

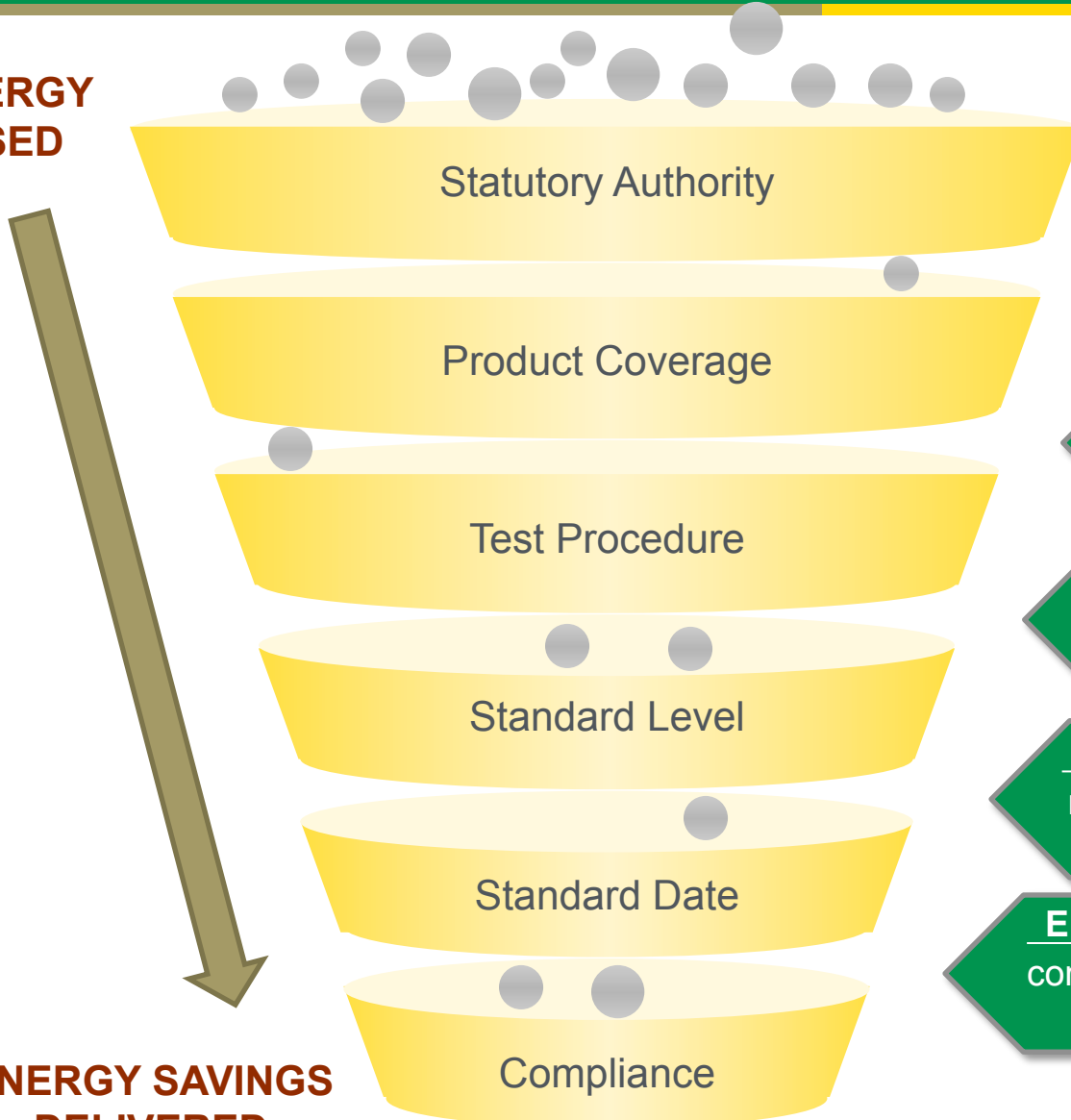


Appliance Standards, Buildings Technology Program

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Appliance Standards Program Maximizes Energy Savings

**ENERGY
USED**



**ENERGY SAVINGS
DELIVERED**

Strategies

Expand

scope by covering new products

Enhance

test procedures to capture all energy and enable innovation

Leverage

DOE R&D, voluntary programs and international best practices

Accelerate

rulemaking schedules

Enforce

compliance to standards

- The Program is highly effective; achieving high bang-for-the-buck in energy savings.
 - The national energy efficiency standards promulgated to date are expected to save 69 quads of energy by 2020 and almost double these savings by 2030.
 - The cumulative utility bill savings to consumers of these standards are estimated to be over \$900 billion by 2020 and nearly \$1.6 trillion through 2030.
 - Annual carbon dioxide savings will reach over 260 million tons by 2020 and the cumulative savings by 2030 is estimated to be 6.7 billion tons.
 - A typical household today already saves about \$180 per year off their energy bills and can expect to save over \$300 per year by 2030, as they replace their appliances with newer models that use less energy.

- Over 60 products are covered by DOE's appliance standards program. These are known as "covered products."
- Covered products are responsible for 79% of residential building energy consumption, 46% of commercial building energy consumption, and approximately 19% of industrial energy consumption.
 - In 2009, the Nation's 113 million households and 5.4 million commercial buildings consumed approximately 39.2 quadrillion Btu (quads) of energy annually, about 41 percent of the U.S. total.
 - Residential buildings use 22 percent of the U.S. total and commercial buildings use 19 percent. Industrial equipment and processes comprises 29 percent of the national total.
 - Energy use in buildings costs \$413.3 Billion (\$2009).

NAECA (1975)

1. Refrigerators, Freezers and Refrigerator-Freezers
2. Room Air Conditioners
3. Central Air Conditioners and Central Air Conditioning Heat Pumps
4. Residential Water heaters
5. Pool heaters (Gas Fired)
6. Direct heating equipment
7. Furnaces
8. Residential Boilers
9. Small Furnaces
10. Mobile Home Furnace
11. Dishwashers
12. Residential Clothes washers
13. Clothes dryers
14. Kitchen ranges and ovens
15. Fluorescent lamp ballasts
16. Television Sets

EPACT 1992

1. General service incandescent lamp
2. General service fluorescent lamp
3. Incandescent reflector lamp
4. Electric Motors and Pumps
5. Small commercial package air conditioning and heating equipment
6. Large commercial package air conditioning and heating equipment
7. Single package vertical air conditioners and single package vertical heat pumps
8. Commercial warm air furnaces
9. Packaged boilers
10. Storage water heaters, instantaneous water heaters, and unfired hot water storage tanks
11. Packaged terminal air conditioners and packaged terminal heat pumps
12. Showerheads
13. Faucets
14. Water closets
15. Urinals
16. Distribution Transformers
17. High-intensity discharge lamps
18. Small Electric Motors

EPACT 2005

1. Ceiling Fans
2. Ceiling Fan Light Kits
3. Medium Base Compact Fluorescent Lamps
4. Dehumidifiers
5. Very large commercial package air conditioning and heating equipment (ASHRAE)
6. Unit Heaters
7. Automatic commercial ice makers
8. Commercial refrigerators, freezers, and refrigerator-freezers
9. Refrigerated Beverage Vending Machines
10. Commercial clothes washers
11. Battery Chargers
12. Furnace Fans
13. Illuminated Exit Signs
14. Mercury Vapor Lamp Ballasts
15. Torchiere Lamps
16. Traffic Signal Modules and Pedestrian Modules
17. Commercial Pre-rinse Spray Valves
18. External Power Supplies, Class A

EISA 2007

1. 2,601-3,300 Lumen General Service Incandescent Lamps
2. 3-Way Incandescent Lamps
3. Rough Service Lamps
4. Shatter-Resistant Lamps
5. Vibration Service Lamps
6. Candelabra base incandescent lamp
7. Intermediate base incandescent lamp
8. Metal Halide Lamp Ballasts
9. Metal halide Lamp Fixtures
10. Microwave Ovens
11. Walk-in coolers and walk-in freezers
12. External Power Supplies, non-Class A
13. LED Lamps
14. OLED Lamps

Standards are ongoing for about 25 products in 2012.

New Standards	Amended Standards		
Battery Chargers	External Power Supplies	Dehumidifiers	Commercial Clothes Washers
Industrial/Commercial Pumps	Ceiling Fans	Ceiling Fan Light Kits	Distribution Transformers
Industrial/Commercial Fans and Blowers	Commercial Refrigeration Equipment	Boilers	Packaged Terminal AC & HP
Furnace Fans	Electric Motors	GSFL Lamps	Automatic Commercial Ice Makers
HID Lamps	Single Package Vertical AC & HP	Walk-In Coolers and Freezers	
Metal Halide Lamp Fixtures			
Microwave Ovens			
Miscellaneous Residential Refrigeration Products			
Set Top Boxes			

Final rules have been issued for 8 products in FY 2012 (not included above).

Test procedures ongoing for about 30 products in 2012

New Products	Amended Products		
Pumps	Dishwashers	Ranges and Ovens	Refrigerators (Icemaking)
Furnace Fans	Dehumidifiers	Central Air Conditioners	Television Sets
Fan Blowers and Fume Hoods	Electric Motors (expanded Scope)	Commercial Pre-Rinse Spray Valves	Traffic Signal Modules and Pedestrian Modules
LEDs	Clothes Dryers (Sensors)	Compact Fluorescent Lamps	Microwave Ovens
Miscellaneous Residential Refrigeration Products	Illuminated Exit Signs	Furnaces (Standby Mode)	Ceiling Fans
HID Lamps	Residential boilers (Standby Mode)	Residential Water Heaters	Ceiling Fan Light Kits
Set-Top Boxes	Pool Heaters	Direct Heating Equipment	
Induction Cooking Products			

Final rules have been issued for 16 products in FY 2012 (not included above).

- DOE's regulations are refrigerant neutral and all covered equipment must meet the Federal energy conservation standard levels when tested using the DOE testing procedures regardless of refrigerant used.
- DOE is encouraged to learn industry leaders are researching alternative refrigerants.
- DOE hopes stakeholders will actively participate in the regulatory process early and share information regarding alternative refrigerant research, especially where product performance and testing issues need to be considered.