



ENERGY STAR® Appliance Specification Updates

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2014 ENERGY STAR Products Partner Meeting
October 27, 2014



Agenda

Overview

Product Updates

- Laundry: Washers & Dryers
- Room Air Conditioners
- Residential Dishwashers
- Residential Refrigerators-Freezers

What's New?

Discussion



Agenda

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Product Updates

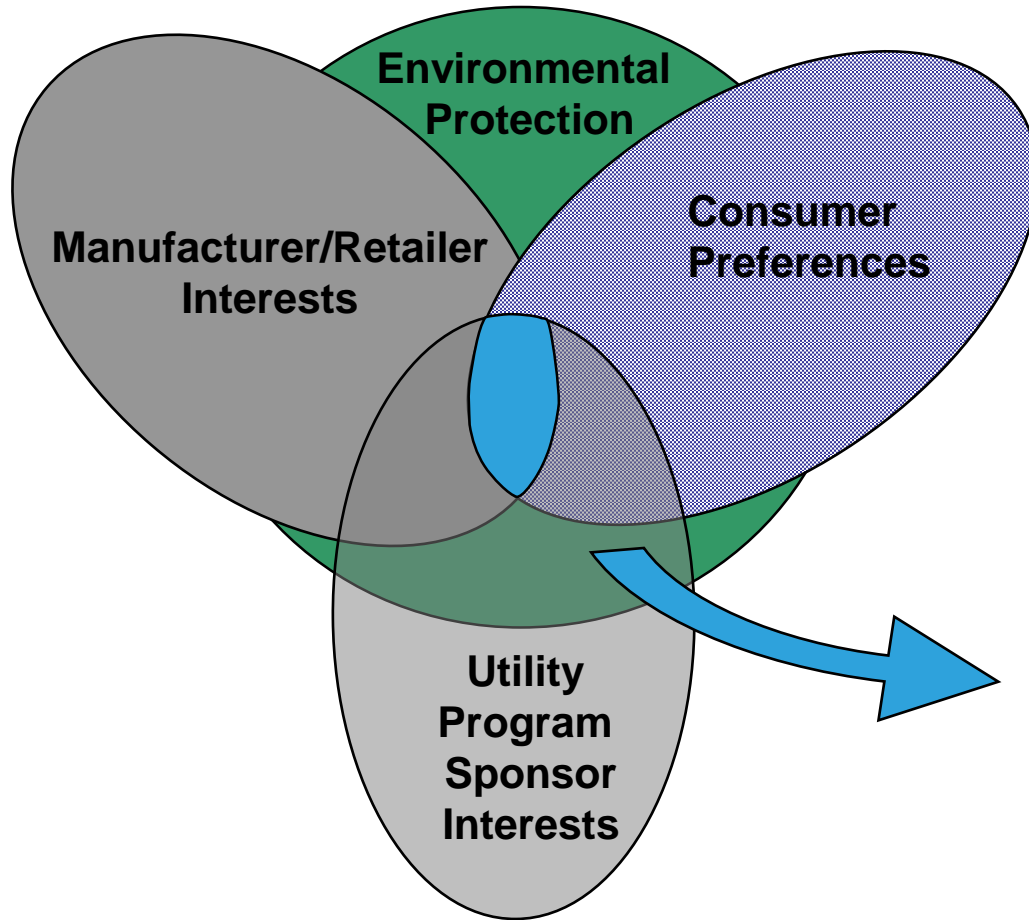
- Laundry: Washers & Dryers
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What's New?

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ENERGY STAR's Focus



- Cost-effective
- No Sacrifice in Performance
- Government backed

Consumer is Key

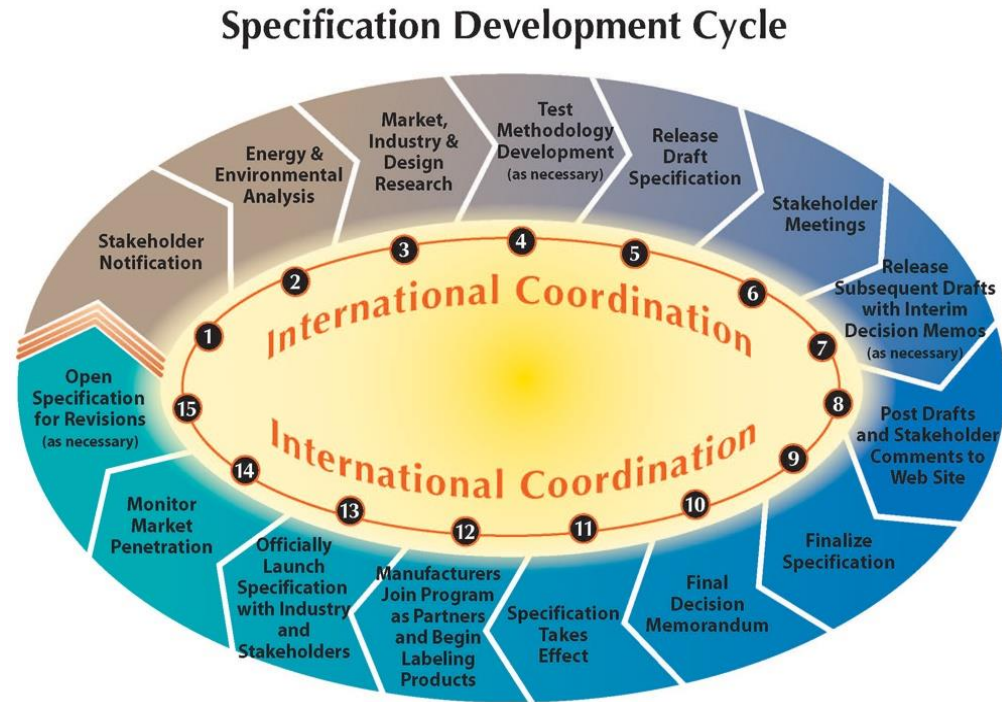


Specification Development

- Specifications are reviewed every 3 years or when market share exceeds 35%
- When developing or revising a specification, EPA balances:
 - The need to keep pace with evolution among leading products and continue to effectively differentiate for consumers
 - Timing of new Federal standards
 - Production cycles and other factors important to the industry

ENERGY STAR Guiding Principles

1. Significant energy savings
2. Product performance maintained or enhanced
3. Purchasers can recover investment in increased efficiency within a reasonable time period
4. Efficiency achieved through one or more technologies; products can be broadly available
5. Energy consumption can be measured and verified with testing
6. Label provides meaningful differentiation



Description of specification process is also available on ENERGY STAR web site.



Specification Transitions

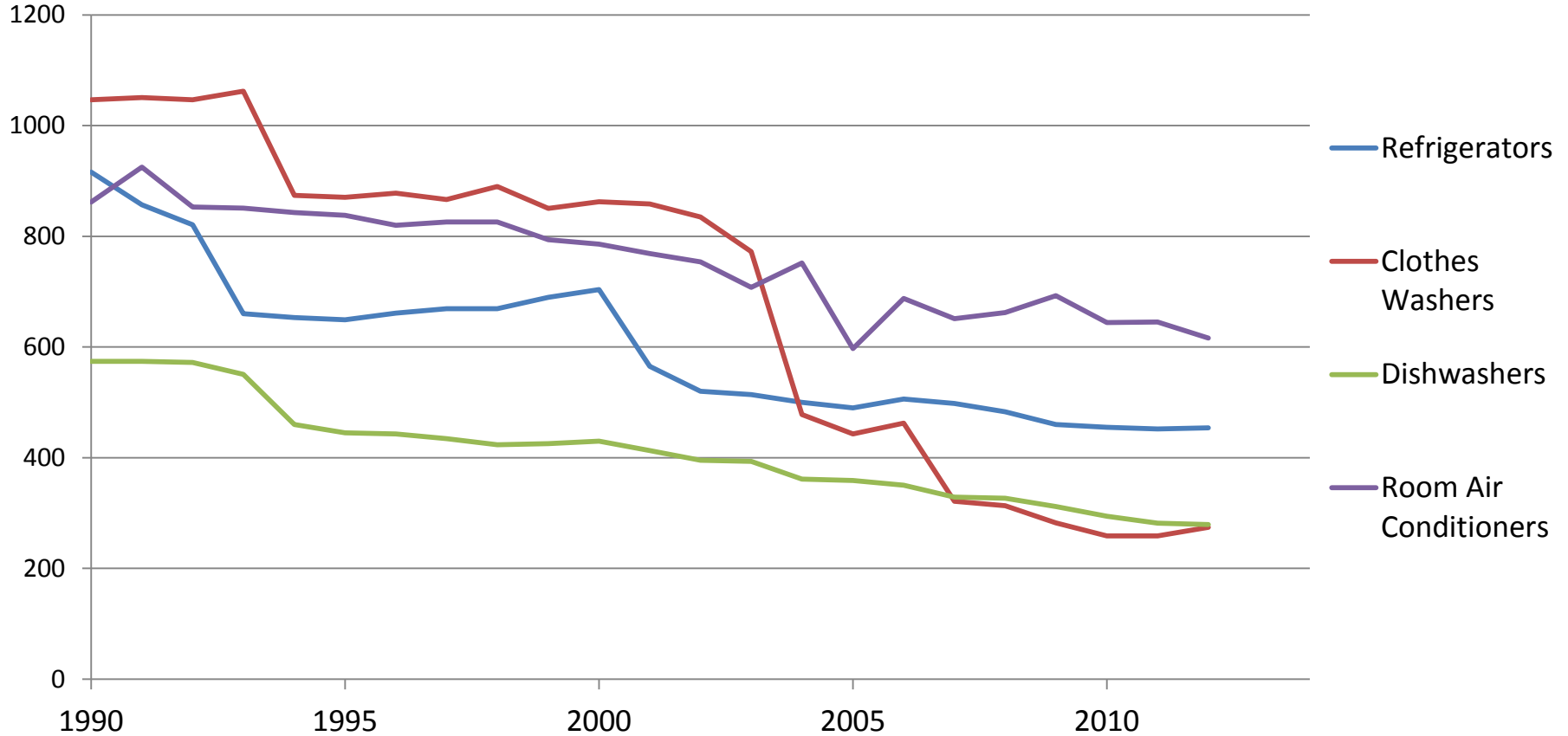
- Sharing partners' desire for a smooth transition from one ENERGY STAR specification to the next, EPA has established the following timeline:
 - Effective immediately after a spec is final, manufacturers can elect to have CB certify eligible products to the new version
 - Typically, approximately 4-5 months before the new specification becomes effective, CBs are instructed to no longer certify product submittals to older specification. (Reminders shared with CBs and manufacturers.)
 - EPA will share with retail partners a list of products that meet new specification in advance of the effective date



Efficiency Gains

Energy Use per Year
(kWh/yr)

U.S. Shipment Weighted, Average Annual Energy Use, 1990-2012





New ENERGY STAR Appliance Opportunities

- New program opportunity clothes dryers:
 - EPA finalized the ENERGY STAR Clothes Dryer Specification in 2014
 - **40 certified dryers from 5 brands**
 - Recently awarded the ENERGY STAR 2014 Emerging Technology Award to the first hybrid heat pump dryer available in the U.S.!

Check out “The Opportunity in a Dryer World” session at 3:30 – 4:30 pm

- First optional criteria for ENERGY STAR products with “Connected” features
- ENERGY STAR Most Efficient program



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Product Updates

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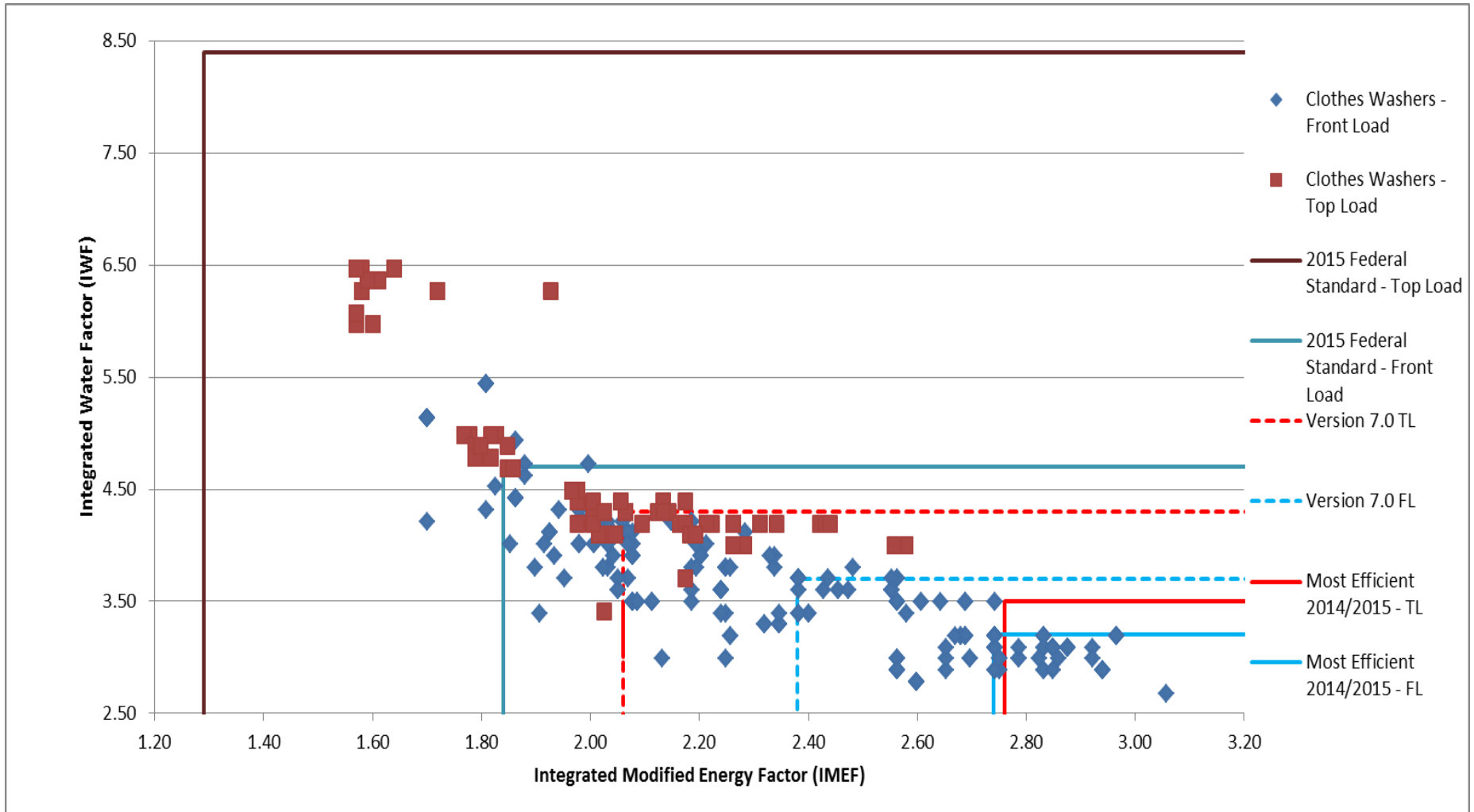
Laundry Specifications: Summary of Current Specifications

	Clothes Washers Version 7.0	Clothes Dryers Version 1.0 - <u>New Spec!</u>
Opportunity	<ul style="list-style-type: none"> ENERGY STAR clothes washers accounted for > 60% of industry shipments in recent years Good product availability at efficiencies exceeding current criteria 	<ul style="list-style-type: none"> Significant savings opportunity, in particular, with more effective automatic cycle termination Recognize new efficient technology being introduced to U.S market
Savings	25% energy, 40% water savings National: \$4 billion Per Unit: \$40/year, on average	20% energy savings National: \$1.5 billion Per Unit: \$9-18 /year
Other	None	Drying cycle time User Information Requirements
“Connected” Criteria	Included (Optional) <small>*finalized criteria will be released in Version 7.1</small>	Included (Optional)
Effective Date	March 7, 2015	January 1, 2015
Metrics¹, Test Method	IMEF, IWF DOE Appendix J2 In development: cleaning/rinse test, demand response test	CEF DOE Appendix D2 In development: Demand response test

¹ Integrated Modified Energy Factor (IMEF) and Integrated Water Factor (IWF), and Combined Energy Factor (CEF).



Clothes Washer Efficiency





Room Air Conditioners: Specification Update

	Room Air Conditioners Version 4.0 – <i>In Development</i> <i>Comment Period Open Until: November 19, 2014</i> <i>Stakeholder Webinar: November 24, 2014 – 1 pm EST</i>
Opportunity	<ul style="list-style-type: none"> ENERGY STAR room A/Cs accounted for over 50% of the market in recent years Over 7 million room A/Cs sold in 2012
Efficiency Criteria	10% less energy use than conventional model (<i>proposed</i>)
Other	Sound performance threshold and installation requirements (<i>proposed</i>)
Savings	56 kWh/yr, on average (\$6.85/yr)
“Connected”	Proposed (<i>Optional</i>)
Effective Date	TBD
Metric, Test Method	CEER, DOE Appendix F

- Current Version 3.1 allows products to certify using CEER metric
 - CEER is required for demonstrating compliance to U.S. federal standards as of June 1, 2014



Residential Dishwashers: Specification Update

	Residential Dishwashers Version 6.0 – <i>In Development</i>
Opportunity	<ul style="list-style-type: none"> ENERGY STAR Dishwashers accounted for 90% of the market in 2013 Continue to see more efficient products and new technologies being implemented
Efficiency Criteria	<p>Standard: ≤ 270 kWh/yr , ≤ 3.5 gal/cycle</p> <p>Compact: ≤ 203 kWh/yr , ≤ 3.1 gal/cycle <i>(proposed)</i></p>
Other	<i>Optional</i> Cleaning Performance Reporting using the ENERGY STAR Residential Dishwasher Cleaning Performance Test Method (Rev. Feb – 2014)
Savings	12% energy, 25% water savings Per Unit: \$6/yr, on average
“Connected”	Proposed (<i>Optional</i>)
Effective Date	TBD
Test Method	Annual Energy Use and per-cycle water use, DOE Appendix C1



Refrigerators & Freezers: Summary of Current Specification

	Refrigerators & Freezers Version 5.0
Program Summary	<ul style="list-style-type: none"> • Approximately three-fourths of units shipped in 2013 were ENERGY STAR • Over 700 refrigerator products and 100 freezer products have certified to the Version 5.0 specification, representing over 60 brands • 11 refrigerator products have certified as having demand response tested functionality
Savings	Approximately 10% less energy than models meeting the 2014 DOE standards (\$4.5-10/year – varies by type/size)
“Connected” Criteria	Included (<i>Optional</i>)
Effective Date	September 15, 2014
Metric, Test Method	Annual Energy Use, DOE Appendix A and Appendix B New test for refrigerator/freezer demand response capabilities



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ENERGY STAR Most Efficient

- New program is in the early stages; but important advances this year:
 - 12 utility program sponsors, serving 37 million residential customers, featured ENERGY STAR Most Efficient 2014 in program offerings.
 - The program is continuing to see growth, with **47 clothes washers added in 2014**
- Launched regional spot-market promotions in September 2014
 - Increase awareness of brand
 - Markets selected based on utility partner program engagement and concentration of “Super Green” consumers





Looking ahead: ENERGY STAR Most Efficient 2015

- Dishwashers – *Proposed for 2015*
 - Opportunity to recognize efficiency advances for standard size products
 - **22% less energy and 36% less water** than the federal standard
 - Proposes a minimum Cleaning Index for each test cycle (heavy, medium, and light) as assessed under ENERGY STAR Test Method for Determining Residential Cleaning Performance (Rev. Feb – 2014)
 - Proposes per cycle Cleaning Index reporting via an EPA-recognized certification body





Looking ahead: ENERGY STAR Most Efficient 2015

- Refrigerators
 - Retains 2014 criteria for products certified to V 5.0
 - **~15% less energy than the 2014 federal standard**
- Clothes Washers
 - Retains 2014 criteria for standard size washers
 - Translates 2014 criteria into IMEF and IWF for front load and top load products certified to V 7.0
 - **28% less energy and 30% less water than the 2015 federal standard (based on a front load model)**
 - Suspends small volume washers



“Connected” Product Features

- EPA continues to seek ways to further advance products with intelligent features in ways that deliver immediate consumer benefit and support a low-carbon electricity grid over the long term
- Optional “Connected” criteria are designed to enable:
 - Energy savings
 - Convenience
 - Smart grid interconnection with the option to override when necessary

“Connected” Functionality Status



New Opportunities

- ✓ Demand responsive; today clothes dryers draw about 6kW:
 - Delay start cycle
 - Reduce power draw during cycle by 80%, temporarily
- ✓ Alerts: filter blocked, using the “eco” cycle is saving you 20 percent on your energy.
- ✓ Start the wash cycle an hour before you’re home so it can go into the dryer immediately.
- ✓ New possibilities for increasing the efficiencies of paired communicating washer and dryer.

Product Category	Status of Consideration in ENERGY STAR Specification	
	Finalized	In Dev'l
Climate Controls		X
Refrigerators, Freezers	X	
Clothes Dryers	X	
Clothes Washers		X
Pool Pumps		X
Room ACs		X
Dishwashers		X



Discussion & Questions



Contacts

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Backup



Specification Transitions

- EPA shares its partners' desire for a smooth transition from one ENERGY STAR specification to the next
- EPA provides partners with 9 months between the completion of a specification and its implementation date to allow for transition of collateral material
- EPA also intends for this period to allow models that will not meet the new requirements to transition off the shelves
 - Consumers purchase ENERGY STAR labeled products, expecting that they meet the latest requirements



Appliance Spec Development “At-a-Glance”

Product Category	Key Updates	Effective Date of Next Spec
Refrigerators/ Freezers	Version 5.0 finalized last month: - 10% less energy use than 2014 standards; new connected criteria	Sept. 2014
Clothes Washers	Version 7.0 Finalized March 2014: - Revised efficiency criteria; separate classes for front and top-load; optional reporting requirement for cleaning/rinse performance; new connected criteria	March 2015
Clothes Dryers	Version 1.0 Finalized May 2014: First-ever ENERGY STAR specification for clothes dryers; optional connected criteria	January 2015
Dishwashers	Version 6.0 in development. - Revised energy and water criteria; optional and encouraged cleaning performance reporting; Optional connected functionality	TBD
Room AC	Version 4.0 in development. - 10% more efficient than 2014 standards; proposed sound performance criteria and installation requirements; proposed connected criteria	TBD



ENERGY STAR Appliance Market Share

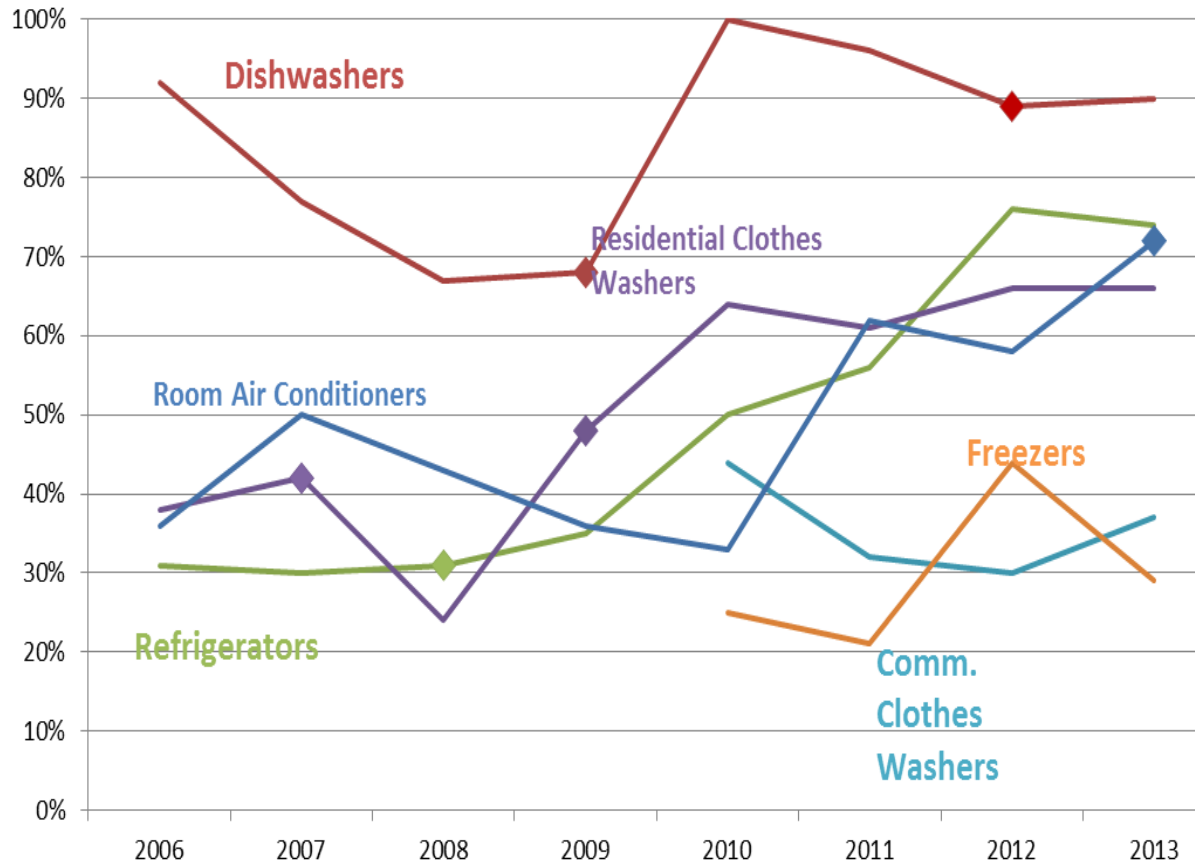
	2008	2009	2010	2011	2012	2013	Status of Recent/Next Spec
Refrigerators	31%	35%	50%	56%	76%	74%	V5.0 Effective Sept 2014
Room ACs	43%	36%	33%	62%	58%	72%	V 4.0 in development
Clothes Washers	24%	48%	64%	60%	66%	66%	V7.0 Effective Mar. 2014
Dishwashers	67%	68%	100%	96%	89%	90%	V6.0 in development
Freezers			25%	21%	44%	29%	V5.0 Effective Sept 2014

****V7.0 contains revised levels for residential washers, only.**

Note: 2013 Unit Shipment Data available: www.energystar.gov/usd



ENERGY STAR
Market Share Percentage



Specification Changes:

Dishwashers Version 6.0 is in development

Refrigerator/Freezer Version 5.0 effective September 2014

Residential Clothes Washers Effective March 2015

Room Air Conditioner Version 4.0 specification launched (TBD)

Commercial Clothes Washers - TBD? (Pending DOE activity)



Connected Status in ENERGY STAR specifications

Specification	Connected Criteria	Demand Response Test Method	Eligible to Display Connected in Product Finder
Refrig/Freezer 5.0	Final	Final	Yes – 11 Products
Clothes Dryers 1.0	Final	In Development	Yes
Clothes Washers 7.1	In Development	In Development	Yes
Climate Controls TBD	In Development	In Development	No
Room AC 4.0	In Development	In Development	No
Dishwashers 6.0	In Development	In Development	No
Pool Pumps 1.X	In Development	In Development	No