

Charting a Course to Energy Independence

Providence, RI
August 9-12, 2009





Track: Energy 101

Session 1:

Why Energy Management is Important and How to Get Started



Why energy management in the public sector?

- Government is the largest energy user
- Lead by example
- Save energy and money
- Pull the market for energy efficient, renewable energy, and water-conserving products



Administration Energy and Environmental Priorities

- Investing in the Clean Energy Jobs of the Future
- Securing our Energy Future
- Closing the Carbon Loophole and Cracking Down on Polluters



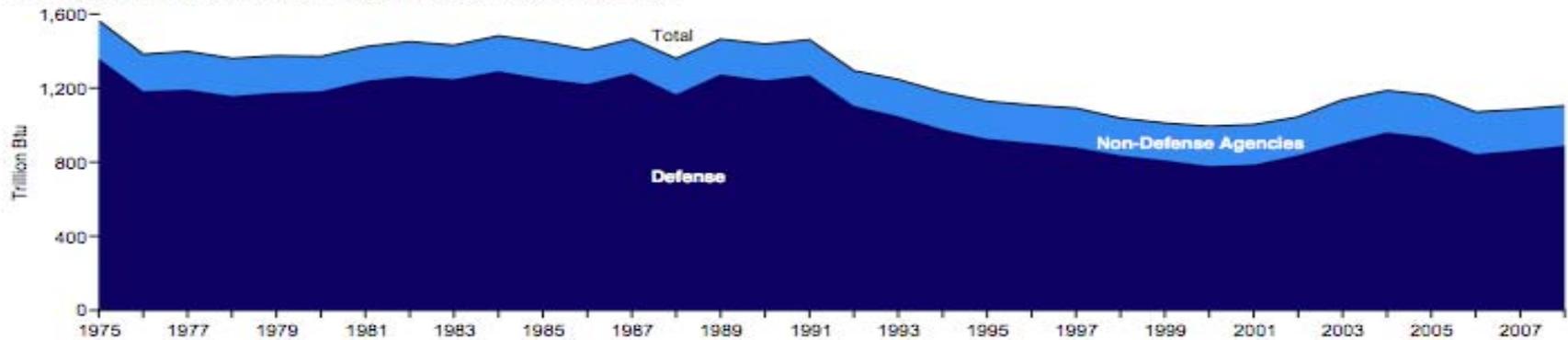
We can't rest until we harness the renewable energy that can create millions of new jobs and new industries. ...That's how we can grow our economy, enhance our security, and protect our planet at the same time.
—President Obama, 29 April 2009



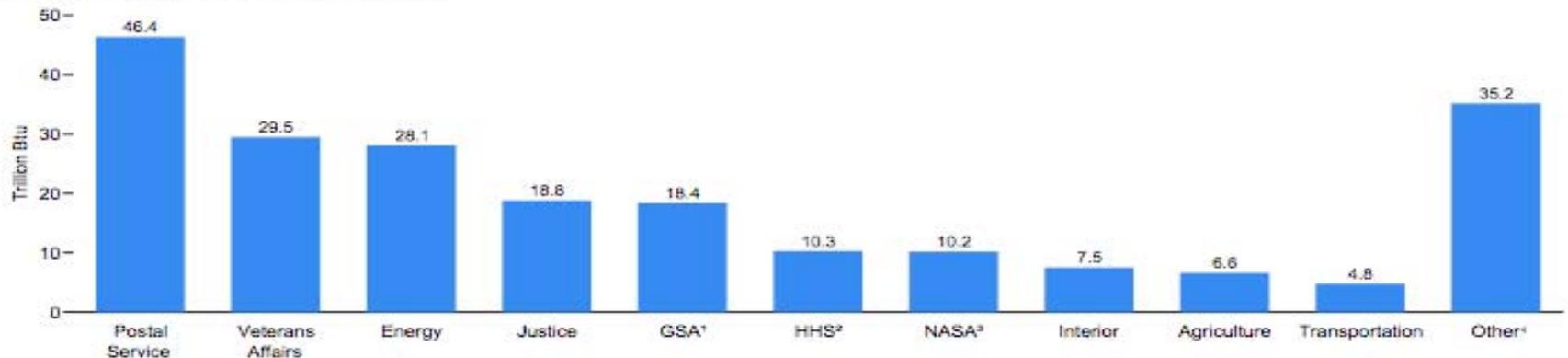
Agency Energy Consumption

Figure 1.11 U.S. Government Energy Consumption by Agency

Total and U.S. Department of Defense, Fiscal Years 1975-2008



Non-Defense Agencies, Fiscal Year 2008



¹ General Services Administration.

² Health and Human Services.

³ National Aeronautics and Space Administration.

⁴ See Table 1.11 for list of agencies.

Note: The U.S. Government's fiscal year was October 1 through September 30, except in 1975 and 1976 when it was July 1 through June 30.

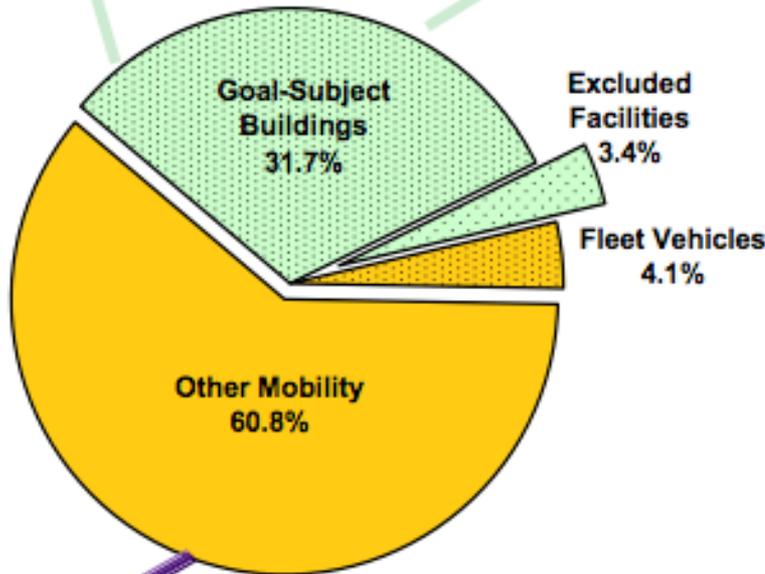
Source: Table 1.11.



U.S. Federal Energy Footprint

Building Energy Usage by Type:

- 50% Electricity
- 34% Natural Gas
- 7% Fuel Oil
- 5% Coal
- 4% Other

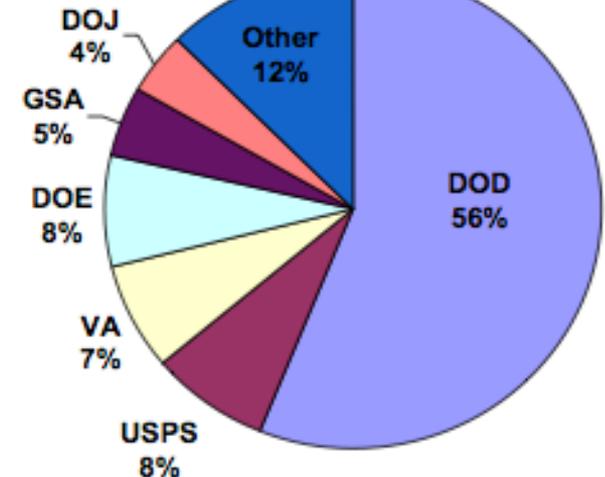


Mobility Energy Usage by Type:

- 70% Jet Fuel
- 14% Navy Special
- 7% Diesel
- 7% Auto Gas
- 2% Other

Facility Energy Usage by agency

Total: 389 trillion Btu



The Federal Government operates over 500,000 facilities (3 billion sq ft) & consumes 1.6% of the nation's total energy use, or \$24.5 billion in annual energy costs



Federal buildings

- Office Buildings
- Laboratories
- Housing
- Border stations
- Parks and historic sites
- Post Offices
- Court Houses
- Hospitals
- Warehouses
- Space launch buildings





Legislative history / Executive Orders

- Energy Policy and Conservation Act (1975)
- DOE Organization Act (1977)
- National Energy Conservation Policy Act (1978)
- Federal Energy Management Improvement Act (1988)
- Executive Order 12759 (1991)
- Energy Policy Act (1992)
- Executive Order 12902 (1994)
- Executive Order 13123 (1999)
- Executive Order 13221 (2001)
- Energy Policy Act of 2005 (EPAAct '05)
- Executive Order 13423 (2007)
- Energy Independence and Security Act of 2007 (EISA)
- American Recovery and Reinvestment Act of 2009 (ARRA)





Pending E.O.

- **New E.O. under development**
- **Led by Council on Environmental Quality (CEQ), Office of the Federal Environmental Executive (OFEE), OMB and agencies**
- **Greenhouse gas reduction will be key**
- **WRI/LMI Public Sector Greenhouse Gas Protocol is expected to be the model**
<http://www.ghgprotocol.org/>



HR 2454 – American Clean Energy and Security Act of 2009

Title I— Clean Energy	▶ A—Combined Efficiency and Renewable Energy Standard	▶ B—Carbon Capture and Sequestration
	▶ C—Clean Transportation	▶ D—State E&E Development Accounts
	▶ E—Smart Grid Advancement	▶ F—Transmission Planning
	▶ G—Technical Corrections to Energy Laws	▶ H—Energy and Efficiency Centers
	▶ I—Nuclear and Advanced Technologies	▶ J—Miscellaneous

Title II— Energy Efficiency	▶ A—Building Energy Efficiency Programs	▶ B—Lighting and Appliance Energy Efficiency Programs
	▶ C—Transportation Efficiency	▶ D—Industrial Energy Efficiency Programs
	▶ E—Improvements in ESPCs	▶ F—Public Institutions
	▶ G—Miscellaneous	

Title III— Global Warming	▶ A—Reducing Global Warming Pollution	▶ B—Disposition of Allowances
	▶ C—Additional GHG Standards	▶ D—Carbon Market Assurance
	▶ E—Additional Market Assurance	

Title IV— Clean Energy Economy	▶ A—Ensuring Real Reductions in Industrial Emissions	▶ B—Green Jobs and Worker Transition
	▶ C—Consumer Assistance	▶ D—Exporting Clean Technology
	▶ E—Adapting to Climate Change	

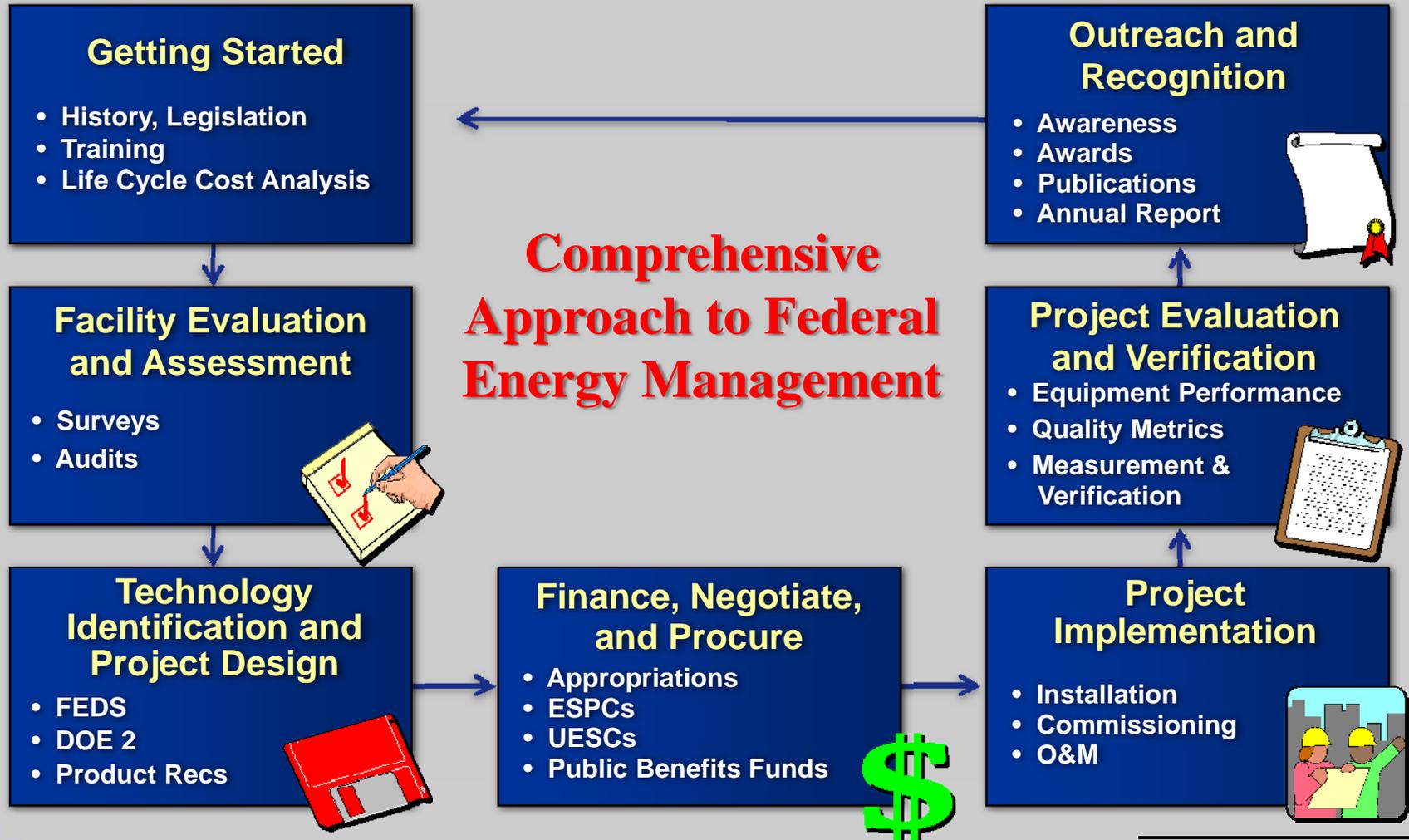


Pending Legislation American Clean Energy and Security Act (ACES, H.R. 2454)

- Sets a national 20% renewable electricity and efficiency standard by 2020
- Establishes national building code (DOE) and retrofit standards (EPA)
- Accelerates phase-out of HFCs (refrigerants, solvents)
- Establishes renewable energy credits system that allows trading and sales
- Requires competition for ESPC task orders
- EPA must have an active GHG registry within 6 months of enactment; reporting would begin in 2011 for the years 2007-2010
- EPA to establish limits on emissions from other industrial sources not specified in the bill



Federal Energy Management





The Federal model for energy management

- **Set goals (legislation and EOs)**
- Plan and implement projects
- Measure performance
- Report progress
- Reward Federal leadership



SET GOALS: Federal energy management goals

- Reduce energy consumption and greenhouse gas emissions by 3% per year (30% by end of FY2015)
- Evaluate 25% of covered buildings annually
- Obtain increasing amounts of renewable energy (7.5% by 2013)
- Reduce petroleum use by 2% per year
- Reduce water consumption intensity by 2% per year (16% by end of FY2015)
- Use sustainable design principles
- Reduce fossil fuel based energy by 100% by 2030 against a 2003 baseline
- Agencies must purchase Energy Star or FEMP designated efficient products



The Federal model for energy management

- Set goals
- **Plan and implement projects**
- Measure performance
- Report progress
- Reward Federal leadership



Plan and implement projects

- How agencies will meet the goals:
 - ☐ Whole building life-cycle cost-effective projects
 - ☐ Technology breakthroughs





Investments in building energy efficiency

- Federal agencies have three primary options for financing energy efficiency, water conservation, and renewable energy projects in buildings and facilities:
 - ☐ Direct appropriated funding, and
 - ☐ Alternative financing: energy savings performance contracts (ESPCs), utility energy service contracts (UESCs), and enhanced use leases (EUL); and
 - ☐ Public benefit funds.
 - ☐ Power Purchase Agreements (PPA) are increasingly beneficial

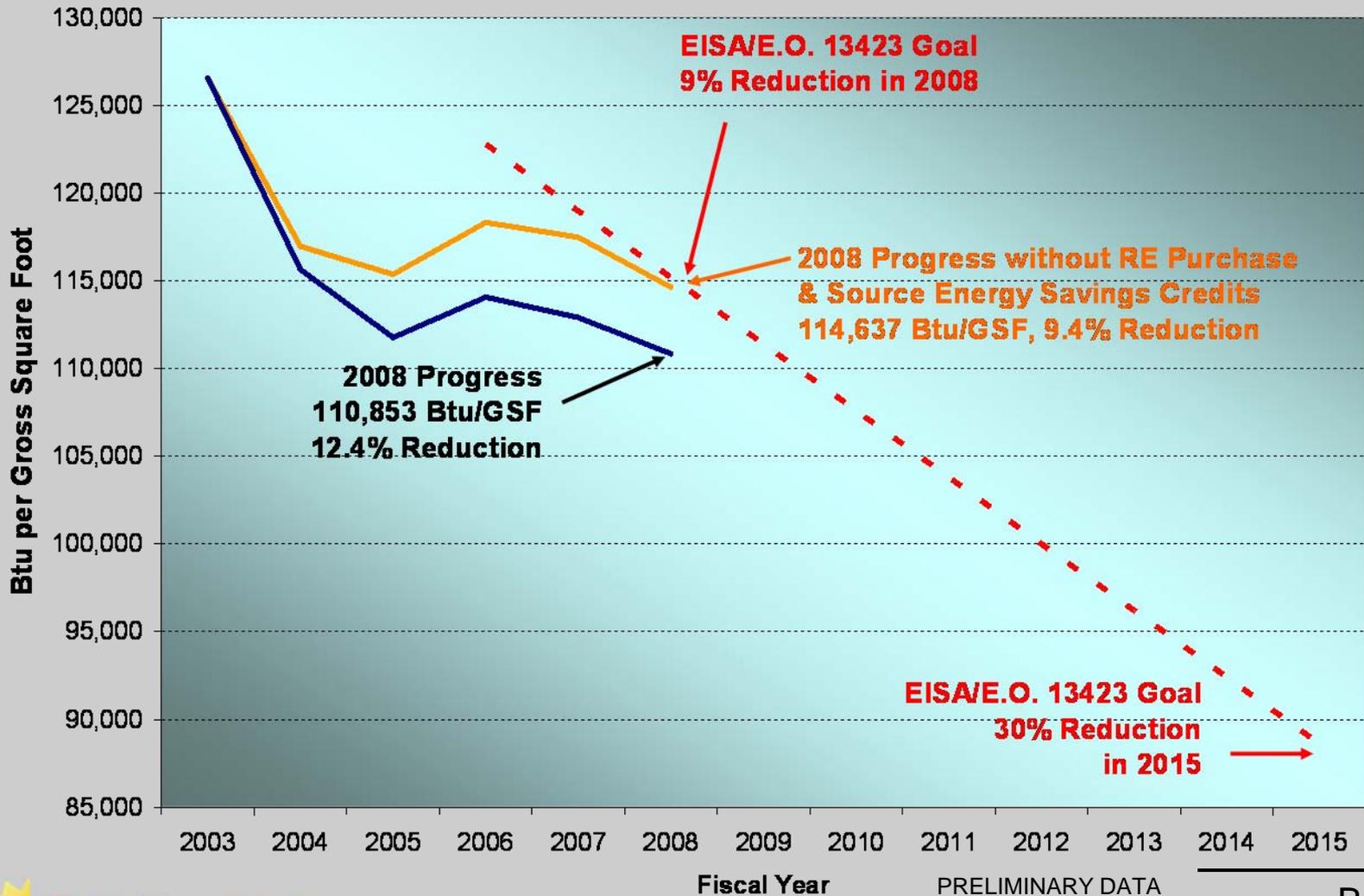


FEMP Model

- Set goals
- Plan and implement projects (Later)
- ✓ **Measure performance**
- ✓ **Report progress**
- Reward Federal leadership



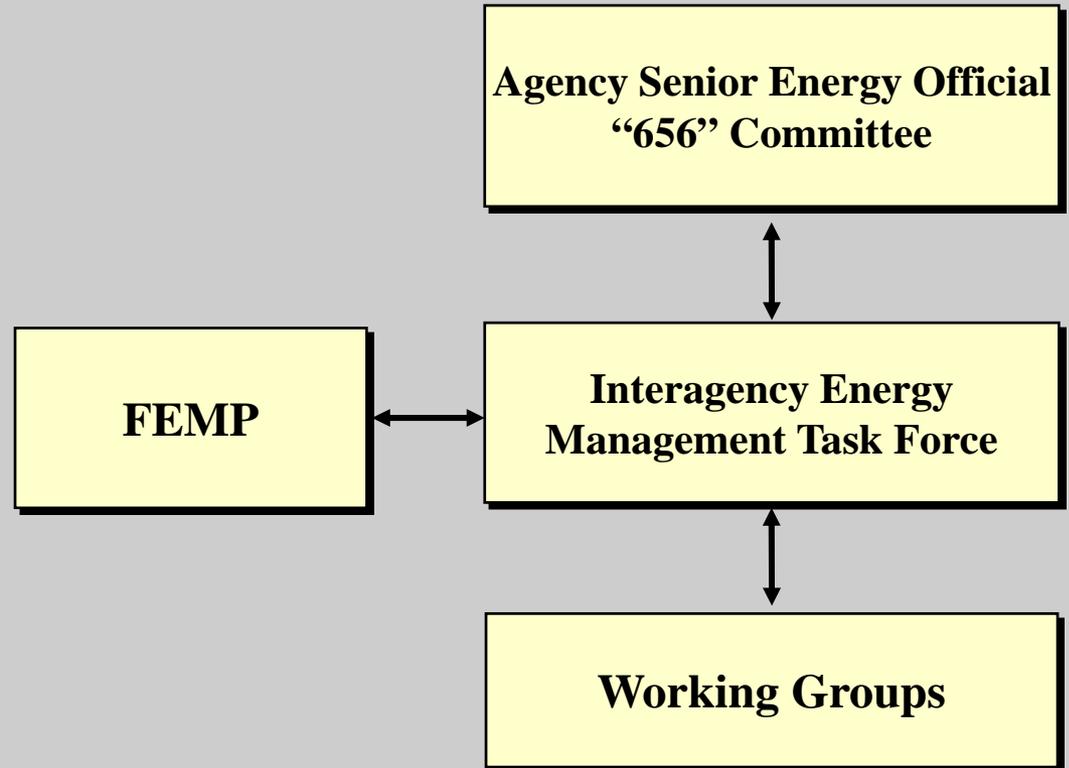
Government Building Energy Intensity FY 2003 – FY 2008





Report Progress

- Annual Report to Congress and the President
- Agency Energy Score Cards
- FEMP Interagency coordination





Federal Facility Performance under EPACT and E.O. 13423, FY 2008

Goal/Requirement	FY 2008 Federal Performance (Preliminary)
EO 13423/EISA: Reduce energy intensity (Btu/sq.ft.) by 9 percent compared to 2003; 30 percent reduction required in 2015.	19 of 22 covered agencies exceeded the goal. The government decreased energy use per square foot by 12.4% in FY 2008 relative to FY 2003. (9.4% without additional credits)
EPACT/EO 13423: Use renewable electric energy equivalent to a least 3 percent of total electricity use; at least half of which must come from sources developed after January 1, 1999.	16 of 22 agencies met the goal. The government purchased or produced renewable energy in FY 2008 equivalent to 3.4% of electricity use.
E.O. 13423: Reduce water consumption intensity (Gal/sq.ft.) relative to 2007 baseline, by 2 percent annually; 16 percent by the end of fiscal year 2015.	18 of 22 agencies met the goal. The government reduced water use per square foot by 2.9% in FY 2008 compare to FY 2007.

PRELIMINARY DATA

July 2009 Management Scorecards - Summary

	Energy		Transportation		Environment	
	Status	Progress	Status	Progress	Status	Progress
Agriculture	●	●	●	●	●	●
Commerce	●	●	●	● ↓	●	●
Defense	●	● ↓	●	● ↓	●	●
Education					●	● ↑
Energy	● ↑	●	●	●	●	●
EPA	●	●	●	●	●	●
HHS	●	●	●	●	●	●
DHS	●	●	●	● ↓	●	●
HUD	●	●	●	● ↓	●	●
Interior	●	●	●	●	●	● ↓
Justice	●	●	●	● ↑	●	●
Labor	●	●	●	●	●	●
State	●	● ↓	●	●	●	●
Transportation	●	● ↓	●	● ↓	●	●
Treasury	●	●	●	●	●	●
Veteran's Affairs	●	●	● ↑	●	●	●
Court Services			●	● ↓		
GSA	●	●	●	●	●	●
NARA	●	●			●	●
NASA	●	●	●	● ↓	●	●
OPM					●	●
SSA	●	●	●	●	●	● ↑
Smithsonian	●	● ↓	●	●	●	●
TVA	●	●			●	●
USPS	●	●	●	●	●	●



FEMP Model

- Set goals
- Plan and implement projects
- Measure performance
- Report progress
- **Reward Federal leadership**
 - Agency-Specific awards
 - FEMP awards
 - Presidential awards



Presidential Awards





Questions?