



EXECUTIVE ORDER 13514

Federal Leadership in Environmental, Energy, and Economic Performance

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Office of Environmental Policy & Assistance (HS-22)

Presentation for the DOE Chicago Office
January 12, 2009



Overview



- 4 Key Elements of E.O. 13514
- Policy, goals, and objectives of the E.O.
- Near-term deadlines and deliverables
- Detailed discussion of goals and requirements



Executive Order 13514 (October 5, 2009)



“To establish an integrated strategy towards sustainability in the Federal Government and make reduction of greenhouse gas (GHG) emissions a priority for agencies.”



E.O. 13514: Four Key Aspects



1. GHG emission reduction is now an overarching, integrating performance metric for all Federal agencies;
2. Agencies must use a deliberative planning process, including a Strategic Sustainability Performance Plan;
3. E.O. goals are to be linked to budget allocations and scored by OMB; and
4. E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (January 29, 2007) remains in effect.



E.O. 13514 Policy



The Federal Government shall lead by example in creating a clean energy economy. Federal agencies shall:

- Increase energy efficiency;
- Measure, report and reduce their GHG emissions;
- Conserve and protect water resources;
- Eliminate waste, recycle, and prevent pollution;
- Leverage agency acquisition to foster markets for sustainable technologies and environmentally preferable materials, products and services;
- Design, construct, maintain, and operate high performance sustainable buildings in sustainable locations;
- Strengthen the vitality and livability of communities in which Federal facilities are located; and
- Inform Federal employees about and involve them in achieving these goals.



Goals of E.O. 13514



- Section 2 of the E.O. identifies a series of “Goals for Agencies.”
- The goals are to be addressed by each agency in its *Strategic Sustainability Performance (SSP) Plan*.
- In particular, the E.O. calls for each agency to establish targets for reduction of greenhouse gasses (GHG) by 2020.
- The environmental management systems already in place at DOE facilities will provide a foundation for meeting these goals and targets.



Goals of E.O. 13514



1. Reduce GHG emissions
2. Improve water use efficiency and management
3. Promote pollution prevention and eliminate waste
4. Advance regional and local integrated planning
5. Implement high performance sustainable building design, construction, operation and management, maintenance, and deconstruction
6. Advance sustainable acquisition
7. Promote electronics stewardship
8. Sustain environmental management systems



Deadline: Within 30 Days



Secretary designates DOE's Senior Sustainability Officer.

- Deputy Secretary Poneman has been designated DOE SSO





Senior Sustainability Officer: Responsibilities



- Prepare the DOE-wide GHG inventory.
- Develop DOE targets for GHG emissions reductions.
- Prepare and implement the SSP Plan, in coordination with appropriate offices and organizations
- Submit the SSP Plan to CEQ and OMB for their approval.
- Monitor DOE's performance and progress in implementing the Plan and report to CEQ and OMB.
- Report annually to the Secretary on adequacy and effectiveness of DOE's SPP Plan to implement the E.O.

E.O. 13514 Proposed Governance Model

Senior Sustainability Steering Committee

Chair: Deputy Secretary **Members:** Under Secretaries, CFO, GC, MA, HSS, EERE

Align DOE business practices—budget, acquisition, metrics and reporting—with EO goals

Sustainability Integration Team

Chairs: MA-1* & Field Rep **Members:** Reps from S-2, CFO, GC, NA, SC, EM, FE, NLDC, EFCOG, OPAM, CIO, FEMP, OECM, & HSS

strategic
.....
tactical

Working Groups - Integrate sustainability and GHG reductions into DOE operations
- Initial effort to be preparation of the Strategic Sustainability Performance Plan

Procurement & Acquisition

Co-chairs: OPAM/DOE Site

- 95% Sustainable Acquisition Goal

Electronics & Data Centers

Co-chairs: CIO/DOE Site

- Green electronics purchases
- Energy-efficient operations
- Sustainable disposition
- Optimize Data Center Operations & Management

Fossil Fuel, Energy, & Renewables

Co-chairs: FEMP/DOE Site

- Vehicles and fleet management
- Fossil Fuel Reduction
- Site Energy Goals
- Green Energy
- Renewables/On-site generation
- Process Energy Mngmnt

High Performance Buildings

Co-chairs: OECM/DOE Site

- Net Zero Buildings
- Potable Water Mgmt
- Achieve 15% Sustain Goal
- Roof Program
- Disposition and Space
- Linkage to Deferred Maint
- Construction Waste
- Stormwater Management

Environmental Stewardship

Co-chairs: HSS/DOE Site

- Formal EMS
- Toxic Chemical Reduction
- Pollution Prevention
- Pest Management
- Composting
- Recycling
- Waste Management

* Chair from the Office with assigned Sustainability Management Function



Deadline: Within 90 Days



DOE submits

- FY 2008 DOE scope 1 and 2 GHG emissions baseline
- 2020 reduction target for scope 1 and 2





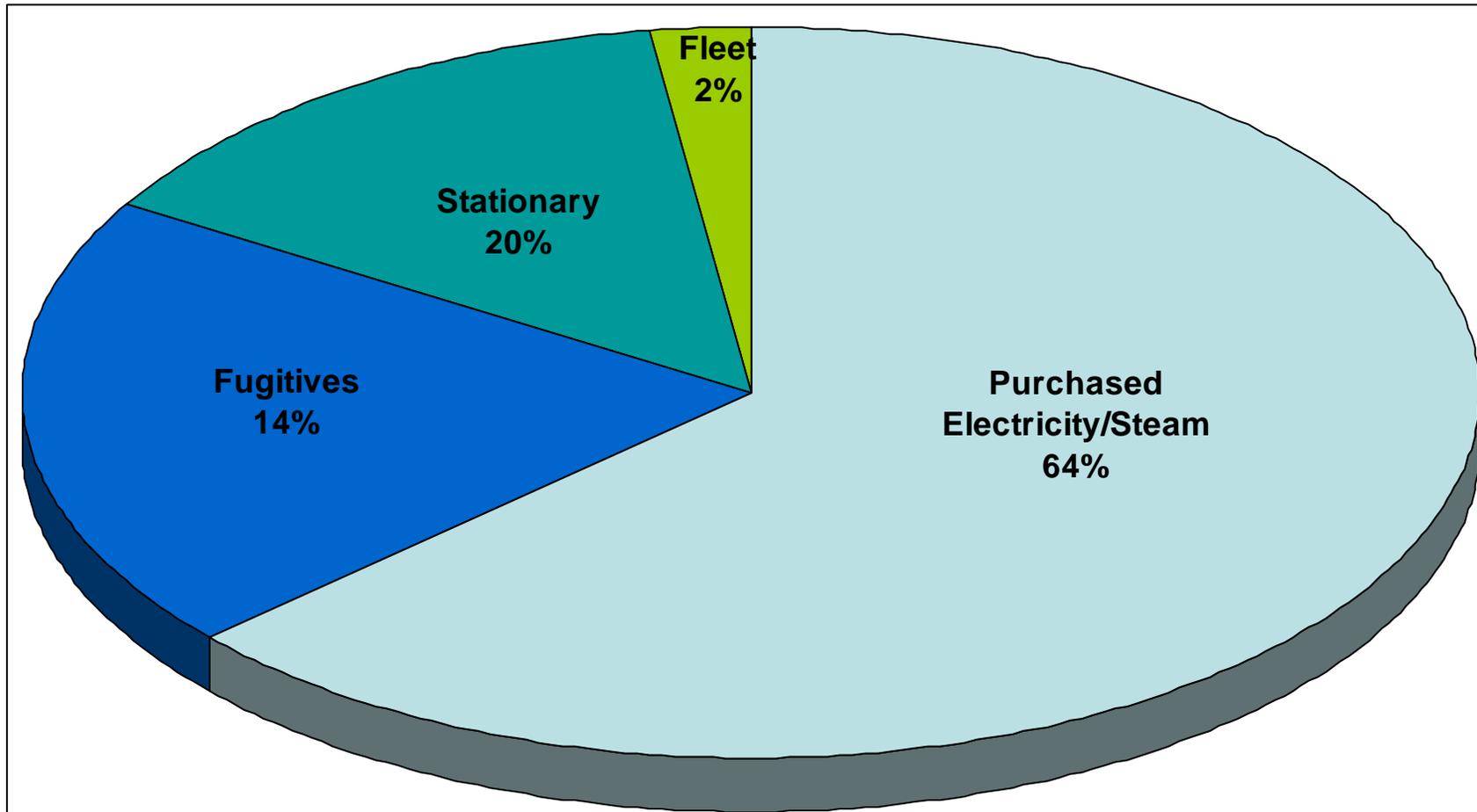
DOE Scope 1 and 2 GHGs



- DOE calculated an FY08 baseline of 4.1 million metric tons of carbon dioxide equivalent (MMTCO₂e)
- DOE established a 2020 Reduction Target of 25%
 - Reductions to be achieved on absolute basis, regardless of budget or mission change



DOE Scope 1 and 2 Emissions (4.1 MMTCO₂e)





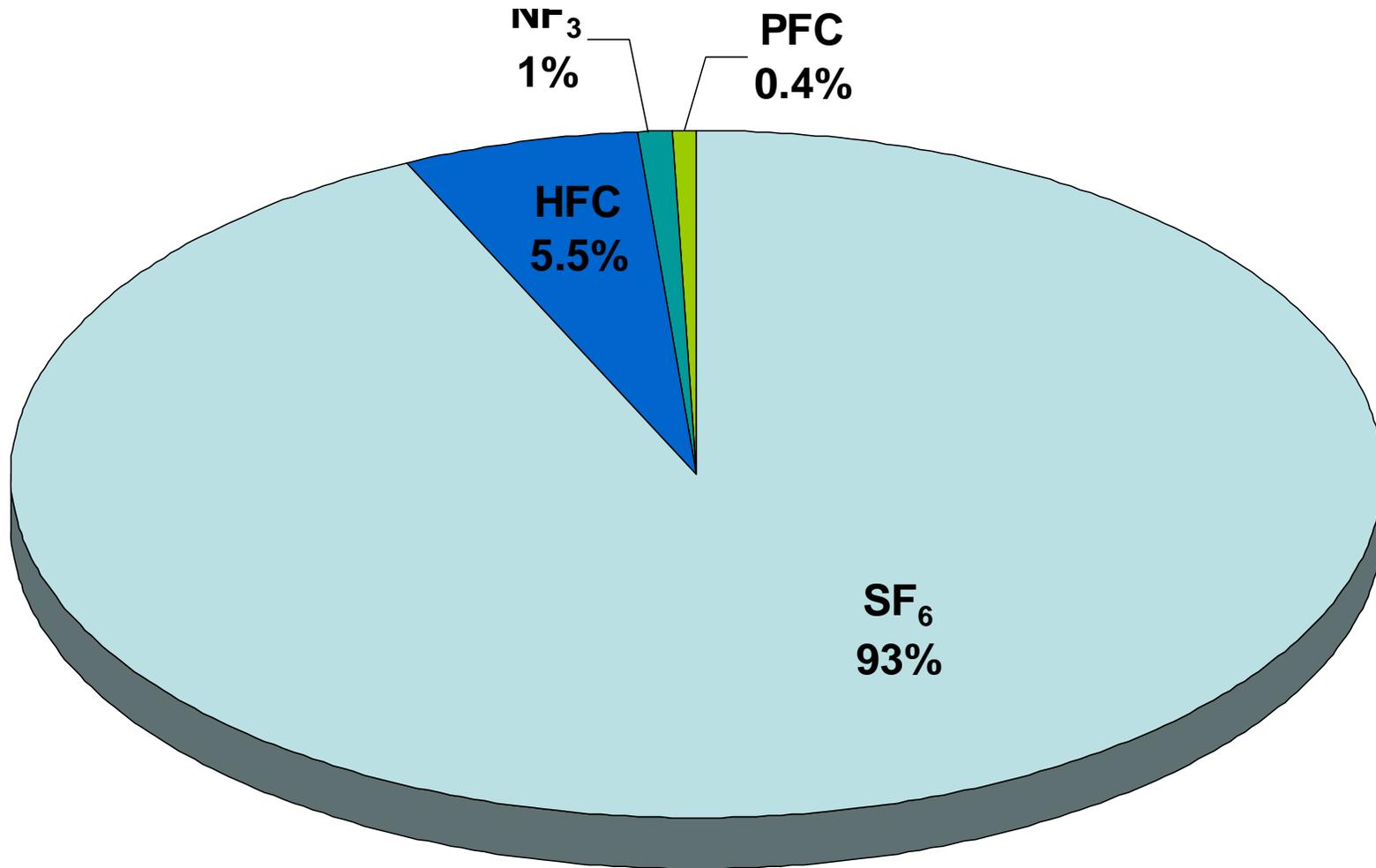
Fugitive Emissions Data Call



- 34 sites responded to data call
- 24 sites reported emissions (~533,000 MTCO₂e)
 - 17 sites reported SF₆ emissions (~496,000 MTCO₂e)
 - 18 sites reported other emissions (~36,500 MTCO₂e)
 - 11 sites reported both
- Other emissions:
 - HFC/PFC (~31,700 MTCO₂e)
 - NF₃ (~4,800 MTCO₂e)

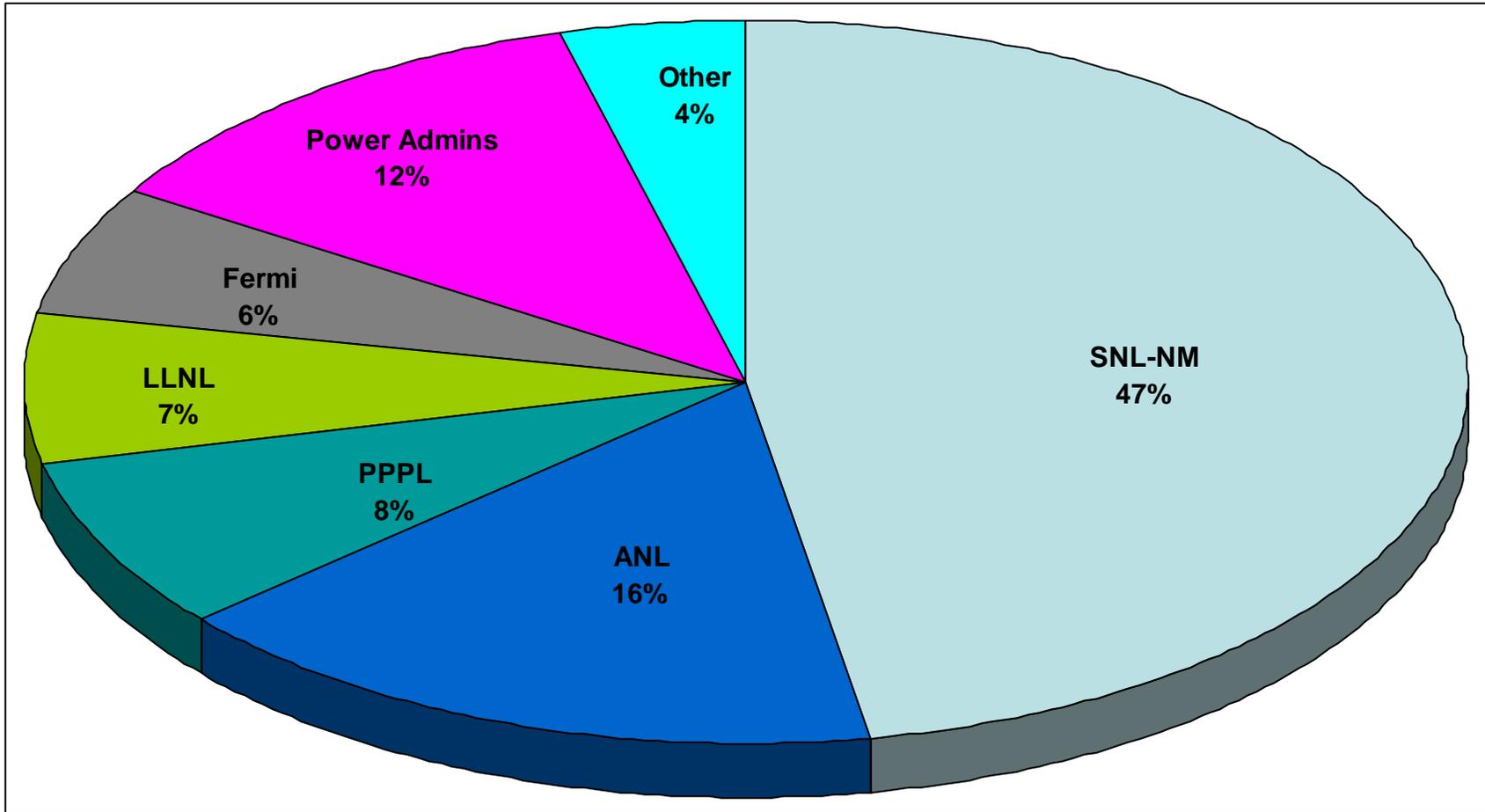


Fugitive Emissions by Source





Top SF₆-Emitting Sites



Agency: DOE Prepared by: [Redacted]
 Date: [Redacted] Phone: [Redacted]

AGENCY GREENHOUSE GAS REDUCTION TARGETING TOOL
 Detailed Energy and CO2 Data

Reset % Inputs

13423 facilities	FY 2008			FY 2015 Goals Met (EISA 30% reduction goal, 7.5% renewables, FY 2008 Fuel Mix)			Adjustments	
	Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	Percent Change from Goals Met Projection (B)	Annual Consumption
	3,033,834.8	10,351.4	1,945,761	2,305,084.9	7,864.9	1,478,375	0%	2,305,084.9
	5,480.1	760.1	55,600	4,409.4	611.6	44,737	0%	4,409.4
Public Ft)	4,633,004.5	4,776.6	253,448	3,727,835.4	3,843.4	203,931	0%	3,727,835.4
Gal)	585.7	55.9	3,484	471.3	45.0	2,803	0%	471.3
	71,147.6	1,748.8						
Btu)	1,033.5	1,033.5						
	63.5	63.5						
H)	106,191.1	0.0						
H)	73,904.4	252.2						
	36.9	36.9						
		19,078.7	2					
Pross		97,720.7						

13423 facilities	FY 2008		
Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	
1,849,424.7	8,310.2	1	

Target selection has cost implications....

Scenario	Estimated 2020 % Reduction (from FY08 baseline)	Estimated Cost (millions)
Business as Usual;	6.6% (272k MtCO2e)	\$20 (direct) \$425 (financed)
Meet EISA and previous EO, 2015 goals	16.1% (663k MtCO2e)	\$1,100*
80/2050 Goal progress by 2020 is 23% reduction	23% (944k MtCO2e)	\$1,540
Out Front, Lead by example	30% (1,231k MtCO2e)	\$2,000+

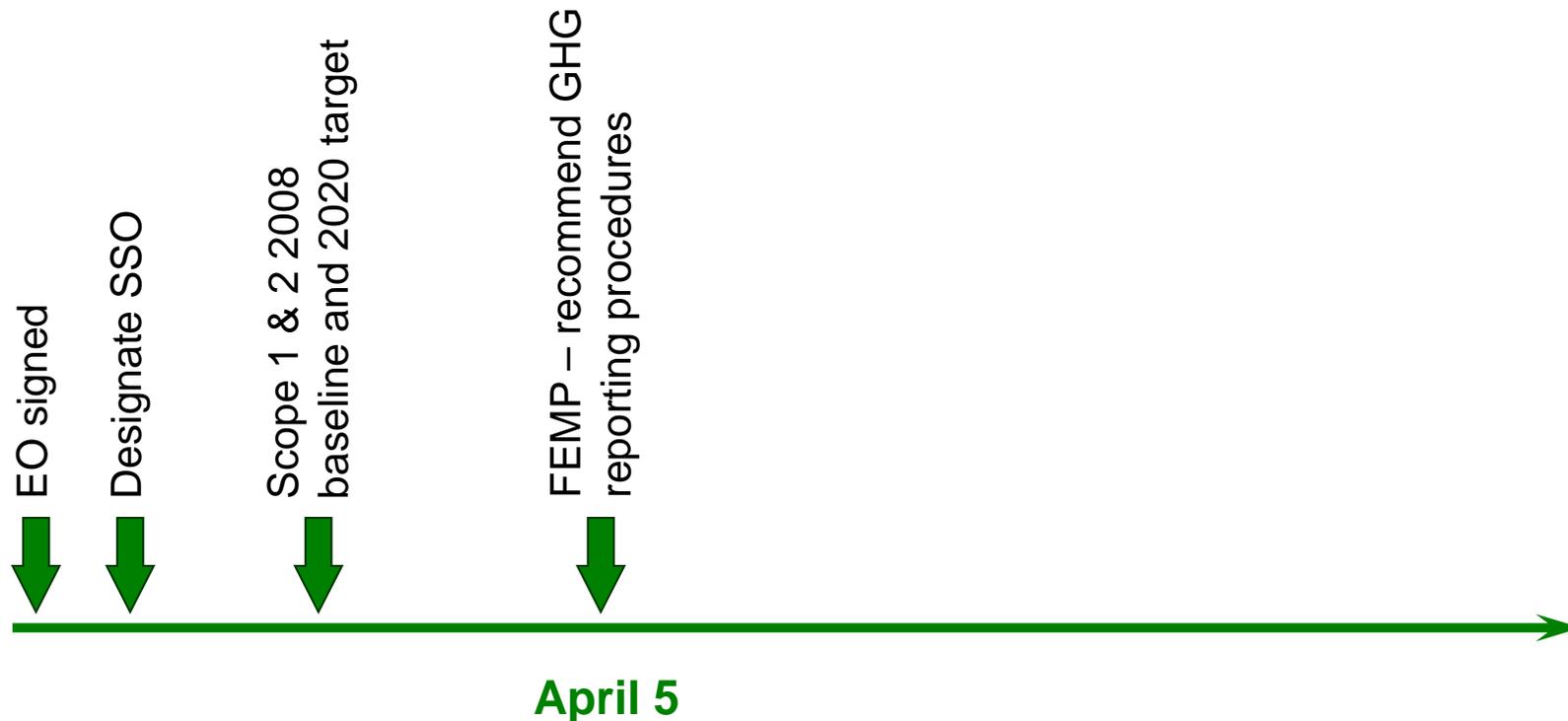
Screen shot of FEMP Developed; Agency GHG Targeting Tool



Deadline: Within 180 Days



- FEMP recommends GHG reporting procedures for federal agencies.
- DOE issues guidance on Federal fleet management.

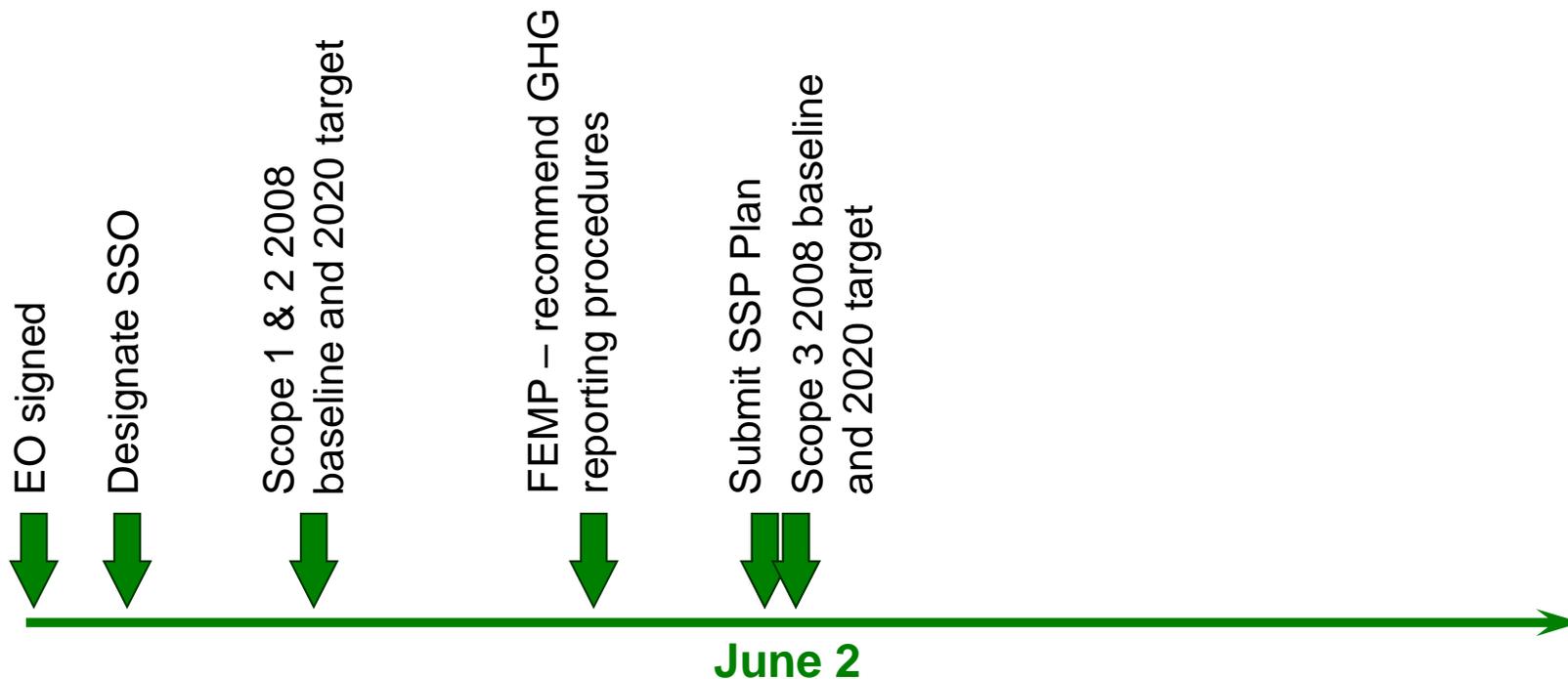




Deadlines: Within 240 Days



- DOE submits the Department's multi-year SSP Plan.
- DOE submits the Department's scope 3 GHG emission baseline for FY 2008, and DOE's 2020 reduction target for scope 3 emissions.





Strategic Sustainability Performance Plan



The SSP Plan shall:

- Include a policy statement committing DOE to compliance with environmental and energy statutes, regulations, and Executive Orders;
- Establish actions by which DOE can achieve the goals and targets of the E.O., including DOE's GHG reduction targets;
- Be integrated into DOE's strategic planning and budget process;
- Identify DOE activities, policies, plans, procedures and practices that are relevant to DOE's implementation of the E.O., and develop new ones where necessary;



SSP Plan (cont.)



The SSP Plan shall:

- Identify specific DOE goals, a schedule, milestones, and approaches for achieving results; and quantifiable metrics for DOE implementation of the E.O.;
- Incorporate actions for achieving progress metrics identified by OMB and CEQ.
- Take into consideration environmental measures as well as economic and social benefits and costs in evaluating projects and activities based on lifecycle return on investment;



SSP Plan (cont.)



The SSP Plan shall:

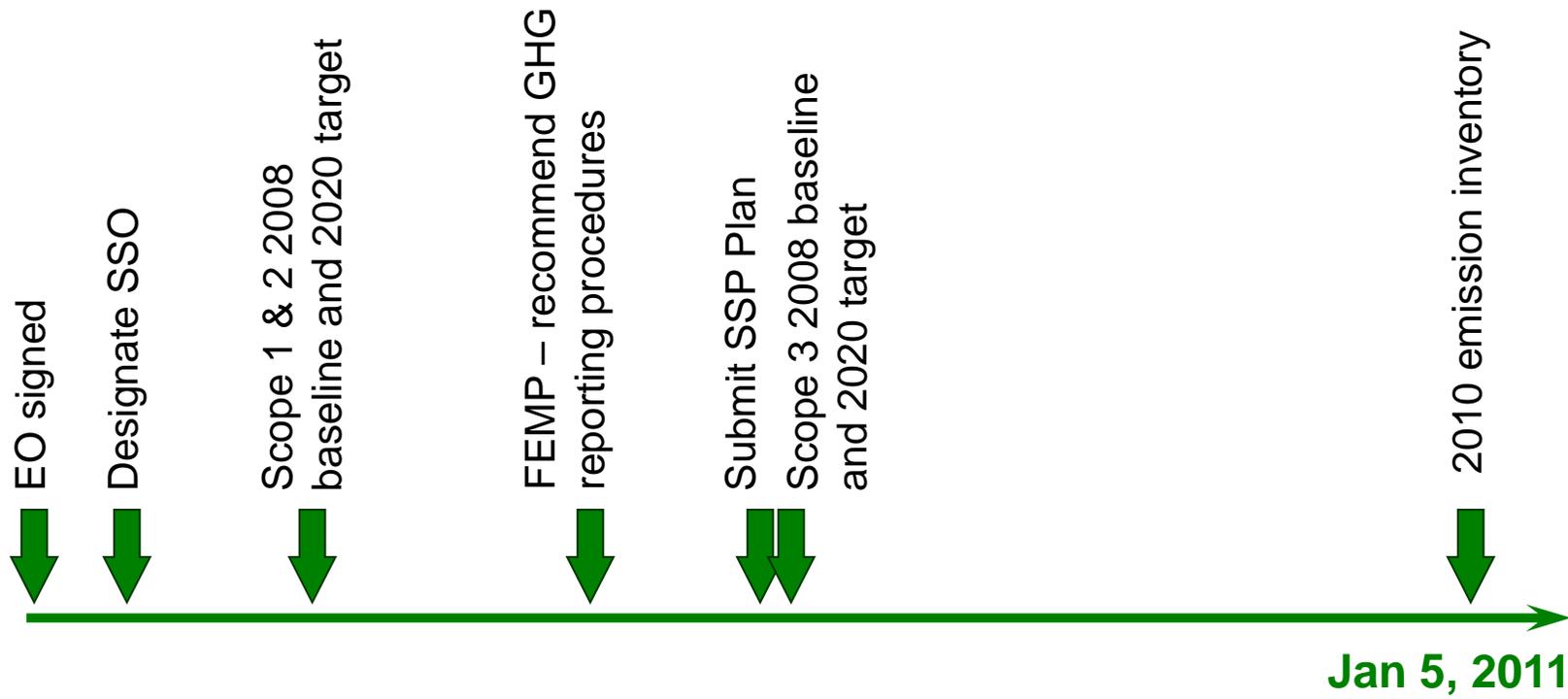
- Make information available about DOE's progress and performance in achieving the E.O. goals on a publicly available Federal Website;
- Evaluate DOE climate change risks and vulnerabilities to manage their effects on DOE operations and missions in the short- and long-term;
- Identify in annual updates opportunities for improvement and evaluation of past performance to expand or extend projects with net lifecycle benefits and reassess or discontinue under-performing projects.



Within 15 Months



DOE establishes and reports its first annual comprehensive GHG emission inventory for FY 2010.





Linking the SSP Plan and the Budget



- OMB will review and approve each agency's SSP Plan and each annual update.
- Where feasible, this review will be concurrent with OMB's review and evaluation of the agency's budget request.
- OMB will issue instructions to the heads of agencies concerning budget and appropriations matters relating to implementation of E.O. 13514.



Environmental Management Systems (EMSs)



The E.O. specifically directs agencies to sustain environmental management, including:

- continuing the implementation of formal environmental management systems at all appropriate organizational levels, and
- ensuring these systems are appropriately implemented and maintained to achieve the performance necessary to meet the goals of the E.O.

To meet this goal, DOE EMSs should include objectives and measurable targets that support achievement of the Department's goals, as appropriate to their sites.



Recommendations for Contractors and Vendors



- Within 180 days of issuance of E.O. 13514, the General Services Administration (GSA) shall provide recommendations to CEQ and OMB's Office of Federal Procurement, to include:
 - Working with Federal vendors and contractors to obtain information to enable Federal tracking of scope 3 GHG emissions;
 - Requiring contractors and vendors to register with a voluntary registry or organization for reporting GHG emissions;
 - Requiring contractors [and subcontractors] to develop and make available their GHG inventory and description of efforts to mitigate GHG emissions;
 - Use of Federal purchasing preferences or other incentives for products manufactured using processes that minimize GHG emissions;
 - Other options to encourage sustainable practices and reduce GHG emissions.



Goals of E.O. 13514



1. Reduce GHG emissions
2. Improve water use efficiency and management
3. Promote pollution prevention and eliminate waste
4. Advance regional and local integrated planning
5. Implement high performance sustainable building design, construction, operation and management, maintenance, and deconstruction
6. Advance sustainable acquisition
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GHG: Emissions Reductions



Scope 1 and 2 emissions (*January 4, 2010*)

- Established DOE FY 2008 baseline of scope 1 and 2 emissions of 4.1 MMTCO₂e;
- Established 25% reduction target for scope 1 and 2 emissions, to be achieved by FY 2020.

Scope 3 emissions (*June 2, 2010*)

- Establish a baseline of DOE's scope 3 emissions for FY 2008;
- Establish a target for reduction of DOE's scope 3 emissions by FY 2020 (relative to FY 2008 baseline).



GHG: Reducing Scope 1 and Scope 2 Emissions



In setting the target, DOE shall consider reductions associated with:

- Reducing energy intensity of DOE buildings;
- Increasing use of renewable energy and implementing renewable energy projects on agency property;
- Reducing the use of fossil fuels by:
 - Using low greenhouse gas emitting vehicles,
 - Optimizing the number of vehicles in DOE's fleet,
 - Reducing the DOE fleet's total consumption of petroleum products by minimum of 2 percent annually, through FY 2020 (based on a FY 2005 baseline).



GHG: Reducing Scope 3 Emissions



In establishing the target, DOE shall consider:

- Pursuing opportunities with vendors and contractors to address and incorporate incentives to reduce greenhouse gas emissions;
- Implementing strategies and accommodations for transit, travel, training, and conferencing that actively support lower-carbon commuting and travel;
- GHG reductions associated with other goals in the E.O.;
- Developing and implementing innovative policies and practices to address scope 3 emissions unique to DOE.



Water: Reduce Potable Water Consumption



- E.O. 13514 extends the E.O. 13423 goal of reducing potable water consumption intensity by 2 percent annually, by requiring a 26 percent reduction by the end of FY 2020, relative to baseline of FY 2007. This is to be accomplished, at least in part, by using water efficient and low-flow fixtures, and efficient cooling towers.



Water: Reduce and Reuse



- E.O. 13514 establishes a new goal of reducing industrial, landscaping, and agricultural water consumption intensity by 2 percent annually or 20 percent by end of FY 2020, relative to baseline of FY 2010 for each use.
- E.O. 13514 requires DOE to identify, promote and implement water reuse strategies to reduce potable water consumption (consistent with State law).



Water: Stormwater



- E.O. 13514 requires DOE to implement and achieve objectives identified in the EPA's *Stormwater Guidance for Federal Facilities*.
- EPA issued guidance in December 2009; available at <http://www.epa.gov/owow/nps/lid/section438/>



Waste: Prevent Pollution and Eliminate Waste



- Minimize the generation of waste and pollutants through source reduction.
- Divert from disposal at least 50 percent of non-hazardous solid waste, excluding construction and demolition debris, by FY 2015.
- Divert from disposal at least 50 percent of construction and demolition debris by FY 2015.
- Increase the quantity of compostable and organic material diverted from waste stream.
- Reduce printing paper use.



Waste: Chemicals



- Minimize the quantity of toxic and hazardous chemicals and materials acquired, used, and disposed of.
- Implement integrated pest management and other landscape management practices.
- Increase use of alternative chemicals and processes.
- Decrease the use of chemicals where this will assist DOE in achieving GHG emission reduction targets.
 - Expect significant focus on fugitive emissions



Planning: Advance Local and Regional Planning



- Participate in regional transportation planning efforts and recognize existing community transportation infrastructure.
- Align Federal policies to increase effectiveness of local planning for energy choices (such as locally generated renewable energy).
- Ensure planning for new Federal facilities or new leases includes consideration of sustainable practices and emphasizes existing central cities and planned town centers.
- Identify and analyze impacts from energy use and alternatives under NEPA with all proposals for new or expanded Federal facilities.
- Coordinate with regional ecosystem, watershed and environmental management programs.



Buildings: High Performance Sustainable Building



- Design all new Federal buildings which begin the planning process by 2020 to achieve zero-net energy by 2030.
- E.O. 13514 extends E.O. 13423 goal of ensuring 15 percent of the agency's existing facilities and leases meet the *Guiding Principles* by FY 2015 and requires agencies to continue to make annual progress towards 100 percent agency conformance.
- Minimize consumption of energy, water and materials by pursuing cost-effective, innovative strategies such as highly reflective and vegetated roofs.



Buildings: Portfolio Management



- Reduce deferred maintenance costs of existing assets by better managing existing building systems that impact consumption of energy, water, and materials and by identifying alternatives to renovation.
- Identify opportunities to consolidate and dispose of existing assets, optimize performance of agency real property portfolio, and reduce associated environmental impacts.
- Promote long-term viability of Federally-owned historic buildings by ensuring that rehabilitation utilizes best practices and technologies in retrofitting.



Procurement: Sustainable Acquisition



Ensure that 95 percent of all new contract actions (including task and delivery orders) for products and services are:

- energy efficient,
- water-efficient,
- biobased,
- environmentally preferable,
- non-ozone depleting,
- contain recycled content, or are
- non-toxic or less-toxic than traditional alternatives,

where such products and services meet DOE performance requirements.



Electronics: Energy and Environmental Stewardship



- Ensure a procurement preference for EPEAT-registered electronic products.
- Establish and implement policies to enable power management, duplex printing, and other energy efficient or environmentally preferable features on all eligible agency electronic products.
- Employ environmentally sound practices with respect to disposition of all agency excess or surplus electronic products.
- Ensure procurement of Energy Star or FEMP designated electronic equipment.
- Implement best management practices in energy efficient management of servers and Federal data centers.



EMS: Sustain Environmental Management Systems



E.O. 13514 explicitly requires that DOE sustain EMSs, including:

- Continuing implementation of formal environmental management systems at all appropriate organizational levels, and
- Ensuring that these formal systems are appropriately implemented and maintained to achieve the performance necessary to meet the goals of this order.

Leverage site EMS and other integrating programs to achieve sustainability and GHG reduction goals



For more information



Crosswalks between EO 13514 and EO 14323:

<http://www.fedcenter.gov/programs/eo13514/#regs>

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