



U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Evaluation Report

EPA's Plan to Reduce Agency Greenhouse Gas Emissions Is on Track to Meet Executive Order 13514 Requirements

Report No. 11-P-0209

April 12, 2011



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Abbreviations

EO	Executive Order
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
OIG	Office of Inspector General

Cover photos: Three types of GHG reduction projects, from left: solar photovoltaic panels, a plug-in hybrid electric vehicle, and a geothermal plant.
(U.S. Department of Energy photos)

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At a Glance

Catalyst for Improving the Environment

Why We Did This Review

We performed this review to evaluate the U.S. Environmental Protection Agency's (EPA's) progress toward meeting the requirements of Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance." Specifically, we sought to determine EPA's status in planning and measuring reductions of its greenhouse gas (GHG) emissions at Agency facilities.

Background

On October 5, 2009, President Obama signed Executive Order 13514 to establish an integrated strategy toward sustainability in the federal government. The executive order introduced new GHG emissions management requirements. It also prioritized the reduction of GHG emissions for all federal agencies and required them to measure, report, and reduce their GHG emissions.

For further information, contact our Office of Congressional, Public Affairs and Management at (202) 566-2391.

The full report is at:
www.epa.gov/oig/reports/2011/20110412-11-P-0209.pdf

EPA's Plan to Reduce Agency Greenhouse Gas Emissions Is on Track to Meet Executive Order 13514 Requirements

What We Found

We found that EPA has completed its plan to reduce GHG emissions as required by Executive Order 13514. However, projected GHG reductions are contingent on the full funding and implementation of the plan's energy efficiency projects.

EPA established a 25 percent GHG emission reduction target by fiscal year 2020. To reach this target, the Agency's primary strategy is to reduce its facility energy intensity by 3 percent annually through fiscal year 2020. EPA's Strategic Sustainability Performance Plan outlines specific projects that the Agency will undertake to reduce GHG emissions. Funding for some of the projects in the plan has not been authorized or appropriated, and delays or deficits in plan funding may adversely impact the Agency's ability to meet its GHG reduction goals.

What We Recommend

We recommend that EPA's annual update of its Strategic Sustainability Performance Plan report describe changes to GHG emission reductions and/or reduction goals based on actual funding and status of projects, and make adjustments to the overall reduction goal as needed.

The Agency found the report to be factually accurate and concurred with the findings and recommendation.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

April 12, 2011

MEMORANDUM

SUBJECT: EPA's Plan to Reduce Agency Greenhouse Gas Emissions
Is on Track to Meet Executive Order 13514 Requirements
Report No. 11-P-0209

FROM: Arthur A Elkins, Jr.
Inspector General

A handwritten signature in black ink, appearing to read "Arthur A. Elkins, Jr.", is written over the typed name and title.

TO: Craig Hooks
Assistant Administrator for Administration and Resources Management

This is our report on EPA's plans to reduce the Agency's greenhouse gas emissions conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

The estimated direct labor and travel costs for this report are \$133,497.

Action Required

In accordance with EPA Manual 2750, you are required to provide a written response to this report within 90 calendar days. You should include a corrective actions plan for agreed-upon actions, including milestone dates. Your response will be posted on the OIG's public website, along with our memorandum commenting on your response. Your response should be provided as an Adobe PDF file that complies with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended. The final response should not contain data that you do not want to be released to the public; if your response contains such data, you should identify the data for redaction or removal. We have no objections to the further release of this report to the public. We will post this report to our website at <http://www.epa.gov/oig>.

If you or your staff have any questions regarding this report, please contact Wade Najjum at 202-566-0832 or najjum.wade@epa.gov, or Jeffrey Harris at 202-566-0831 or harris.jeffrey@epa.gov.

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Purpose

The purpose of this review was to evaluate the U.S. Environmental Protection Agency's (EPA's) progress toward meeting the requirements of Executive Order (EO) 13514, "Federal Leadership in Environmental, Energy, and Economic Performance." Specifically, we sought to determine EPA's status in planning and measuring greenhouse gas (GHG) reductions at Agency facilities.

Background

On October 5, 2009, President Obama signed EO 13514 to establish an integrated strategy toward sustainability in the federal government. EO 13514 enhances requirements from several existing federal statutory and EO requirements related to energy and environment, including EO 13423¹ and the Energy Independence and Security Act of 2007. The EO requires all federal agencies to make improvements in several areas, including GHG emissions.

Gases that trap heat in the atmosphere are often called GHGs. GHGs targeted in EO 13514 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Some GHGs, such as carbon dioxide, occur naturally and are emitted into the atmosphere through natural processes and human activities. Other GHGs are created and emitted solely through human activities. Many, but not all, human-activity sources of GHG emissions are expected to rise in the future. The increase in GHG emissions may be mitigated through the use of newer, cleaner technologies and other measures. Additionally, everyday choices about such things as commuting, housing, electricity use, and recycling can influence the amount of GHGs emitted.

EO 13514 also introduces new GHG emissions management requirements and prioritizes the reduction of GHG emissions for all federal agencies. The EO requires agencies to measure, report, and reduce their GHG emissions. All federal agencies, including EPA, must establish and report a GHG inventory to the Chair of the Council on Environmental Quality and the Director of the Office of Management and Budget. This inventory encompasses Scope 1, 2, and 3 GHG emissions, based on the source of emissions, as shown in table 1.

¹ EO 13423, "Strengthening Federal Environmental, Energy, and Transportation Management," was signed by President Bush on January 24, 2007.

Table 1: Three scopes of GHG emissions

Scope 1	Direct GHG emissions from sources owned or controlled by a federal agency
Scope 2	Indirect GHG emissions resulting from the generation of electricity, heat, or steam purchased by a federal agency
Scope 3	GHG emissions from sources not owned or directly controlled by a federal agency but related to Agency activities, such as vendor supply chains, delivery services, and employee travel and commuting

Source: Review of Council of Environmental Quality Guidance.

Each agency chose a percentage reduction target for agency-wide reductions for Scope 1 and 2 GHG emissions in absolute terms by fiscal year 2020.² On January 29, 2010, President Obama announced a cumulative target (compiled from the individual agency targets) for the federal government to reduce its GHG emissions 28 percent by 2020.

All federal agencies must develop and submit an annual Strategic Sustainability Performance Plan that prioritizes agency actions to achieve the goals of the EO. For EPA, the Assistant Administrator for Administration and Resources Management is the Senior Sustainability Officer for EO 13514. EPA will inform senior managers, including assistant administrators, regional administrators, and laboratory directors, of their responsibilities in implementing the plan.

The U.S. Department of Energy's Federal Energy Management Program is responsible for reporting the actual GHG reduction data for the federal government. EPA is responsible for reporting Scope 1 and 2 emissions on 34 of its facilities across the United States. The first submission of GHG emissions data was due to the Council of Environmental Quality and Office of Management and Budget in January 2011.

Scope and Methodology

We conducted this evaluation in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the evaluation to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based upon our objectives. We performed our evaluation from September 2010 through February 2011.

To complete our review, we met with staff from EPA's Office of Administration and Resources Management, the U.S. Department of Energy, and the U.S. General Services Administration, in Washington, DC. We analyzed EPA planning and implementation documents. We reviewed applicable laws and regulations, as

² Relative to a fiscal year 2008 baseline of the agency's Scope 1 and 2 GHG emissions.

well as guidance documents. Specifically, we reviewed EO 13514, EO 13423, the Energy Independence and Security Act of 2007, the Energy Policy Act of 2005, Office of Management and Budget and Council on Environmental Quality Technical Guidance, EPA Energy Management and Conservation Program Reports, and EPA's Strategic Sustainability Performance Plan. We also reviewed EPA's plan for reporting GHG reduction measurement. We focused our review on Scope 1 and 2 GHG emissions because they represent the majority of GHG emissions.³ Our analysis also included a review of the GHG measurement guidance.

Results of Review

EPA completed its plan to reduce GHG emissions as required by EO 13514. However, projected GHG reductions are contingent on the full funding and implementation of the plan's energy efficiency projects. EPA established a 25 percent GHG emission reduction target for Scope 1 and Scope 2 emissions by fiscal year 2020. To reach this target, the Agency's primary strategy is to reduce its facility energy intensity by 3 percent annually through fiscal year 2020. EPA's Strategic Sustainability Performance Plan outlines specific projects that the Agency will undertake to reduce GHG emissions. Funding for some of the projects in the plan has not been authorized or appropriated, and delays or deficits in plan funding may adversely impact the Agency's ability to meet its GHG reduction goals.

GHG Reduction Planning Milestones Met

We found that EPA completed its plan for GHG emission reductions as required by the EO. On January 4, 2010, the Agency submitted its Scope 1 and 2 emissions reduction targets. The Agency's goal is to reduce its combined Scope 1 and 2 GHG emissions by 25 percent by 2020, from a 2008 established GHG baseline. The Agency completed its Strategic Sustainability Performance Plan as required by the EO within the established timeframe, and the plan was approved by the Council on Environmental Quality. The plan outlines specific projects that EPA will undertake to reduce GHG emissions.

The Office of Administration and Resources Management considered several options to reduce emissions. These options were reviewed in its Energy Management and Conservation Program, and included energy conservation, green power transitioning to offsets, and on-site renewable energy. After review of costs and options, the office chose to focus on energy conservation. The Agency decided to focus efforts and resources on maximizing energy conservation by reducing energy use and other conservation options to achieve the 3 percent reductions annually. Some of EPA's energy conservation strategies include:

³ Scope 1 and 2 emissions represented approximately 68 percent of EPA's 2008 GHG emissions.

- **Mandatory Commissioning:** Since fiscal year 2003, EPA has required mandatory commissioning on all projects that include laboratory mechanical systems. Commissioning is a process to check the proper installation, function, and operation of building systems.
- **Infrastructure Replacement Projects and Mechanical System Upgrades:** EPA is pursuing major mechanical system replacement projects as well as operating efficiency projects at all of its facilities.
- **Energy Assessments and Re-Commissioning:** EPA conducts energy assessments, often at high-energy-intensity and large laboratories, and then conducts re-commissioning at each EPA facility every 4 years as required under Energy Independence and Security Act.

Implementation of GHG Reduction Plan Contingent on Funding

While the Agency has developed a plan to reduce GHG emissions and thereby meet the requirements of the EO, the planned GHG reductions are contingent upon availability of funding. Funding for implementation of EPA's plan to meet the EO requirements generally comes from the EPA's Building and Facilities budget. The Office of Administration and Resources Management estimates a \$20 million shortfall for planned projects for the period FY 2010 through FY 2015. If funding is not received, EPA will have to revise its dates or goals for planned GHG emission reductions.

Section 8 in the EO states that the Strategic Sustainability Performance Plan will be updated annually. This annual update offers the Agency an opportunity to revise planned dates and goals based on actual funding received and project status. Office of Administration and Resources Management staff stated that, based on future funding challenges, planned reductions may need to be moved out to future years; otherwise, adjustments to reduction percentages may be necessary.

Recommendation

We recommend that the Assistant Administrator for Administration and Resources Management:

1. Make adjustments to the GHG emission reductions and/or reduction goals based on actual funding and status of projects, and revise EPA's overall reduction goal if needed during the annual update of the Strategic Sustainability Performance Plan.

Agency Comments and OIG Evaluation

The Agency found the report to be factually accurate and concurred with the findings and recommendation. In the annual update of the Strategic Sustainability Performance Plan report, EPA agreed to describe changes to GHG emission reductions and/or reduction goals based upon actual funding and status of projects, and make adjustments to the overall reduction goal as needed.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status ¹	Action Official	Planned Completion Date	Claimed Amount	Agreed-To Amount
1	4	Make adjustments to the GHG emission reductions and/or reduction goals based on actual funding and status of projects, and revise EPA's overall reduction goal if needed during the annual update of the Strategic Sustainability Performance Plan.	O	Assistant Administrator for Administration and Resources Management			

¹ O = recommendation is open with agreed-to corrective actions pending
 C = recommendation is closed with all agreed-to actions completed
 U = recommendation is undecided with resolution efforts in progress

Agency Response

March 17, 2011

MEMORANDUM

SUBJECT: Response to Draft Report:
EPA's Plans to Reduce Agency Greenhouse Gas Emissions
Is on Track to Meet Executive Order 13514 Requirements
Project No. OPE-FY10-0025

FROM: Craig E. Hooks /S/
Assistant Administrator

TO: Jeffrey Harris
Director for Program Evaluation, Cross-Media Issues
Office of Inspector General

OARM appreciates the opportunity to provide this response to the above report, dated February 25, 2011. We find the report to be factually accurate and concur with the proposed findings and recommendation. In the annual update of the Strategic Sustainability Performance Plan report, EPA will describe changes to greenhouse gas emission reductions and/or reduction goals based upon actual funding and status of projects, and make adjustments to the overall reduction goal as needed.

We thank the OIG team for their thoughtful and comprehensive approach to development of the report. Any additional questions regarding our response should be directed to Renee Page, Director of the Office of Administration, at (202) 564-8400 or page.renee@epa.gov.

cc: Renee Page

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