



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

Better Federal Buildings – Why and How

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Federal Energy Management Program

US Department of Energy



Why Better Federal Buildings?

- Legislation
- Executive Orders
- Agency Driven Activity



Legislation

- Energy Policy Act of 1992 (EPACT 1992)
- Energy Policy Act of 2005 (EPACT 2005)
- Energy Independence and Security Act of 2007 (EISA 2007)



EPACT 1992

- **Sec. 305. Federal Building Energy Efficiency Standards.**
- **Sec. 306. Federal Compliance.**



EPACT 2005

- Sec. 101. Energy and water saving measures in congressional buildings.
- Sec. 102. Energy management requirements.
- Sec. 103. Energy use measurement and accountability.
- Sec. 104. Procurement of energy efficient products.
- Sec. 105. Energy savings performance contracts.
- Sec. 106. Voluntary commitments to reduce industrial energy intensity.
- Sec. 107. Advanced Building Efficiency Test bed.
- Sec. 108. Increased use of recovered mineral component in federally funded projects involving procurement of cement or concrete.
- **Sec. 109. Federal building performance standards.**
- Sec. 110. Daylight savings.
- Sec. 111. Enhancing energy efficiency in management of Federal lands



EISA 2007

- Sec. 431. Energy reduction goals for Federal buildings.
- Sec. 432. Management of energy and water efficiency in Federal buildings.
- **Sec. 433. Federal building energy efficiency performance standards.**
- Sec. 434. Management of Federal building efficiency.
- Sec. 435. Leasing.
- Sec. 436. High-performance green Federal buildings.
- Sec. 437. Federal green building performance.
- Sec. 438. Storm water runoff requirements for Federal development projects.
- Sec. 439. Cost-effective technology acceleration program.
- Sec. 440. Authorization of appropriations.
- Sec. 441. Public building life-cycle costs.



Legislative Trends – Longer

- EPACT 1992
 - 2 sections, 1 page
- EPACT 2005
 - 11 sections, 32 pages, 13 year gap
- EISA 2007
 - 11 sections, 16 additional pages, 2 year gap



Legislative Trends –More Stringent

- EPACT 1992
 - Meet or exceed private sector standards; new construction
- EPACT 2005
 - At least 30% better than private sector standards, if cost-effective; new construction
- EISA 2007
 - Same as EPACT 2005 plus new fossil fuel reductions for buildings ,major renovations and leased buildings



Legislative Trends - Greener

- EPACT 1992
 - Just energy efficiency
- EPACT 2005
 - If cost-effective, sustainable design principles for siting, design and construction plus some green procurement
- EISA 2007
 - New office of high performance green buildings in GSA and new audit and reporting of green building measures



Agency Driven Activity

- Guiding Principles
- Memorandum of Understanding - 2006



Executive Orders

- EO 13101-1998
- EO 13123 and EO 13134-1999
- EO 13148 and EO 13149-2000
- EO 13423 – 2007 - Strengthening Federal Environmental, Energy, and Transportation Management

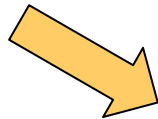


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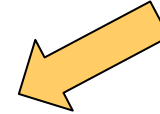
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Why?

Legislation



Executive
Orders



Agency-Driven





How will we make better buildings?

- Better design standards for both energy efficiency and sustainability
- Energy measurement and management requirements
- Procurement requirements
- Auditing and reporting requirements
- Better financing



Better Design Standards

- Higher efficiency buildings
- Lower fossil fuel use buildings
- Sustainably designed buildings



Energy measurement and management

- Utility metering
- End-use metering
- Energy monitoring
- Commissioning
- Performance targets



Procurement Requirements

- Energy Star products
- FEMP-Designated products
- “Green” products



Auditing and reporting

- OMB Scorecards



Better Financing

- Energy Saving Performance Contracts (ESPC)
- Utility Energy Savings Contracts (UESC)



The writing is on the wall

- Federal buildings will be required to more energy efficient, more sustainable, more “green” in the future
- Get used to it
- Plan for it
- Celebrate it