



Learning Objectives

- Review federal laws, procurement rules, and strategies for design relating to green buildings.
- Discuss the requirements of the High Performance and Sustainable Buildings MOU, EPEAT '05 and EISA 2007.
- Identify ways to change design standards and provide designs that meet federal agencies' requirements.



GSA

- Our Mission
 - The U.S. General Services Administration leverages the buying power of the federal government to acquire best value for taxpayers and our federal customers. We exercise responsible asset management. We deliver superior workplaces, quality acquisition services, and expert business solutions. We develop innovative and effective management policies.



PBS Building Inventory

- Largest civilian landlord in the U.S. Government Over 1 million Federal employees housed in PBS space
 - PBS Inventory in Region 9
 - Over 194 owned properties 17,907,627 million sq. ft.
 - Over 1,125 leased properties 24,182,971 million sq. ft.



Rating System Requirements

- Owned new construction and major renovation must achieve a certified LEED rating.
- We recently raised this requirement to a SILVER LEED rating.
- All build to suit leases must achieve a SILVER LEED rating.



- Nationwide: 154 Registered projects
 - Representing nearly 40 million square feet
 - Calexico Port of Entry U.S. General Services Administration Calexico CA US LEED NC 2.2
 - SSA 6th and 9th Floor Tenant Improvement General Services Administration Oakland CA US LEED CI 2.0



Sustainable Metrics

- Energy Independence and Security Act (EISA)
- EPACT
- EO 13423
- EO 13514
- Guiding Principles for High Performance Federal Buildings
- Sustainability Matters
- Assessing Green Building Performance Report



EISA

- Apply sustainable design principles in siting, design, and construction of prospectus – level new construction and major renovations. (Section 433).



EISA

- Reduce fossil fuel consumption in designs for prospectus-level new construction (including built-to-suit leases) and major renovations (Section 433).
 - 55% in FY2010
 - 65% in FY2015
 - 80% in FY2020
 - 90% in FY2025
 - 100% in FY2030



EISA

- Each agency must reduce building energy consumption per gross square foot by the following percentages over FY03 (Section 433):
 - 2% each year or 30% by 2015



EISA

- Maximum feasible replacement of existing with cost-effective lighting technologies and geothermal heat pump technologies at each GSA owned and leased facility (Section 439).
- 30% or more hot water through solar heaters in new Federally-owned buildings or Federal-owned buildings undergoing major renovations (Section 523).



EISA

- In normal course of maintenance, replace fixtures or bulbs, to the maximum extent feasible, with ones that are energy efficient (Section 323).
- To the maximum extent feasible, use lighting fixtures and bulbs that are energy-efficient in the construction, alteration, or acquisition of prospectus level owned buildings (Section 323).



EISA

- Beginning in 2010, new leased buildings must have an ENERGY STAR label in most recent year. (Section 435).
- Prospectus level leases must consider a minimum energy efficiency performance requirement and use renewable energy (Section 323).



EISA

- Use advanced meters or advanced metering devices that measure at least hourly consumption of natural gas and steam (Section 434).
- Maintain or restore predevelopment stormwater hydrology (Section 438).



EPACT '05

- Purchase Energy Star or Federal Energy Management Program designated products.



EO 13423

- Reduce greenhouse emissions 3% annually.
- Purchase new renewable energy.
- Reduce water consumption 2% annually until 2015.
- Use biobased, EP, energy and water efficient and recycled products.
- Comply with the guiding principles of HPSB MOU for all new, 15% of existing asset building inventory by 2015.



High Performance and Sustainable Buildings MOU

- Moisture control strategy
- Daylight factor of 2% in 75% of occupied space.
- Low emitting materials.
- Construction IAQ, 72 hour flush out.
- Recycled products per EPA.
- USDA biobased products.
- Salvage 50% construction waste.
- Eliminate ozone depleting compounds.



Guiding Principles for High Performance and Sustainable Buildings

- Energy Efficiency 30% better than ASHRAE 90.1
- Energy Star benchmarking
- Indoor water efficiency of 20%
- Outdoor water efficiency of 50%
- Ventilation and comfort to meet ASHRAE 55 and 62.1



GSA Wellness Program

- The comprehensive health agenda will incorporate locally grown goods from farmers markets, improved menu selections, and consumer education tips on – portion sizes, cooking techniques, and recycling and composting initiatives throughout national federal cafeterias.

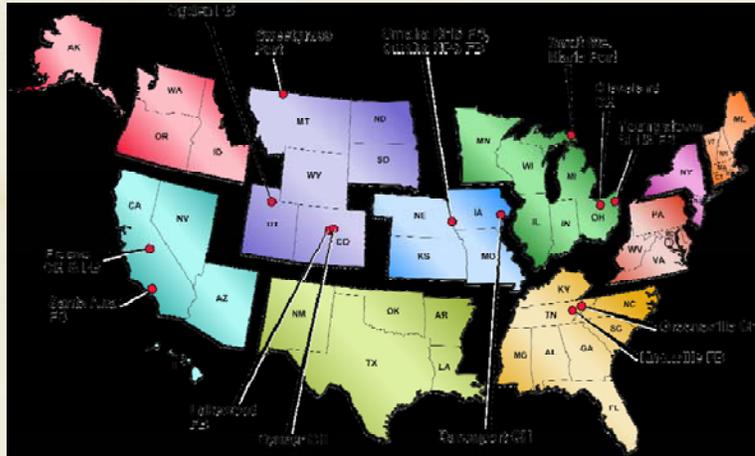


Does Sustainable Design Deliver?

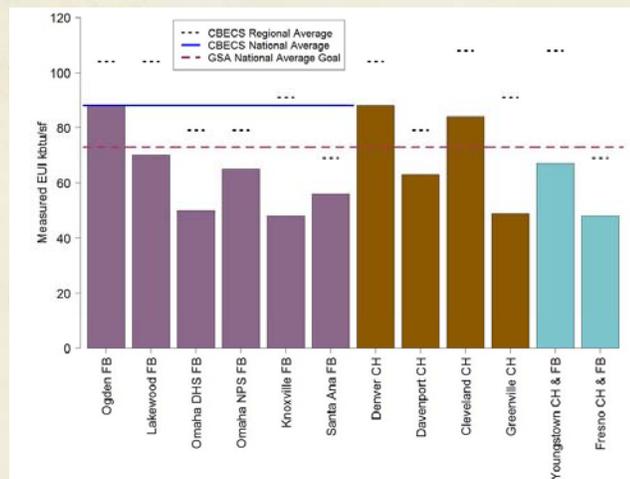
- To answer this question, GSA evaluated 12 sustainable designed buildings. The buildings studied all incorporated sustainable design criteria, with seven of the 12 receiving LEED Ratings.

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- The study collected and analyzed data on:
 - Water
 - Energy
 - Maintenance and operations
 - Waste generation and recycling
 - Occupant satisfaction
 - Transportation

The Buildings



Energy Performance



CBECS - Commercial Building Energy Consumption Survey

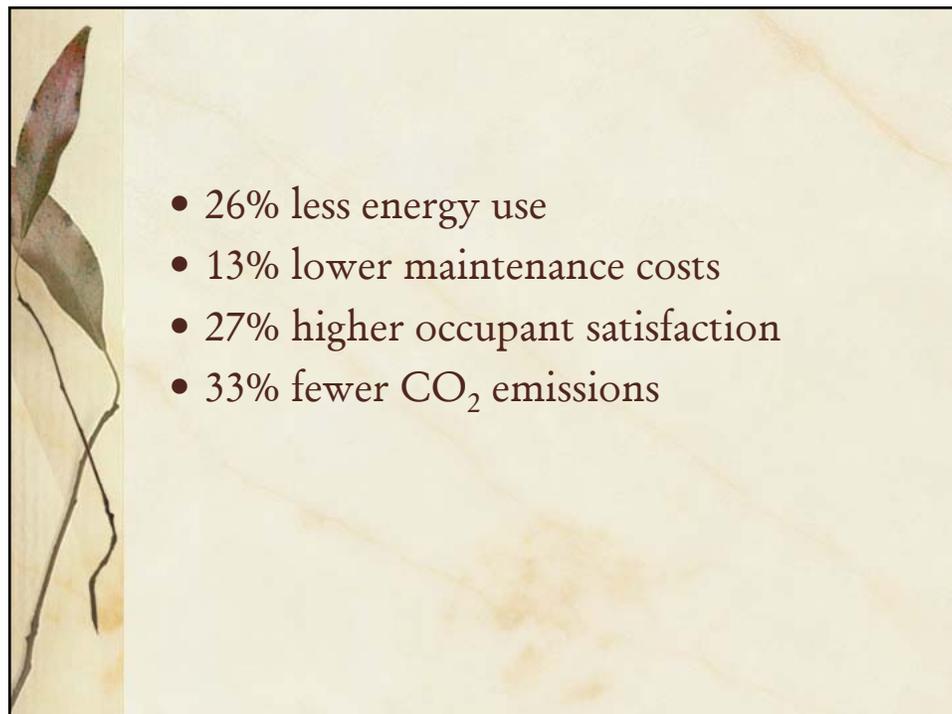
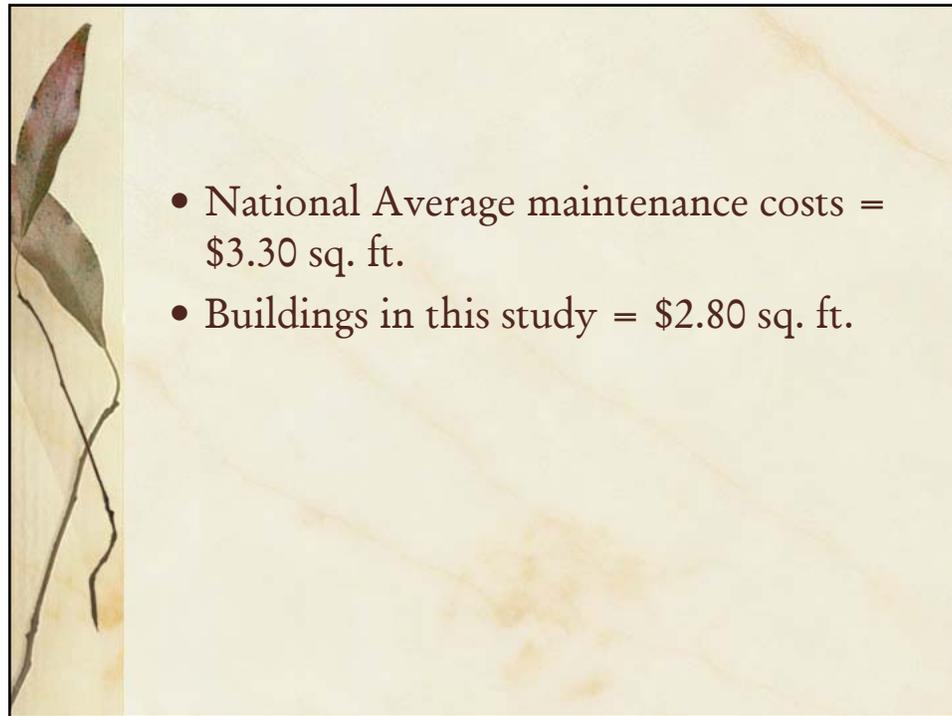


Robert F. Coyle Federal Building and U.S. Courthouse

- The building houses 14 courtrooms and is the tallest building in the city (11 floors high).
- Designed under California's Title 24 energy standard, the building includes high efficiency lighting, underfloor air distribution systems, water-cooled chillers, and natural gas boilers.
- Built in 2001 and has an Energy Star score of 92

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- How much did the 12 buildings save in maintenance costs over the past year?

-\$892,000





ARRA – American Recovery and Reinvestment Act

- GSA received \$5.55 billion
 - \$750 million Courthouses and Federal Office Buildings
 - \$300 million for LPOEs
 - \$4.5 billion for High Performance Green Buildings

www.gsa.gov/recovery

www.fedbizopps.gov



Ongoing Recovery Projects

- Affecting 13 Buildings with Limited Scope Projects:
 - HVAC
 - BAS Programming
 - Lighting
 - Roof Repairs
 - Water Conservation
 - Green Cafeteria
 - PV
 - Commissioning



Questions:

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