

2011 FIMS Conference



U.S. DEPARTMENT OF
ENERGY



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Sustainability Performance Office

Leadership in Energy, Environment and Economic Performance



"This Executive Order builds on the momentum of the Recovery Act to help create a clean energy economy and demonstrates the Federal government's commitment, over and above what is already being done, to reducing emissions and saving money."

President Barack Obama signs in the CEQ Executive Order signing in the Oval Office, Oct. 5, 2009. (Official White House Photo by Pete Souza)

Federal Government Background



- Occupies nearly 500,000 buildings
- Operates more than 600,000 vehicles
- Employs more than 1.8 million civilians
- Purchases more than \$500 billion per year in goods and services



DOE Background



2nd largest user of facility energy in the Federal Government

In FY 2010, DOE used, occupied and emitted approximately:

- 30 trillion Btus energy; 3% of Government total**
- 5.2 million MWH electricity; 9% of Government total**
- 7.4 billion gallons of potable water; 4% of Government total**
- 129 million square feet; 4% of Government total**
- 4.0 million MTCO₂e Scope 1 & 2 GHG; 8% of Government total**

E.O. Background



E.O. 13514 builds upon and expands past efforts, including the energy reduction and environmental requirements of E.O. 13423, EPA Act 2005 and EISA to establish:

An integrated sustainability strategy for the Federal government in order to lead by example and achieve a clean energy economy

Agency E.O. Requirements



- **Designate an agency Senior Sustainability Officer (SSO)**
- **Establish reduction targets for Scope 1, 2 and 3 GHG emissions from FY 2008 agency GHG baselines**
- **Develop an agency Strategic Sustainability Performance Plan (SSPP) and update annually**
- **Establish and report an annual comprehensive GHG inventory**
- **Implement guidance on:**
 - **GHG accounting and reporting**
 - **Sustainable locations for Federal facilities**
 - **Sustainable acquisition**

DOE GHG Targets



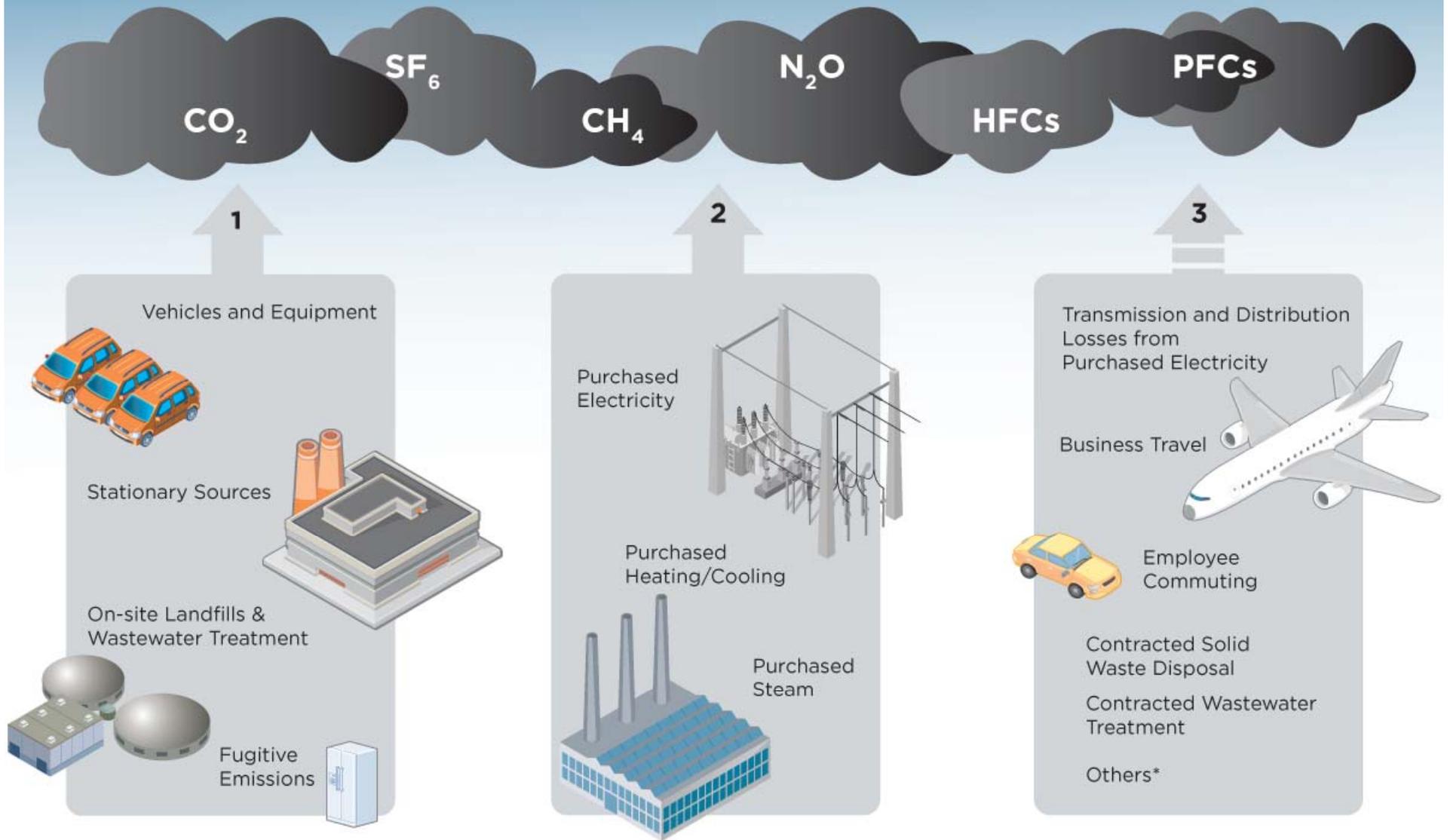
By FY 2020 DOE aims to:

- **Reduce Scope 1 & 2 GHG emissions by 28%**
- **Reduce Scope 3 GHG emissions by 13%**

Scope 3 emissions include:

- **Federal employee travel**
- **Transmission and distribution (T&D) losses**
- **Contracted municipal solid waste and wastewater**

Common Sources of Federal Greenhouse Gas Emissions



SCOPE 1:

Greenhouse gas emissions from sources that are owned or controlled by a Federal agency.

SCOPE 2:

Greenhouse gas emissions resulting from the generation of electricity, heat, or steam purchased by a Federal agency.

SCOPE 3:

Greenhouse gas emissions from sources not owned or directly controlled by a Federal agency but related to agency activities.

Requirements & Status



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Sustainability Goal	Requirement	Scorecard Measure
Scope 1&2 Greenhouse Gas (GHG) emission reduction from 2008 to 2020 – supported by existing mandates:	28% (2020)	Inventory
• Energy Intensity reduction (Btu/ft ²)	30% (2003-2015)	X
• Renewable electricity use	7.5% (2013 forward)	X
• Fleet petroleum reduction	30% (2005-2020)	X
Other sustainability goals:		
• Potable water intensity reduction (gal/ft ²)	26% (2007-2020)	X
• Industrial/other water consumption reduction (gal)	20% (2010-2020)	--
• Recycling & waste diversion	50% (by 2015)	--
• Procurements meet sustainability requirements	95% (each year)	Progress
• Buildings meet sustainability principles	15% (by 2015)	X
• Net-zero energy in new facilities	100% (by 2030)	--
• Electronic power management	100% (by June 30)	Progress
• Data center consolidation plan approval	Past due	Progress
Scope 3 GHG reduction from FY 2008 to FY 2020	13% (by 2020)	Inventory
Submit Strategic Sustainability Performance Plan	Annual (June)	Progress

FY 2010 DOE Sustainability Scorecard



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Scope 1&2 GHG Emission Reduction Target

Submitted comprehensive inventory as 2008 baseline for Scope 1&2 GHG Reduction Target of 28% by 2020¹



Score: **GREEN**



Scope 3 GHG Emission Reduction Target

Submitted comprehensive inventory as 2008 baseline for Scope 3 GHG Reduction Target of 13% by 2020¹



Score: **GREEN**



Reduction in Energy Intensity

Reduction in energy intensity in goal-subject facilities compared with 2003: 22.7% and on track for 30% by 2015



Score: **GREEN**



Use of Renewable Energy

Use of renewable energy as a percent of facility electricity use:
Total of 9.2% from renewable electricity sources including at least 2.5% from new sources (thermal, mechanical, or electric).



Score: **GREEN**



Reduction in Potable Water Intensity

Reduction in potable water intensity compared with 2007: 12.1% and on track for 26% in 2020



Score: **GREEN**



Reduction in Fleet Petroleum Use

Reduction in fleet petroleum use compared to 2005: 5.2% and not on track



Score: **RED**



Green Buildings

Sustainable green buildings:
1.20% of buildings sustainable
2.35% GSF of inventory sustainable



Score: **RED**

- Met and exceeded renewable energy goal three years ahead of requirement
- Missed petroleum reduction goal by 4.8%
- Missed green buildings goal by 3.8%

Greenhouse Gas Status (MTCO₂e)*



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<u>DOE Target Emissions</u>	<u>FY 2008</u>	<u>FY 2010</u>	<u>% Change</u>
Scope 1 and 2	4,622,785	4,002,517	13% Decrease
Scope 3	851,778	841,841	1% Decrease

* Reductions embargoed until July

Strategic Sustainability Performance Plans (SSPP)



Agency SSPPs focus on 8 goals that integrate previous E.O.s, statutes, and requirements into a single framework:

- **Scope 1 & 2 GHG reduction**
- **Scope 3 GHG reduction and Comprehensive GHG Inventory**
- **High-Performance Sustainable Design/Green Buildings and Regional and Local Planning**
- **Water Use Efficiency and Management**
- **Pollution Prevention and Waste Elimination**
- **Sustainable Acquisition**
- **Electronic Stewardship and Data Centers**
- **Agency Innovation and Government wide Support**

2010 SSPP Results



- **Established Sustainability Performance Office (SPO)**
 - Conducts data collection, analysis and reporting
 - Completes evaluations and associated policies and guidance
 - Coordinates DOE efforts and serves as Interagency representative
- **Aligned sustainability with FY 2012 budget**
- **Continued DOE cool roof program**
- **Issued first DOE GHG Inventory**
- **Completed DOE Order 436.1 on Sustainability**
- **Used NREL's fleet optimization tool to inform acquisitions**
- **Established DOE Climate Change Adaptation Workgroup**
- **Conducted DOE Sustainability Summit**
- **Issued DOE Metering Guidance**
- **Established DOE sustainability best practices site**

Roles and Responsibilities



The Sustainability Performance Office (SPO):

- **Coordinates sustainability efforts, provide oversight, and collaborate throughout DOE**
- **Implements the SSPP with DOE line managers, partners, sites and National Labs**
- **Evaluates performance and reports on goals through validated data and internal scorecards**
- **Fosters behavior change**
- **Serves as Secretary of the DOE Senior Sustainability Steering Committee (SSSC)**

- **Data collection, analysis and reporting**
 - Review of data calls for streamlining
 - Enterprise software and dashboard development
 - Quarterly reporting to the SSO
- **Planning, evaluation, associated guidance**
 - New Sustainability Working Group
 - Sustainability information in DOE HQ orientation
 - Internal and OMB/CEQ scorecards
- **Agency coordination and representation**
 - Developed best practices workspace accessible to all DOE sites
 - Interagency DOE representative
 - Connecting dots between HQ, field, Lab and Site work

SharePoint Best Practices Site



- **SPO developed a SharePoint site accessible to all employees involved in sustainability**
- **Leverages DOE successes through sharing best practices, events and discussion boards**
- **Please contact the SPO for more information and access**

2011 Green Gov Presidential Awards

- Nominations due June 24
- Submit at
www.fedcenter.gov/greengovpresidentialawards
- Ceremony in DC this Fall

Moving Forward



- **GHG reduction will be a significant challenge due to our unique mission and new facilities in future years**
- **Existing data indicates potential shortfalls in energy and water goals without additional effort**
- **Meeting the Federal Guiding Principles (GPs) for buildings will be a challenge: Currently 1.2% meet the GPs by building**
- **DOE Order 436.1 effective May 2, 2011 consolidates Orders 430.2b and 450.1a provides an overarching sustainability framework for the Department**
- **Technical assistance is available from SPO to help with energy/building/water assessments, GPs and sustainability goals**

Contact Information and References



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Sustainability Performance Office:

<http://www.sustainability.energy.gov>

DOE SSPP:

http://www1.eere.energy.gov/sustainability/pdfs/doe_sspp.pdf

E.O. 13514:

http://www.whitehouse.gov/assets/documents/2009fedleader_eo_rel.pdf

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