



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable



Federal Energy Management Program

The Sustainability of Federal Facilities: Past Performance and New Opportunities



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Outline and Introduction

- Federal Government overall energy footprint
- Requirements/categories of Federal facilities
- Progress toward facility goals
- Investments in energy efficiency
- New requirements for project implementation and reporting

The mission of the Federal Energy Management Program is 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.



Bottom Line Up-Front

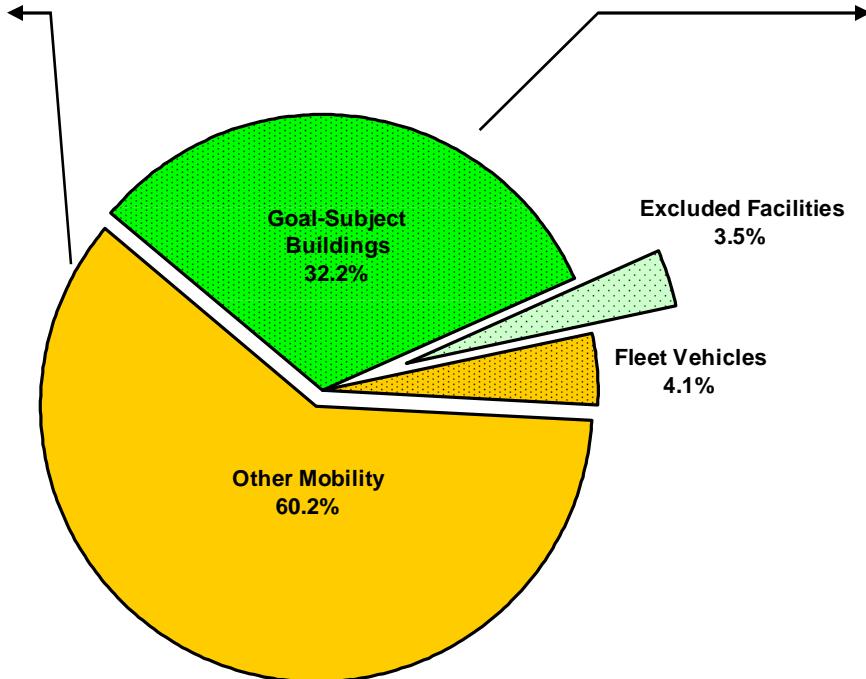
- Numerous statutory and Executive Order requirements have resulted in an array of overlapping facility categories.
- Despite significant progress by agencies in certain areas, preliminary findings indicate that for the Federal Government as a whole, the rate of progress is decreasing and attainment of long-term goals may be in jeopardy.
- New requirements for project identification and tracking will provide a clearer picture of what agencies are “saving” as a result of their efforts.



US Federal Energy Footprint

Mobility Energy Usage by Type:

Jet Fuel = **65%**
Navy Special = 14%
Diesel = 14%
Auto Gas = 7%
Other = 1%



*Building Energy Usage by Type:**

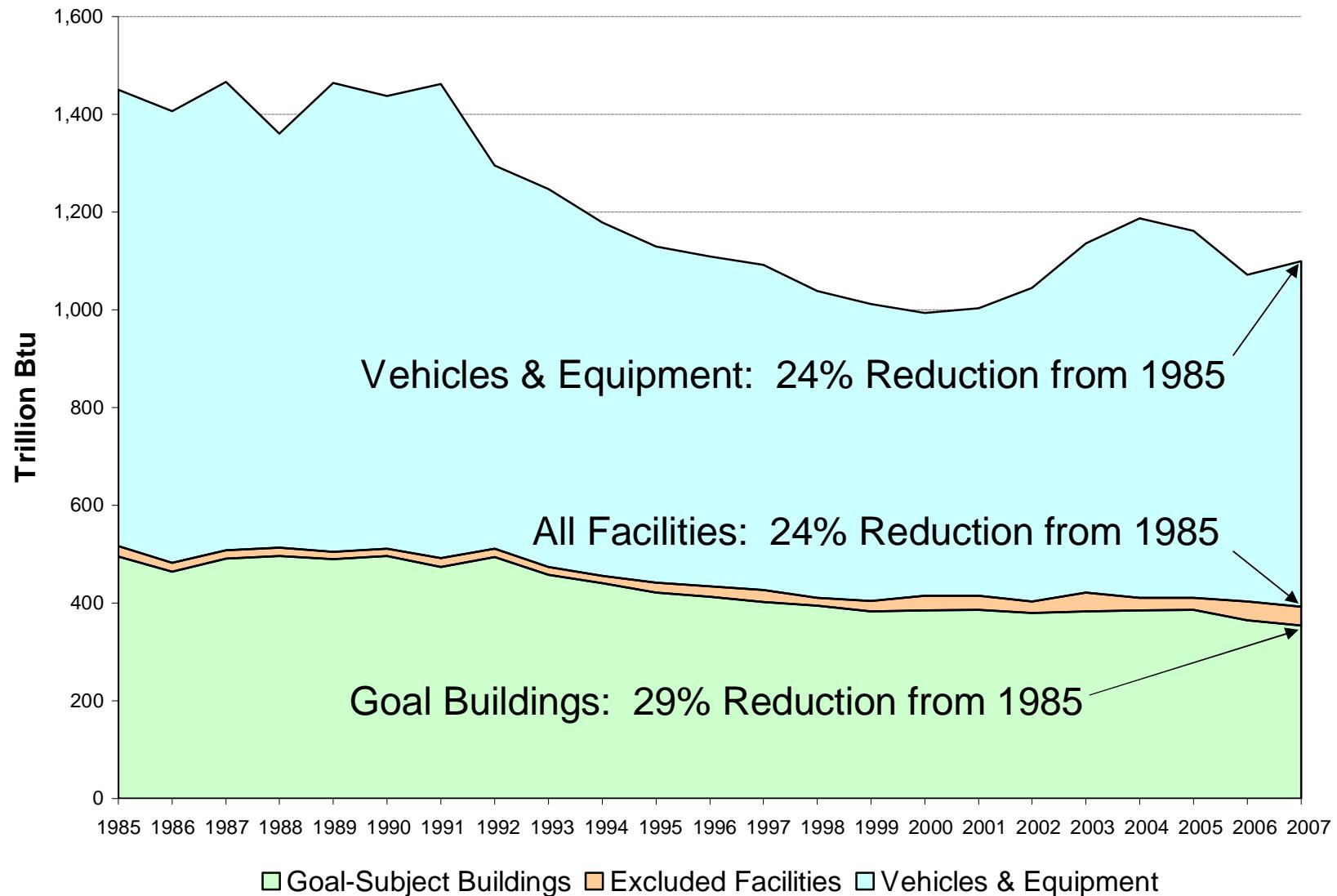
Electricity = **49%**
Natural Gas = 33%
Fuel Oil = 7%
Coal = 5%
Other = 5%

**The Federal Government operates over 500,000 facilities (3 billion sq ft)*

The Federal Government consumes **1.6%** of the Nation's total energy use, or **\$17.4 billion** in annual energy costs

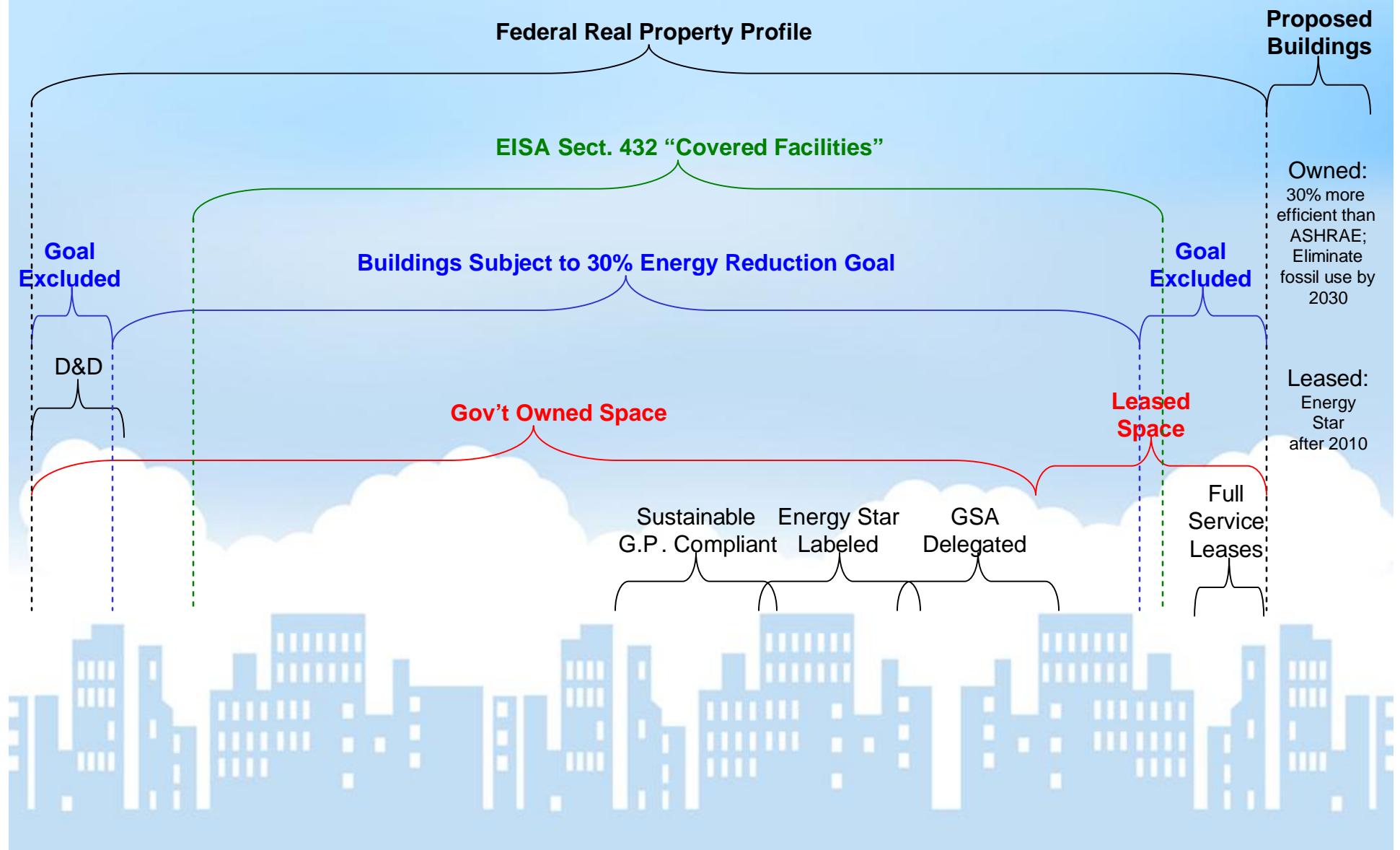


Federal Energy Footprint: History





Federal Facility Categories for Energy Requirements





Overall Facility Goal Progress

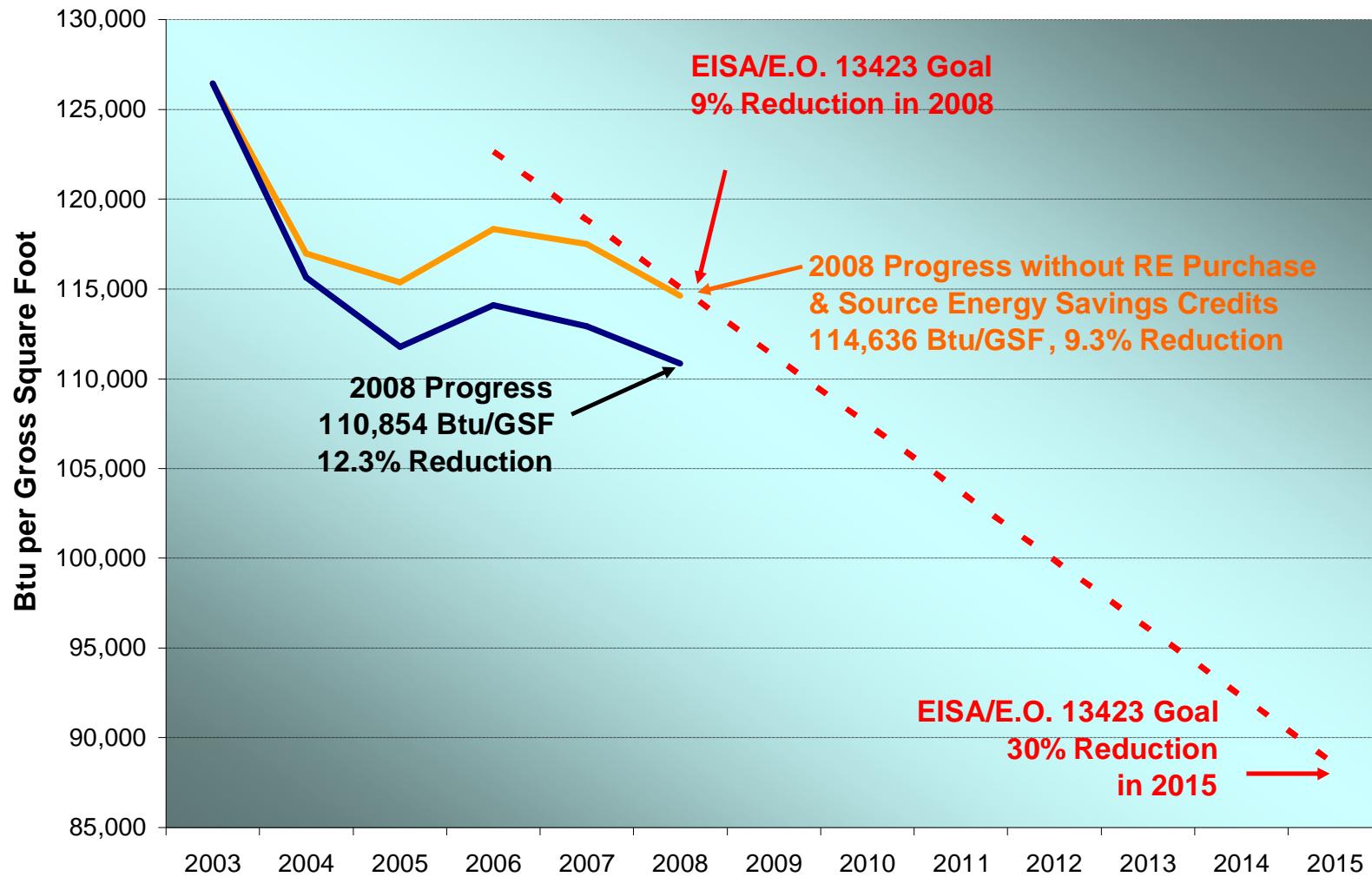
Federal Facility Performance under EPACT and E.O. 13423, FY 2008

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 12.3% in FY 2008 relative to FY 2003. (9.3% 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 2.0% in FY 2008 compare to FY 2007.



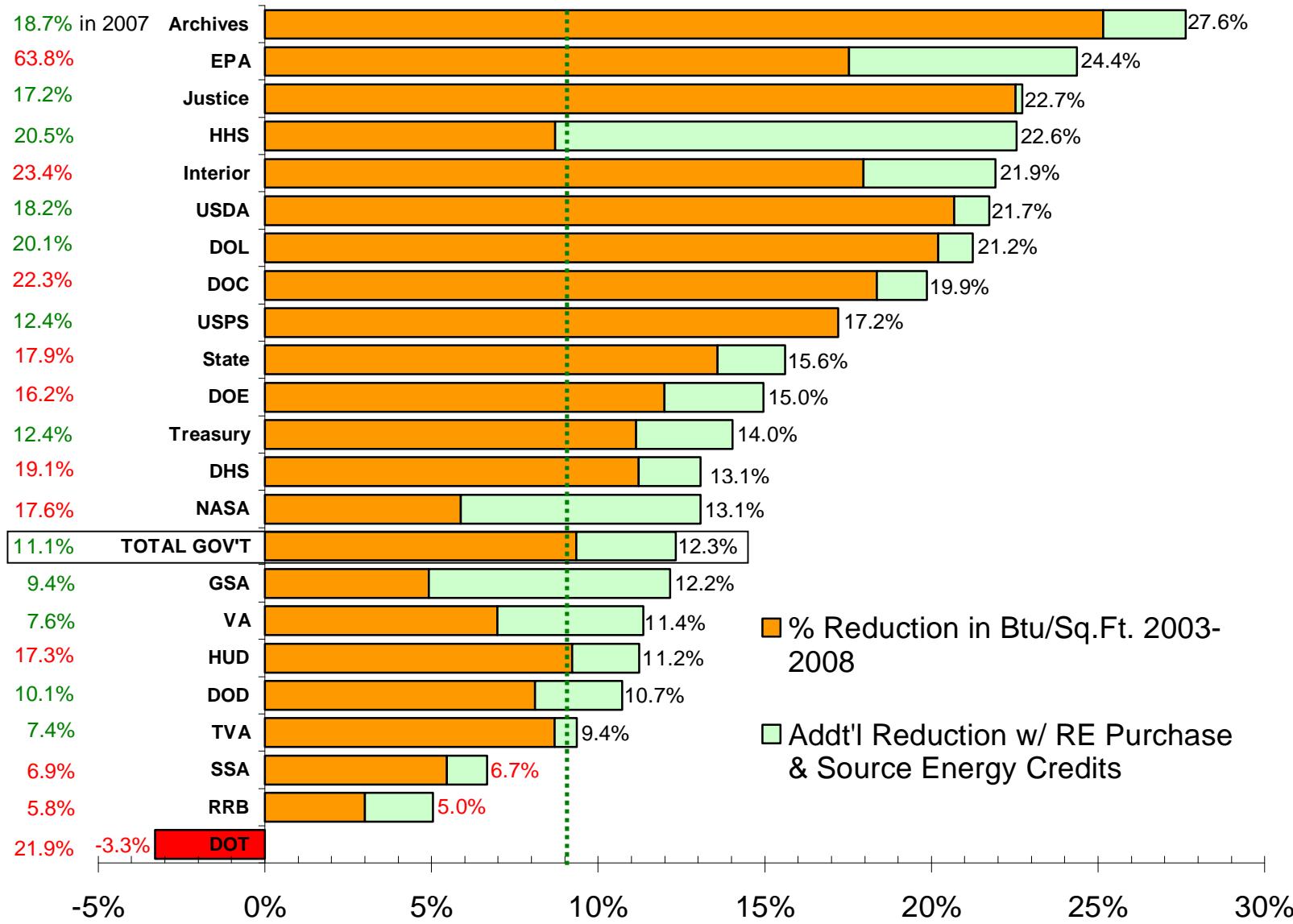
Federal Facilities: Progress Toward Energy Reduction Goal

Government Building Energy Intensity FY 2003 – FY 2008



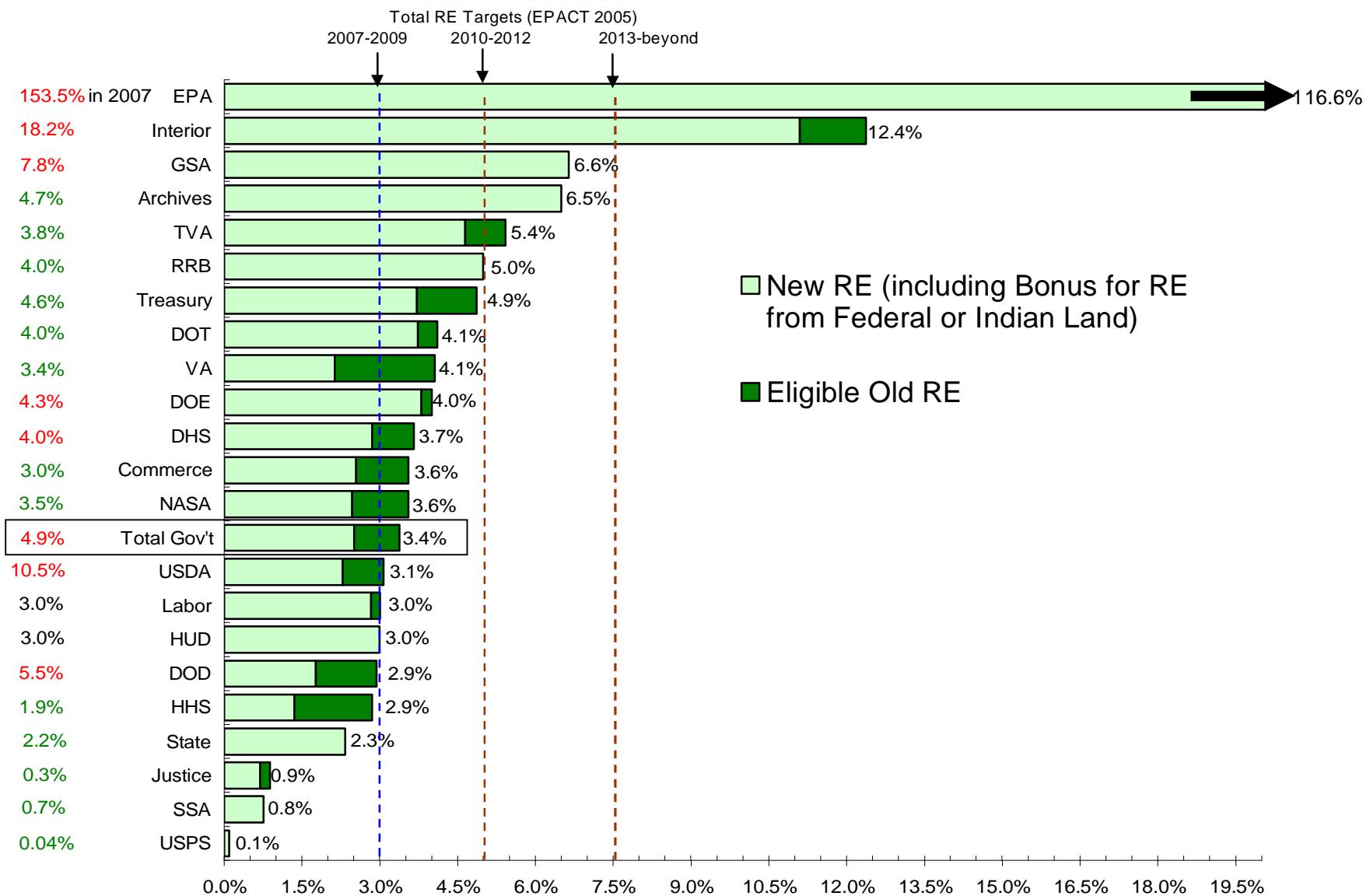


Federal Facilities: Agency Progress Toward Energy Reduction Goal





Federal Facilities: Progress Toward Renewable Energy Goal



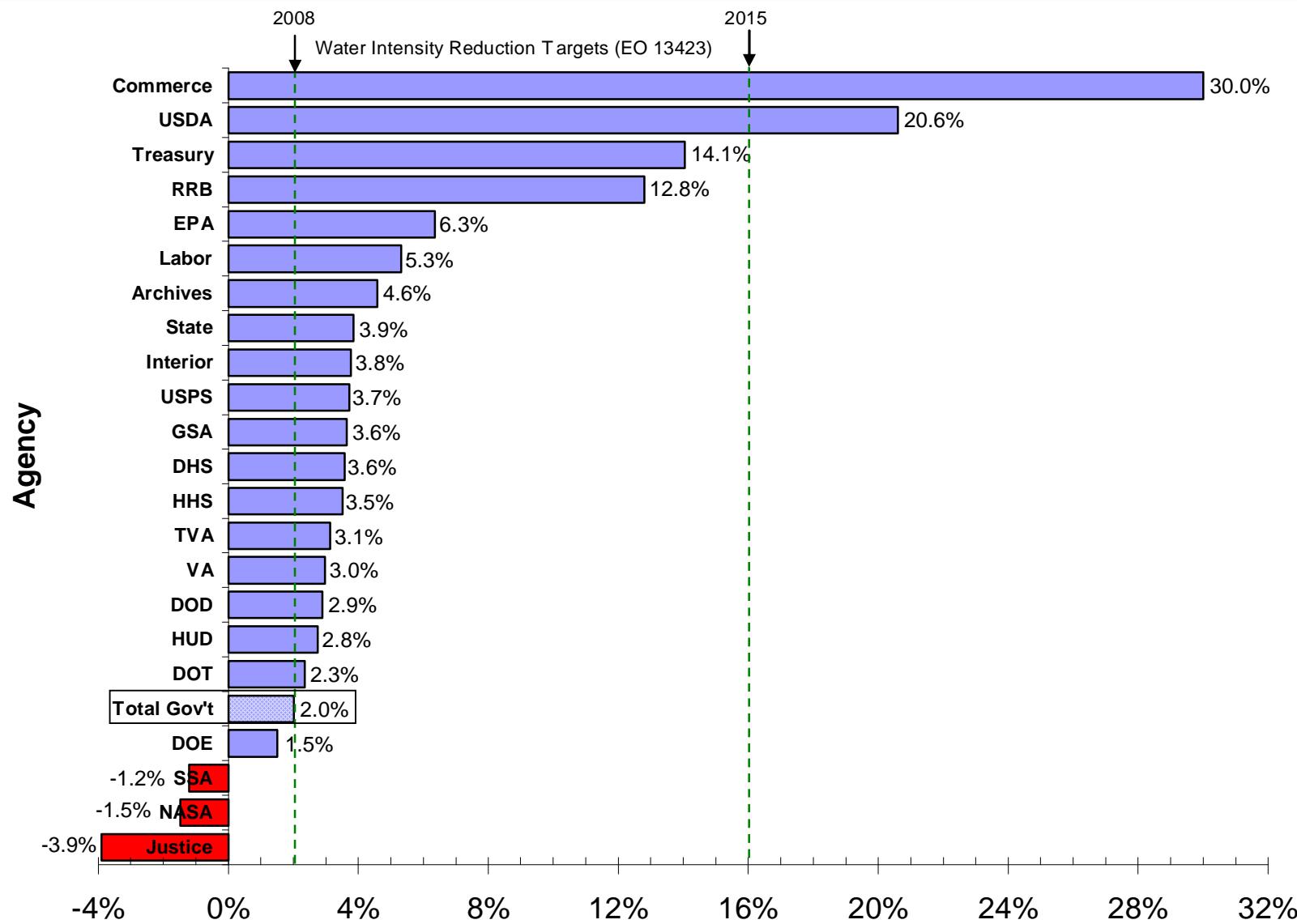


Federal Facilities: Agency Renewable Energy Use in 2008

Agency	Renewable Energy and Electricity Use (Megawatthours)					
	New RE (without Bonus)	Bonus, Federal or Indian Land	Eligible Old RE	Total Renewable Energy Use	Total Electricity Use	RE as % of Electricity Use
DOD	449,994	75,596	348,969	874,558	29,730,479	2.9%
DOE	187,091	1,120	10,364	198,576	4,956,568	4.0%
GSA	189,724	1,195	0	190,919	2,874,920	6.6%
EPA	149,527	94	0	149,621	128,307	116.6%
VA	61,354	6,354	61,363	129,071	3,175,625	4.1%
Interior	66,636	8,602	8,669	83,907	678,152	12.4%
NASA	39,505	289	17,500	57,294	1,613,847	3.6%
DOT	30,551	411	3,126	34,088	829,751	4.1%
DHS	23,178	210	6,647	30,035	820,701	3.7%
HHS	13,828	0	15,302	29,131	1,020,153	2.9%
TVA	12,764	11,564	4,100	28,428	523,700	5.4%
Treasury	15,384	0	4,800	20,184	414,588	4.9%
USDA	12,808	446	4,518	17,773	579,118	3.1%
Justice	10,633	0	3,087	13,720	1,542,218	0.9%
Commerce	8,480	0	3,345	11,825	332,811	3.6%
Labor	8,277	0	505	8,782	292,591	3.0%
Archives	5,783	189	0	5,972	91,886	6.5%
USPS	2,965	2,965	7	5,937	6,064,060	0.1%
State	2,852	0	0.0	2,852	122,333	2.3%
SSA	1,319	126	0	1,444	189,587	0.8%
HUD	717	0	0	717	23,906	3.0%
RRB	216	0	0	216	4,329	5.0%
Total	1,293,587	109,160	492,304	1,895,050	56,009,629	3.4%



Federal Facilities: Performance Toward Water Reduction Goal



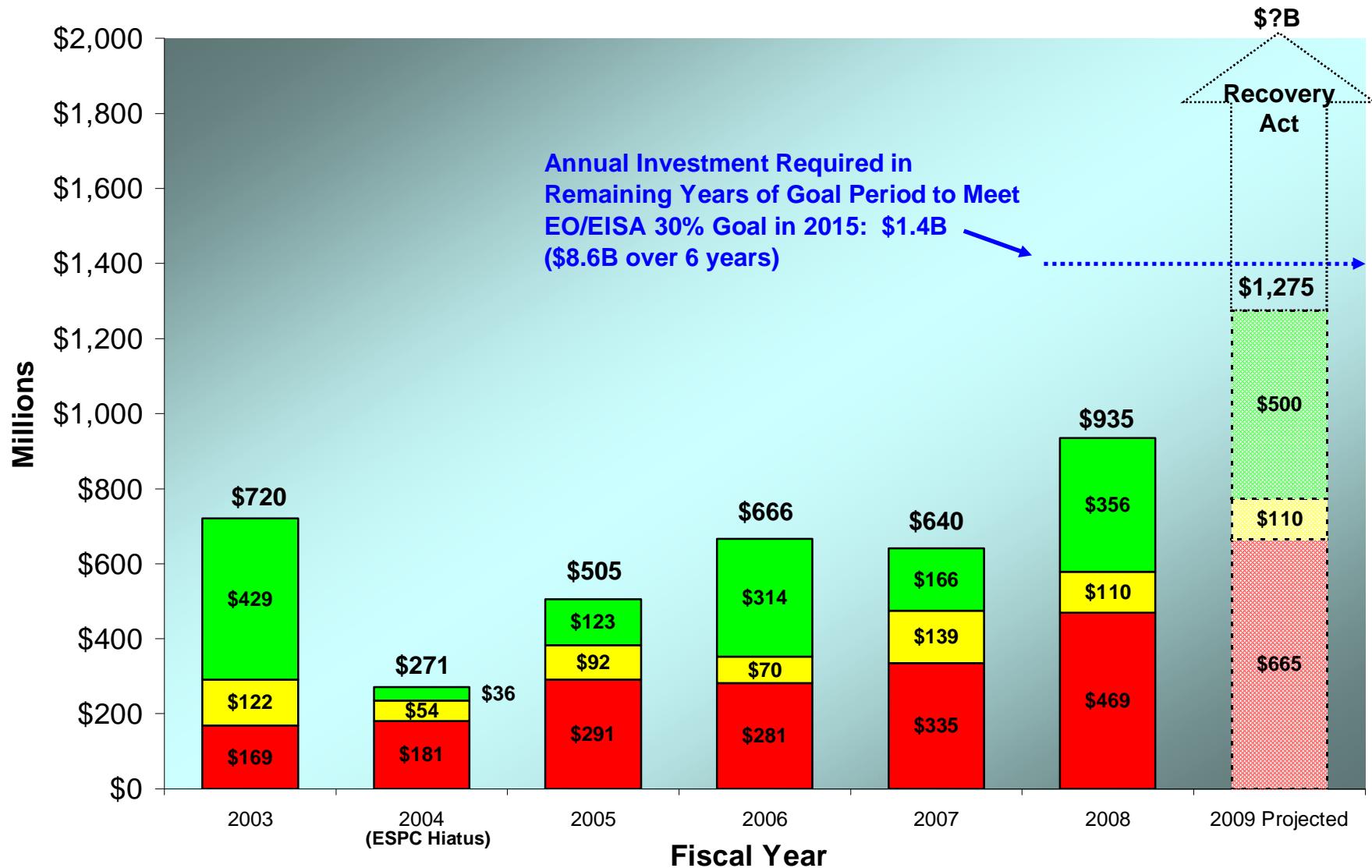


Federal Facilities: Water Intensity FY07 and FY08

Agency	FISCAL YEAR 2007			FISCAL YEAR 2008			% Change 2007-2008
	GSF (Thou.)	Consumption (Million Gal.)	Gallons/GSF	GSF (Thou.)	Consumption (Million Gal.)	Gallons/GSF	
VA	144,836.1	9,337.3	64.5	146,812.6	9,187.5	62.6	-3.0
Justice	72,917.6	8,731.0	123.3	71,334.0	9,138.6	128.1	3.9
DOE	111,942.5	6,455.2	62.1	109,859.9	6,718.7	61.2	-1.5
USPS	312,962.7	5,455.9	17.4	325,567.1	5,453.8	16.8	-3.7
Interior	61,724.9	3,624.3	58.7	62,906.8	3,553.2	56.5	-3.8
NASA	38,896.2	2,036.5	74.7	39,611.4	3,001.7	75.8	1.5
GSA	176,414.5	2,749.2	15.6	173,022.2	2,597.5	15.0	-3.6
HHS	31,338.4	1,799.7	60.6	31,944.4	1,867.7	58.5	-3.5
USDA	57,480.9	2,150.9	37.4	58,865.3	1,748.0	29.7	-20.6
DHS	45,556.7	1,522.8	33.4	46,456.7	1,497.5	32.2	-3.6
Labor	20,335.8	1,029.0	50.6	22,868.4	1,095.7	47.9	-5.3
TVA	27,969.8	733.0	26.2	28,166.8	714.9	25.4	-3.1
DOT	25,722.1	464.1	18.0	27,781.9	489.5	17.6	-2.3
Treasury	12,049.6	431.1	36.2	12,592.5	391.8	31.1	-14.1
Commerce	13,627.9	352.1	25.8	13,602.9	245.6	18.1	-30.0
EPA	3,723.3	168.1	44.7	3,738.1	156.6	41.9	-6.3
SSA	9,262.0	125.0	13.5	8,636.8	118.0	13.7	1.2
Archives	4,062.0	107.9	26.6	4,241.6	107.7	25.4	-4.6
State	4,476.7	106.2	23.7	4,516.0	103.0	22.8	-3.9
HUD	1,432.0	21.8	15.2	1,441.0	21.3	14.8	-2.8
RRB	346.9	5.5	16.1	346.9	4.9	14.0	-12.8
Civilian Agencies							
Subtotal	1,177,078.7	47,406.7	40.3	1,194,313.4	48,213.1	40.4	0.2
DOD	1,952,056.2	116,752.0	59.8	1,973,774.2	114,627.4	58.1	-2.9
TOTAL	3,129,134.9	164,158.7	52.5	3,168,087.6	162,840.5	51.4	-2.0



Federal Facilities: Investment in Energy Efficiency Projects





Federal Facilities: EERE Project Investment

Project investment was 12.9% of energy costs
6.5% was financed through ESPC/UESC

Agency	Investment in Energy Efficiency/Renewable Energy (FY 2008)				Facility Energy Costs (FY 2008)	Total Investment as a % of Energy \$	Financed Investment as a % of Energy \$	Direct Investment as a % of Energy \$
	Direct Obligations	ESPC	UESC	Total Investment				
DOE	\$2,077,200	\$139,201,594	\$0	\$141,278,794	\$414,769,432	34.1%	33.6%	0.5%
EPA	\$4,893,000	\$0	\$0	\$4,893,000	\$20,325,666	24.1%	0.0%	24.1%
USPS	\$150,000,000	\$0	\$0	\$150,000,000	\$645,771,619	23.2%	0.0%	23.2%
Treasury	\$3,010,000	\$0	\$4,725,000	\$7,735,000	\$46,057,600	16.8%	10.3%	6.5%
DHS	\$4,217,200	\$13,721,536	\$0	\$17,938,736	\$126,223,233	14.2%	10.9%	3.3%
Justice	\$3,121,000	\$21,991,000	\$0	\$25,112,000	\$208,017,267	12.1%	10.6%	1.5%
HHS	\$7,171,800	\$11,701,483	\$4,563,700	\$23,436,983	\$196,271,000	11.9%	8.3%	3.7%
Interior	\$11,260,000	\$1,467,819	\$507,200	\$13,235,019	\$112,706,640	11.7%	1.8%	10.0%
DOD	\$198,323,801	\$158,762,114	\$97,312,400	\$454,398,315	\$3,949,096,516	11.5%	6.5%	5.0%
Archives	\$1,630,443	\$0	\$0	\$1,630,443	\$14,421,747	11.3%	0.0%	11.3%
USDA	\$5,516,970	\$909,666	\$2,523,000	\$8,949,636	\$79,532,561	11.3%	4.3%	6.9%
Commerce	\$4,951,000	\$0	\$0	\$4,951,000	\$50,502,717	9.8%	0.0%	9.8%
VA	\$39,807,600	\$0	\$0	\$39,807,600	\$511,989,301	7.8%	0.0%	7.8%
TVA	\$1,721,000	\$0	\$0	\$1,721,000	\$24,563,340	7.0%	0.0%	7.0%
RRB	\$40,000	\$0	\$0	\$40,000	\$572,300	7.0%	0.0%	7.0%
GSA	\$17,438,640	\$8,654,477	\$0	\$26,093,117	\$434,592,516	6.0%	2.0%	4.0%
State	\$988,000	\$0	\$0	\$988,000	\$17,174,619	5.8%	0.0%	5.8%
SSA	\$1,322,000	\$0	\$0	\$1,322,000	\$24,858,700	5.3%	0.0%	5.3%
NASA	\$8,098,000	\$0	\$0	\$8,098,000	\$166,582,840	4.9%	0.0%	4.9%
DOT	\$2,569,900	\$0	\$0	\$2,569,900	\$124,284,440	2.1%	0.0%	2.1%
Labor	\$500,000	\$0	\$0	\$500,000	\$51,009,800	1.0%	0.0%	1.0%
HUD	\$1,624	\$0	\$0	\$1,624	\$4,013,900	0.0%	0.0%	0.0%
Total	\$468,659,178	\$356,409,689	\$109,631,300	\$934,700,167	\$7,223,337,755	12.9%	6.5%	6.5%



EISA Sect. 432 Facility Management Requirements

- **EISA Section 432** establishes a framework for facility project management
- Agencies must identify all “covered facilities” that constitute at least 75% of energy use.
- Each facility must have a designated energy manager responsible for:
 - Completing comprehensive energy and water evaluations (audits) (25% of facilities each year)
 - Implementing identified ECMs; (bundling permitted)
 - Following up on implemented ECMs
- Web-based tracking system to certify compliance; including each facility’s potential measures, estimated cost and savings of measures.
 - Tracking system will be available to Congress, other Federal agencies, industry, and the public
 - Some specific data exempted from disclosure for national security purposes.
- In addition to tracking system, energy managers shall enter energy use data for each facility into a benchmarking system (i.e., Energy Star Portfolio Manager)



- DOE Guidance/Decisions:
 - guidelines on designating energy managers and criteria for covered facilities and evaluations (audits)
 - http://www1.eere.energy.gov/femp/pdfs/eisa_s432_guidelines.pdf
 - guidelines for project implementation and follow-up measures (pending)
 - Select benchmarking system (Energy Star) or develop another (pending)
- OMB energy scorecards to be based on the requirements of Section 432
 - Scorecards available to Congress, other Federal agencies, and the public
- Authorizes agencies to use appropriations, private financing, or a combination to comply with its requirements
 - ESPCs, UESCs for evaluations/project implementation
- Current Implementation Status
 - Agencies submitted initial lists of covered facilities and energy managers
 - Web-based tracking: funding identified, SOW drafted, interagency working group will be engaged
 - Findings from first set of evaluations due in June



Thank you for your attention

- Questions?
 - Discussion
- Contact:
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