



- August 15-18, 2010 • Dallas, Texas •
- Dallas Convention Center •



Executive Order 13514 & Federal Greenhouse Gas Accounting and Reporting

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Agenda

EO13514 and the Section 9 Directive

Section 9 Guidance Recommendations

Federal GHG Emissions Sources and Reporting

FEMP Technical Assistance

EO 13514 Framework

- EO 13514 lays down a marker for a rigorous approach to Federal GHG accounting and management.
- EO 13514 represents a transformative shift in the way the government operates by:
 1. establishing GHGs as the integrating metric for tracking progress in Federal sustainability
 2. requiring a deliberative planning process
 3. linking to budget allocations and OMB scorecards to ensure goal achievement.
- E.O. 13423 *Strengthening Federal Environmental, Energy, and Transportation Management* (2007) is not revoked by the new E.O.; the requirements of that Order remain in effect.



Section 9 Directive

**Within 180
Days
(04/05/10)**

FEMP, in coordination with EPA, DOD, GSA, DOI, DOC, and other agencies, to provide CEQ Chair recommended Federal greenhouse gas reporting and accounting procedures enabling agencies to....

- i. **accurately and consistently quantify and account for GHG emissions from Scope 1, 2 and 3 sources.....**
- ii. **Consider past Federal agency efforts to reduce GHG emissions**
- iii. **Consider and account for sequestration and emissions of GHGs resulting from Federal land management practices**

9(c): Update every 3 years, and as otherwise necessary

**Within 1
Year
(10/05/10)**

FEMP to provide electronic accounting and reporting capability for the Federal GHG reporting procedures developed in subsection above. To the greatest extent practicable, ensure compatibility between this capability and existing Federal reporting systems.

FEMP Timeline of Activities

 CEQ Activities

 FEMP Activities

 EO Directives

TODAY

Activities completed ←

→ Ongoing activities

Continue Providing Tailored Technical Assistance

Continue Section 9 Working Group

Interagency Meeting
to Solicit TA Needs

Release Draft
Reporting Workbooks

GHG Training
Courses Deployment

Roll-out GHG mitigation
"roadmapping" tool

Submit Section 9
Recommendations

Agencies submit scope
3 goals and SSPP

Section 9 Guidance
released for Public
Comment by CEQ

Develop GHG
Reporting Functionality

Agencies Submit
Inventories

Apr '10

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Jan '11

Section 9 Guidance Recommendations

Federal Greenhouse Gas Accounting and Reporting Materials Include:

Section 9 Guidance

(Contains current policy directives on GHG Inventory and Reporting Process)

- ~50 pages
- revise as necessary; likely revision in FY11

Section 9 Technical Support Document

(Contains detailed calculation methodologies and emission factors)

- ~150 pages
- update by Sep. 30 annually, as necessary

Both documents have been released for Public Comment by CEQ and can be found here:

<http://www.whitehouse.gov/administration/eop/ceq/sustainability/>

[fed-ghg](#)

GovEnergy 2010

Section 9 Development Process

Developing the recommendations was a collaborative effort with many agencies providing critical input and review.

**CEQ (OFEE), in
consultation with OMB**

Section 9 Guidance
Issued by:

Section 9
Recommendations
Drafted and
Submitted by:

DOE FEMP

NREL

PNNL

All Agencies

Input
Provided by:

**DOI /
USDA**

DOD

GSA

EPA

Federal GHG Accounting and Reporting Workgroup

*And these agencies will continue to play a key role in refining the Section 9 Guidance through the **GHG Working Group**.*

Specific responsibilities of the working group include:

- Serving as a forum for information exchange
- Updating GHG accounting and reporting guidance recommendations
- Enhancing technical guidance and tools to support implementation
- Streamlining inconsistencies between current data collection processes and those needed to support GHG accounting best practices.

Going forward, the Workgroup will form subcommittees as necessary, examples of which may include:

- Reporting
- Scope 3 data collection
- Renewable energy
- Vendor and contractor emissions
- Organizational boundaries (including leased assets)
- Biological emissions and sequestration from land management

Guidance and TSD

EO 13514 Section 9 Recommendations established standardized procedures for reporting GHG emissions across the Federal Government.

The Guidance Recommendations provides information on:

- Emissions sources to include in the comprehensive GHG inventory
- Treatment of sequestration and emissions from land use, agriculture and biogenic sources
- Use of renewable energy purchases, including RECs, and carbon offsets
- Reporting process, including procedure for inventory recalculations
- Validation and verification of emissions inventory

The Technical Support Document provides information on:

- Reporting content, including minimum data required for input into the *GHG Reporting Portal*
- Methodologies and emission factors used to calculate Scope 1/2/3 and other emissions

This Guidance is NOT designed for quantifying the reductions from individual GHG mitigation projects, nor does it include strategies for reducing emissions.

Common Sources of Federal Greenhouse Gas Emissions

CO₂

SF₆

CH₄

N₂O

HFCs

PFCs

1

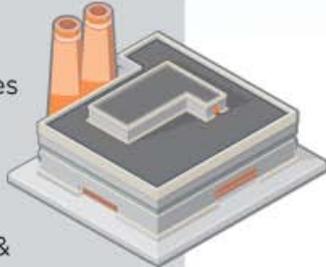
2

3

Vehicles and Equipment



Stationary Sources



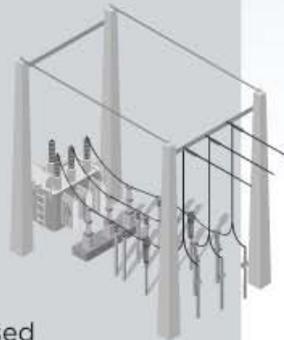
On-site Landfills & Wastewater Treatment



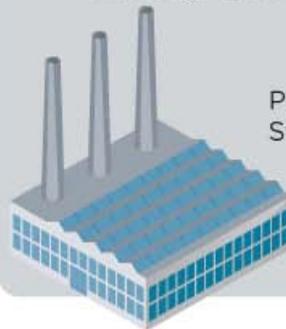
Fugitive Emissions



Purchased Electricity



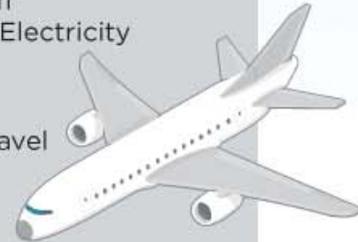
Purchased Heating/Cooling



Purchased Steam

Transmission and Distribution Losses from Purchased Electricity

Business Travel



Employee Commuting

Contracted Solid Waste Disposal

Contracted Wastewater Treatment

Others*

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:

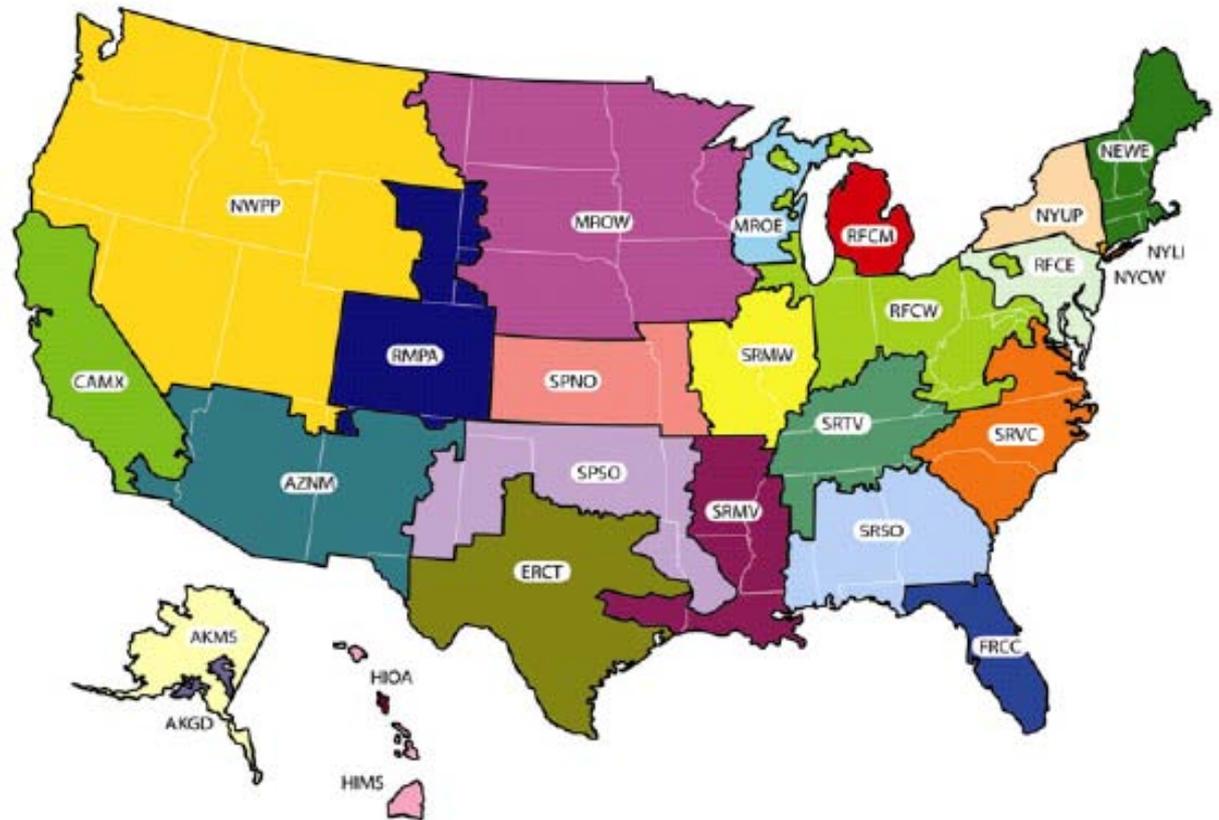
Greenhouse gas emissions from sources not owned or directly controlled by a Federal agency but related to agency activities.

Scope 1 Emissions

Scope 1 Source	Description
Generation of electricity, heat, cooling, or steam	Emissions from combustion of fuels in stationary sources . This includes CH ₄ and N ₂ O emissions from biomass combusted for production of electricity, heat, cooling, or steam.
Mobile Sources	Emissions from the combustion of fuels in agency controlled mobile combustion sources . This includes CH ₄ and N ₂ O emissions from biofuel combustion.
Fugitive Emissions	Emissions from intentional or unintentional releases of GHGs from within the agency's organizational boundary
Process Emissions	Emissions from the manufacture or processing of chemicals and materials , and include on-site landfills, wastewater treatment plants, waste incinerators, and laboratory activities.

Scope 2 Emissions

Indirect emissions associated with consumption of purchased or acquired electricity, steam, heating, or cooling.



Scope 3 Emissions

	Scope 3 Sources to Include:
Because efforts to account for Scope 3 emissions are only recently emerging, a phased approach to developing Scope 3 inventories is recommended --	Business travel (air, ground)
	Employee Commuting
	Contracted solid waste
	Contracted wastewater treatment
	Transmission and Distribution Losses

FEMP GHG Reporting Portal

The FEMP electronic GHG reporting portal will provide calculation functionality for minimum required data entered by agencies. Agencies are responsible for “rolling up” activity level data prior to reporting aggregated annual data to FEMP.

GHG Inventory by:

Scope 1

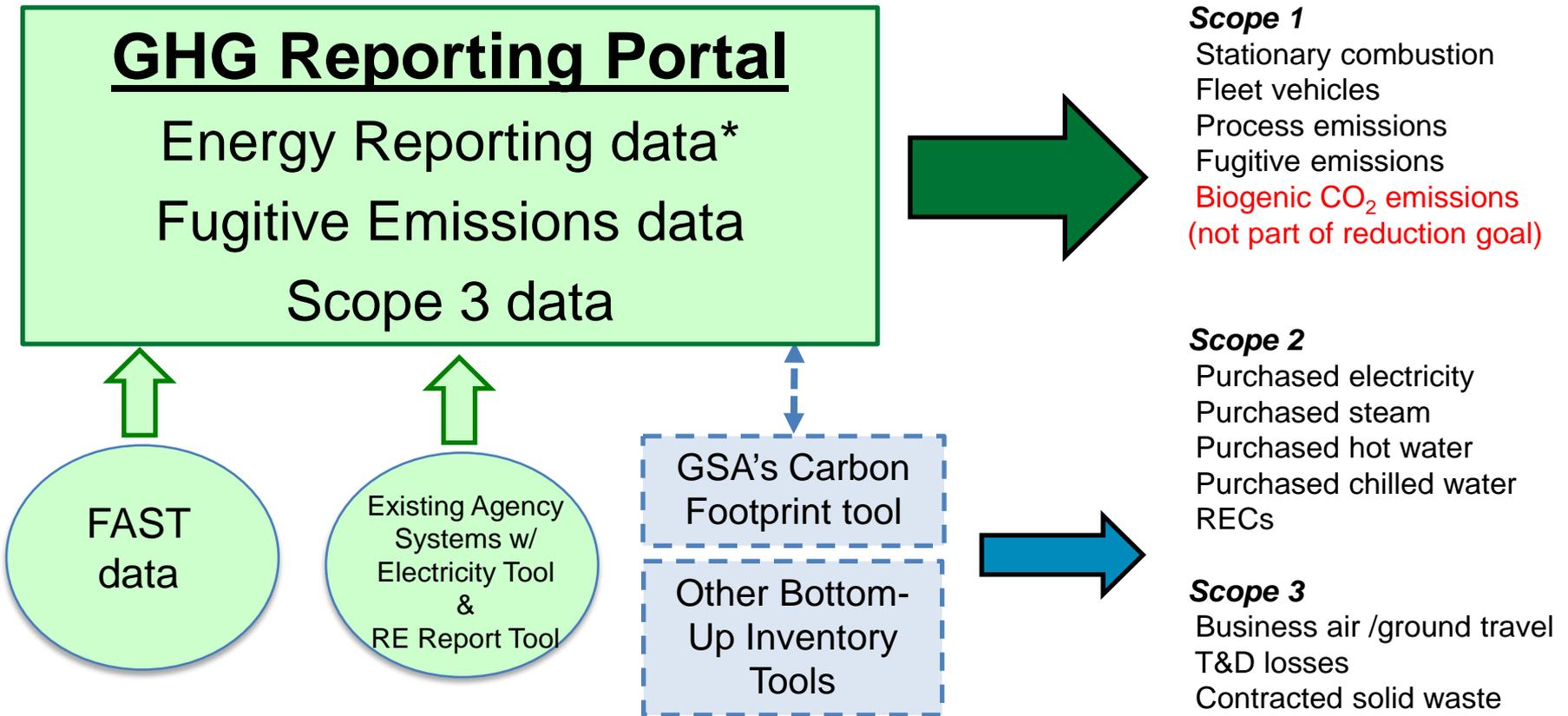
Stationary combustion
Fleet vehicles
Process emissions
Fugitive emissions
Biogenic CO₂ emissions
(not part of reduction goal)

Scope 2

Purchased electricity
Purchased steam
Purchased hot water
Purchased chilled water
RECs

Scope 3

Business air /ground travel
T&D losses
Contracted solid waste
Contracted wastewater
Employee commuting



**Need to know electricity by eGrid region for scope 2 emissions*

Agency and FEMP Responsibilities

Agency responsibilities

- Prepare annual inventory for scopes 1, 2, and certain 3 emissions
 - Refined 2008 baseline inventory (no penalty for proactive use of renewable energy)
 - 2009 GHG inventory reporting is optional (but useful)
 - Comprehensive inventory due annually at the end of January
 - Reported in native units at top-tier agency level
- Compile data throughout agency-wide hierarchy
- Select and deploy “bottom-up” tools and processes
- Implement quality assurance procedures

FEMP responsibilities

- Develop electronic reporting capability (portal) to receive data
 - Embedded with CEQ TSD-consistent factors for Btu, emissions, GWPs
- Update formulas and emission factors
- Work with agencies and experts to evolve Guidance
 - eg., leased assets, offsets, improved methodologies, etc.
- Review submitted data and follow up to clarify inconsistencies
- Ensure compatibility/accommodate prior reporting requirements

Preparing for New Energy/GHG Reporting

Immediate FEMP Goal: Incorporate methods and factors from Section 9 recommendations into transparent, easy-to-use workbooks for agencies to begin compiling necessary data for refining FY08 GHG *goal baseline* inventories and preparing FY10 *comprehensive* inventory

DRAFT versions of reporting workbooks on FedCenter---
FEMP is seeking comments/recommendations for
enhancements

- <http://www.fedcenter.gov/members/workgroups/ghg/>

FEMP's Technical Assistance Products

Section 9 Federal GHG accounting and reporting

- ✓ Facilitated the Public Sector Protocol road-test with agencies.
- ✓ Detailed staff with GHG expertise to CEQ
- ✓ Delivered Section 9 policy recommendations to CEQ in a timely manner
- ▶ Chair the Section 9 working group to coordinate interagency input

Tool Development

- ✓ Agency GHG targeting tools
- ★ GHG and Energy Reporting Workbooks
- ★ Agency-level GHG "roadmapping" tools

Inventory Development

- ▶ Meetings with Federal Agencies to solicit TA needs
- ▶ One-to-one agency support

Education & Outreach

- ▶ Workshops and training
- ▶ FEMP and FedCenter websites
- ▶ Publications
- ★ Web-based training course



✓ = complete; ★ = in progress; ▶ on-going activities

ENERGY | Energy Efficiency & Renewable Energy
FEDERAL ENERGY MANAGEMENT PROGRAM



Greenhouse Gas Emissions and Climate Change
Greenhouse gases trap heat in the lower atmosphere, warming the earth's surface temperature in a process known as the "greenhouse effect." Human activities have caused greenhouse gas concentrations to increase rapidly. This rising level of gases contributes to global climate change, which contributes to major environmental and human health issues.

Executive Order (E.O.) 13514, Federal Leadership in Environmental, Energy, and Economic Performance, defines six greenhouse gases of particular concern—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF₆).

Federal Leadership in Environmental, Energy, and Economic Performance
Reducing greenhouse gas emissions is a priority for the Federal Government. Operating more than 300,000 buildings and 600,000 vehicles, the Federal Government is the nation's largest energy consumer and greenhouse gas

Greenhouse Gas Program Overview

The U.S. Department of Energy's (DOE) Federal Energy Management Program (FEMP) assists Federal agencies in calculating, managing, and reducing their greenhouse gas emissions. The program supports FEMP's mission to facilitate the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.

emitter. Federal agencies account for 1.5 percent of U.S. energy consumption.

The Federal Government can lead by example in mitigating climate change and enhancing the nation's energy security. President Barack Obama signed E.O. 13514 on October 5, 2009. The order makes greenhouse gas reduction a priority for Federal agencies by requiring:

- Within 90 days (January 4, 2010), each Federal agency must establish a percentage reduction target for its scope one and scope two greenhouse gas emissions by fiscal year 2020 relative to a fiscal year 2008 baseline.
- Within 240 days (June 2, 2010), each Federal agency must establish a percentage reduction target for its scope three greenhouse gas emissions by fiscal year 2020 relative to a fiscal year 2008 baseline.
- Within 15 months (January 2011), Federal agencies must establish a comprehensive inventory of greenhouse gas emissions across all three scopes for fiscal year 2010. Annual comprehensive inventories are due each January thereafter.

E.O. 13514 establishes greenhouse gas emission reductions as an integrating metric for sustainability across the Federal Government. Complying with E.O. 13514 demands a transformative shift in the way the Federal Government operates, necessitating a

deliberate planning process for managing greenhouse gases. Specifically, Federal agencies must work with the Office of Management and Budget (OMB) to budget for E.O. 13514 activities.

FEMP Technical Assistance FEMP offers greenhouse gas management and abatement services to help Federal agencies meet the goals and requirements of E.O. 13514 and other laws and regulations. These services include:

FEMP One-to-One Technical Assistance

- FEMP technical support representatives can provide **general review and guidance** for inventory planning, identification of data and emissions sources, calculations, and other agency-specific efforts.
- The level of support available is limited; agencies are ultimately responsible for developing their complete GHG inventories.
- More assistance is available through **work-for-others** agreements with NREL/PNNL.

FEMP Technical Assistance POCS:

NREL

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CIA	DOT	NARA
CNCS	EPA	NLRB
CSOSA	Education	RRB
DOC	FHFA	SI
DOJ	FTC	SSA
DOL	HHS	Treasury
DOS	HUD	USACE

PNNL

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DOD
DOE
DHS
NRC
TVA
USPS
VA

Road Ahead for Agencies

Agency Requirements

- Develop and implement agency-wide GHG accounting and management process through SSPP
- Utilize FEMP's GHG training course to train field and HQ staff
- Become familiar with FEMP's GHG reporting workbook and online reporting tool
- Conduct data calls
- Verify and validate data – Develop and implement an Inventory Management Plan (IMP) at a minimum
- **Report agency-wide inventory by January 31st 2011**

Optional

- Provide comments on Section 9 Guidance document and TSD through OMB
- Provide comments on draft reporting workbook
- Provide representatives and input for GHG WG

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www.eere.energy.gov/femp/program/greenhousegases.html

www.fedcenter.gov/programs/greenhouse/