



ENERGY STAR Program Update

ASERTTI Winter Meeting

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Outline



- **Criteria Update**
 - Appliances
 - CFLs
 - Windows
- **New directions for ENERGY STAR**
 - Solid-state Lighting
 - Advanced Water Heaters
 - Residential Scale Clean Energy Technologies
- **EISA 2007**
 - Standards and Impact on ENERGY STAR

A Walk In The Desert



DOE Appliance Criteria Update



Product	Criteria Revision Finalized	Effective Date
Refrigerators	August 2007	April 2008
Clothes Washers	February 2008	July 2009
Dishwashers (estimated)	July 2008	April 2009
Room ACs (estimated)	October 2011	October 2013

Refrigerators



- Revised criterion to 20% more efficient than the Federal standard, effective April 28, 2008.
- Change only applies to full-size refrigerators. The criteria for compacts (20% better) and freezers (10% better) remain the same.
- Added anti-circumvention language to testing requirements solely for ENERGY STAR. Ideally this will be included in the next Federal standard.



Clothes Washers

- New criteria took effect January 1, 2007. Sales data from 2007 is not yet available to analyze the effects.
- EPCAct 2005 required DOE to release updated criteria by January 1, 2008 effective January 1, 2010. EISA moved the effective date to July 1, 2009.
- A proposed set of criteria and an analysis paper were issued and the comment period ended January 23rd. Final criteria release is imminent.
- Proposed criteria is two-tiered:
 - ≥ 1.8 MEF, ≤ 7.5 WF effective July 1st, 2009
 - Recommendation from an agreement between the Association of Home Appliance Manufacturers (AHAM) and a group of efficiency advocates
 - ≥ 2.0 MEF, ≤ 6.0 WF effective January 1st, 2011

Dishwashers



- New criteria took effect January 1, 2007.
- Preliminary indications show the market share for ENERGY STAR models may be higher than desired.
- Once clothes washers is finalized, DOE will begin working on dishwashers to determine if another criteria revision is warranted by reviewing:
 - 2007 Federal Trade Commission (FTC) Annual Submissions
 - 2007 ENERGY STAR retailer sales data
- AHAM/Advocate agreement recommended new criteria (324 kWh/yr, 5.8 gal/cycle) effective January 1, 2009.

Packaged Terminal Air Conditioners (PTACs)



- DOE completed analysis paper and draft criteria and met with industry in May 2007.
- Industry indicated it would rather wait due to the forthcoming Federal standard, which will be finalized in September 2008, and develop engineering analyses of the mandated change in refrigerant to R-410a, due to take effect in 2009.

Room Air Conditioners (RACs)



- DOE contacted all RAC manufacturers and AHAM in the month of July.
- Combining a new ENERGY STAR criteria with upcoming Federal standard changes and the required refrigerant change-out would place a major burden on manufacturers.
- Like PTACs, no new criteria is expected to take effect until the standard and refrigerant change-out are completed.

Compact Fluorescent Lamps (CFLs)



- Release of the final ENERGY STAR Criteria for CFLs, Version 4.0, is imminent.
- Major changes include:
 - Tightening of color requirements
 - Expansion of the criteria to include candelabra-base CFLs
 - Requirement of high-heat testing for reflector products
 - Incorporation of a comprehensive 3rd-party Testing Program, funded by ENERGY STAR manufacturing partners
- Criteria will take effect 270 days after release (likely early November 2008)

Windows, Doors, and Skylights



- DOE has begun groundwork to change the ENERGY STAR criteria for windows.
- High market share (above 50%), increased stringency of building codes, and technological capabilities are prompting this criteria analysis.
- Criteria analysis is currently underway.
- A stakeholder meeting will be held in March 2008.
- Final criteria should be approved in 2008 to take effect in 2009.

New ENERGY STAR Products



- The Department has been in the process of expanding the ENERGY STAR program to include several new product categories.
- Solid-state Lighting – Effective September 2008
- Highly Efficient Hot Water Heaters – Effective 2008
- Clean Energy Technologies – Under Consideration:
 - Photovoltaics
 - Small (Residential-Scale) Wind
 - Micro-combined Heat & Power
 - Fuel Cells

Solid-State Lighting (SSL)



- DOE has long-standing R&D program for SSL
- EPAAct 2005 directed the Department to lead commercialization efforts of general-illumination, white-light SSL applications.
- ENERGY STAR program is one part of a comprehensive commercialization support program, including:
 - Buyer Guidance (ENERGY STAR)
 - Technology Competitions (Lighting For Tomorrow)
 - Product Testing (CALiPER)
 - Technology Demonstrations and Procurement

Solid-State Lighting



- ENERGY STAR Criteria takes the “go slow” approach, qualifying only specific niche (Category A) applications as the technology matures
- Will continue to add niche applications as technology proves it can perform; will transition to a more general (Category B) criteria in 3-5 years.
- Goal is to avoid mistakes made with CFLs
- Criteria was finalized in September 2007, effective September 2008 (pending finalization of industry test procedure)

Residential Water Heaters



- DOE distributed draft criteria and collected comments on potential ENERGY STAR criteria for the following water heater technologies:
 - Solar
 - Heat pump
 - Gas condensing
 - High-performance Gas Storage
 - Gas tankless
- The second draft criteria was released in October and the comment period ended on November 26th.
- Release of final criteria is imminent. Final criteria will take effect one year from date of release.

Clean Energy Technologies



- DOE has assisted in research and development of clean energy technologies for many years.
- Market forces bring more attention to clean power:
 - Consumer & Business interest in “green buildings”
 - Growing recognition that U.S. must reduce its CO2 emissions
 - Peak power demands stressing grid reliability
 - National security concerns over energy dependence
- Identified four technologies that may qualify for labeling by ENERGY STAR:
 - Photovoltaics
 - Small Wind
 - Micro-combined Heat and Power
 - Fuel Cells

Clean Energy Technologies



- DOE held meeting with industry representatives in April 2007 to have initial discussions of technology status.
- Held follow-up meeting in October to further explore technologies and examine programs existing internationally.
- Currently developing analysis and considering program options for PV; other technologies will follow.

EISA 2007 Effects



- Energy Independence and Security Act of 2007 signed into law December 19th, 2007.
- Include several provisions regarding ENERGY STAR and ENERGY STAR product categories, including:
 - New federal standards on certain appliances
 - New efficiency standards for incandescent light bulbs

EISA Effects -- Appliances



- New federal standard for Clothes Washers established:
 - ≥ 1.26 MEF, ≤ 9.5 WF
 - Effective January 1st, 2011
 - DOE must also set standard for 2015 by the end of 2011
 - EISA also requires ENERGY STAR Clothes Washer criteria to take effect by July 1, 2009
- New federal standard for Dishwashers:
 - ≤ 355 kWh/yr, ≤ 6.5 gallons/cycle (standard size)
 - ≤ 260 kWh/yr, ≤ 4.5 gallons/cycle (compact size)
 - DOE must also set standard for 2018 by the end of 2014
- Refrigerators
 - DOE must set standard for 2014 by January 1, 2011



EISA Effects -- Lighting

- Sets standards for maximum wattage of incandescent light bulbs based on lumen output:

Rated Lumen Ranges	Maximum Rate Wattage	Minimum Rate Lifetime	Effective Date
1490-2600 (~90w – 150w)	72	1,000 hrs	1/1/2012
1050-1489 (~75w – 90w)	53	1,000 hrs	1/1/2013
750-1049 (~60w – 75w)	43	1,000 hrs	1/1/2014

- Though current incandescent technology will not be able to meet these standards, major lighting manufacturers have indicated the ability to develop technology that will.
- Nonetheless, expected to reinforce the adoption of CFL and SSL technologies



Questions?

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