen reduction actions to achieve the final TMDL allocations, as measured through the phase 5.3 watershed model.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	15	22.5	30	37.5	45	52.5	Percent
Actual	8	21	25	27	21	31		

Explanation of Results: Failure to meet the FY 2016 target results primarily from a lack of new implementation of Best Management Practices (BMPs) that address excess nitrogen loads, particularly BMPs reported from Pennsylvania's agriculture sector. About 55% of needed nitrogen load reductions among jurisdictions are from Pennsylvania and that state's Watershed Implementation Plan calls for 71% of the state reductions to come from agriculture. To compound the problem, newly introduced data from the Agricultural Census indicates more acres in commodity crops than expected. These crops use more fertilizers than was forecasted and the resultant increase in nitrogen loads would need to be offset.

Additional Information: In FY 2010, 0 percent of the goal was achieved.

(PM cb7) Percent of goal achieved for implementing phosphorus reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	15	22.5	30	37.5	45	52.5	Percent
Actual	1	19	27	43	71	81		

Additional Information: In FY 2010, 0 percent of the goal was achieved.

(PM cb8) Percent of goal achieved for implementing sediment reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	15	22.5	30	37.5	45	52.5	Percent
Actual	11	30	32	37	25	48		

Additional Information: In FY 2010, 0 percent of the goal was achieved.

(6) Gulf of Mexico

(PM xg2) Restore, enhance, or protect a cumulative number of acres of important coastal and marine habitats.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30,000	30,600	30,600	30,600	30,800	30,800	31,426	Acres
Actual	30,052	30,248	30,306	30,319	30,574	31,276		

Explanation of Results: Habitat acreage restoration may take several years to be a success and the Gulf of Mexico Program counts acres once projects are in place and results are recognized. Occasionally the program will have a high-yield project that has been active for several years, come to a close. This was the case for FY 2016.

Additional Information: In FY 2008, 25,215 acres were restored, enhanced, or protected in the Gulf of Mexico.

(PM xg3) Improve and/or restore water and habitat quality to meet water quality standards in watersheds throughout the five Gulf States and the Mississippi River Basin.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						2	2	Watersheds (12 digit HUC)
Actual						2		

Additional Information: New measure replaced PM xg1 in FY 2016. The measure tracks improved and/or restored watershed annually. A 12 digit Hydrologic Unit Code (HUC) watershed counts as having an improvement when there is a five percent or more positive change in at least one water quality parameter. Water quality parameter(s) appropriate to the 12 digit HUC watershed include dissolved oxygen, temperature, pH, turbidity, total suspended solids, salinity, chlorophyll, freshwater inflow, oil/grease, floatables, nutrients, and invasive species.

(7) Long Island Sound

(PM li5) Percent of goal achieved in reducing trade-equalized (TE) point source nitrogen discharges to Long Island Sound from the 1999 baseline of 59,146 TE lbs/day.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	72	74	76	85	91.5	95	100	Percent
Actual	69	83	88	94	99.8	111		

Additional Information: The 2000 Total Maximum Daily Load (TMDL) baseline is 59,146 Trade-Equalized (TE) pounds/day. The ongoing TMDL target is 22,774 TE pounds/day. The Long Island Sound Nitrogen TMDL is an enforceable document with a 15-year implementation timetable that completed in 2014. There are no annual targets in the TMDL. The 'annual targets' in the strategic plan are for presentation purposes only and are estimates based on the 15 year total nitrogen reduction target. New York City and Westchester County Sewage Treatment Plants (STPs) are under Consent Orders that extended their TMDL compliance deadline to 2017. EPA monitored these for compliance, as well as Connecticut STPs for anti-backsliding compliance with their final TMDL limits, or as renegotiated with EPA.

(PM li8) Restore, protect or enhance acres of coastal habitat from the 2010 baseline of 2,975 acres.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		218	420	410	135	95.8	398	Acres
Actual		537	336	410	1,678	532		

Explanation of Results: Partners completed more protection projects than were anticipated when targets were developed.

Additional Information: EPA revised this measure in FY 2012 to measure acres instead of percent of goal achieved. EPA established annual targets with partners to measure annual progress. Out-year estimates are based on continued state progress, feasibility, and funding for habitat restoration projects.

(PM li9) Reopen miles of river and stream corridors to diadromous fish passage from the 2010 baseline of 17.7 river miles by removal of dams and barriers or by installation of bypass structures.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		28	75	1.5	30	76.95	30	Miles
Actual		72.3	56	21.6	0	50		

Explanation of Results: Segments of the Pawcatuck River project have been delayed, which would have opened up 70+ river miles.

Additional Information: EPA revised this measure in FY 2012 to report river miles instead of percent of goal achieved. EPA established annual targets with partners to measure annual progress. Out-year estimates are based on continued state progress, feasibility, and funding for fish passage and bypass projects.

(8) Puget Sound Basin

(PM ps1) Improve water quality and enable the lifting of harvest restrictions in acres of shellfish bed growing areas impacted by degrading or declining water quality (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4,953	3,878	7,758	4,000	4,700	4,750	6,350	Acres
Actual	1,525	2,489	3,203	3,249	3,277	3,887		

Explanation of Results: In FY 2016, there were 1,089 acres that were upgraded to "approved" status in FY 2016 due to improvements to water quality. However, there were 479 acres downgraded to "conditional" status due to recurrence of bacterial pollution predominantly from stormwater runoff contributing to missing our target.

Additional Information: Federal, state, local and tribal partners worked together to protect Puget Sound's approximately 143,000 acres of approved shellfish harvest beds, and improve its approximately 10,000 acres of potentially recoverable shellfish beds, by ensuring that adjacent water quality and safe harvesting conditions were preserved. The performance measure reports cumulative net gain in acres that are upgraded to approved status minus any loss of currently approved acres. In 2010, 4,453 acres (cumulative) of shellfish-bed growing areas had improved water quality, resulting in the lifting of harvest restrictions. In 2011, approximately 4,000 acres in Samish Bay were downgraded due to pollution exacerbated by La Niña weather conditions.

(PM ps3) Protect or restore acres or shoreline miles of aquatic habitats including: estuaries, floodplains, marine and freshwater shorelines, riparian areas, stream habitats, and associated wetlands (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12,363	19,063	31,818	33,818	43,006	45,500	48,000	Acres
Actual	14,629	23,818	30,128	41,006	43,002	45,360		

Explanation of Results: In 2016, EPA had 14 habitat projects from Puget Sound that we could not approve because they lacked quantification (i.e., spatial measurements) of the area treated. These were a group of shoreline debris removal projects led by Washington State Department of Natural Resources (DNR) to gather and remove accumulated anthropogenic debris or creosote treated pilings and dock materials. DNR has indicated they may be able to calculate these areas and re-submit the projects in FY 2017.

Additional Information: The protection and restoration of habitat is one of the three priority areas for the Puget Sound Program. These activities supported salmon recovery goals of viable, harvestable populations of this tribal treaty protected resource. In FY 2008, 4,413 acres (cumulative) of tidally- and seasonally-influenced estuarine wetlands were restored. The target for this measure was exceeded every year from FY 2008 - FY 2012 resulting in the protection and/or restoration of 23,818 acres during that period.

(9) U.S.-Mexico Border Environmental Health

(PM 4pg) Loading of biochemical oxygen demand (BOD) removed (million pounds/year) from the U.S.-Mexico border area since 2003 (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	108.2	115	121.5	137.3	141.1	150.3	151.9	Million Pounds/Year
Actual	108.5	119	128.3	131	142.9	151.8		

Additional Information: As of FY 2003, zero pounds of biochemical oxygen demand (BOD) had been removed.

(PM xb2) Number of additional homes provided safe drinking water in the U.S.-Mexico border area that lacked access to safe drinking water in 2003.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	54,130	1,000	3,000	1,700	600	500	1,500	Homes
Actual	54,734	5,185	3,400	1,468	878	3,700		

Additional Information: "Additional homes" represents the number of existing households that are provided access (i.e., connected) to safe drinking water as a result of Border Environment Infrastructure Fund (BEIF)-supported projects. The known universe is the number of existing households in the U.S.-Mexico border area lacking access to safe drinking water in FY 2003 (98,515 homes). The known universe was calculated from U.S. Census and the Mexican National Water Commission (CONAGUA) sources. This measure was modified from cumulative to annual beginning in FY 2012 to better capture annual program progress.

(PM xb3) Number of additional homes provided adequate wastewater sanitation in the U.S.-Mexico border area that lacked access to wastewater sanitation in 2003.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	461,125	10,500	27,000	39,500	40,750	40,720	450	Homes
Actual	513,041	31,092	25,695	12,756	44,070	45,000		

	Additional Information: "Additional homes" represents the number of existing households that are provided access (i.e., connected) to adequate wastewater sanitation as a result of Border Environment Infrastructure Fund (BEIF)-supported projects. The known universe is the number of existing households in the U.S.-Mexico border area lacking access to adequate wastewater sanitation services in FY 2003 (690,723). The known universe of unconnected homes was calculated from U.S. Census and the Mexican National Water Commission (CONAGUA) sources. This measure was modified from cumulative to annual beginning in FY 2012 to better capture annual program progress.

Goal 3 at a Glance

CLEANING UP COMMUNITIES AND ADVANCING SUSTAINABLE DEVELOPMENT

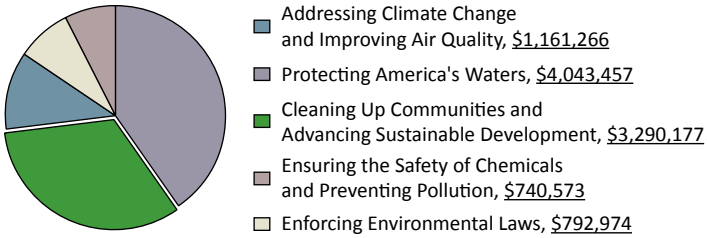
Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas.

FY 2016 Performance Measures

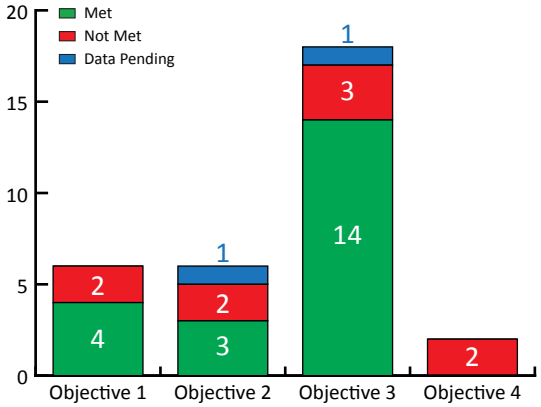
Met: 21 Not Met: 9 Data Unavailable: 2

(Total Measures: 32)

FY 2016 Obligations*



FY 2016 Performance Measures



Strategic Objective Overview	FY 2016 Obligations*	% of Goal 3 Funds
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.	$503,129	15.3%
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.	$1,065,992	32.4%
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.	$1,631,643	49.6%
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.	$89,413	2.7%
Goal 3 Total	**$3,290,177**	100.0%

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 3

Brownfields and Land Revitalization
Environmental Response Laboratory Network
Federal Facilities Restoration and Reuse
Global Change Research
Homeland Security
Homeland Security Research
Human Health and Ecosystem Protection Research
Human Health Risk Assessment
Leaking USTs
National Environmental Monitoring Initiative
Oil Spill Prevention Preparedness and Response
RCRA Corrective Action
RCRA Waste Management
RCRA Waste Minimization and Recycling
Research Fellowships
Risk Management Program
Sector Grant Program
Smart Growth
State and Local Prevention and Preparedness
Superfund Emergency Preparedness
Superfund Emergency Response and Removal
Superfund Enforcement
Superfund Remedial
Tribal Capacity-Building
Tribal General Assistance Program
UST Prevention and Compliance
U.S.–Mexico Border

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

Summary of progress toward strategic objective:

EPA continued to make progress under this objective. As of the end of FY 2016, brownfields federal funding had leveraged more than 115,600 jobs and raised $24.77 billion from both public and private sources, and these results have generally increased over time. Data from local governments near 48 brownfield sites show that these entities collected an estimated total of $29-97 million in additional taxes in a single year after cleanup (2-7 times the $12.4 million EPA contribution). EPA has made significant progress advancing the Executive Order on Improving Chemical Facility Safety and Security (E.O. 13650) through its revisions to the Risk Management Plan (RMP) Rule. These revisions will strengthen data reporting requirements for chemical manufacturers and importers, protecting workers and communities by improving chemical process safety, assisting local emergency authorities in planning for and responding to accidents, and improving public awareness of chemical hazards at regulated sources.

Challenges and opportunities:

Challenges include meeting the demand for brownfields assistance, and making sure the funds from brownfields revolving loan funds are available for additional projects. EPA inspects less than 4% of the universe of risk management facilities and expects this low inspection rate to continue.

Program Area	Performance Measures and Data							
(2) Assess and Clean Up Brownfields	**(PM B29) Brownfield properties assessed.**							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	1,000	1,200	1,200	1,200	1,300	1,400	1,400	Properties
	Actual	1,784	1,444	1,528	1,659	1,320	1,392		
	Explanation of Results: Target was missed due the difficulty of predicting results with exact certainty, as well as decreases in data entry from backlogged work packages as compared with recent years.								
	(PM B32) Number of properties cleaned up using Brownfields funding.								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	60	120	120	120	120	130	130	Properties
	Actual	130	120	122	132	150	136		

Program Area	Performance Measures and Data

Additional Information: This measure tracks the number of properties that have been cleaned up to a regulatory risk based standard using EPA Brownfields funding, as reported by cooperative agreement recipients.

(PM B33) Acres of Brownfields properties made ready for reuse.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,000	3,000	3,000	3,000	4,000	5,500	5,500	Acres
Actual	6,667	3,314	4,644	6,389	7,817	7,354		

Explanation of Results: Acres made ready for reuse varies from year-to-year as there is no programmatic control over the size of any particular brownfield site. Acreage levels fluctuate greatly from year to year, but loosely correlate with the number of anticipated cleanups and assessments.

Additional Information: This measure tracks the number of acres associated with properties benefiting from EPA Brownfields funding that have been assessed and determined not to require cleanup, or where cleanup has been completed and institutional controls are in place if required, as reported by cooperative agreement recipients.

(PM B34) Jobs leveraged from Brownfields activities.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	5,000	5,000	5,000	5,000	5,000	7,000	7,000	Jobs
Actual	6,447	5,593	10,141	12,376	11,229	9,661		

Explanation of Results: Jobs leveraged varies from year-to-year as it is dependent on the final use of brownfields sites. The relatively large accomplishment numbers in FYs 2013, 2014 and 2015 were due to improved reporting and several very large projects.

Additional Information: This measure tracks the number of cleanup and redevelopment jobs leveraged by assessment or cleanup activities conducted with EPA Brownfields funding, as reported by cooperative agreement recipients at a specific property.

(PM B37) Billions of dollars of cleanup and redevelopment funds leveraged at Brownfields sites.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.9	1.2	1.2	1.2	1.1	1.1	1.1	Dollars (Billions)
Actual	2.14	1.2	1.54	1.29	1.71	1.47		

Explanation of Results: Cleanup and redevelopment funds leveraged varies from year-to-year as it is influenced by the types of sites available for funding and economic conditions.

Additional Information: This measure tracks the number of additional dollars leveraged by assessment or cleanup activities conducted with EPA Brownfields funding, as reported by cooperative agreement recipients at a specific property.

(3) Reduce Chemical Risks at Facilities and in Communities	(PM CH2) Number of risk management plan inspections conducted.							
		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	560	530	500	460	460	460	460	Inspections
	Actual	630	652	539	466	376	343		
	Explanation of Results: Competing priorities make it difficult for EPA regions to set higher targets for conducting inspections. Between FY 2000 and FY 2016, more than 8,900 Risk Management Plan (RMP) inspections were completed. Of the 460 RMP facility inspections targeted for FY 2017, 36 percent will be conducted at high-risk facilities, determined by factors such as nearby population and accident history. ***Additional Information:*** The Risk Management Plan (RMP) Rule implements Section 112(r) of the 1990 Clean Air Act amendments. RMP requires facilities (approximately 12,700) that use extremely hazardous substances to develop a Risk Management Plan. The information required from facilities under RMP helps local fire, police, and emergency response personnel prepare for and respond to chemical emergencies.							

Objective 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.

Summary of progress toward strategic objective:

EPA made steady progress under this objective. By FY 2016, 72.5% of underground storage tank (UST) facilities are in significant operational compliance with leak detection and release prevention requirements, and the number of UST releases has decreased 10.25% over the past seven years. In FY 2016, EPA collaborated with states to update state underground storage tank regulations consistent with revised federal regulations.

A total of 9,037,319 tons of virgin materials were offset through Sustainable Materials Management in FY 2014 (most recent data). As part of this program, EPA promoted three national strategies: the Federal Green Challenge, Electronics Challenge, and Food Recovery Challenge. These strategies focused on using less environmentally intensive and toxic materials and employing downstream solutions to conserve resources for future generations.

Challenges and opportunities:

The challenges faced by EPA include the 2.5 billion tons of solid, industrial, and hazardous wastes produced each year; potential health and environmental risks from sudden releases at older waste management units and UST sites due to aging infrastructure or gaps in coverage of the Resource Conservation and Recovery Act (RCRA) Program; and constrained ability to engage in international waste issues, such as toxic wastes being moved across borders and different standards being applied to treat and dispose of wastes.

<table>
<tr><th>Program Area</th><th>Performance Measures and Data</th></tr>
<tr><td rowspan="5">(1) Waste Generation and Recycling</td><td>
(PM SM1) Tons of materials and products offsetting use of virgin resources through sustainable materials management.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td></td><td>8,549,502</td><td>8,501,537</td><td>8,603,033</td><td>9,346,830</td><td>9,450,000</td><td>9,550,000</td><td rowspan="2">Tons</td></tr>
<tr><td>Actual</td><td></td><td>9,002,588</td><td>8,795,750</td><td>9,037,319</td><td>Data Avail 5/2017</td><td>Data Avail 11/2018</td><td></td></tr>
</table>
</td></tr>
<tr><td>Explanation of Results: As part of its sustainable materials management program, EPA promoted three national strategies: the Federal Green Challenge, the Electronics Challenge, and the Food Recovery Challenge. These strategies focused on using less environmentally intensive and toxic materials and employing downstream solutions, like reuse and recycling, to conserve resources for future generations. EPA worked with other federal agencies, state and tribal governments, and non-governmental organizations to promote sustainability goals through these and other initiatives. For comparison, a total of 258 million tons of municipal solid waste were generated in FY 2014. EPA also attributes a portion of the national recycling total (89.4 million tons in 2014) to various agency efforts.</td></tr>
<tr><td>
(PM MW8) Number of tribes covered by an integrated solid waste management plan.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td>14</td><td>3</td><td>3</td><td>10</td><td>10</td><td>10</td><td>10</td><td rowspan="2">Tribes</td></tr>
<tr><td>Actual</td><td>17</td><td>13</td><td>26</td><td>20</td><td>16</td><td>15</td><td></td></tr>
</table>
</td></tr>
<tr><td>Explanation of Results: As of the end of September 2016, 224 of 574 federally-recognized tribes were covered by an integrated waste management plan.

Additional Information: This measure shows the number of tribes covered by a new integrated solid waste management plan during the year. These plans were developed with direct tribal funding as well as funds from EPA and other federal agencies. EPA also offered technical assistance to tribes, such as that provided through tribal circuit riders.</td></tr>
<tr><td rowspan="2">(2) Minimize Releases of Hazardous Waste and Petroleum Products</td><td>
(PM HW0) Number of hazardous waste facilities with new or updated controls.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td>100</td><td>100</td><td>100</td><td>100</td><td>110</td><td>115</td><td>115</td><td rowspan="2">Facilities</td></tr>
<tr><td>Actual</td><td>130</td><td>117</td><td>114</td><td>129</td><td>120</td><td>111</td><td></td></tr>
</table>
</td></tr>
<tr><td>Explanation of Results: Target was missed partially due to the loss of permit writers with specialized expertise in the last few years, increasing the number of facilities covered by the remaining permit writers. We believe the FY 2017 target is attainable through efficiency improvements and better training for new staff.

Additional Information: Initial and updated controls for hazardous waste facilities are essential to maintaining protective standards, operating conditions, and up to date equipment for the safe management of hazardous wastes.</td></tr>
</table>

(PM PCB) Number of approvals issued for polychlorinated biphenyl (PCB) cleanup, storage and disposal activities.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				150	200	200	200	Approvals
Actual				254	218	175		

Explanation of Results: Target was missed due to a focus on highest priority approvals (based on risk reduction potential, sensitive population proximity, time sensitive approvals) that typically require more resources, as well as priority work in non-PCB areas such as corrective action cleanups which use many of the same staff and expertise. Additionally, some EPA regions received fewer requests than in past years, reducing their total achievements compared with predicted workload. EPA issued 1,625 approvals between FY 2008 and FY 2016.

Additional Information: This measure tracks all approvals issued by EPA under Section 761 of the Toxic Substances Control Act (TSCA) for PCBs. Approvals are initiated by the individual/company and submitted to EPA for review. EPA does not have any way to identify all the PCB approval needs in a given year and relies mainly on historical information to estimate the upcoming "workload" for approvals in setting targets.

(PM ST6) Increase the percentage of UST facilities that are in significant operational compliance (SOC) with both release detection and release prevention requirements by 0.5% over the previous year's target.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	66	66.5	67	70	70.5	71	71.5	Percent
Actual	71	71.3	71.6	72.5	72.6	72.5		

Explanation of Results: In FY 2016, there were 93,846 on-site inspections of USTs.

Additional Information: The Energy Policy Act of 2005 requires states and EPA to inspect all USTs every three years.

(PM ST1) Reduce the number of confirmed releases at UST facilities to five percent (5%) fewer than the prior year's target.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	<8,550	<8,120	<7,715	<7,330	<6,965	<6,615	<6,285	Releases
Actual	5,998	5,674	6,128	6,847	6,830	5,582		

Explanation of Results: Confirmed releases returned to a long-term downward trend, after a temporary increase in releases reported in one state (New Jersey) from FY 2013 through FY 2015. EPA updated the UST regulations in 2015 in order to further reduce releases.

Additional Information: The UST prevention program works to ensure that underground sources of drinking water (groundwater) are protected from petroleum and associated chemicals leaking from USTs. There are 560,872 federally regulated USTs in the United States at approximately 202,000 facilities.

Objective 3 - Restore Land: Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.

Summary of progress toward strategic objective:

EPA made steady progress within the Facility Response Plans (FRP), Spill Prevention, Control and Countermeasures (SPCC), emergency preparedness, Superfund removal, Superfund remedial, Resource Conservation and Recovery Act corrective action (RCRA CA), PCB cleanup, and leaking underground storage tank (LUST) cleanup programs. Cleanup programs remediate contaminated land so it can be safely reused or continue to be used, creating more resilient, healthy, and vibrant communities. Under this objective, more than 83% of Superfund and close to 92% of RCRA CA sites have eliminated unacceptable human exposure to contaminants, and an additional 9,640 sites were made ready for anticipated use (RAU), which contributed to the FY 2016-2017 Agency Priority Goal (APG). Many of these sites are located in economically distressed communities that suffer from disproportionate and adverse environmental exposures.

Challenges and opportunities:

While EPA met the overall FY 2016 cleanup target under the FY 2016-2017 APG, Superfund and RCRA missed cleanup targets. Delays in assessment, investigation, and design work that bring sites into the remedy construction stage may cause future challenges in the cleanup programs.

Program Area	Performance Measures and Data

(1) Emergency Preparedness and Response

(PM C1) Score on annual Core NAR.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	60	70	72	75	80	82	83	Percent
Actual	77.5	75.8	82.2	78.3	70.9	Data Avail 2017		

Explanation of Results: The Core NAR evaluation score is derived from a combination of response readiness exercises at the regional level to identify strengths and gaps in response readiness. These exercises are designed to evaluate regional standard operating procedures, Emergency Operations Center, procedures, equipment knowledge, area planning, coordination/outreach. Beginning in FY 2014, EPA redesigned the evaluation to focus on a performance based approach, which resulted in lower results. With redesign of the Core NAR evaluations, the result has been decreasing during recent fiscal years.

Additional Information: The Core National Approach to Response (NAR) score reported for this measure is based upon the combination of two scores, one which measures day-to-day response readiness and another that measures national preparedness for chemical, biological, radiological and nuclear incidents. The maximum score is 100. Beginning in FY 2014, the Core NAR evaluation has taken place after the end of the fiscal year in order to capture a more complete picture of response readiness. Results are reported in the following year.

(PM 137) Number of Superfund removals completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					275	275	275	Removals
Actual					278	226		

Explanation of Results: Target was missed due to difficulty in predicting how many threats will arise in a year. EPA quickly responds when these events take place.

Additional Information: Implemented in FY 2015, this measure combined the retired Superfund-lead (PM 132) and Potentially Responsible Party (PRP)-lead removals with EPA oversight (PM 135) measures. EPA continues to internally track results for both Superfund-lead and PRP-lead removals with agency oversight.

(PM 337) Percentage of all Federal Response Plan (FRP) inspected facilities found to be non-compliant which are brought into compliance.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30	35	40	50	60	60	60	Percent
Actual	48	73	78	79	79	82		

Explanation of Results: This measure tracks FRP facilities that have been inspected and brought into compliance since FY 2010. From FY 2010 to FY 2016, 872 facilities were brought into compliance out of a total of 1,063 facilities that were found to be out of compliance.

Additional Information: The FRP rule requires certain facilities (approximately 4,500) to submit a response plan and prepare to respond to a worst case oil discharge or threat of a discharge. Oil spills in these facilities have a greater potential than typical SPCC facilities to cause harm to human health and the environment.

(PM 338) Percentage of all Spill Prevention, Control and Countermeasure (SPCC) inspected facilities found to be non-compliant which are brought into compliance.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30	35	40	50	60	60	60	Percent
Actual	45	63	69	72	74	78		

Explanation of Results: This measure tracks SPCC facilities that have been inspected and brought into compliance since FY 2010. From FY 2010 to FY 2016, 2,519 facilities were brought into compliance out of a total of 3,227 facilities that were found to be out of compliance.

Additional Information: The SPCC rule helps facilities (approximately 640,000) prevent a discharge of oil into navigable waters or adjoining shorelines. Oil spills at certain high-risk SPCC facilities have a greater potential than non-high risk SPCC to cause harm to human health and the environment.

(2) Clean Up Contaminated Land

(PM 115) Number of Superfund remedial site assessments completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	900	900	650	700	850	675	675	Assessments
Actual	1,020	1,151	772	794	869	703		

Explanation of Results: Through FY 2016, EPA and its state and tribal partners completed a cumulative total of 94,594 remedial site assessments. At the start of FY 2016, approximately 1,900 sites in the Superfund Active site inventory needed assessment, and an additional 300 new sites were expected to be assessed. The 703 assessments completed in FY 2016 included 351 assessments at sites already in the Active site inventory and 352 assessments at new sites. The performance trend reflects a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: Remedial site assessments collect site data to determine if cleanup attention may be needed at a potential hazardous waste site. Multiple and progressively more complex assessments may be required to make this determination at a site.

(PM 151) Number of Superfund sites with human exposures brought under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	10	10	10	10	9	9	9	Sites
Actual	10	13	14	9	10	12		

Explanation of Results: Through FY 2016, EPA ensured that 1,418 final and deleted NPL sites, and 33 non-NPL sites with Superfund Alternative Approach (SAA) agreements in place, met the criteria to be determined human exposure under control.

Additional Information: This measure documents long-term human health protection by measuring progress achieved in controlling unacceptable human exposures at Superfund sites. Beginning in FY 2014, performance results have included non-NPL SAA sites.

(PM CA1) Percentage of RCRA corrective action facilities with human exposures to toxins under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	72	81	85	87	90	92	94	Percent
Actual	77	81	85	87	90	92		

Explanation of Results: Through FY 2016, EPA achieved human exposures under control at 92 percent of RCRA corrective action facilities (3,476 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle.

(PM CA2) Percentage of RCRA corrective action facilities with migration of contaminated groundwater under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	64	69	73	77	80	84	88	Percent
Actual	67	72	76	79	82	84		

Explanation of Results: Through FY 2016, EPA achieved groundwater contamination under control at 84 percent of RCRA corrective action facilities (3,174 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle. Safe drinking water and the protection of ground water are agency priorities.

(PM CA5) Percentage of RCRA corrective action facilities with final remedies constructed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	38	46	51	55	60	64	69	Percent
Actual	42	47	51	56	60	64		

Explanation of Results: Through FY 2016, EPA achieved final remedies at 64 percent of RCRA corrective action facilities (2,418 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle.

(PM CA6) Percentage of RCRA corrective action facilities with corrective action performance standards attained.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				21	24	30	32	Percent
Actual				24	28	31		

Explanation of Results: Through FY 2016, EPA achieved the goal of performance standards attained (these are the cleanup standards required to ensure protection of human health and the environment at an individual facility) at 31 percent of RCRA corrective action facilities (1,171 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle.

(PM 111) Percentage of confirmed releases pending cleanup completion at LUST facilities.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	No Target Established	No Target Established	15	14	13	12	Percent
Actual	18	16	15	14	14	13		

Explanation of Results: As of the end of FY 2016, 532,420 releases have been reported, 461,441 (or 87 percent) of which have been cleaned up.

(PM 112) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12,250	11,250	10,100	9,000	8,600	8,600	8,600	Cleanups
Actual	11,169	10,927	11,582	10,393	9,869	8,977		

Explanation of Results: The performance trend reflects a variety of challenges, including the complexity of remaining sites, an increased state workload, a decrease in available state resources and the increasing costs of cleanups.

(PM 113) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration in Indian country.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	38	42	42	37	30	26	26	Cleanups
Actual	42	47	18	26	32	30		

Explanation of Results: Through FY 2016, EPA completed a cumulative total of 1,138 leaking underground storage tank cleanups in Indian country, out of a universe of approximately 1,409 confirmed releases. This is a subset of the national total of 461,441 leaking underground storage tanks cleanups completed.

(PM 141) Number of Superfund sites with remedy construction completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	22	22	19	15	13	13	13	Completions
Actual	22	22	14	8	14	13		

Explanation of Results: Through FY 2016, EPA completed construction at 1,188 final and deleted NPL sites and 9 non-NPL sites with SAA agreements in place. The performance trend reflects a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: A construction completion Superfund site has completed physical construction of all cleanup actions. Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites.

(PM 152) Number of Superfund sites with contaminated groundwater migration brought under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	15	15	15	13	13	13	Sites
Actual	21	18	18	11	15	17		

Explanation of Results: Through FY 2016, EPA ensured that 1,132 final and deleted NPL sites, and 23 sites with SAA agreements in place, met the criteria to be determined Groundwater Migration Under Control.

Additional Information: Bringing groundwater migration under control ensures that contamination is below protective, risk-based levels or that, where the migration is stabilized, there is no acceptable discharge to surface water. Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites.

(PM 170) Number of remedial action projects completed at Superfund sites.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	103	130	115	115	105	105	105	Projects
Actual	132	142	121	115	104	105		

Explanation of Results: Through FY 2016, EPA has completed 702 remedial action projects at final and deleted NPL sites and 17 remedial action projects at non-NPL sites with SAA agreements in place. The performance trend reflects a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: A remedial action project completion at a Superfund site refers to the construction or implementation of a discrete scope of activities supporting Superfund site cleanup. Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites.

(PM FF1) Percentage of Superfund federal facility sites construction complete.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				86	87	88	85	Percent
Actual				84	84	84		

Explanation of Results: New Operable Units (OUs) and associated data were added to the program in FY 2016 following the launch of the new Superfund Enterprise Management System (SEMS) Edit Site Schedule Module, causing the result to decrease slightly. (Adding OUs increases the denominator of the measure and therefore lowers the overall percentage.) EPA expects the addition of OUs to continue.

Additional Information: This measure is based on the average of three specific factors: 1) OU percent complete; 2) Total cleanup actions percent complete; and 3) Duration of cleanup actions percent complete. The Federal Facility NPL Universe captured in this measure is 174 sites which contain 2,136 OUs. OUs are commonly added to the Federal Facilities Program through site discovery and emerging contaminants such as perfluoroalkyl substances (PFAS). In FY 2016, the Federal Facilities program completed 52 Decision Document and 44 Remedial Action Completions while adding 24 OUs.

(PM S10) Number of Superfund sites made ready for anticipated use site-wide.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65	65	60	55	45	45	45	Sites
Actual	65	66	56	45	45	41		

Explanation of Results: Through FY 2016, EPA ensured that 787 final and deleted NPL sites, and 6 non-NPL sites with SAA agreements in place, met the criteria to be determined site-wide ready for anticipated use. The performance trend and the missed target reflect a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: This measure reflects the importance of considering future land use as part of the cleanup process by tracking the number of sites meeting the following criteria: All aspects of the cleanup are in place and have been achieved for any media that may affect current and reasonably anticipated future land uses, so that there are no unacceptable risks; all land use restrictions or other controls required as part of the cleanup are in place; and Sites are final or deleted NPL sites, or non-NPL SAA sites, that have reached the construction completion milestone. SAA sites were included in performance results beginning in FY 2014.

Objective 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.

Summary of progress toward strategic objective:

EPA, in consultation with the Office of Management and Budget, has highlighted this objective as a focus area for improvement for the third consecutive year.

EPA developed a multi-year, agency-wide strategy primarily focused on an assessment to examine EPA direct implementation (DI) of programs to protect human health and the environment in Indian country. In FY 2016, EPA completed *Direct Implementation of Federal Environmental Programs in Indian Country*, a framework for EPA's DI work, and finalized a nationally consistent methodology for assessing its DI responsibilities and activities on a program-by-program basis in Indian country. The agency will complete the first DI program assessment, for the Resource Conservation Recovery Act (RCRA) Subtitle C Treatment, Storage and Disposal Facilities (TSDFs) program, in FY 2017.

Efforts also continue in two supporting areas: 1) standardizing tribal data by using a tribal identifier code across its data systems to identify regulated facilities in Indian country; and 2) providing Indian General Assistance Program (GAP) grants to tribes to build tribal capacity and support the development of EPA-Tribal Environmental Plans (ETEPs) to align tribal and EPA priorities through joint planning.

Challenges and opportunities: EPA direct implementation faces multiple barriers including tribal diversity (population, culture, geography, economic development, expertise, income, priorities); unique legal and policy issues associated with federal, tribal, and state law; limited quality-controlled information for decision-making; and competing demands and priorities to implement more than nine major federal environmental statutes for 567 federally recognized tribes. These factors present current challenges to protecting human health and the environment in Indian country, although, as they are resolved, become opportunities to build more effective and efficient environment and human health protections:

- **Direct Implementation:** EPA is the primary implementer of environmental regulatory programs in Indian country. Most tribes are not seeking authority to implement federal regulatory environmental programs (although more tribes are taking on monitoring opportunities). As of the end of FY 2016, EPA had approved 109 non-grant treatment in a manner similar to a state (TAS) applications for 82 tribes, and only 12 individual tribal programs include compliance and enforcement authority for certain parts of EPA statutes.
- **Tribal Data**: Until the tribal identifier code or equivalent is fully utilized, EPA has only limited or inadequate data to fully, uniformly and successfully assess the extent of EPA direct implementation responsibilities.
- **GAP/ETEPs:** Where tribes have not implemented an ETEP, establishing priorities for the use of GAP funds can be challenging.

<table>
<tr><th>Program Area</th><th>Performance Measures and Data</th></tr>
<tr><td rowspan="6">(1) Improve Human Health and the Environment in Indian Country</td><td>
(PM 5PQ) Percent of Tribes implementing federal regulatory environmental programs in Indian country.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td>18</td><td>22</td><td>24</td><td>25</td><td>25</td><td>25</td><td>25</td><td rowspan="2">Percent</td></tr>
<tr><td>Actual</td><td>17</td><td>21</td><td>19</td><td>19</td><td>20</td><td>20</td><td></td></tr>
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</td></tr>
<tr><td>Explanation of Results: The percent of tribes implementing federal regulatory programs has leveled off. Challenges include tribal diversity (population, culture, geography, income, economic development, program management expertise, priorities, etc.); unique legal and policy issues with federal, tribal and state law; and competing demands and priorities. Opportunities include the GAP Performance Management System currently under development, which is intended to assess the progress of GAP grant funding to encourage development of tribal capacity to implement federal environmental programs in Indian country.

Additional Information: There are 572 tribal entities, including tribes and inter-tribal consortia, that are eligible for GAP funding.</td></tr>
<tr><td>
(PM 5PR) Percent of Tribes conducting EPA approved environmental monitoring and assessment activities in Indian country.
<table>
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<tr><td>Target</td><td>52</td><td>54</td><td>57</td><td>58</td><td>58</td><td>58</td><td>58</td><td rowspan="2">Percent</td></tr>
<tr><td>Actual</td><td>52</td><td>54</td><td>56.5</td><td>31</td><td>36</td><td>54</td><td></td></tr>
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Goal 4 at a Glance

ENSURING THE SAFETY OF CHEMICALS AND PREVENTING POLLUTION

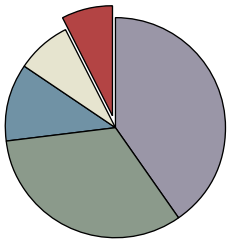
Reduce the risk and increase the safety of chemicals and prevent pollution at the source.

FY 2016 Performance Measures

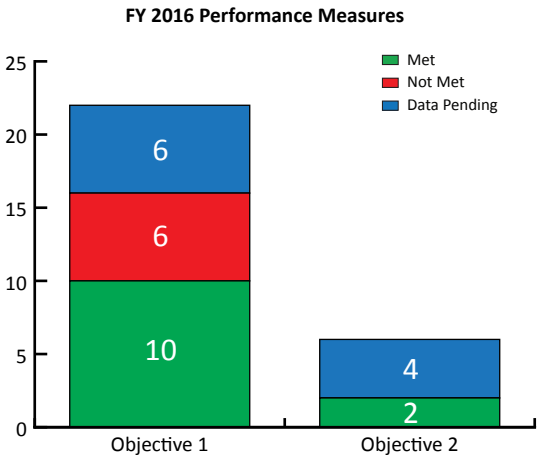
Met: 12 Not Met: 6 Data Unavailable: 10

(Total Measures: 28)

FY 2016 Obligations*



- Addressing Climate Change and Improving Air Quality, $1,161,266
- Protecting America's Waters, $4,043,457
- Cleaning Up Communities and Advancing Sustainable Development, $3,290,177
- Ensuring the Safety of Chemicals and Preventing Pollution, $740,573
- Enforcing Environmental Laws, $792,974



Strategic Objective Overview	FY 2016 Obligations*	% of Goal 4 Funds
Objective 4.1: Ensure Chemical Safety. Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.	$686,734	92.7%
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.	$53,838	7.3%
Goal 4 Total	**$740,573**	100.0%

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 4

Chemical Risk Review and Reduction
Chemical Safety and Sustainability Research
Endocrine Disruptors
Lead Risk Reduction and Lead Categorical Grant Programs
International Sources of Pollution
Pesticides Program Implementation Categorical Grant Program
Pollution Prevention
Pollution Prevention Categorical Grant Programs
Protect Human Health from Pesticide Risk
Protect the Environment from Pesticide Risk
Realize the Value of Pesticide Availability
Science Policy Biotechnology
Toxics Release Inventory
Trade and Governance

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

Summary of progress toward strategic objective:

In FY 2016, EPA made significant progress to meet the Pesticide Registration Improvement Extension Act (PRIA) statutory deadline of completing registration review risk assessments and making decisions by 2022 on all pesticides registered prior to October 1, 2007 -- exceeding the targets established for FY 2016 in the number of dockets opened (the first step in the registration review process) and final work plans completed. EPA completed 99% of PRIA decisions on time, registered 20 new active ingredients, and completed 213 new use registration decisions. The agency also took a number of important steps in the fight to control the spread of the Zika virus. EPA approved five Section 18 Pesticide Emergency Exemptions to control mosquito populations (completing 1 in only 8 days and others in shorter than usual timeframes); expedited 96 actions to ensure an adequate supply of DEET repellent and other vector control products; issued a draft malathion human health risk assessment and provided mosquito control professionals advice on how malathion can safely be applied aerially; and extended an Experimental Use Permit (EUP) for a novel mosquito vector control product. The agency also exceeded the target for the percentage of registration review chemicals with identified endangered species concerns for which EPA mitigated the risk prior to consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, saving time and resources; completed the first-ever nationwide draft Biological Evaluations for three organophosphates; completed a Preliminary Pollinator Assessment for imidacloprid, the first comprehensive bee assessment for one of the neonicotinoid insecticides which are suspected of affecting bees; and issued two guidance documents to address exposure and effects testing for assessing the risks of pesticides to bees and implementation of these testing needs for regulatory decision making.

EPA successfully applied high throughput screening (HTS) and computational toxicology (CompTox) approaches to EDSP Tier 1 screening for one chemical in FY 2016 and is preparing to complete approximately 1,000 more in FY 2017. The Endocrine Disruptor Screening Program (EDSP) decision was completed for exemption of the chemical kaolin from the requirements of the EDSP on November 6, 2015. Pursuant to the requirements of Federal Food, Drug, and Cosmetic Act (FFDCA) Section 408(p), EPA has evaluated kaolin, the pesticide active ingredient involved in Registration Review Case #4076 (EPA-HQ-OPP-2013-0751). Kaolin is not anticipated to produce in humans or any other organism an effect similar to that produced by a naturally occurring estrogen, androgen, or thyroid hormone. After reviewing public comments solicited from a June 19, 2015 Federal Register Notice, EPA concluded that the Estrogen Receptor “ER Model’’ data is a sufficient alternative to satisfy the following EDSP Tier 1 assays: 1) Estrogen Receptor (ER) binding, 2) ER Transcriptional Activation (ERTA), and 3) uterotrophic assay.

The Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law in June 2016. The new law, which amends the Toxic Substances Control Act (TSCA), will strengthen EPA’s ability to carry out its strategic objective to ensure the safety of chemicals in or entering the marketplace. The agency has developed an action plan for implementing the law’s requirements and already completed several first-year steps. Regulatory actions under TSCA Section 6 are in progress to address risks identified in three of the five risk assessments completed prior to

Objective 1 - Ensure Chemical Safety: Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.

passage of the new law. EPA made faster-than-expected progress in reducing perfluorooctanoic acid (PFOA) human blood serum concentrations, and improved transparency by expanding its online ChemView portal and continuing the review of new Confidential Business Information claims.

Challenges and opportunities:

EPA faced several challenges in FY 2016. Due to the high priority of addressing the spread of Zika, the agency missed the Section 18 Pesticide Emergency Exemption review timeliness target by three days (target 45 days/actual 48 days). However, EPA still effectively addressed Zika concerns by providing expert technical assistance and communications support to the White House, the Centers for Disease Control and Prevention (CDC), and federal and state response teams. Compliance with the requirements of the Endangered Species Act remained a significant challenge for the Pesticides Program as it kept pace with the statutorily-mandated deadlines for registration of new pesticides and registration review of previously registered pesticides.

The agency validated dozens of rapidly-evolving Tox21 screening and testing tools with a focus on developing the steroidogenesis and thyroid pathways/models. These efforts required continuous coordination with other federal agencies and our international partners to develop tools and tests for screening chemicals for potential endocrine disruption.

The new TSCA law will reduce challenges the agency has faced in obtaining chemical testing data, assessing chemicals, meeting the thresholds for commencing risk reduction actions and addressing unwarranted confidentiality claims. Similarly, older homes (built before 1978) with lead-based paint continue to pose risks to children's health. The agency continues to experience difficulty in meeting its performance targets for Lead-Safe Certified firms, in part because renovation firms are applying for recertification at a lower than expected rate of about 25%. However, the supply of certified firms appears to meet current consumer demand.

Program Area	Performance Measures and Data								
(1) Protect Human Health from Chemical Risks	**(PM J11) Reduction in moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population.**								
		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		10	15	25	30	30	30	Percent
	Actual		20	25	27	Data Avail 10/2017	Data Avail 10/2018		

Program Area	Performance Measures and Data

Explanation of Results: Measure results were corrected to report data in the years in which the incidents occurred rather than two years later when the data became available as was done in the past (i.e., 2-year data lag). For example, the data received in October 2016 covers incidents that occurred in FY 2014. All reductions represent decreases from the number of incidents in 2011. With this corrected alignment, EPA cannot report the FY 2015 result until 2017 and the FY 2016 result until 2018 due to the two-year data lag.

Additional Information: Percent reduction to moderate to severe exposure incidents are calculated from 2008 data (316 exposure incidents) as reported in the American Association of Poison Control Centers' National Poisoning Data System (NPDS) for organophosphates and carbamate pesticides.

(PM 008) Percent of children (aged 1-5 years) with blood lead levels (>5 ug/dl).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	1.5	No Target Established	1.0	No Target Established	1.0	No Target Established	Percent
Actual	Biennial	2.1	Biennial	1.2	Biennial	Data Avail 10/2018		

Explanation of Results: FY 2014 target not attained but performance improved considerably from FY 2012. On a long-term basis, the incidence of elevated blood lead levels among young children has declined dramatically (by more than 85% in the past 15 years). In 2017, EPA is doing outreach, training and enforcement in targeted low-income and minority communities across the country.

Additional Information: Data released by the CDC from the National Health and Nutritional Evaluation Survey (NHANES) for the 2007-2010 sampling period showed that an estimated 2.6% of children ages 1 - 5 had elevated blood lead levels (5 ug/dl or greater). Background information is available on EPA's website at www.epa.gov/lead. Data for this measure are reported biennially.

(PM 10D) Percent difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	13	No Target Established	20	No Target Established	25	No Target Established	Percent
Actual	Biennial	34.8	Biennial	34.0	Biennial	Data Avail 10/2018		

Explanation of Results: FY 2014 target not attained. Although long-term biomonitoring data (from NHANES) show considerable progress, with the income-based disparity in blood lead levels narrowing from 45% in FY 2002 to 34% in FY 2014, there have been challenges in reaching communities where the need is greatest.

Additional Information: Data released by the CDC from the National Health and Nutritional Evaluation Survey (NHANES) for the 2007-2010 sampling period showed that the estimated difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old was 28.4%. Data for this measure are reported biennially.

(PM D6A) Reduction in concentration of PFOA in serum in the general population.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		1	No Target Established	25	No Target Established	41	No Target Established	Percent Reduction
Actual		32	Biennial	37	Biennial	Data Avail 10/2018		

Explanation of Results: EPA exceeded its PFOA reduction targets in the FY 2012 and FY 2014 reporting cycles. The agency has taken a range of voluntary and regulatory actions to address concerns with PFOA. One of these actions is the 2010/2015 PFOA Stewardship Program that was launched in 2006 with the eight major companies in the industry committing to work toward eliminating emissions and product content of PFOA by 2015. All of the participating companies in the voluntary program have met the PFOA Stewardship Program goals. As a result of these actions, blood concentrations of PFOA have been decreasing, as evidenced by NHANES reports.

Additional Information: Data for this measure are derived from Centers for Disease Control's National Health and Nutrition Examination Survey (NHANES) on PFOA concentration in the general population. The geometric mean concentration in serum as determined from 2009-2010 sampling data is 3.07 µg/L. Data for this measure are reported biennially. Perfluoroalkyl substances, including PFOA, are a class of manmade chemicals that are very persistent in the environment and in the human body. As a result, people may become exposed to these chemicals manufactured months or years in the past. Because they have been used in an array of consumer products, most people have been exposed to these chemicals. Studies indicate that PFOA can cause reproductive and developmental liver, kidney and immunological effects in laboratory animals and humans. In addition, PFOA has caused tumors in animal studies.

(PM E01) Number of chemicals for which Endocrine Disruptor Screening Program (EDSP) decisions have been completed

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3	5	20	59	0	0	1,000	Chemicals
Actual	3	1	0	3	54	1		

Explanation of Results: The single result for FY 2016 was exemption of the chemical kaolin from the requirements of the EDSP on November 6, 2015. Based on EPA's evaluation, kaolin is not anticipated to produce in humans or any other organism an effect similar to that produced by a naturally occurring estrogen, androgen, or thyroid hormone.

Additional Information: These chemicals have the potential to interact with the estrogen, androgen, steroidogenesis and/or thyroid systems. The EDSP has a universe of chemicals of approximately 10,000 chemicals that is described at: https://www.epa.gov/endocrine-disruption/endocrine-disruptor-screening-program-edsp-universe-chemicals. Tier 1 screening determines whether a chemical has the potential to interact with the endocrine system and requires more thorough testing. Tier 2 testing is conducted to rule out bioactivity for chemicals that show more potential for endocrine bioactivity. If a chemical is determined to indeed have endocrine bioactivity after completing EDSP Tier 2 testing, EPA would most likely conduct a complete risk assessment and risk mitigation exercise for that chemical. High throughput screening (HTS) and computational toxicology (CompTox) tools for Estrogen Receptor (ER) are now used as alternatives to the Tier 1 assays. Implementing HTS and CompTox methods allows EPA to screen a greater number of chemicals, while also reducing animal use. This measure tracks the number of chemicals with screening level decisions based on integrated scientific reviews of: 1) Tier 1 assays; 2) other scientifically-relevant information (e.g., CFR158 data, published literature, high throughput endocrine activity and exposure information); and 3) decisions based on other information that determines whether further endocrine-related testing is necessary for a chemical (e.g., regulatory status of the chemical). EDSP decisions for a chemical can range from determining potential to interact with the estrogen, androgen, steroidogenesis and/or thyroid hormone systems to otherwise determining whether further endocrine related testing is necessary. Fifteen decisions were completed through FY 2012. In FY 2015, EPA published a Federal Register Notice incorporating ToxCast data for more than 1,800 chemicals that, combined with additional data, could be used to complete the screening decisions.

(PM 012) Percent reduction of children's exposure to rodenticides.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	10	5	5	10	25	25	25	Percent
Actual	12	17	24	25	Data Avail 10/2017	Data Avail 10/2018		

Explanation of Results: Measure results were corrected to report data in the years in which the incidents occurred rather than two years later when the data became available as was done in the past (i.e., 2-year data lag). For example, the data received in October 2016 covers incidents that occurred in FY 2014. All reductions represent decreases from the number of incidents in 2011. With this corrected alignment, EPA cannot report the FY 2015 result until 2017 and the FY 2016 result until 2018 due to the two-year data lag.

Additional Information: Percent reduction of the total number of confirmed and likely rodenticide exposures to children is calculated from 2008 data (11,674 rodenticide exposures to children) from the Poison Control Centers' National Poison Data System.

(PM RA1) Annual number of chemicals for which risk assessments are finalized through EPA's TSCA Existing Chemicals Program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				3	7	12	0	Chemicals
Actual				4	1	0		

Explanation of Results: FY 2016 target was missed for several reasons: EPA established a new step (problem formulation) for existing chemical assessments, which provides additional public input prior to peer review and a Federal Advisory Committee Act (FACA) peer review process to address stakeholder input. This measure is discontinued after FY 2017 as it measures progress against a list of chemicals developed under the previous TSCA law. In June 2016, Congress passed amendments to TSCA, establishing, among other things, a new plan for assessing existing chemicals. The program is currently making the changes needed to implement the new law, which requires each assessment to be completed within three years. In addition, the scope of each assessment is broadened to include all commercial uses of the chemical rather than only certain specific uses as determined by EPA. The first 10 chemicals to assess have been selected and published. Meanwhile, risk reduction actions are being developed for three of the five chemicals assessed prior to enactment of the new law.

Additional Information: The universe for this measure comprises TSCA Work Plan Chemicals and related/similar chemicals. Zero chemicals had completed risk assessments through FY 2013. All five of the chemicals for which the five risk assessments were completed in FY 2014 and FY 2015 are from the list of 67 TSCA Work Plan Chemicals that was refreshed in October 2014. Background information is available on EPA's website at www.epa.gov/assessing-and-managing-chemicals-under-TSCA.

(PM 009) Cumulative number of active certified Renovation Repair and Painting firms

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100,000	140,000	140,000	138,000	145,000	96,000	97,000	Firms
Actual	114,834	126,323	133,587	139,702	108,623	90,970		

Explanation of Results: FY 2016 target was not attained in large part due to EPA's Lead Renovation, Repair and Painting Program reaching the end of the first 5-year cycle of initial certifications at which time firms have to decide whether to recertify. To date, only about 25% of firms have sought recertification. The reasons may include a decision to leave the industry, a shift in business emphasis to new home construction, or a lack of local demand for lead safe renovation services. EPA is not aware of an acute shortage of certified lead renovation firms, but that is due in part to lower than expected demand.

Additional Information: Firms can become certified directly through EPA (tracked through Federal Lead-based Paint Program (FLPP)) or through an authorized state program (tracked through grant reports/internal database). FY 2010 was the first year that firms submitted applications to EPA to become certified. The Renovation, Repair and Painting (RRP) program reached the end of the first 5-year cycle of initial certifications in FY 2015 and firms have to make a decision about whether to recertify. A renovation firm may choose to not recertify for a variety of reasons including a decision to leave the industry, a decision to focus on new home construction rather than renovations, or a lack of local demand for lead safe renovation services. Alternatively, some new renovation firms continue to emerge and seek certification. Background information is available on EPA's website at www.epa.gov/lead/renovation-repair-and-painting-program.

(PM 011) Number of Product Reregistration Decisions

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,500	1,200	1,200	900	600	550	600	Decisions
Actual	1,218	1,255	709	292	562	306		

Explanation of Results: FY 2016 target was not attained due to competing work for entomologists needed for conventional product reregistration. That work included Pesticide Registration Improvement Act (PRIA) deadlines; and urgent, high-profile pesticide issues, including mosquito vectors of the Zika virus. By FY 2016, a total of 20,077 product reregistration decisions were made.

Additional Information: By FY 2012, a total of 18,208 product re-registrations decisions were made according to internal tracking as part of the product reregistration process. The product reregistration universe is 25,044. Additional information is available on https://www.epa.gov/pesticide-reevaluation/reregistration-and-other-review-programs-predating-pesticide-registration#Product.

(PM 091) Percent of decisions completed on time (on or before PRIA or negotiated due date).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	99	99	99	97.0	96	96	97	Percent
Actual	98.4	99.1	98.8	85	98.4	99		

Additional Information: Annual average percentage of decisions completed on time from FY 2010-2012 was 99.0% according to EPA internal data. More information on PRIA can be found on https://www.epa.gov/pria-fees/pria-overview-and-history.

(PM 10A) Annual percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	92	95	95	95	95	95	95	Percent
Actual	95	97	99	100	99	99		

Explanation of Results: In FY 2016, EPA processed more than 19,000 certification applications and 665 refund applications. Exceedance of this target reflects years of concerted and successful efforts to expedite handling of abatement individual certification and refund applications, ensuring that homeowners will have access to a sufficient pool of qualified abatement professionals to perform lead inspections, risk assessments and abatement work.

Additional Information: Annual average percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process over the period of FY 2008-2012 was 94%. Data is obtained from Federal Lead Based Paint Program (FLPP) information system. Lead-based paint certification and refund applications are applications received by EPA from firms for certification to perform lead-based paint activities or renovation, repair and painting work; or from individuals for certification as risk assessor, inspector, abatement supervisor or abatement worker. In addition, EPA receives accreditation applications from training providers to provide training in lead-based paint disciplines and for renovator and dust sampling technician work. Applications for refunds of certification fees are sometimes received by EPA from these same sources (for example, if an application was mistakenly sent twice or an incorrect discipline requested).

(PM 143) Percentage of agricultural acres treated with reduced-risk pesticides.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	21	22	22.5	22.5	22.5	22.5	22.5	Percent
Actual	22	22.5	23	23	Data Avail 10/2017	Data Avail 10/2018		

Explanation of Results: FY 2015 and FY 2016 data lags are due to delay in purchase of data; EPA is working to resolve this issue in FY 2017. The acres-treated was 23% of total acreage in FY 2014 when the reduced-risk pesticide acre-treatments was 400,000,000 and total (all pesticides) was 1,768,000,000 acre-treatments.

Additional Information: Percentage of acres treated with reduced-risk pesticides was 22% of total acreage in FY 2011 when the reduced-risk pesticide acre-treatments was 315,000,000 and total (all pesticides) was 1,444,000,000 acre-treatments. Each year's total acre-treatments, as reported by USDA National Agricultural Statistic Service and private marketing research data sources, serve as the basis for computing the percentage of acre-treatments using reduced risk pesticides. Acre-treatments count the total number of pesticide treatments each acre receives each year. Results are reported the end of the calendar year and have a one-year reporting data lag. Most reduced-risk acre treatments are Bt (Bacillus thuringiellis) corn and cotton and the use of glyphosate and others in field crops. Bt corn is a variant of maize that has been genetically altered to express one or more proteins from the bacterium BT (a built in pesticide).

(PM 164) Number of pesticide registration review dockets opened.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	72	73	73	66	25	Dockets
Actual	81	79	77	75	84	88		

Explanation of Results: As of FY 2016, 700 dockets have been opened, with the remaining 25 scheduled in FY 2017. The program has emphasized completing the opening of dockets in order to meet the 2022 mandated completion date for registration review. EPA anticipates completing the opening of dockets in 2017 (the remaining balance of dockets).

Additional Information: By FY 2012, a total of 376 chemical case work dockets were opened according to EPA internal data.

(PM 230) Number of pesticide registration review final work plans completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	72	73	73	75	40	Work Plans
Actual	75	70	79	81	89	78		

Explanation of Results: As of FY 2016, a total of 645 final work plans for registered pesticides have been completed. The program has exceeded the initial target in order to work toward meeting the 2022 deadline for risk assessment decisions. EPA is ramping down opening of dockets and completing the work plans in order to focus on completing risk assessments and making decisions to meet its statutory deadline by 2022.

Additional Information: By FY 2012, a total of 327 final work plans for registered pesticides were completed according to EPA internal data.

(PM 247) Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	Percent
Actual	100	100	100	95	96	99		

Explanation of Results: Under the new TSCA law, any Section 5 new chemical assessments that had not been completed needed to be reassessed using the new "unreasonable risk" criteria. Of the 78 TSCA Section 5 new chemical notices reassessed using TSCA Section 8(e) data submitted in FY 2015 (55 submissions with 74 tests), only one reassessment indicated that an unreasonable risk was missed in the prior review. A detailed analysis of FY 2016 data comparing information contained in TSCA 8(e) notices received during FY 2016 will be available in the next fiscal year (FY 2017) due to the time needed to complete the research and analyses for the detailed report. The agency intends to utilize these performance results together with provisions of the new TSCA law to help make further improvements to the new chemical review process so that this kind of hazard can be identified during the chemical review.

Additional Information: Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment was 97 percent over the period FY 2009-2012, as determined by averaging the annual performance results for this measure. Data obtained from the annual report, "Study Comparing Premanufacture Notices (PMNs)/Low Volume Exemptions (LVEs) to Related 8(e) Chemicals." Results are calculated by comparing Section 8(e) notices received in the fiscal year to previously reviewed PMNs. If a risk identified in a new Section 8(e) notice would not have been identified and mitigated by the review, then the program has not met the performance target. Approximately 30 Section 8(e) notices submitted annually are compared to previous PMNs for purposes of determining the annual performance result for this measure. Background information is available on EPA's website at www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca.

(PM 998) EPA's TRI program will work with partners to conduct data quality checks to enhance accuracy and reliability of environmental data.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			500	500	600	600	600	Quality Checks
Actual			600	600	600	775		

Explanation of Results: In FY 2016, EPA's TRI Program and Regional coordinators focused on data quality calls with significant changes in releases and/or production waste, including releases of Persistent, Bioaccumulative and Toxic Chemicals (PBTs), Hazardous Air Pollutants (HAPs) and Carcinogens. During FY 2016, approximately 60 facilities completed certification of about 150 TRI reporting submissions, and 75 facilities made revisions to their 2014 and/or 2015 submissions which resulted in significant data quality improvements.

Additional Information: Toxics Release Inventory (TRI) data checks improve the accuracy and reliability of environmental data. More than 21,000 facilities report to EPA's TRI Program annually. The universe of facilities subject to the TRI reporting requirements includes all federal facilities (pursuant to Executive Order) that meet the applicability criteria described in part 372, subpart B of Title 40 of the Code of Federal Regulations and, with some exceptions and/or limitations, facilities that are classified within (under) any of the specific North American Industrial Classification System (NAICS) codes that correspond to Standard Industrial Classification (SIC) codes: 10, 20-39, 4911, 4931, 4939, 4953, 5169, 5171, and 7389.

(PM C19) Percentage of CBI claims for chemical identity in health and safety studies reviewed and challenged, as appropriate, as they are submitted.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	Percent
Actual	100	100	100	100	100	100		

Explanation of Results: EPA continues its consistently high performance in reviewing and, as appropriate, challenging new Confidential Business Information (CBI) claims. Reviews conducted after June 22 reflect changes made by the new TSCA law. The amended TSCA law changes many of the rules relating to CBI and includes (1) new submitter procedural requirements to make CBI claims, (2) new agency requirements for review of these claims, (3) potential time limits on these claims, and (4) new requirements related to the management of materials treated as CBI.

Additional Information: Effective CBI review ensures that incoming claims are approved only where warranted and that all non-CBI data from health and safety studies are made available to the public. Approximately 500 TSCA CBI claims are submitted per year for chemical identity, which potentially contain health and safety studies.

(PM E07) Annual number of EDSP Tier 1 screening assays for which validated alternatives have been developed, based on high throughput assays and computational models.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target						2	2	Assays and Tools
Actual						3		

Explanation of Results: After reviewing public comments solicited from a June 19, 2015 Federal Register Notice, EPA concluded that the Estrogen Receptor (ER) Model data is a sufficient alternative to satisfy the following Endocrine Disruptors Tier 1 assays: (1) Estrogen Receptor (ER) binding, (2) Estrogen Receptor Transcriptional Activation (ERTA), and (3) uterotrophic assay.

Additional Information: In FY 2014, there were zero (of the 11) Tier 1 assays for which validated alternatives had been developed, based on high throughput assays and computational models.

(2) Protect Ecosystems from Chemical Risks

(PM 268) Percent of selected urban watersheds that exceed EPA aquatic life benchmark maximum concentrations for three key pesticides of concern (diazinon, chlorpyrifos and carbaryl).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Target	No Target Established	5, 0, 10	No Target Established	0, 0, 0	No Target Established	0, 0, 0	No Target Established	Percent
Actual	Biennial	0, 0, 9	Biennial	7, 0, 0	Biennial	0,0,9		

Explanation of Results: Increased sampling frequency revealed that carbaryl exceeded the benchmark maximum at one site. It is not clear if increased sampling at more sites would reveal additional occurrences of monitored pesticides. Sampling frequency depends on the budget USGS/NAQWA has each year.

Additional Information: Urban watersheds are sampled by the USGS National Water Quality Assessment (NAWQA) program. Data for this measure are reported biennially. The number of sampling and the sampling points in USGS data were constantly changing year to year, depending on their funding. Results from previous reports showed that the exceedances were at different monitoring sites. Starting in FY 2015, the agency is using data from 10 specified urban sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The 10 selected Urban Streams in National Network sites are: Norwalk River at Winnipauk, CT; Accotink Creek near Annandale, VA; Swift Creek near Apex, NC; Sope Creek near Marietta, GA; Clinton River at Sterling Heights, MI; Shingle Creek at Minneapolis, MN; Cherry Creek at Denver, CO; White Rock Creek at Dallas, TX; Little Cottonwood Creek at Salt Lake City, UT; Fanno Creek at Durham, OR. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by EPA for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm: Diazinon: 0.105 ug/L; Chlorpyrifos: 0.040 ug/L; Carbaryl: 0.5 ug/L.

(PM 269) Percent of selected agricultural watersheds that exceed EPA aquatic life benchmark maximum concentrations for two key pesticides of concern (azinphos-methyl and chlorpyrifos).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	0, 10	No Target Established	0, 0	No Target Established	0, 0	No Target Established	Percent
Actual	Biennial	7, 7	Biennial	0, 0	Biennial	0,0		

Explanation of Results: EPA maintained zero exceedances for the chemicals of concern.

Additional Information: Agricultural watersheds are sampled by the USGS National Water Quality Assessment (NAWQA) program. Data for this measure are reported biennially. The number of sampling and the sampling points in USGS data were constantly changing year to year, depending on their funding. Results from previous reports showed that the exceedances were at different monitoring sites. Starting in FY 2015, the agency is using data from 10 specified agricultural sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The 10 selected Agricultural Streams in National Network sites are: Canajoharie Creek near Canajoharie, NY; Contentnea Creek at Hookerton, NC; South Fork Iowa River near New Providence, IA; Maple Creek near Nickerson, NE; Bogue Phalia near Leland, MS; Orestimba Creek near Crows Landing, CA; Granger Drain at Granger, WA; Rock Creek at Twin Falls, ID; Zollner Creek near Mt. Angel, OR; Sugar Creek at New Palestine, IN. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by EPA for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm: Malathion=0.035 ug/L; Methomyl=0.7 ug/L.

(PM 240) Maintain timeliness of FIFRA Section 18 Emergency Exemption Decisions

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	45	45	45	45	45	45	45	Days
Actual	52	43	27	44	45	48		

Explanation of Results: EPA did not meet the target due to the efforts on high profile yet challenging Section 18 cases involving vacated sulfoxaflor registrations, citrus greening, and Zika.

Additional Information: Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) authorizes EPA to allow an unregistered use of a pesticide for a limited time if it is determined that an emergency condition exists (i.e. a serious pest problem which jeopardizes production of agricultural goods or public health). Average number of days for Section 18 decisions from FY 2009-2012 was 46 days, according to EPA internal data.

(PM 276) Percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with DOC and DOI.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		5	5	15	5	5	65	Percent
Actual		0	0	0	65	80		

	Explanation of Results: FY 2015 was the first reporting year in which EPA began to achieve mitigation of risk prior to consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. ***Additional Information:*** The data are tracked internally by EPA. The data are obtained from ecological risk assessments and effects determinations prepared to support a registration review case. Any mitigation of risk refers to label changes that are intended to reduce the environmental exposure and associated risk of pesticides to listed species and/or their designated critical habitat. This may include such mitigation measures as reduction in the pesticide application rate and/or frequency of application, changes to the timing of application, spray drift, buffers or more geographically specific mitigation measures via EPA's Bulletins Live! Two web-based tool in specific areas where listed species and/or critical habitat are known to co-occur with potential pesticide use based on labeled registered uses.

Objective 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

Summary of progress toward strategic objective:

In FY 2016, EPA made significant progress in preventing pollution at the source and furthering the objectives of Pollution Prevention (P2) programs. The agency met annual performance targets for all six of its P2 outcome-based measures (most recent data), substantially exceeding targets in four cases. The number of products newly qualified to bear the Safer Choice label was more than double the FY 2016 target.. In addition, the agency aided small and medium-sized businesses by conducting more than 980 facility assessments through the Economy, Energy and Environment (E3) Initiative and the Green Suppliers Network (GSN) Program. The agency also developed and piloted guidelines for product environmental performance standards and ecolabels for federal procurement of products including furniture, flooring, paints and coatings.

Challenges and opportunities:

Challenges have included the tendency of many P2 grantees to report results at an aggregated level without a breakout of specific P2 practices and corresponding environmental and economic results. The program tested a proposed template for grantees to use to report specific P2 actions taken at the facility level and any corresponding economic and environmental outcomes.

Program Area	Performance Measures and Data							
(1) Promote Pollution Prevention	**(PM 264) Pounds of hazardous materials reduced through pollution prevention.**							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	199.6	88.7	71.6	23.4	204.2	214.2	214.2	Pounds (Millions)
	Actual	154.8	214.9	231.5	190.3	205.2	Data Avail 10/2017		

Program Area	Performance Measures and Data

Explanation of Results: EPA's P2 Program achieved hazardous materials reductions from the sale of Electronic Product Environmental Assessment Tool (EPEAT)-registered electronics devices (that meet standards using EPA's environmental hazards criteria) and from nationwide grant projects and some non-grant E3 projects helping businesses reduce hazardous releases at the source.

Additional Information: There is a 1-year data lag. From FY 2008 through FY 2012, 1,437 million pounds were reduced—after removing 626 million pounds in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program reported "recurring results" of an additional 81 million pounds of hazardous materials reduced. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM 297) Metric Tons of Carbon Dioxide Equivalent (MTCO2Eq) reduced or offset through pollution prevention.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	2.19	1.74	1.46	1.0	2.0	2.2	2.2	MTCO2Eq (Millions)
Actual	2.8	3.9	3.4	3.0	3.16	Data Avail 10/2017		

Explanation of Results: EPA's P2 Program achieved reductions in Carbon Dioxide Equivalent from the sale of EPEAT-registered electronics devices (that meet standards using EPA's environmental MMTCO2Eq criteria) and from nationwide grant projects and some non-grant E3 projects helping businesses reduce their greenhouse gas releases at the source.

Additional Information: There is a one-year data lag. From FY 2008 through FY 2012, 11.1 Million Metric Tons of Carbon Dioxide Equivalent (MMTCO2Eq) were reduced—after removing 3.5 MMTCO2Eq in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program reported "recurring results" of an additional 2.8 MMTCO2Eq reduced. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM 262) Gallons of water reduced through pollution prevention.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	783	785	771	932	1,156	1,390	1,390	Gallons (Millions)
Actual	1,397	1,175	936	1,618	1,433.4	Data Avail 10/2017		

Program Area	Performance Measures and Data

Explanation of Results: EPA's P2 Program achieved reductions in gallons of water from nationwide grant projects and some non-grant E3 projects that helped businesses use water more efficiently.

Additional Information: There is a one-year data lag. From FY 2008 through FY 2012, 6.9 billion gallons were reduced--after removing 24 billion gallons in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program is reporting "recurring results" of an additional 3.7 billion gallons of water reduced. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM 263) Business, institutional and government costs reduced through pollution prevention.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	268.5	196.9	195.6	133.3	362.6	445.6	445.6	Dollars Saved (Millions)
Actual	533.7	737.4	594.9	587.5	609	Data Avail 10/2017		

Explanation of Results: EPA's P2 Program achieved dollar savings from the sale of EPEAT-registered electronics devices (that meet EPA's cost-saving energy/material conservation criteria) and from nationwide grant projects and some non-grant E3 projects that helped businesses save on their utilities and other costs once P2 practices were adopted.

Additional Information: There is a one-year data lag. From FY 2008 through FY 2012, $1.85 billion were saved—after removing $231 million in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program reported "recurring results" of an additional $337 million dollars saved. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM P2X) Annual Number of Additional Products Recognized by the Safer Choice program

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					375	100	125	Product
Actual					101	248		

Explanation of Results: The increase in number of safer products as compared to FY 2015 corresponded to the availability of the new Safer Choice logo.

Additional Information: Approximately 2,500 safer chemical products were recognized in FY 2013 by the Safer Choice Program. The number of products placed on the Safer Choice Products list in FY 2014 was 171. The total number of products certified is affected by consolidation in the industry and other factors that would make it less useful as a measure of performance. More information about the Safer Choice program, including currently recognized products and the criteria manufacturers must meet to be recognized, is available at www.epa.gov/saferchoice.

	(PM P2Y) Annual Number of Additional Chemicals Added to the Safer Chemical Ingredients List								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target					100	100	100	Chemicals
	Actual					77	100		
	Additional Information: Approximately 600 chemicals were on the Safer Chemical Ingredients List in FY 2013 under the Safer Choice Program. The number of products placed on the Safer Chemicals Ingredients List in FY 2014 was 49. The total number of chemicals on the Safer Chemicals Ingredients List is affected by consolidation in the industry and other factors that would make it less useful as a measure of performance. More information about the Safer Chemical Ingredients List, including currently listed chemicals and criteria for listing, is available at http://www2.epa.gov/saferchoice/safer-ingredients.								

Goal 5 at a Glance

PROTECTING HUMAN HEALTH AND THE ENVIRONMENT BY ENFORCING LAWS AND ASSURING COMPLIANCE

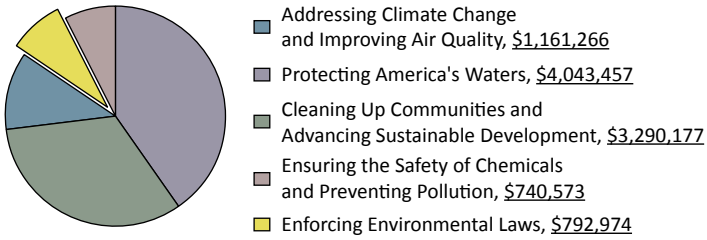
Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

FY 2016 Performance Measures

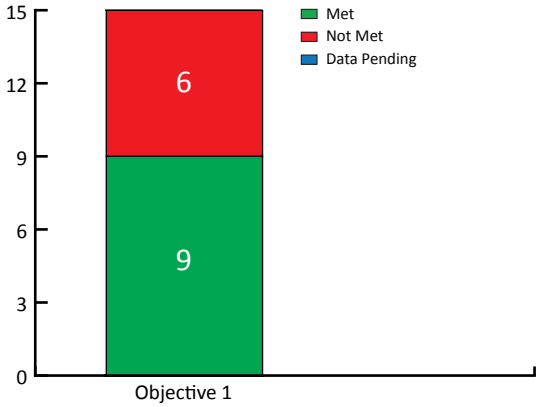
Met: 9 Not Met: 6 Data Unavailable: 0

(Total Measures: 15)

FY 2016 Obligations*



FY 2016 Performance Measures



Strategic Objective Overview	FY 2016 Obligations*	% of Goal 5 Funds
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.	$792,974	100.0%
Goal 5 Total	$792,974	100.0%

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 5

Compliance Assistance Program
Economic Decision Sciences Research
Environmental Justice
Environmental Technology Verification Program, Monitoring and Enforcement Program
National Center for Environmental Innovation
National Partnership for Environmental Priorities
Pesticide Enforcement Grant Program
RCRA Corrective Action
Sector Grant Program
Superfund Enforcement
Sustainability Research
Sustainable Materials Management
Toxic Substances Compliance Grant 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 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.

Summary of progress toward strategic objective:

EPA's enforcement program continued to make steady progress toward its objective of pursuing the most serious water, air, and chemical hazards within communities. In FY 2016, EPA met or exceeded its performance targets for civil judicial and administrative case conclusions, review of open consent decrees, Superfund enforcement, and criminal enforcement. EPA achieves such progress by focusing on the highest impact environmental problems through the National Enforcement Initiatives (NEIs), other national priorities (e.g., drinking water), and regional enforcement priorities, as well as by vigorously pursuing environmental benefits, such as commitments to clean up contaminated sites and to install pollution control technologies.

In addition, EPA advanced the use of Next Generation (Next Gen) Compliance strategies throughout its enforcement and compliance program. In FY 2016, EPA continued to make significant progress in including Next Gen Compliance tools within its enforcement settlements. The agency included requirements for advanced monitoring equipment in eight lodged settlements for the year, including agreements with Tesoro Corp. and Par Hawaii Refining under the Clean Air Act, and Enbridge Energy Limited Partnership and the Nevada Department of Transportation under the Clean Water Act. The agency also continued to implement the Next Gen Enforcement 2015 Memorandum, setting forth the agency's commitment to consider the use of Next Gen Compliance tools in all civil enforcement settlements.

Challenges and opportunities:

Aside from this progress, however a focus on higher-impact cases, combined with normal year-to-year variability of the enforcement case settlement process, affected some of the agency's FY 2016 enforcement program results, contributing to missed targets for the number of federal inspections and evaluations, pounds of air and water pollutants reduced, and volume of contaminated soil and groundwater media cleaned up.

Program Area	Performance Measures and Data								
(1) Maintain Enforcement Presence	(PM 409) Number of federal inspections and evaluations.								
		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		19,000	17,000	17,000	15,500	15,500	14,000	Inspections/Evaluations
	Actual		20,000	18,000	16,000	15,400	13,500		

Program Area	Performance Measures and Data

Explanation of Results: Inspections are an integral part of EPA's enforcement and compliance assurance program. They are an important tool for officially assessing compliance with environmental requirements. EPA is prioritizing the most significant inspections and evaluations and that has caused the overall number of federal inspections to decrease. EPA also conducts off-site evaluations of facilities that are not historically counted as part of this measure.

(PM 410) Number of civil judicial and administrative enforcement cases initiated.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3,300	3,200	3,200	2,700	2,700	2,700	Cases
Actual		3,000	2,400	2,300	2,400	2,400		

Explanation of Results: EPA continued to pursue larger more complex, risk-based enforcement cases. This strategy leads to significant environmental and health gains, but generally lower numbers of cases overall. These enforcement actions are initiated when the regulated community does not comply with environmental laws, or cleanup is required for the protection of public health and the environment.

(PM 411) Number of civil judicial and administrative enforcement cases concluded.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3,200	3,000	2,800	2,400	2,400	2,400	Cases
Actual		3,000	2,500	2,300	2,400	2,400		

Explanation of Results: EPA continued to pursue larger more complex, risk-based enforcement cases. This strategy leads to significant environmental and health gains, but generally lower numbers of cases overall.

(PM 412) Percentage of open consent decrees reviewed for overall compliance status.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		91	91	100	99	100		

(PM 078) Percentage of all Superfund statute of limitations cases addressed at sites with unaddressed past Superfund costs equal to or greater than $500,000.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	Percent
Actual	100	100	100	100	100	100		

<table>
<tr><th>Program Area</th><th>Performance Measures and Data</th></tr>
<tr><td></td><td>
(PM 285) Percentage of Superfund sites having viable, liable responsible parties other than the federal government where EPA reaches a settlement or takes an enforcement action before starting a remedial action.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td>95</td><td>99</td><td>99</td><td>99</td><td>99</td><td>99</td><td>99</td><td rowspan="2">Percent</td></tr>
<tr><td>Actual</td><td>100</td><td>100</td><td>100</td><td>100</td><td>100</td><td>100</td><td></td></tr>
</table>
Additional Information: EPA’s enforcement program is based on the “polluter pays” principle, which provides that a party responsible for the pollution pays for cleaning it up. The enforcement program applies this principle to preserve taxpayer dollars and the scarce resources of the Superfund trust fund to address truly abandoned and orphaned sites, which helps to make a visible difference in communities around the country by maximizing Superfund cleanups. In FY 1998, approximately 70 percent of new remedial work at Superfund sites (excluding Federal facilities) was initiated by private parties. By FY 2003, that percentage had increased such that a settlement was reached or an enforcement action was taken with non-Federal responsible parties before the start of the remedial action at approximately 90 percent of Superfund sites and in FY 2016, EPA reached a settlement or started an enforcement action at 100 percent of the non-Federal sites with viable responsible parties.
</td></tr>
<tr><td>(2) Support Addressing Climate Change and Improving Air Quality</td><td>
(PM 400) Millions of pounds of air pollutants reduced, treated, or eliminated through concluded enforcement actions.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td>480</td><td>480</td><td>450</td><td>350</td><td>310</td><td>310</td><td>240</td><td rowspan="2">Million Pounds</td></tr>
<tr><td>Actual</td><td>1,100</td><td>250</td><td>610</td><td>140</td><td>430</td><td>240</td><td></td></tr>
</table>
Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.

Additional Information: As EPA continues to make progress addressing large air pollution violators, such as utilities, enforcement actions comprise cases with significant public health impacts but a smaller number of pounds of pollution. We are increasingly focused on large sources of air toxics, where even small emissions reductions can have significant health benefits.
</td></tr>
<tr><td>(3) Support Protecting America's Waters</td><td>
(PM 402) Millions of pounds of water pollutants reduced, treated, or eliminated through concluded enforcement actions.
<table>
<tr><th></th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th><th>FY 2014</th><th>FY 2015</th><th>FY 2016</th><th>FY 2017</th><th>Unit</th></tr>
<tr><td>Target</td><td>320</td><td>320</td><td>320</td><td>280</td><td>250</td><td>250</td><td>200</td><td rowspan="2">Million Pounds</td></tr>
<tr><td>Actual</td><td>740</td><td>500</td><td>660</td><td>340</td><td>90</td><td>70</td><td></td></tr>
</table>
Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.

Additional Information: Total pounds of pollution reduced per case is declining as we complete work on compliance agreements with the largest cities and begin to address non-compliance in smaller cities, and continue our focus on other sources of water pollution that are smaller in number of pounds but very important to protecting water quality.
</td></tr>
</table>

(4) Support Cleaning Up Communities and Advancing Sustainable Development

(PM 405) Millions of pounds of hazardous and non-hazardous wastes reduced, treated, or eliminated through concluded enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	6,500	6,500	6,000	5,000	2,400	2,400	2,000	Million Pounds
Actual	3,600	4,400	150	700	500	61,900		

Explanation of Results: Hazardous: 61, 900 M lbs. Non-Hazardous: 13 M lbs. The results for this measure are driven by a small number of very large cases and, therefore, can cause significant fluctuations in the results from year to year. For example, in FY 2016 over 98% of the total 61.9 billion pounds of hazardous and non-hazardous waste reduced, treated, or eliminated came from one case - Mosaic (61.7). Given the types of cases that are nearing completion, EPA's shift in focus is expected to result in many fewer millions of pounds of pollution reduced overall. In FY 2016, EPA reached a record Resource Conservation and Recovery Act (RCRA) enforcement settlement with Mosaic LLC addressing violations at its phosphate chemical facilities in two states for mismanagement of hazardous wastes. The settlement set a RCRA record for the quantity of hazardous waste reduced, treated, or eliminated through a concluded enforcement action.

Additional Information: Prior to FY 2016, this measure only included hazardous waste. Beginning in FY 2016, this measure reports (separately) both hazardous and non-hazardous waste subtotals addressed and remediated through EPA enforcement actions. Non-hazardous waste subtotals were previously included in PM 404.

(PM 417) Millions of cubic yards of contaminated soil and groundwater media EPA has obtained commitments to clean up as a result of concluded CERCLA and RCRA corrective action enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		300	275	225	200	200	200	Million Cubic Yards
Actual		400	750	900	70	190		

Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.

Additional Information: 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. The results for this measure are usually driven by a small number of very large cases, which can cause a significant fluctuation in results from year to year depending on the types of cases concluded in any given year.

(5) Support Ensuring the Safety of Chemicals and Preventing Pollution

(PM 404) Millions of pounds of toxic and pesticide pollutants reduced, treated, or eliminated through concluded enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3.8	3.8	3.0	2.5	2.3	2.3	2.3	Million Pounds
Actual	6.1	1,400	4.6	41	10	13		

Additional Information: Prior to FY 2016, this measure included non-hazardous wastes. Beginning in FY 2016, non-hazardous wastes addressed and remediated through EPA enforcement actions, which have been reported as part of this measure, are reported as part of PM 405. The results for this measure are usually driven by a small number of very large enforcement cases, which yielded the majority of the pounds addressed and can cause significant fluctuations in results from year to year, depending on the types of cases concluded in any given year.

(6) Enhance Strategic Deterrence through Criminal Enforcement

(PM 418) Percentage of criminal cases having the most significant health, environmental, and deterrence impacts.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		43	43	43	45	45	45	Percent
Actual		45	44	48	62	68		

Additional Information: The mission of EPA's Criminal Enforcement Program is to investigate, help prosecute, and thereby deter the most egregious environmental offenders. The criminal program collects data on a variety of case attributes to evaluate the range, complexity, and quality of our national docket. In 2010, the program developed a case selection methodology to ensure the identification, investigation, and prosecution of cases with significant environmental, human health, and deterrence impacts. The data elements used in this tier methodology include information about the human health and environmental impacts, the nature of the pollutant and the release, and the profile and compliance history of the subject(s). Since instituting the tiering system, the percentage of "higher tier" cases has steadily risen, while total open criminal investigations have dropped significantly – from 751 cases (FY 2012) to 475 cases (FY 2016).

(PM 419) Percentage of criminal cases with individual defendants.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		75	75	75	75	75	75	Percent
Actual		70	80	87	83	85		

Additional Information: During the early years of EPA's criminal program, organizational defendants made up approximately 70% of the total defendants charged and individual defendants made up the remaining 30%. By FY 2016, these figures had greatly changed: 85% of cases had an individual charged and 15% were cases where only an organizational defendant(s) was charged.

(PM 420) Percentage of criminal cases with charges filed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		40	40	40	45	45	45	Percent
Actual		44	38	39	38	37		

Explanation of Results: EPA's Criminal Enforcement Program has emphasized focusing on more significant cases, which by nature are more complex, lengthy investigations. In the past four years, results for PM 420 have ranged from 37 to 39 percent. During that same period, three factors contributed to significant changes in the open case docket: (1) The number of case-carrying agents declined resulting in fewer cases being opened each year; (2) With the implementation of PM 418 (the case tiering measure), EPA has increased the quality of remaining open cases (going from 44% to 68% in that same period); (3) As a result, the national docket went from over 700 open cases to 475. Due to the increased quality and number of open cases, EPA may be in a better position to meet the target for this measure going forward.

(PM 421) Percentage of conviction rate for criminal defendants.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		85	85	85	85	85	85	Percent
Actual		95	94	95	92	94		

	Additional Information: While case outcomes fluctuate based on their specific characteristics, as well as the prosecutorial and sentencing decisions made by the U.S. Department of Justice and the federal courts, EPA's Criminal Enforcement Program has maintained a historically high conviction rate for defendants charged with environmental crimes.

Performance: Research

(The shaded boxes indicate that actual results are not yet available, or that a measure has been discontinued.)

NPM: Office of Research and Development

Performance Measures and Data

(PM AC1) Percentage of planned research products completed on time by Air, Climate, and Energy research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	92	87	87	100		

Explanation of Results: In FY 2016, EPA's Air, Climate and Energy (ACE) research program completed 100% of its high-priority research products as planned. Included among these products is the final publication of the Multi-Ethnic Study of Atherosclerosis (MESA) Air Pollution Study. The research supports the investigation of health effects of air pollution under the Clean Air Act, which was funded through a 10-year STAR grant. The results are significant from both clinical practice and policy perspectives, emphasizing long-term prevention of exposure to air pollution as a strategy to mitigate or delay the onset of cardiovascular disease. This product, as well as other ACE products, provides key data and tools needed by individuals, communities, and governmental agencies to prevent and reduce emissions of pollutants, assess effects associated with pollutants, and make informed decisions to protect public health.

Additional Information: A research product is "a deliverable that results from a specific research project or task. Research products may require translation or synthesis before integration into an output ready for partner use." This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM AC2) Percentage of planned research outputs delivered to clients for use in taking action on climate change or improving air quality.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		77	83	92	74	85		

Performance Measures and Data

Explanation of Results: In FY 2016, EPA's Air, Climate and Energy (ACE) research program completed 85% of its research outputs. The two unmet outputs, which will be completed in FY 2017, are 1) a Health Effects Institute (HEI) report, Multicenter Ozone Study in Elderly Subjects (MOSES), and 2) a final project presentation on Exploring New Air Pollution Health Effects Links in Existing Datasets. An overview of the HEI report was presented at their annual conference in May, but its final release was delayed until FY 2017 due to the HEI committee decision to delay the report to adequately address extensive comments that arose during the peer review stage. The delay on the second output was due to challenges in staffing the project, as the lead Project Officer was pulled into several other activities related to Indoor Air. Among the ACE outputs that were completed as planned in FY 2016 is the Village Green II deployment of 7 new air monitoring stations located nationally and internationally. The stations are designed and engineered to incorporate sensor technology into park bench structures, which do not require infrastructure support. This output, as well as other ACE outputs, advances air pollution measurement technology to provide quality-assured data to the public in a real-time, transparent, and accessible way. This project further supports EPA's mission of protecting human health and the environment by furthering public outreach, supplementing the regulatory monitoring network to explore local-scale pollution trends, and increasing data available for research purposes.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM CS1) Percentage of planned research products completed on time by the Chemical Safety for Sustainability research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Chemical Safety for Sustainability (CSS) research program completed 100% of its high-priority research products as planned. Included in these products were upgrades to thyroid data in the ToxCast database, including the addition of 774 chemicals that were not previously tested in the thyroid (AUR-TPO) assay. This additional data now allows for a total of 2,000 chemicals to be used in prioritization in Endocrine Screening testing. Increasing the number of chemicals that can be prioritized for testing is an essential part of understanding high-priority chemicals in the universe of 10,000+ chemicals relevant to the Endocrine Disruptor Screening program. In addition, CSS produced a series of journal articles that refine and calibrate current testing methods to ensure the program's data is of high quality. These and other CSS products provide toxicological data and tools needed by individuals, communities, and governmental agencies to prevent and reduce chemical exposure, assess effects associated with pollutants, and make informed decisions to protect public health.

Additional Information: A research product is "a deliverable that results from a specific research project or task. Research products may require translation or synthesis before integration into an output ready for partner use." This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products are needed to be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM CS2) Percentage of planned research outputs delivered to clients and partners to improve their capability to advance the environmentally sustainable development, use, and assessment of chemicals.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		50	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Chemical Safety for Sustainability (CSS) research program completed 100% of its research outputs as planned. The outputs included an evaluation framework for high-throughput toxicity testing schemes to inform specific agency chemical evaluation objectives. The collaborative development of this framework will help EPA lead the larger discussion of innovations in evaluation/validation schemes for lab research methods, data analysis, and in extrapolating data use across research methods (e.g., in vitro to in vivo). CSS also developed tools that make it easier for EPA program offices and regional offices to incorporate Adverse Outcome Pathway (AOP) concepts into their decision-making processes. These and other CSS research outputs empower individuals, communities, and governmental agencies to better evaluate potential risks from chemical exposure and to make more informed, more timely decisions about chemicals that impact public health and the environment.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM HC1) Percentage of planned research products completed on time by the Sustainable and Healthy Communities research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	83	81	100	100		

Explanation of Results: In FY 2016, EPA's Sustainable and Healthy Communities (SHC) research program completed 100% of its high-priority research products as planned. Included among these products were an updated EnviroAtlas and a published report on community vulnerability to wildfires. The annual update of the EnviroAtlas included features such as climate change analysis tools and a toolbox that enhances users' ability to customize their analysis with geo-specific data. The Wildfire Community Vulnerability Index Report provides a map of vulnerability across the U.S. that identifies regions that not only have a high risk of fire, but also a high percentage of susceptible populations. This report aims to deliver information that can facilitate targeted health outreach programs in high-risk communities. These and other SHC products provide key data and tools needed by individuals, communities, and governmental agencies to set goals, guide strategic plans, inform decisions, and measure progress toward their community objectives.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM HC2) Percentage of planned research outputs delivered to clients, partners, and stakeholders for use in pursuing their sustainability goals.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		50	68	100	50	92		

Explanation of Results: In FY 2016, EPA's Sustainable and Healthy Communities (SHC) research program completed 92% of its research outputs as planned. The development of a systems-level approach to understanding children's environmental exposure, health and environmental diseases in the natural and built environment was delayed as the scope of the output was expanded in FY 2016 to feature a more comprehensive extramural-intramural integration. An FY 2016 output provides methods to characterize and remediate contaminated ground water, vapor, and sediment sites to improve community public health. Another output provides communication strategies for educating risk assessors, decision makers, and the public on reducing childhood diseases and promoting healthy and sustainable community settings. These and other SHC outputs enable ORD and its partners to support EPA's mission to protect human health and the environment. This output, as well as other SHC outputs, provides tools and methods that help protect public health at a community level, communicate community environmental risks, and protect the environment.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM HS1) Percentage of planned research products completed on time by the Homeland Security research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Homeland Security Research Program (HSRP) completed 100% of its high-priority research products as planned. Included among these products is the assessment and evaluation report, Evaluation of Waste Sampling and Decontamination Procedures – Part II. The study determined waste decontamination conditions that would achieve effective or highly effective decontamination of all material types during a response. This product, as well as other HSRP products, supports EPA's mission by providing the data and tools necessary to prepare our communities for the threats of disasters including biological, chemical and radiological attacks.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM HS2) Percentage of planned research outputs delivered to clients and partners to improve their capabilities to respond to contamination resulting from homeland security events and related disasters.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		78	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Homeland Security Research Program (HSRP) completed 100% of its research outputs as planned. Included among these outputs are surface decontamination efficacy studies for chemical warfare blister agents. Blister agents are contaminants of concern due to their use in terrorist activities and their ability to stay on surfaces for a prolonged amount of time. These studies investigate the impact of different decontamination products and application procedures, providing decision-makers with practical information on surface decontamination options during a blister agent response. These and other HSRP outputs continue to support EPA's ability to respond to potential attacks on our water systems and other potential impacts to human health.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM RA1) Percentage of planned research products completed on time by the Human Health Risk Assessment research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	88	80	45	68		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program completed 68% of its high priority research products as planned. The HHRA program was unable to meet 100% of its goal because of a number of a factors, particularly related to the Integrated Risk Information System (IRIS) program, including challenges in maintaining specialized expertise and delays due to development and implementation of new systematic review protocols. Key assessment products completed for IRIS included 3 external review draft IRIS assessments released for public comment (ethyl tert-butyl ether (ETBE), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), tert-butanol (TBA)). Several Integrated Science Assessment (ISA) key products were completed as planned including the first draft ISA for Oxides of Sulfur – Health Criteria, the ISA chapter in the Draft Integrated Review Plan (IRP) to support the secondary National Ambient Air Quality Standards (NAAQS) review for oxides of nitrogen and sulfur, and the ISA chapter in the Draft IRP to support the primary and secondary NAAQS review for particulate matter (PM). Among other HHRA products completed as planned in FY 2016 was the Exposure Resource for Scenarios Tool (ExpoFIRST) which expands capabilities of regional, state, and local scientists in conducting site-specific health assessments by allowing users to define and explore an unlimited number of potential exposure scenarios related to a chemical of concern. Another key product was the release of a new graphic user interface for Categorical Regression (Cat Reg) software to meet the dose-response needs of HHRA projects as well as other national programs. The HHRA program provides key assessments and tools needed by individuals, communities, and governmental agencies to improve risk analyses, better inform regulatory decisions, and protect human health and the environment.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM RA2) Percentage of planned research outputs delivered to clients and partners for use in informing human health decisions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		38	100	67	60	67		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program completed 67% of its research outputs as planned. Two of the three planned outputs were met. Completed output included release of the final ISA for Oxides of Nitrogen – Health Criteria to support the primary National Ambient Air Quality Standard (NAAQS) for Nitrogen Dioxide (NO2). The ISA is integral support to the NAAQS program which ensures a clean and healthy environment for the public under the Clean Air Act. HHRA also completed 12 Provisional Peer-Reviewed Toxicity (PPRTV) assessments this year, which are used by EPA's Superfund program and regional decision makers when making site-specific cleanup decisions. The only unmet output was completion of 3 final IRIS assessments. Two IRIS assessments were posted as final in FY 2016: Trimethylbenzenes (TMBs) and Ammonia (Noncancer Inhalation). A third IRIS assessment, for benzo[a]pyrene, was delayed until FY 2017 because the Science Advisory Board peer review report was not received until April 2016 (18-month review).

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM RA6) Number of regulatory decisions in which decision-makers used HHRA peer-reviewed assessments (IRIS, PPRTVs, exposure assessments and other assessments)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			20	20	20	20	20	Number
Actual			140	100	100	100		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program significantly exceeded its goal for this measure. HHRA peer-reviewed assessments are used by EPA program and regional offices to inform critical decisions to protect human health. For example, Provisional Peer-Reviewed Toxicity (PPRTV) assessments are used by EPA's Superfund program and regional decision makers when making site-specific cleanup decisions. These assessments advance science and technology to help improve the health and quality of life in communities affected by hazardous waste sites and improve industry environmental practices.

Additional Information: The measure calculates the number of agency regulatory decisions for which clients use HHRA peer-reviewed health assessments. The measure is calculated by reviewing regulatory decisions and Records of Decision (ROD) made by EPA, determining how many quantitative health assessment values were used in these EPA program decisions, and what percentage of these values had been developed by the HHRA Program. This measure was piloted in FY 2013 and FY 2014 and was based on available information for FY 2010 that is unlikely to be reproducible. The feasibility of reliably reporting this measure is contingent upon timely completion of the overhaul of the agency ROD database. This restructured database will not be available for analysis until approximately 2 years after decisions are recorded and will start with FY 2011 RODs. We will evaluate the feasibility of this measure over 3 years with FY 2012 & 2013 data being reported in FY 2015 & FY 2016, respectively.

(PM RA7) Annual milestone progress score for completing draft IRIS health assessments.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		50	50	40	40	40	40	Score
Actual		8	17	30	7	4		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program achieved a score of 4 in drafting Integrated Risk Information System (IRIS) assessments. Challenges in maintaining specialized expertise affected the ability to create the assessment teams required prior to developing initial scoping and preliminary packages. Later development steps (e.g., assessment components such as systematic review of complex scientific publications) were affected similarly as well as by competing priorities. The scoring method used for this measure was developed many years ago and does not reflect significant IRIS programmatic changes. Though the target was not met, HHRA did complete public comment/external review drafts of multiple IRIS health assessments that are critical to EPA's regulatory decisions (e.g., RDX, ETBE, and tert-butanol). IRIS assessments ultimately help characterize chemical pollutants' potential exposure and risk for specific communities. These assessments provide key data and tools needed by individuals, communities, and governmental agencies to improve risk analyses, better inform regulatory decisions, and protect human health and the environment.

Additional Information: At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that includes such factors as client interest, complexity of science, and level of effort required. Points are scored by multiplying the weight of each assessment by the number of milestones completed in the assessment process. The program targets represent a steady and timely completion of draft assessments throughout each fiscal year. Near-term targets are based on the large volume of ongoing assessments that have not been released in draft due to the change in the process for external review. This measure will be assessed as a rolling average with potential annual excess rolled over to the next target year so as to provide incentives for completion of more milestones. In 2011, the National Research Council (NRC) made several recommendations to EPA for improving the development of IRIS assessments. EPA has made progress in implementing these recommendations; accordingly, the NRC 2014 report commended EPA's efforts to modernize IRIS. To increase its transparency, accessibility, and efficiency, EPA is using a new document structure for draft assessments, including an Executive Summary presenting major conclusions, a description of methods used to develop the assessment, distinct sections on Hazard Identification and Dose-Response Analysis, and more tables and figures to clearly present data. To better support policy and regulatory decisions for EPA's programs and regions, as well as state agencies, IRIS is reconfirming their priority chemicals and product needs, and aligning those with appropriate allocation of resources. In addition to Superfund, water, air, and children's health drivers, IRIS has sharpened its focus on the new TSCA law, and has been providing the needed scientific support to meet its expedited timelines.

(PM RA8) Annual progress score for finalizing IRIS health assessments.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		20	20	15	15	15	15	Score
Actual		17	8	0	5	5		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program achieved a score of 5 in finalizing Integrated Risk Information System (IRIS) assessments. Trimethylbenzenes (TMBs) and Ammonia (Noncancer Inhalation) were both posted as final assessments in FY 2016. The IRIS TMBs assessment addresses potential noncancer and cancer human health effects from long-term exposure to three TMB isomers (1,2,4-TMB, 1,3,5-TMB, and 1,2,3-TMB), and is the first IRIS assessment for this chemical. The IRIS assessment for ammonia addresses the potential noncancer human health effects from long-term inhalation exposure to ammonia, and updates the toxicological information on ammonia posted to the IRIS database in 1991. Both assessments implement many of the recommendations provided by the National Academy of Sciences and feature a new streamlined document structure that is more transparent with respect to the methods used and better articulates how decisions were made. Now final, these IRIS assessments can be used by EPA's program and regional offices to inform decisions to protect human health. Additional modeling issues arose for ethylene oxide (EtO) that delayed it until FY 2017. The benzo(a)pyrene B(a)P assessment was delayed until FY 2017 because SAB peer review report was not received until April 2016 (an 18-month review).

Additional Information: This measure tracks the program's ability to make progress in finalizing and releasing IRIS assessments. The annual score, tracked cumulatively throughout the year, is based on the relative weighting of each chemical. Chemicals are weighted using a 3-tier system that includes client interest, complexity of science, and level of effort required. Points are scored by multiplying the weight of each assessment by the number of milestones completed in the assessment process. The program targets represent a steady and timely completion of final assessments throughout each fiscal year. Near-term targets are based on the large volume of ongoing assessments that have not been finalized due to the change in the process for external review and completion. This measure will be assessed as rolling average. In 2011, the National Research Council (NRC) made several recommendations to EPA for improving the development of IRIS assessments. EPA has made progress in implementing these recommendations; accordingly, the NRC 2014 report commended EPA's efforts to modernize IRIS. To increase its transparency, accessibility, and efficiency, EPA is using a new document structure for draft assessments, including an Executive Summary presenting major conclusions, a description of methods used to develop the assessment, distinct sections on Hazard Identification and Dose-Response Analysis, and more tables and figures to clearly present data. To better support policy and regulatory decisions for EPA's programs and regions, as well as state agencies, IRIS is reconfirming their priority chemicals and product needs, and aligning those with appropriate allocation of resources. In addition to Superfund, water, air, and children's health drivers, IRIS has sharpened its focus on the new TSCA law, and has been providing the needed scientific support to meet its expedited timelines.

(PM SW1) Percentage of planned research products completed on time by the Safe and Sustainable Water Resources research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		86	70	90	100	100		

Explanation of Results: In FY 2016, EPA's Safe and Sustainable Water Resources (SSWR) research program completed 100% of its planned high priority products. Among these products, under research on Harmful Algal Blooms, SSWR developed and released the Water Quality Assessment Tool (WQAT) in conjunction with NASA Stennis Space Center. WQAT is a software tool that facilitates and simplifies the extraction and analysis of satellite data. Satellite data are important because water quality management in most aquatic ecosystems is hindered by a lack of data. WQAT's users are the Office of Water, Regions, states, tribes, including drinking water treatment facilities, state health departments, recreational water managers, and state water quality managers. WQAT, as well as other SSWR products, provide the data and tools needed by individuals, communities, and governmental agencies to promote water conservation, safeguard our water resources from ongoing threats, and protect public health.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products are needed to be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM SW2) Percentage of planned research outputs delivered to clients and partners to improve the Agency's capability to ensure clean and adequate supplies of water that support human well-being and resilient aquatic ecosystems.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		50	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Safe and Sustainable Water Resources (SSWR) research program completed 100% of its planned outputs. The Green Infrastructure Models and Tools toolkit is a webpage of five EPA green infrastructure (GI) models and tools, along with communication material, that can provide stakeholders with relevant and timely information so they can make sound decisions regarding options for implementation of GI practices. The purpose of the toolkit is to provide decision makers with quick and relevant information about available models and tools for use in their communities. The toolkit can be used as a teaching tool and as a reference resource by planners and developers when making GI implementation decisions. The toolkit can be used for low impact development design competitions, and it can be used by EPA Regions to train their staff, and for outreach to states. The GI models, as well as other SSWR research, provides the science and innovative technologies that the agency and the nation need to maintain drinking water resources and systems, as well as to protect the chemical, physical and biological integrity of the nation's waters.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

Performance: Enabling and Support Programs

(The shaded boxes indicate that actual results are not yet available, or that a measure has been discontinued.)

NPM: Office of Administration and Resources Management

Performance Measures and Data

(PM 009) No reduction in percentage of certified acquisition staff (1102).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		335 / 80	323 / 80	85	85	85	85	Number/ Percent
Actual		323/85	285 / 85	93	95	93		

Explanation of Results: As of October 1, 2016, there were 260 acquisition (1102) staff on board, of which 241 (93%) were certified. Certification ensures that acquisition staff are properly trained and qualified.

(PM 010) Reduction in Greenhouse Gas (GHG) Scopes 1 & 2 emissions below 2008 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.4	6.4	12.2	16.3	16.3	20.1	23.0	Percent
Actual	59	54.1	57.4	59.5	63	Data Avail 2017		

Additional Information: See EPA's FY 2016 Strategic Sustainability Performance Plan page 4 at https://www.epa.gov/sites/production/files/2016-09/documents/epa_2016_strategic_sustainability_performance_plan.pdf.

(PM 098) Reduction in energy consumption below 2003 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	18	21	24	27	27	32.5	35	Percent
Actual	18.1	23.7	25.6	28.9	32.7	Data Avail 2017		

Additional Information: See EPA's FY 2016 Strategic Sustainability Performance Plan page 4 at https://www.epa.gov/sites/production/files/2016-09/documents/epa_2016_strategic_sustainability_performance_plan.pdf.

NPM: OFFICE OF ENVIRONMENTAL INFORMATION

Performance Measures and Data

(PM 052) Number of major EPA environmental systems that use the CDX electronic requirements enabling faster receipt, processing, and quality checking of data.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	60	67	75	80	77	80	90	Systems
Actual	64	68	73	89	107	125		

Additional Information: The Central Data Exchange (CDX) program began in FY 2001 to enable states, tribes and others to send environmental data to EPA through a centralized electronic process. The CDX program estimates its results as the net of new systems using CDX services (increase) and retirement of older systems that are being phased out (decrease). As a result, these results may increase or decrease in subsequent years. The unit of measure "system" is defined as the number of data flows/exchanges that occur through CDX by EPA program offices, states and tribes. There are 14 Vehicle and Engine Certification and Compliance (VERIFY) data flows/exchanges that occur in CDX. Each serves a different need and is counted individually. Because CDX is used for these 14 unique needs, separate systems have not been developed to fulfill this need; rather, the one CDX solution serves them all.

(PM 053) States, tribes and territories will be able to exchange data with CDX through nodes in real time, using standards and automated data-quality checking.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65	80	95	98	103	140	140	Users
Actual	72	92	97	102	104	140		

Additional Information: Users are defined for this measure as the total number of physical and virtual nodes in production and test.

(PM 999) Total number of active unique users from states, tribes, laboratories, regulated facilities and other entities that electronically report environmental data to EPA through CDX.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	Baseline Year	58,000	70,000	75,000	84,000	90,000	100,000	Users
Actual	56,200	65,238	79,818	96,000	85,894	116,636		

Additional Information: To calculate unique users of the CDX system, CDX takes all users whose accounts have been active in the last two years and eliminates duplicate registrations under the same email address. Because many EPA regulations require periodic reporting, i.e., once every two, three or five years, a two-year span was utilized to capture the majority of users without overstating their “active” status.

NPM: OFFICE OF THE INSPECTOR GENERAL

Performance Measures and Data

(PM 35A) Environmental and business actions taken for improved performance or risk reduction.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	334	334	307	248	268	274	274	Actions
Actual	315	216	215	324	296	285		

Additional Information: This measure captures implemented corrective actions taken by the agency based on Office of the Inspector General (OIG) recommendations to improve EPA programs and/or processes. Results are typically from prior years and may fluctuate depending on the agency's ability to complete agreed-upon corrective actions. The target for this measure is developed by taking the actual performance for two or three fiscal years and adjusted to reflect any significant changes in priorities.

(PM 35B) Environmental and business recommendations or risks identified for corrective action.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	903	903	786	687	967	1,094	1,094	Recommendations
Actual	2,011	1,242	1,003	944	1,110	1,127		

Additional Information: This measure captures the number of Office of the Inspector General (OIG) outputs (recommendations for improvement, outreach activities to plan and promote OIG work, congressional testimonies delivered, best practices identified, and risks identified). One key activity during an OIG audit/evaluation is identifying risks to EPA operations and programs. Risk identification is based on federal standards for internal control. Internal control is a process for assuring achievement of an organization's objectives in operational effectiveness and efficiency, reliable reporting, and compliance with laws, regulations and policies. Ultimately effective internal controls assure that operations run efficiently and effectively. The target reflects the average of actual performance for two or three fiscal years, adjusted to reflect any significant changes in priorities.

(PM 35C) Return on the annual dollar investment, as a percentage of the OIG budget, from audits and investigations.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	120	110	125	132	220	220	220	Percent
Actual	151	743	248	734	1,656	2,098		

Explanation of Results: A significant portion ($886 million) of FY 2016 return on investment came from non-EPA unliquidated funds (other federal funds) identified by EPA-OIG audit work.

Additional Information: Results under this measure identify the potential return on investment and do not include actual recoveries. The Office of the Inspector General's (OIG's) role is to question costs and identify cost efficiencies and funds put to better use (recommended efficiencies). The target reflects the average of actual performance for two or three fiscal years, adjusted to reflect any significant changes in priorities. In FY 2012 and FY 2014 the OIG issued a single report with usually high recommended efficiencies (FY 2012-$372M; FY 2014-$230M). These were excluded from the average calculations given that reports with massive Return on Investment (ROI) do not materialize every year.

	Performance Measures and Data

(PM 35D) Criminal, civil, administrative, and fraud prevention actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	80	85	90	125	175	145	145	Actions
Actual	160	152	256	213	304	181		

Additional Information: This measure captures criminal, civil, and administrative actions as a result of Office of the Inspector General (OIG) investigations on fraud, waste and abuse. To a large extent, results are influenced by factors outside the control of OIG (judges, juries, etc.).

Cross-Agency Strategies

The table below summarizes progress that the Environmental Protection Agency has achieved under each of the four cross-agency strategies established in the *FY 2014-2018 EPA Strategic Plan.*

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 made steady progress promoting sustainability, working across the agency and with federal and non-federal partners to continue education and engagement.
In FY 2016, EPA:

- Hosted a workshop under the G7 Alliance on Resource Efficiency which brought public and private stakeholders together to share best practices and identify opportunities to use life cycle thinking to achieve sustainable materials management across supply chains.
- Hosted the first Food Recovery Summit to reduce food loss and waste, and held a Making a Sustainable Difference in Communities Event for sustainability and communities workgroups to meet face-to-face, collaborate, and break down silos.
- Prepared and released 32 videos, including 15 external videos, which garnered more than 37,000 views.
- Partnered with the Department of State's Greening Council to focus on innovative water technologies to advance greening efforts at 18,000 embassies and buildings worldwide.

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's Communities Team made progress in four main areas.

In the area of target communities:

- EPA assisted 50 focus communities with implementing work plans by leveraging resources across the agency and with external partners.
- EPA allocated $1.3 million to 22 communities in 18 states to help protect and restore urban waters and to support community revitalization and other local priorities.
- EPA also awarded more than $7 million to 85 school bus fleets in 35 states to replace or retrofit 400 older diesel school buses and reduce pollutants linked to asthma and lung damage.

In the area of empowering communities:

- The agency released an updated EJSCREEN tool to identify potential hazards in environmental justice communities.

Through the Community Resources Network:

- EPA conducted monthly webinars and other outreach activities to support its agency-wide community of practice, drawing more than 150 participants.
- The agency also compiled best practices for coordinating and leveraging community-based work for implementation in FY 2017.

Finally, EPA continued to employ a wide range of communication tools to tell communities' stories. Challenges included embedding communities work into the existing institutional structures within the agency.

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.

EPA continued to strengthen its partnerships with states, tribes, local governments, and the global community in FY 2016 to protect the environment and modernize relationships. The Partnerships Team is making progress toward the vision set forth in the *FY 2014-2018 EPA Strategic Plan*.

- EPA, working jointly with states and tribes, initiated projects and portal functionalities designed to ease regulatory burden. The E-Enterprise program is on pace to reduce the regulatory burden by nearly 1 million hours by the end of FY 2016, with over 1 million hours per year savings expected upon full adoption of services (**FY 2016-2017 APG**).
- EPA published a final rule to significantly streamline the process for tribes to obtain authority to develop their own water quality standards, identify impaired waters on their reservations, and establish Total Maximum Daily Loads.
- By providing key support and assisting in drafting implementation guidance, EPA advanced implementation of the Minamata Convention to reduce mercury pollution.
- EPA successfully achieved agreement by the Intergovernmental Negotiating Committee on guidances for controlling air emissions of mercury from coal combustion, cement production, metals production, and waste incineration and for addressing mercury use in artisanal gold mining.
- A total of 316 EPA-Tribal Environmental Plans (ETEPs) are in place nationwide for 62 percent of tribes receiving Indian General Assistance Program grants.

Challenges under this cross-agency strategy included ensuring robust and inclusive discussions among NPMs, Regional Division Directors, states and tribes to consider the most promising potential E-Enterprise projects.

Embracing EPA as a High Performing Organization (HPO) - 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.

In FY 2016, EPA continued to improve as a high performing organization by focusing on developing employees and a supportive work environment and on streamlining business processes.

- To improve support for EPA's first-line supervisors, the agency made improvements in labor and employee relations processes and programs, including establishment of anti-harassment and telework training.
- Additionally, EPA convened a first-line supervisors advisory group, with representatives from all program and regional offices, to engage their expertise in development of management solutions, which in FY 2016 included participation in Technical User Groups to test enhancements to the PeoplePlus system and development of options for a permanent continuing education program for supervisors.
- EPA launched Talent Hub, a SharePoint-based one-stop shop for employee development opportunities.
- The agency continued work to "reduce the footprint," including the release of approximately 141,000 sq. ft. of office space in Potomac Yard, saving approximately $5 million annually in rent costs.
- EPA also established a Lean Action Board and Lean Project Support Team to work on 10 and 41 projects respectively.
- The agency also held Technology User Groups (TUGs) to evaluate EPA's time and attendance, payroll, and contracting systems. EPA is continuing efforts to implement Lotus Notes migration and has completed Lotus Notes inventory analysis, identifying databases for deletion or archiving.
- The agency continued to accrue savings across its procurement program through implementation of its category management/strategic sourcing program. Through FY 2016, EPA has saved approximately $8 million dollars through the restructuring of cross-agency commodities and contracts.

Among the challenges the agency faced in implementing its HPO strategy were delays to the second Senior Executive Service (SES) candidate development program to align timeline with EPA's partner, the U.S. Department of the Interior. Implementation is scheduled to begin in early 2017. In addition, contract issues delayed Lotus Notes Migration.