



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

federal energy management program

Buying Energy-Efficient Products

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Agenda

- Policies
- Energy Policy Act of 2005
- Which products must comply
- What to look for
- When to buy energy-efficient products
- Cost-Effectiveness Example
- Market Leadership



Policies

- Energy Policy Act of 1992
- Executive Order 12902
- Executive Order 13123
- Executive Order 13221
- Federal Acquisition Regulations
- Energy Policy Act of 2005



Energy Policy Act of 2005

- Contains many energy efficiency provisions for federal sector
- Signed into law by President Bush in August
- 18 Titles
- 63 Subtitles
- 528 Sections
- Over 1,700 pages



Title I – Energy Efficiency

- Subtitle A - Federal Programs
- Subtitle D - Public Housing



Subtitle A – Federal Programs

- Section 102: Energy Management Requirements
- Section 104: Procurement of Energy Efficient Products
- Section 105: Energy Saving Performance Contracts



Section 102

- Sets goal for agencies to reduce building energy use (gross square foot) by 2% per year from 2006 through 2015
- Makes 2003 energy use the baseline
- Authorizes agencies to retain cost savings from energy efficiency and water conservation



Section 104

- (b) Procurement of Energy Efficient Products
 - (1) Requirements
 - (2) Exceptions
 - (3) Procurement Planning
- (c) Listing of Energy Efficient Products in Federal Catalogs
- (d) Specific Products
- (e) Regulations



Procurement of EE Products

- Requirements: Agencies shall procure ENERGY STAR qualified or FEMP-designated products
- Exceptions: Where agency head documents in writing that:
 - Product is not life-cycle cost-effective
 - No efficient product is “reasonably available” that meet functional requirements
 - Product/system used for combat or combat-related missions



Procurement of EE Products

- Procurement Planning: Agencies shall incorporate same criteria used for ENERGY STAR and FEMP-designated products into:
 - Guide specifications
 - Project specifications
 - Construction, renovation, and services contracts
 - Evaluation of (competitive) offers



Listing of EE Products...

- The General Services Administration or the Defense Logistics Agency shall supply only ENERGY STAR or FEMP designated products for all product categories covered by the ENERGY STAR program or the Federal Energy Management Program...”
- Exemptions (see previous slide) may be claimed in writing by ordering agency



Specific Products

- “In the case of electric motors of 1 to 500 horsepower, agencies shall select only premium efficient motors that meet a standard designated by the Secretary...”
- “All Federal agencies are encouraged to take actions to maximize the efficiency of air conditioning and refrigeration equipment ...”



Regulations

- “...the Secretary (of Energy) shall issue guidelines to carry out this section.”
- Draft is being reviewed
- Input from agencies
- Final version to be released soon



Section 105

- Energy Saving Performance Contracts
 - Section 801(d) of the National Energy Conservation Policy Act extended through 2016
 - Contracts entered into after October 1, 2003 and before enactment of this Act, shall be considered to have been entered under that section.



Subtitle D – Public Housing

- Section 152: Energy-Efficient Appliances
 - “In purchasing appliances, a public housing agency shall purchase energy-efficient appliances that are ENERGY STAR products or FEMP-designated products...”
 - “... unless the purchase of energy-efficient appliances is not cost-effective to the agency.”



Which Products Must Comply?

- 66 products in the following categories:
 - Lighting
 - Commercial & Industrial Equipment
 - Food Service Equipment
 - Office Equipment
 - Home Electronics
 - Appliances
 - Residential Equipment
 - Construction & Plumbing Products



Lighting

- Compact Fluorescent Lamps 
- Residential Light Fixtures 
- Fluorescent Tube Lamps
- Fluorescent Ballasts
- Fluorescent Luminaires
- Downlight Luminaires
- Industrial Luminaires
- Exit Signs 
- Ceiling Fans 
- Traffic Lights 



Commercial & Industrial Equipment

- Packaged Air Conditioners 
- Air-Cooled Electric Chillers
- Water-Cooled Electric Chillers
- Air-Source Heat Pumps 
- Ground-Source Heat Pumps 
- Commercial Boilers
- Electric Motors
- Distribution Transformers 



Food Service Equipment

- Solid Door Refrigerators & Freezers 
- Gas Griddles
- Fryers 
- Hot Food Holding Cabinets 
- Steam Cookers 
- Beverage Vending Machines 
- Water Coolers 
- Ice Machines
- Pre-Rinse Spray Valves



Office Equipment

- Desktop and Laptop Computers 
- Monitors 
- Printers 
- Copiers 
- Fax Machines 
- Scanners 
- Multifunction Devices 
- Mailing Machines 
- External Power Supplies 



Home Electronics

- Televisions (TV) 
- Video Cassette Recorders (VCR) 
- Digital Video Display (DVD) Products 
- Combination Units (TV+VCR, TV+DVD) 
- Cordless Telephones 
- Answering Machines 
- Combination Telephone & Answering Machines 
- Home Audio Systems 



Appliances

- Refrigerators 
- Freezers 
- Dishwashers 
- Clothes Washers 
- Room Air Conditioners 
- Dehumidifiers 
- Room Air Cleaners 



Residential Equipment

- Central Air Conditioners 
- Air-Source Heat Pumps 
- Ground-Source Heat Pumps 
- Gas Furnaces 
- Residential Boilers 
- Electric Water Heaters
- Gas Water Heaters
- Ventilation Fans 
- Programmable Thermostats 



Construction & Plumbing Products

- Faucets
- Showerheads
- Urinals
- Roofing Materials 
- Residential Windows, Doors & Skylights 



What to look for

- ENERGY STAR Label
- FEMP's Purchasing Specifications
- Low Standby Power



ENERGY STAR

- Federal government's symbol for energy efficiency
- National program
- Easy to recognize





ENERGY STAR

- Establishes performance guidelines
- Sets quality requirements
- Forms partnerships with manufacturers
- Requires random testing
- Promotes “brand”





ENERGY STAR

- Verify label on product, packaging or in owner's manual
- Check product lists on Web site at:
www.energystar.gov/products





FEMP Purchasing Specifications

- Cover 45 products
- Designate performance levels
- List Federal Supply Sources
- Calculate cost effectiveness
- Include installation and operating tips

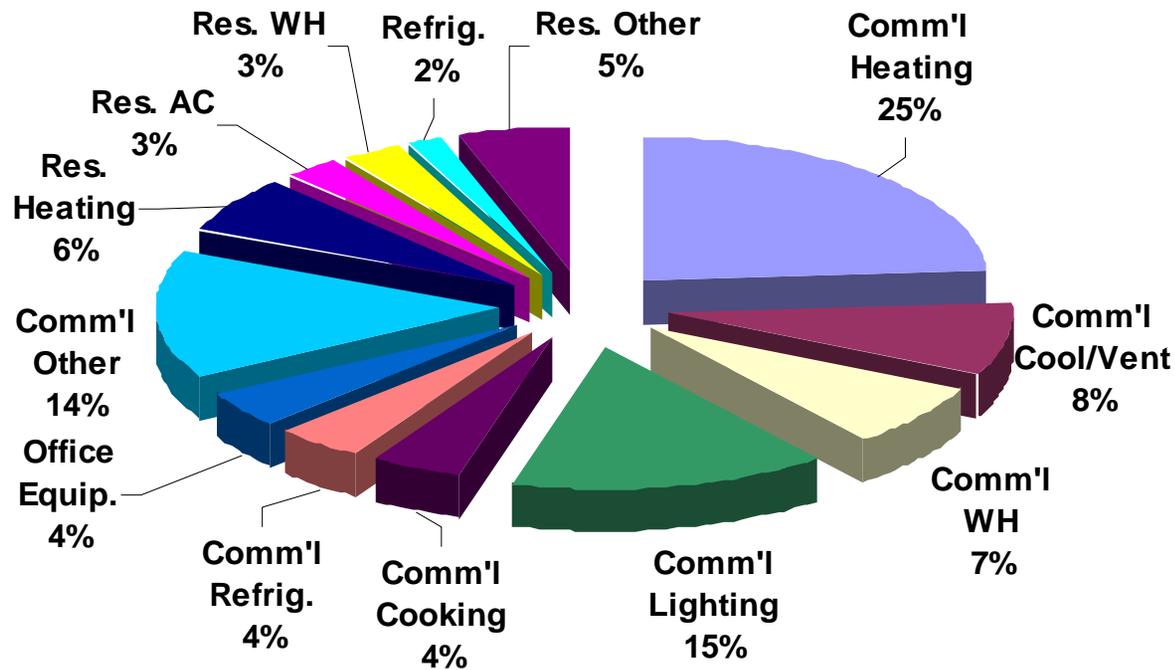


Specifications: Which Products?

- Significant energy use
- Large volume government purchasing
- Potential energy/cost savings
- Widely accepted energy testing/rating method
- Product efficiency data available
- Multiple suppliers



Energy Use in Federal Buildings





FEMP Purchasing Specifications

- Steps to setting performance level
 - Obtain or construct database of products
 - Rank efficiency from highest to lowest
 - Calculate top 25th percentile from ranking
 - Compare results against other programs
 - Check for three or more manufacturers



FEMP Purchasing Specifications

- Keeping up-to-date is priority
- Adding new products only as necessary
- Monitoring emerging technologies
- Removing products as standards improve



FEMP Purchasing Specifications

- www.eere.energy.gov/femp/procurement/
 - *Specifications* can be downloaded
 - Links to ENERGY STAR product lists
 - Energy cost calculators
 - Model contract language available soon



Executive Order 13221

- “Each agency, when it purchases commercially available, off-the-shelf products that use external standby power devices, or that contain an internal standby power function, shall purchase products that use no more than one watt in their standby power consuming mode. If such products are not available, agencies shall purchase products with the lowest standby power wattage while in their standby power consuming mode.”



Standby Power

- What is it?
 - The electricity used when a device is turned off or not performing its primary purpose.



Standby Power

- What causes high standby power?
 - Remote controls
 - Continuous digital displays
 - Battery chargers
 - Soft-touch keypads



Lowering Standby Power

- Why is this an issue?
 - Number of devices which use standby power is growing rapidly
 - Each device consumes 1 to 40 watts
 - Estimated at 70 watts per home
 - Accounts for 600 kWh/year or 3% of a household's electricity use



Low Standby Power

Standby Power Data Center

– www.eere.energy.gov/femp/procurement/standby_power

- Lists complying products
- Identifies standby power levels

Some ENERGY STAR labeled products have low standby power requirements



Standby Power Data Center



- Return to FEMP Page
- Return to Standby Power Data Center Home Page



Standby Power Data Center

In response to [the President's Executive Order 13221](#), we created this site for manufacturers and government purchasers to submit and view the most up-to-date information on devices with low standby power.

Information



- [General guidelines](#) for identifying appliances and electronic devices with standby power.
- View [Frequently Asked Questions](#) about Executive Order 13221 and this Web site.
- [Economic guidelines](#) for determining if a low standby

Search



[Look here](#) for the list of products with low standby power, including office equipment, consumer electronics, appliances, and many other items.

Submit



If you are a manufacturer or vendor and would like to submit standby power data there are two ways to do it:
[One product at a time](#)
or
[Multiple products at a time](#)



When to Buy EE Products

- Direct Purchases
- Specifications
- Contracts



Direct Purchases

- POs with commercial sources
- GSA Multiple Award Schedules
- Procurement cards
- Online through federal supply sources
(*GSAAadvantage, DoD Email*)



Specifications

- Guide and master specifications
 - DoD UFGS
 - AIA MasterSpec
- Project specifications
 - New construction
 - Renovations



Environmental Impacts

- “The production and use of energy causes more environmental damage than any other human activity.”
 - Council on Environmental Quality 1992
- US federal government is the largest consumer of energy in the world



Market Leadership

- Federal government spends over \$4 billion per year on energy for buildings
- Spends additional \$10 to \$20 billion per year on energy-using products
- Requires purchasing efficient products to:
 - Increase market presence
 - Lower prices
 - Lead by example



Conclusion

- Federal policies require products purchased to be energy efficient
- Of these, specify low standby power models
- Use FEMP's *Specifications* and ENERGY STAR label to identify products
- Make efficiency the norm!



For More Information

- Visit these web sites:
 - www.eree.energy.gov/femp/procurement/
 - www.energystar.gov/products
 - www.eere.energy.gov/femp/resources/standby_power
- Call our hotline at (800)363-3732
- Go to *Energy 2006*
 - August 6 through 9 in Chicago
 - www.energy2006.ee.doe.gov