

US Federal Government: Energy Efficiency and Market Leadership

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Energy Efficiency Initiatives in the Public Sector
World Bank BBL
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The Alliance to Save Energy promotes energy efficiency worldwide to achieve a healthier economy, a cleaner environment, and greater energy security.

Hosting global energy efficiency forum and conference November, 2007 for more information go to:

<http://www.eeglobalforum.com>





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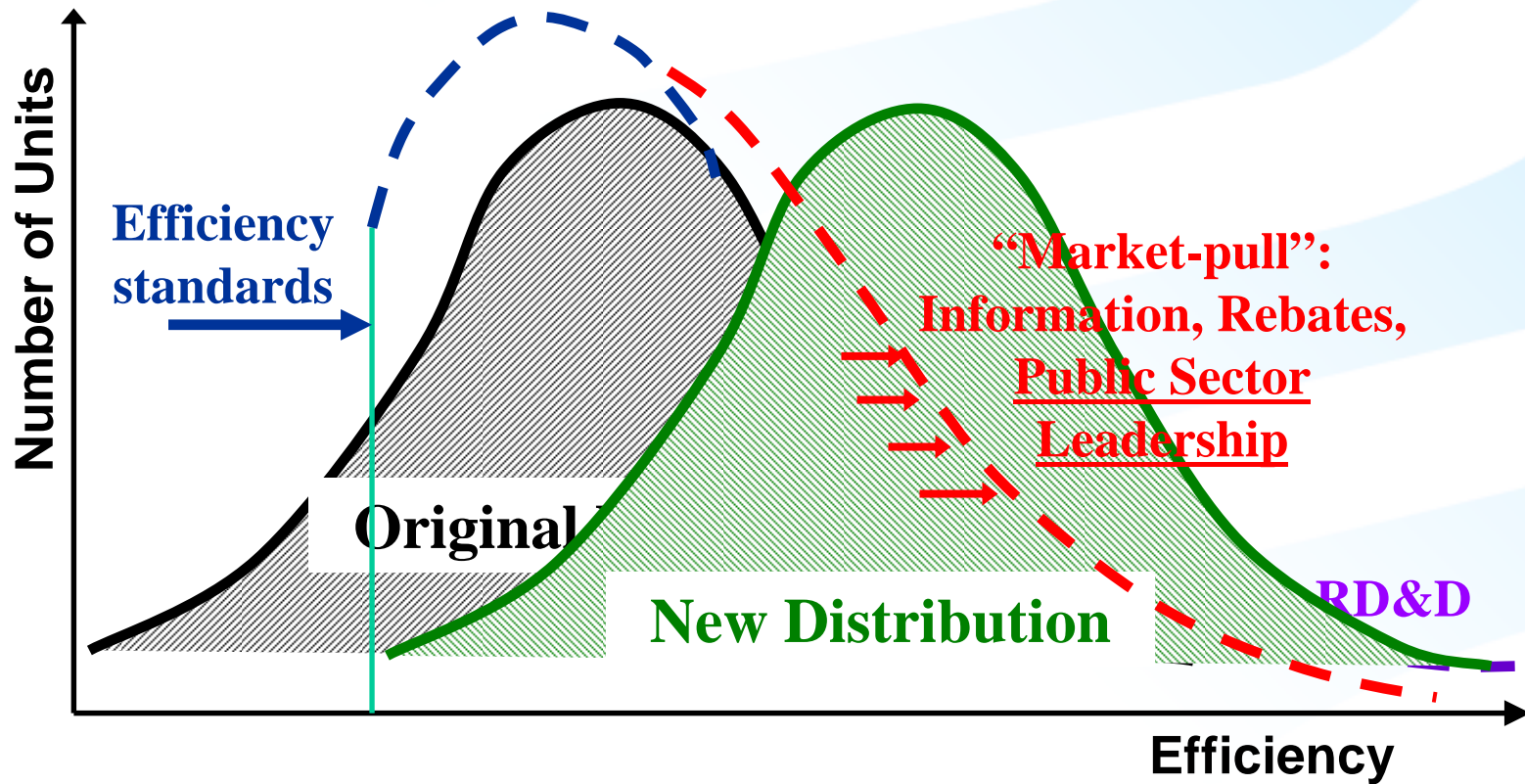
Overview of Talk

- Public Sector Energy Efficiency 101
- Federal Energy Management in the US
 - goals
 - program elements
 - results
- Example: public procurement
- FEMP successes and challenges

Government Leadership and Market Transformation



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Public Sector Program Categories



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- 1) Policies and targets
- 2) Public buildings
 - Existing stock, new construction
- 3) Energy-efficient government procurement
- 4) Public infrastructure: efficiency, renewables
 - Water, transit, fleets, roads, public lighting and other public services
- 5) Information, training, incentives, recognition

Building-Blocks of Public Sector Energy Efficiency



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**Building
Retrofits**

**Building
Benchmarks**

**Tracking
Savings**

**Goals &
Targets**

**Recognition,
Retained Savings**

**New Public
Buildings**

**Energy-Efficient
Purchasing**

**Infrastructure:
Water Systems**

**Operations &
Maintenance**

**Product
Testing &
Labels**

**Infrastructure:
Street Lighting**

**Life-Cycle
Cost Criteria**

Capable, Trained, & Motivated Staff!

US Federal Energy Management Program Goals



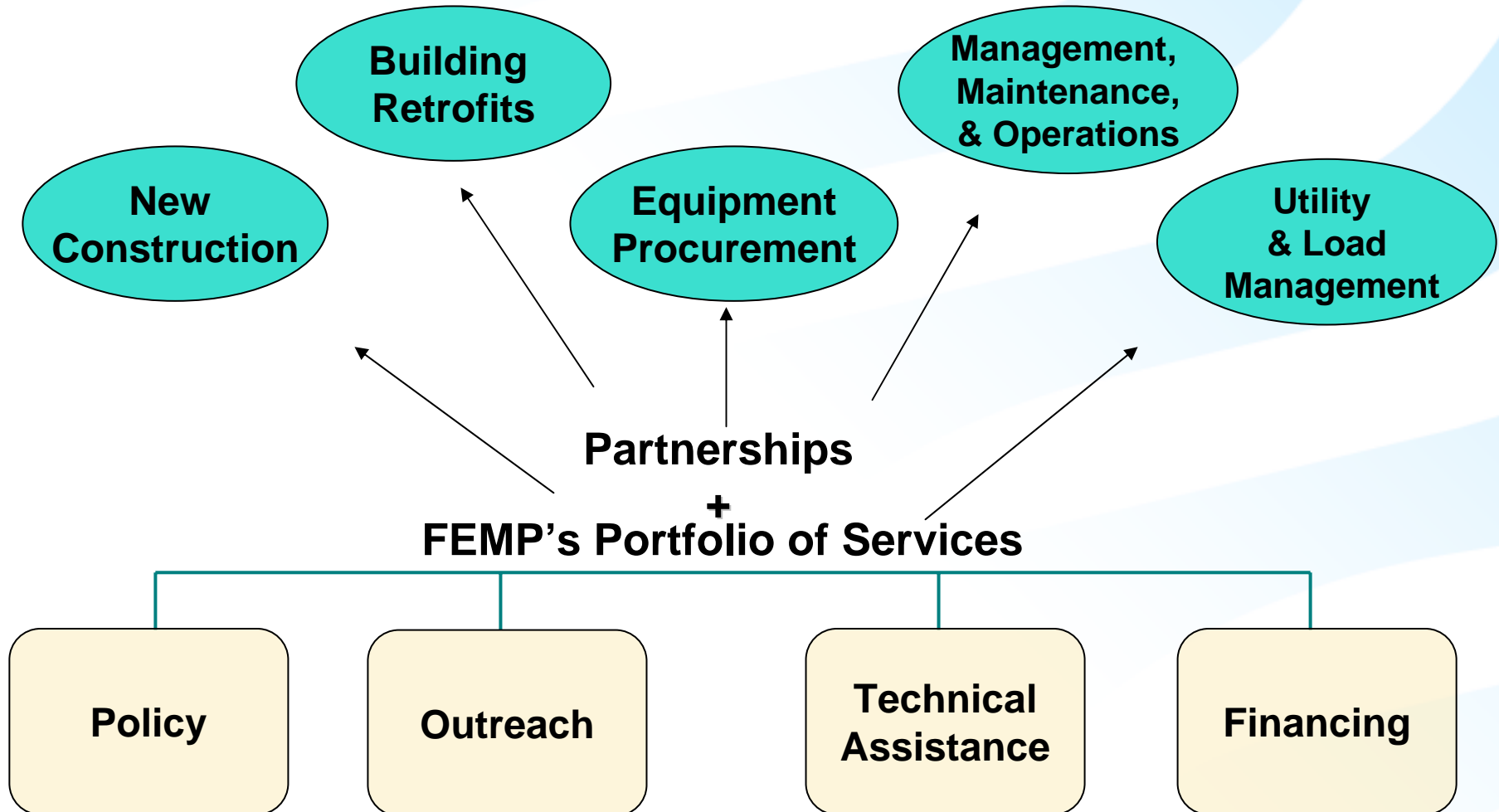
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- Reduce buildings energy use 3%/year (originally 2%/year), 2006-2015
- Meter all buildings (where LCC-effective)
- Buy energy-efficient (and low-standby power) products
- New buildings 30% more efficient than current code
- Renewable electricity: 3% in 2007 to 7.5% in 2013+
- Fleet vehicle fuel use reduced 2%/year, 2005 to 2015
- Increasing share of fuel from non-petroleum sources
- Buy plug-in hybrids (when available and cost-effective)
- Previous goals:
 - 30% GHG reduction in federal facilities, 1990 to 2010
 - Comprehensive water management plans in 80% of buildings
 - 20,000 solar energy systems by 2010
- **MISSING:** Goals for federal “mobility” energy (over half the total), down from 1985 but up 30% in past 5 years



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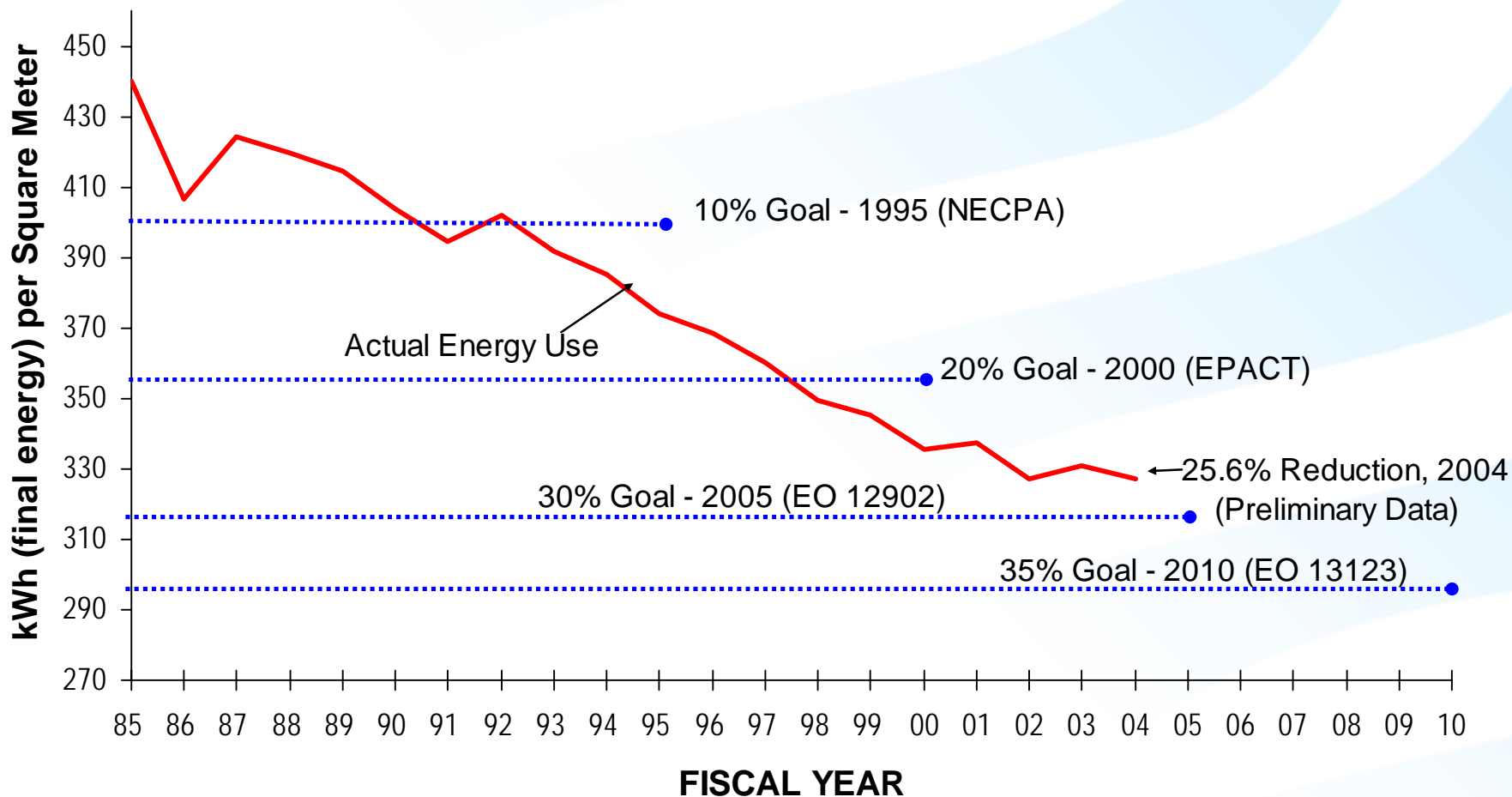
FEMP Program Elements



Energy Savings Results for Federal Buildings



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Each dollar invested in federal energy efficiency saves ~\$4 in energy costs over the project lifetime.



Why Public Procurement?

- 1) Save energy, money, pollution and carbon
 - Large, cost-effective savings potential
 - Past: energy prices often subsidized
- 2) Establish policy credibility
- 3) Lead the market
 - Government represents:
 - Large fraction of GDP
 - Biggest energy user
 - Biggest buyer of energy-using products
 - Government can influence buyers & sellers
 - Implied endorsement for efficient products
 - Entry point for new technologies
 - Example for others



Federal Procurement Strategy

- *Make it **Policy***: communicate from the top
- *Make it **Possible***: change purchasing rules and procedures
- *Make it **Easy***: efficiency criteria, list products and sources, on-line purchasing, etc.
- *Make it **Rewarding***: recognize best examples
- *Make it **Work***: quality control after the purchase (installation, commissioning, O&M, retirement)
- *Make it **Count***: set example for other buyers; link with other programs (including non-federal)



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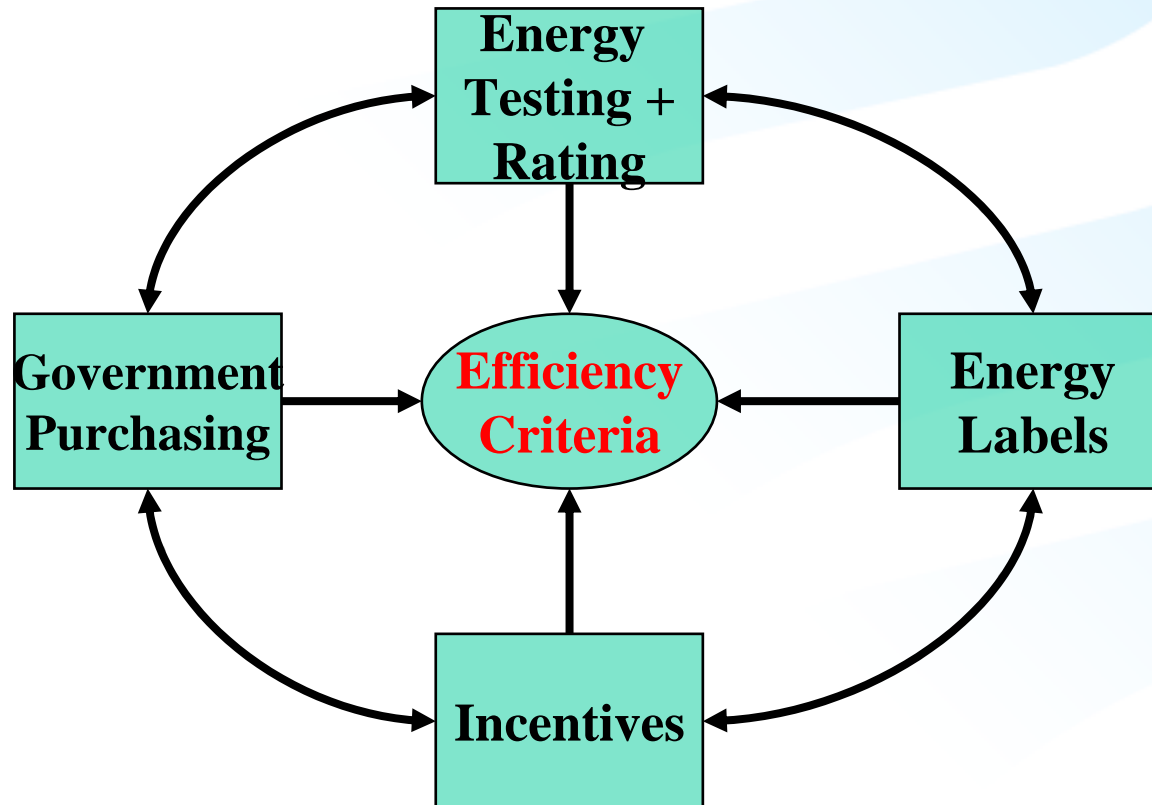
Procurement Policy

- **“Agencies shall select, where life-cycle cost-effective, ENERGY STAR® and other ...products in the upper 25 percent of energy efficiency as designated by FEMP. “ Executive Order 13123, Sec. 403(b)**
- **”Agencies shall implement cost-effective contracting preference programs favoring the acquisition of products that are in the upper 25 percent of energy efficiency for all similar products.” FAR 23704(a)**

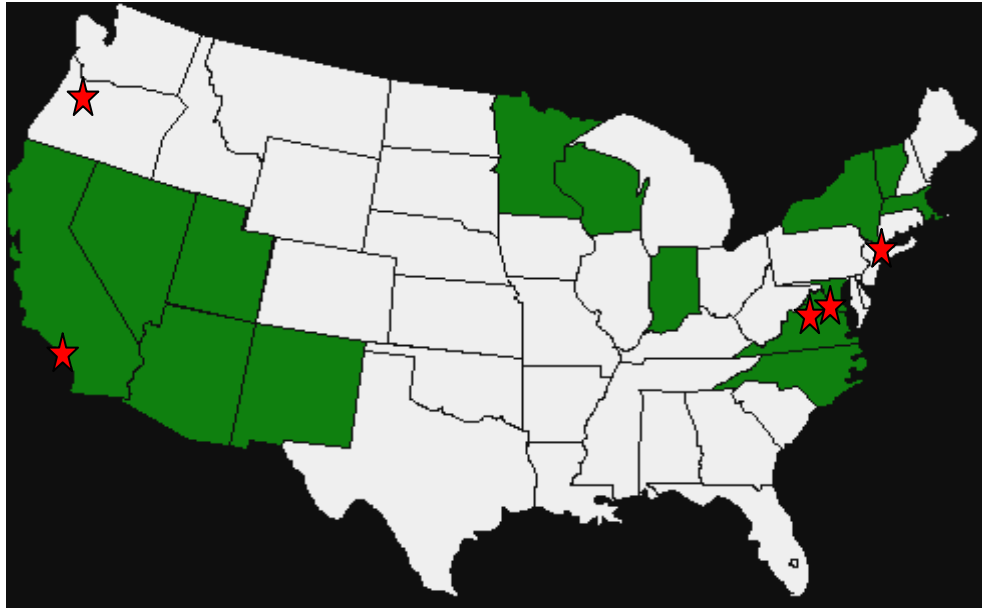
Harmonize Technical Specs to Transform Markets



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Policy Leverage: States and Cities Using Federal Procurement Criteria



*80% of
government
spending is
at state
and local
levels*

- Federal purchasing requirements: ENERGY STAR or FEMP-designated efficient products (top 25th percentile)
- These 15+ states and 6 cities – serving 40% of US population – now use the same federal criteria

Policy Adoption: New York City (2005)



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§24-8003 Minimum energy efficiency.

- a. *Any product for which the Federal Energy Management Program of the United States Department of Energy has issued product energy efficiency recommendations shall achieve no less energy efficiency or flow rate than the minimum recommended, provided that there are at least three manufacturers that produce such products.*
- b. *Any product ...for which the California Energy Commission has issued product appliance efficiency regulations ... shall achieve no less energy efficiency or flow rate than the minimum recommended in such regulations, provided there are at least three manufacturers that produce such products.*

Energy Cost Savings from Government Procurement



- **Government agencies spend about:**
 - US \$16 billion/year on facility energy bills
 - US \$60 billion/year for energy-using products
 - The majority is for state and local government (about 20% is federal)
- **Efficient products can save 30%-50%**
- **Potential national savings in 2010**
 - Federal government: US \$220 million/year
 - State + local governments: US \$800 million/year
 - reduce greenhouse gas emissions by about 2.9 MMT_c/year



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FEMP – Success Factors

- Clear policy directives and measurable goals
- Motivation through accountability, reporting, recognition of “champions”
- Central coordinating role (DOE/FEMP)
- Technical resources, training and capacity-building
- Interagency consensus-building
- External partners (ESCOs, utilities, NGOs)
- Program stability



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FEMP – Future Challenges

- Higher savings goals for existing buildings
- Sustainable high-performance new buildings
- Tackling “mobility energy”
- Introducing new/emerging technologies
- Maintaining and renewing staff and institutional capacity
- From “FEMP” to “GEMP” – Public sector energy leadership across all levels of government



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For More Information

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- <http://www1.eere.energy.gov/femp/>