



Federal Appliance and Equipment Efficiency Standards

Steven Nadel, Executive Director
American Council for an Energy-Efficient Economy
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The American Council for an Energy Efficient Economy (ACEEE)

- Non-governmental organization (NGO) dedicated to advancing energy efficiency through research, education and advocacy.
- Celebrating 30th anniversary this year.
- Nearly 40 staff
- Known for conferences, research reports and as a major contributor to U.S. energy-efficiency legislation



Federal Standards

- Replace the previous patchwork of state standards
 - State standards generally preempted by federal standards
- Save substantial energy, cost-effectively
- Address major market barriers:
 - Third-party decision makers
 - Panic purchases
 - Poor information on and availability of efficient products



Which Presidents Have Not Signed Appliance Standards Legislation?



Presidents Who Have Signed Appliance Standards Legislation



(twice)



(twice)

ACEEE:30
30 Years of Energizing Efficiency

Appliance Standards in the U.S.

NAECA 1987

Refrigerator-freezers
Freezers
Room air conditioners
Central AC & heat pumps
Furnaces & boilers
Water heaters
Clothes washers
Clothes dryers
Dishwashers
Ranges & ovens
Direct-fired space heaters
Pool heaters
Fluorescent lamp ballasts

EPAct 1992

Fluorescent lamps
Incandescent reflector lamps
Electric motors (1-200 hp)
Commercial AC & HP
Comm'l furnaces/boilers
Comm'l water heaters
Showerheads
Faucet aerators
Toilets
Small electric motors*

EPAct 2005

Ceiling fan light kits
Dehumidifiers
Compact fluorescent lamps
Torchiere lighting fixtures
Large comm'l AC & HP
Comm'l clothes washers
Distribution transformers
Exit signs
Comm'l ice makers
Comm'l refrigerators/freezers
Mercury vapor lamp ballasts
Traffic signals
Pre-rinse spray valves
Comm'l unit heaters
Battery chargers*
Large comm'l refrigeration

EISA 2007

Incandescent lamps
Additional motors (e.g. large)
Walk-in coolers and freezers
Metal halide lighting fixtures
External power supplies
Furnace fans*

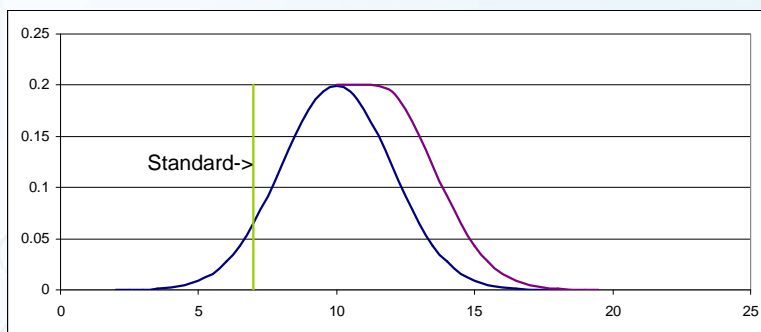
ACES/ACELA 2010 (pending)

Portable lighting fixtures
Outdoor lighting fixtures
Commercial furnaces
Drinking water dispensers
Portable electric spas
Hot food holding cabinets

* DOE rulemakings. Only include rulemakings that are underway or completed.

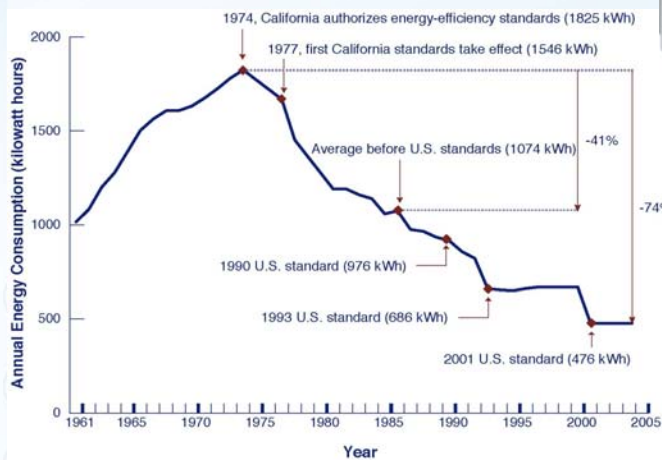
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How Standards Affect the Distribution of Products on the Market



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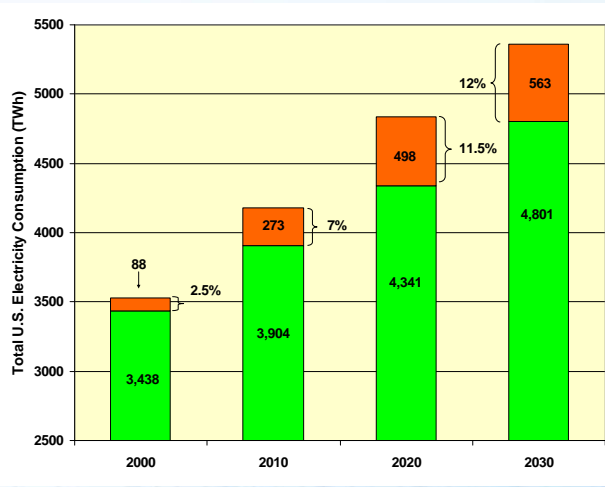
Impact of U.S. Refrigerator Efficiency Standards



Maybe 30% savings with next revision

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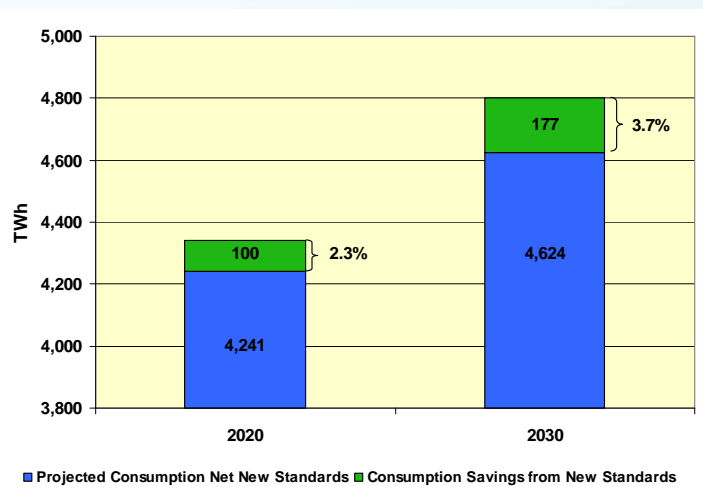
Appliance Energy Use with Savings from Standards Already Set



Source: ACEEE 2009 "Ka-Boom" study



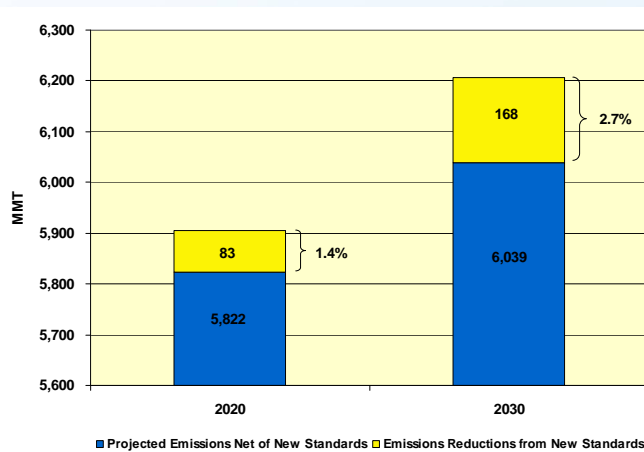
Appliance Energy Use with Savings from New Standards



Source: ACEEE 2009 "Ka-Boom" study



Reductions in Greenhouse Gas Emissions from New Standards



New Product Standards in Legislation

- Portable lighting fixtures (H&S)
- Commercial furnaces (H&S)
- BR lamps (rulemaking) (H&S)
- Outdoor lighting fixtures (H, S to add consensus agreement)
- Hot tubs (H, S to add consensus standard)
- Residential furnaces and AC (S to add consensus agreement)
- Reforms to program (H, S to add consensus agreement)
- Drinking water dispensers (H, S waiting for consensus)
- Hot food holding cabinets (H, S waiting for consensus)
- Video game study (S considering)

Major Standards Milestones in 2010

Product	Event	Date
Water heaters	Final standard	March
Refrigerators and freezers	Proposed standard	May
Microwave ovens	Proposed standard	June
Clothes washers	Preliminary analysis	June
Residential furnaces	Proposed standard	September*
Clothes dryers	Proposed standard	October
Central A/C and heat pumps	Proposed standard	October*
Fluorescent lamp ballasts	Proposed standard	October
Room A/C	Proposed standard	October
Battery chargers	Proposed standard	December
Refrigerators and freezers	Final standard	December

* subject to consensus recommendation between advocates and manufacturers

For more information or to receive regular updates on federal appliance standards developments, contact Marianne DiMascio at the Appliance Standards Awareness Project at mdimascio@standardsASAP.org



Appliance Standards and Energy Star

Standards

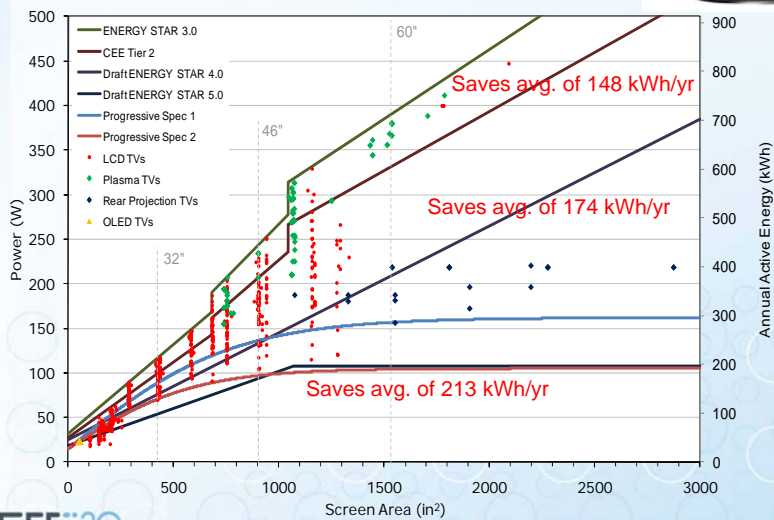
- Mandatory
- Establishes floor – all products must meet
- Sometime new standards based on Energy Star

Energy Star

- Voluntary
- Typically top 25%
- When standards revised, generally Energy Star needs to be revised



Televisions



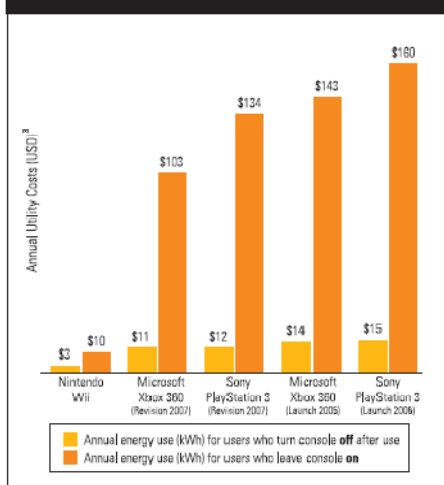
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Source: Ecos Consulting for Top Ten USA

Video Game Consoles



Figure 1. The Price of Play: Annual Energy Use and Costs for Three Popular Gaming Systems



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Source: NRDC

Conclusions

- Appliance and equipment efficiency standards are one of our most-effective energy saving programs
- Congress has a long-history of adopting consensus efficiency standards
- DOE revises these standards and sometimes is directed to set new standards where consensus cannot be reached



Contact Information

Steven Nadel
snadel@aceee.org
202-507-4000
www.aceee.org

