

Environmental Protection Agency Summary of Performance by Strategic Objective

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.*

Selection from EPA's FY 2017 Annual Performance Plan

FY 2017 Activities

Climate change poses risks to public health, the environment, cultural resources, the economy, and quality of life. Impacts of climate change are already evident and will intensify in the future. The National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA) announced on January 16, 2015, that 2014 was the hottest year on record and data indicates 2015 has met or surpassed that mark. The EPA's strategy to address climate change supports the President's GHG reduction goals and the agency's budget includes \$210.0 million to support regulatory activities and partnership programs to reduce GHG emissions domestically and internationally. In FY 2017, the agency will focus on a number of significant activities including:

- Working with states to implement the Clean Power Plan carbon dioxide (CO₂) emission standards for existing power plants, including technical assistance and funding to support development of state plans.
- Implementing a second phase of heavy-duty vehicle GHG regulations that incorporates a wider range of advanced technologies, including hybrid vehicle drive trains, and also exploring options to reduce emissions from a wide range of nonroad equipment, locomotives, aircraft, and transportation fuels.
- Prioritizing and reviewing low GWP options for use in consumer and industrial use sectors under SNAP, while considering existing listings that may require reassessment based on the advent of new, more environmentally friendly options. Work in FY 2017 will involve continued SNAP listings, rulemakings, and technical support for stakeholders and innovative firms with new alternatives. There also may be activities related to the Montreal Protocol amendment.
- Working with stakeholders to implement the requirements of the EPA's NSPS and National Emission Standards for Hazardous Air Pollutants (NESHAP) to reduce emissions of GHG from the oil and gas industry.
- Supporting reporting and verification in the GHG Reporting Program of emissions across 41 industry sectors and emission sources and approximately 8,000 reporters.
- Leading the Global Methane Initiative (GMI) and more closely aligning the work of GMI with other multilateral efforts, such as the Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants, to facilitate more effective and efficient global methane reduction efforts and deliver clean energy to markets.
- Implementing the ENERGY STAR program and other greenhouse gas reduction partnership programs such as SmartWay Transport across the residential, commercial, industrial, and transportation sectors. The EPA will have up to 20 product specifications underway, as well as a major update to the 1-100 ENERGY STAR scores for commercial buildings.

- Continuing to implement the new Renewable Fuel Standards (RFS2) program and carrying out other actions required by the Energy Policy Act (EPAct) of 2005 and the Energy Independence and Security Act (EISA) of 2007.
- Supporting implementation and compliance with GHG emission standards for light-duty and heavy-duty vehicles and the NHTSA CAFE standards. Under the CAA and the Energy Policy Act, the EPA is responsible for issuing certificates and ensuring compliance with both the GHG and CAFE standards.
- Supporting activities related to the finding that GHG emissions from certain classes of engines used in aircraft contribute to air pollution that causes climate change and endangers public health and welfare. The EPA will develop domestic proposed CO₂ standards for consideration based on the finding. Additionally, working with the Federal Aviation Administration (FAA), the EPA will continue working with the International Civil Aviation Organization (ICAO) on international CO₂ standards for aircraft.

In FY 2017, the EPA will continue to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare for, and adapt to a changing climate. A central element of this effort focuses on supporting climate-resilient investments across the nation. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). In FY 2017, the EPA will ensure that a cumulative number of 120 state, tribal, and community partners have integrated climate change data, models, information, and other decision-support tools developed by the EPA for climate change adaptation into their planning processes; and, that 100 state, tribal, and community partners 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). The goal of these efforts is to ensure continued protection of human health and the environment even as the climate changes, and to empower states, tribes, and local communities to increase their resilience and prepare for the impacts of climate change.

Major FY 2017 Changes

Address Climate Change

The FY 2017 budget prioritizes climate action and reflects our commitment to implementing the President's Climate Action Plan. The budget request includes resources for critical work across the EPA for the Clean Power Plan (CPP), including a \$25M increase for grants to states for CPP work and planning. The broad-based plan will cut greenhouse gas pollution that contributes to climate change and affects public health, and support activities to facilitate necessary adaptation to the impacts of climate change.

The EPA's work supports key elements of the Climate Action Plan including:

- Cutting carbon (CO₂) pollution from new and existing power plants
- Cutting carbon pollution (methane) from the oil and natural gas, and landfills source sectors
- Establishing CO₂ emission standards and supporting increased fuel economy standards for heavy-duty vehicles
- Cutting energy waste in homes, businesses, and factories
- Reducing HFC use and emissions
- Preparing the country to address the impacts of climate change

- Leading international efforts to address climate change, including supporting efforts to control HFCs under the Montreal Protocol
- Integrating climate adaptation planning into programs, policies, rules, and operations.

Power plants are the largest source of carbon dioxide emissions in the United States, making up roughly one-third of all domestic GHG emissions. On August 3, 2015, the EPA finalized the Clean Power Plan, which will establish carbon pollution standards for existing power plants. The Clean Power Plan provides states with significant flexibility to tailor their carbon pollution reduction plans to their own unique circumstances using a variety of approaches, such as energy efficiency and renewable energy measures, as well as multi-state plans that build on cooperation and innovation. As a result, state plan development, review and approval will be complex. In FY 2017, the agency will focus resources to support states as they begin to implement or, in some cases, finalize their plans. Resources will be focused both in the regional offices to provide tailored, state-specific assistance and in headquarters where technical experts will develop guidance and other resources that are sector-wide in scope and address questions that affect overall implementation of the plan. In FY 2017, implementation of updates to the oil and natural gas rules will reduce GHG emissions—primarily methane—from new and modified processes and equipment in the oil and gas industry, and achieve additional emission reductions of volatile organic compound (VOC) pollution from these sources.

In FY 2016, consistent with the President’s Climate Action Plan, the EPA plans to finalize a second phase of GHG standards for post Model Year 2018 medium- and heavy-duty vehicles, offering further opportunities to reduce emissions, decrease the nation’s oil use, and benefit consumers and businesses by reducing the cost of transporting goods while spurring job growth and innovation in the clean energy technology sector. The agency also committed to perform, in coordination with NHTSA and the California Air Resources Board (CARB), a Midterm Evaluation of the Model Year 2022-2025 light-duty GHG standards. To support the Midterm Evaluation, in FY 2017 the agency is performing a comprehensive feasibility evaluation of advanced technologies. This evaluation will support the agency strategy to advance the use of evidence in decision-making.

**Selection from EPA’s FY 2015 Annual Performance Report and Eight-Year Array
of Performance**

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 towards strategic objective:

EPA continues to address the challenges of a changing climate and is on track to meet its strategic measures supporting this objective. The President’s June 2013 Climate Action Plan (CAP) outlines specific actions the U.S. will undertake to cut carbon pollution, prepare the country for the impacts of climate change, and lead international efforts to address climate change. On August 3, 2015, EPA finalized the Clean Power Plan, which will cut U.S. carbon pollution from the power sector by 870 million tons, or 32 percent below 2005 levels, in 2030. Power plants are the largest drivers of climate change in the United States, accounting for roughly one-third of all carbon pollution emissions, but there were no national limits on carbon pollution until the Clean Power Plan. EPA is also implementing motor vehicle greenhouse gas (GHG) emission standards that, in coordination with the fuel economy standards of the National Highway Transportation Safety Agency (NHTSA), will save American consumers about \$1.7 trillion, decrease the nation’s fuel consumption by approximately 12.5 billion barrels of oil and prevent 6.3 billion metric tons of GHG emissions over the lifetimes of affected vehicles sold through model year 2025. EPA’s partnership efforts are achieving real emission reductions; in 2013, EPA worked with the building, industry, and transportation sectors to avoid emissions of 694.8 million metric tons of CO2 equivalents. Despite this progress, U.S. GHG emissions have increased 6 percent from 1990 to 2013. While EPA and its partners (across industry, government, etc.) are taking action to address climate change, low carbon prices and resource constraints may limit the adoption of energy efficiency practices, investments in renewable energy, and other capital investments to reduce GHG emissions. EPA and its partners are making significant progress integrating climate adaptation planning into programs, policies, rules, and operations. The goal of these efforts is to ensure continued protection of human health and the environment even as the climate changes, and to empower states, tribes, and local communities to increase their resilience and prepare for the impacts of climate change.

Program Area	Performance Measures and Data									
(1) Address Climate Change	<p>Strategic Measure: By 2018, additional programs from across EPA will promote practices to help Americans save energy and conserve resources, leading to expected greenhouse gas emissions reductions of 1,178.5 MMTCO2Eq. from a baseline without adoption of efficient practices. Building Programs 215.5 MMTCO2Eq., Industrial Programs 651.4 MMTCO2Eq., SmartWay Transportation Partnership 100 MMTCO2Eq., Pollution Prevention Programs 71 MMTCO2Eq., Sustainable Materials Management Programs 117.4 MMTCO2Eq., WaterSense Program 23 MMTCO2Eq., Executive Order 13514 GHG Reduction Program 0.21 MMTCO2Eq., This reduction compares to 621.08 MMTCO2Eq. reduced in 2011. Baseline FY 2011: Building Programs 189.0 MMTCO2Eq., Industrial Programs 357.9 MMTCO2Eq., SmartWay Transportation Partnership 27.9 MMTCO2Eq., Pollution Prevention Programs 17 MMTCO2Eq., Sustainable Materials Management Programs 22.1 MMTCO2Eq., WaterSense Program 7 MMTCO2Eq., Executive Order 13514 GHG Reduction Program 0.18 MMTCO2Eq.</p>									
	(PM G02) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector.									
	Target	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	143.0	156.9	168.7	182.6	196.2	188.0	201.1	210.4		

Actual	163.5	189.0	221.9	254.2	Data Avail 4/2016	Data Avail 12/2016			MMTCO2e
<p>Additional Information: The reductions (from a baseline in 2004 of 89.5 million metric tons of carbon dioxide equivalent reduced) are the result of EPA ENERGY STAR®'s partnership, energy efficiency resources, outreach, and recognition across products, homes, buildings, and industrial plants. ENERGY STAR is a highly cost-effective program which helps Americans reduce GHG emissions while saving energy and money. The program is a trusted source for voluntary standards and unbiased information on energy efficient products and practices across the economy. With consumer awareness growing yearly, and now at about 90%, the benefits from ENERGY STAR products and buildings has tripled in the last 10 years.</p>									
<p>(PM G06) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the transportation sector through EPA's SmartWay partnership program.</p>									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15.4	23.7	28.0	33.0	61	70	76	82	MMTCO2e
Actual	17.3	27.9	38.9	51.6	61.7	72.8			
<p>Additional Information: SmartWay's emissions reductions are estimated by comparing the emissions performance of trucks in SmartWay with modeled estimates of national truck emissions. The baseline in 2004 is 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 are gradually penetrating 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. This is reflected in SmartWay's modeling, and is expected to reduce the emissions benefit of the trucking component of SmartWay over time. Trucking is only one component of SmartWay. Activities by SmartWay's rail, barge, and shipper partners also reduce the carbon footprint of goods movement and are not currently captured in these benefit estimates</p>									
<p>(PM G16) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector.</p>									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	304.0	346.2	372.9	421.9	461.8	540.3	676	702.7	MMTCO2e
Actual	362.8	386.4	378.1	637.9	Data Avail 4/2016	Data Avail 12/2016			
<p>Additional Information: The baseline in 2004 is 201 million metric tons of carbon dioxide equivalent reductions from ENERGY STAR for Industry, Clean Energy Programs, Non-CO2 Partnership Programs, Significant New Alternatives Policy (SNAP), and the Landfill Rule. Through EPA's voluntary and regulatory programs, the industrial sector is making cost-beneficial reductions in GHG emissions. 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 carbon dioxide (CO2) and methane (CH4). In addition, GHGs are often used in products or by end-consumers. These gases include industrial sources of man-made compounds such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). GHG emissions reductions benefits from OAR's industrial sector programs continue to grow, exceeding programmatic targets each year. OAR only reports benefits from those programs that are still active in the reporting year.</p>									
<p>(PM G18) Percentage of Annual Greenhouse Gas Emission Reports verified by EPA before publication.</p>									

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				93	95	95	95	95	Percent of Reports Verified
Actual				96	98	Data Avail 4/2016			
<p>Additional Information: The Greenhouse Gas Reporting Program, established in 2009, has 41 sectors that include approximately 10,000 reporters. Both facilities and suppliers are required to report their data annually by the reporting deadline of March 31st. After submission of the data, the Agency conducts a verification review that lasts approximately 150 days. The data verification process 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 the EPA to review reports and identify potential data quality issues, 75 days for reporters to resolve these issues, and 15 days for the EPA to review responses or resubmitted reports. EPA plans to publish all of the data through its online, interactive publication tool (www.epa.gov/ghgreporting) each year by October 1st.</p>									
<p>Strategic Measure: By 2018, an additional 240 state, tribal, and community partners will integrate climate change data, models, information, and other decision support tools developed by EPA for climate change adaptation into their planning processes. (Baseline: 0.)</p>									
<p>(PM AD1) Cumulative number of major scientific models and decision support tools used in implementing environmental management programs that integrate climate change science data.</p>									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			3	4	5	5			Major Models and Tools
Actual			3	4	7	8			
<p>Additional Information: To ensure EPA's mission, EPA will build resilience to climate change by integrating considerations of climate data into major scientific models and decision support tools. Many of the outcomes EPA is working to attain are sensitive to climate, and every action EPA takes must be resilient to these fluctuations. The FY 2011 baseline is 0 major scientific models/decision support tools.</p>									
<p>(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.</p>									
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							50	120	Number of Partners
Actual									
<p>Additional Information: A key goal of EPA's work on climate adaptation is to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare, and adapt to a changing climate. A central element of this effort focuses on providing the tools, training, technical assistance, data, models, and other information they need to build their adaptive capacity. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). This measure replaces measure AD1. The new measure is focused more on the actual use of EPA models and tools by states, tribes, and local communities. The FY 2015 baseline is zero state, tribal, and community partners.</p>									

Strategic Measure: By 2018, 240 state, tribal, and community partners will incorporate climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements). (Baseline: 5.)

(PM AD3) Cumulative number of major grant, loan, contract, or technical assistance agreement programs that integrate climate science data into climate sensitive projects that have an environmental outcome.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			1	2	3	3			Major Programs
Actual			3	5	7	8			

Additional Information: To ensure EPA's mission, EPA will build resilience to climate change by integrating considerations of climate data into grant, loan, contract, and technical assistance programs. Many of the outcomes EPA is working to attain are sensitive to climate, and every action EPA takes must be resilient to these fluctuations. The FY 2011 baseline is 0 programs

(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 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							50	100	Number of Partners
Actual									

Additional Information: A key goal of EPA's work on climate adaptation is to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare, and adapt to a changing climate. A central element of this effort focuses on supporting climate-resilient investments across the nation. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). This measure replaces measure AD3. The new measure is focused more on the actual integration of adaptation into the implementation of environmental programs by states, tribes, and local communities. The FY 2015 baseline is zero state, tribal, and community partners.

Strategic Measure: By 2018, 6 existing or new EPA-developed training programs will incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings). (Baseline: 0.)

(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 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target							3	4	Number
Actual									

	<p>Additional Information: A key goal of EPA's work on climate adaptation is to build and strengthen the capacity of states, tribes, and local communities to anticipate, prepare, and adapt to a changing climate. A central element of this effort focuses on the provision of training to increase awareness of ways climate change may affect their ability to implement effective programs. This is consistent with directives in Executive Order 13653 ("Preparing the United States for the Impacts of Climate Change"). This measure addresses training programs for climate change adaptation planning, which is not covered in the current set of measures.</p>
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