



ENERGY STAR[®]

Clothes Washer

Draft 1, Version 8.0 Specification

Stakeholder Webinar

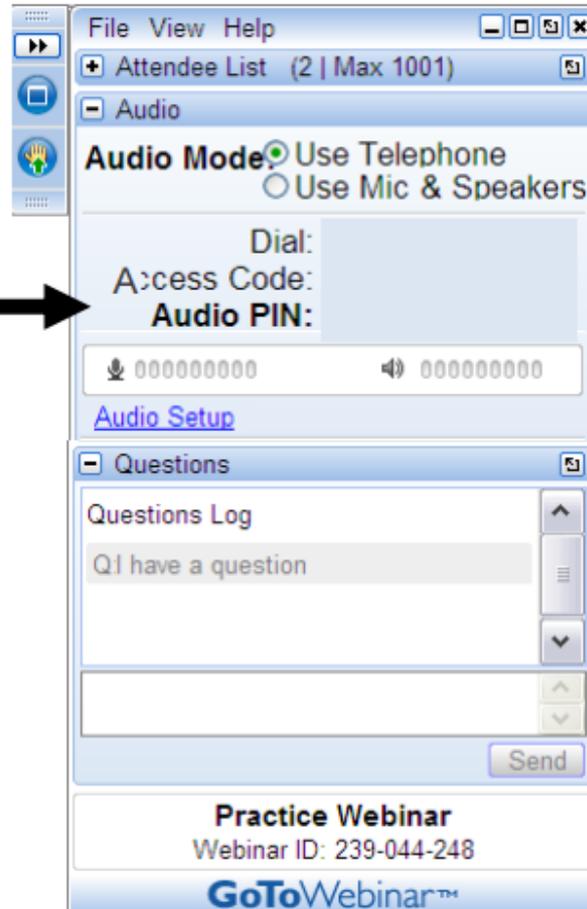
August 3, 2016

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Introduction – Welcome/Goals	Melissa Fiffer, EPA
Clothes Washer Draft 1, Version 8.0 – Presentation & Discussion	Melissa Fiffer, EPA Ryan Fogle, D+R
<ul style="list-style-type: none">• Definitions• Scope• Revisions to ENERGY STAR Criteria – Residential and Commercial• Feedback sought on cleaning and rinse performance	
Conclude & Next Steps	Melissa Fiffer, EPA



Webinar Goals

1. Highlight proposed changes in the Draft 1, V8.0 specification.
2. Solicit stakeholder feedback on outstanding issues/questions identified.
3. Address stakeholder questions about the process and/or changes.
4. Discuss next steps and timeline.



ENERGY STAR Guiding Principles

- ENERGY STAR criteria are designed to balance a varied set of objectives, including:
 - Significant energy and/or water savings
 - Product performance maintained or enhanced
 - Purchasers can recover investment in increased efficiency within a reasonable time period
 - Efficiency can be achieved through one or more technologies; certified products offered by more than one manufacturer
 - Energy/water consumption can be measured and verified with testing
 - Label provides meaningful differentiation

Specification Development Cycle





Specification Development

- 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, other factors important to the industry.
- Key elements of the stakeholder process:
 - Consistency, transparency, inclusiveness, responsiveness, and clarity.



V8.0 Clothes Washer Specification Background and Drivers

- Background
 - Current ENERGY STAR residential clothes washer (CW) criteria (Version 7.1) went into effect March 7, 2015.
 - Current ENERGY STAR commercial CW criteria went into effect February 1, 2013.
- Drivers for V8.0 Revision
 - Specifications are reviewed every 3 years.
 - Market penetration was 56% in 2015.
 - Federal standards are changing on January 1, 2018 for both residential and commercial clothes washers.



Overview of Draft 1, V8.0

- Proposing revisions to IMEF and IWF criteria for residential washers.
 - No changes to criteria for small volume clothes washers (1.6 to 2.5 cu ft).
- Proposing to adopt the MEF J2 and IWF metrics for commercial clothes washers and revise the efficiency levels.
- Seeking feedback on combination all-in-one washer-dryers.
- Clarifying definitions for washers with drying functionality.
- Clarifying laundry centers.
- Incorporating clarifications made on the connected criteria that had been provided in the ENERGY STAR Connected Criteria Q&A document.
- Welcoming partners and stakeholders to participate in development of a residential clothes washer cleaning performance test method.
- *Effective date: January 1, 2018*



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Residential Clothes Washers



Definitions

- Updated Definitions
 - *Combination All-in-One-Washer-Dryers*
 - A consumer product that meets the definition of a Residential Clothes Washer and Electric Clothes Dryer or Gas Clothes Dryer, which cleans and dries clothes in a single tumble-type drum; **a drying cycle can be performed independently** without first performing a wash cycle.
 - *Residential Clothes Washer with Heated Drying Functionality*
 - A Residential Clothes Washer that cleans and dries clothes in a single tumble-type drum; **a drying cycle cannot be performed without first performing a wash cycle**. Drying is accomplished in the wash drum through use of a heat source and forced air circulation.
 - *Laundry Centers (new definition added)*
 - A consumer product that meets the definition of a Residential Clothes Washer and Electric Clothes Dryer or Gas Clothes Dryer, which cleans and dries clothes in separate, stacked drums, and is powered by a single electric power source.
- Removed Water Factor definition as the metric will no longer be in use.



Scope Considerations: Laundry Centers and Combination All-in-One Washer-Dryers

- *Laundry Centers*
 - In response to stakeholder confusion, clarifies that laundry centers are currently eligible for ENERGY STAR certification.
 - Given the potential for misleading marketing of laundry centers, proposes that laundry centers will need to meet not only V8.0 ENERGY STAR clothes washer criteria but also the ENERGY STAR V1.0 clothes dryer criteria.
- *Combination All-in-One Washer-Dryers*
 - With the completion of an ENERGY STAR clothes dryer specification, and the availability of the Appendix D2 test method to measure dryer energy use, EPA is reconsidering the inclusion of Combination All-in-One-Washer-Dryers in the scope.
 - However, there are concerns about the water usage of the dryer element.
 - EPA is soliciting comment on the water usage of the dryer element and potential pathways forward for testing this water usage.





Optional Connected Criteria

- Optional connected criteria were introduced in the Version 7.0 specification.
 - <2% of ENERGY STAR certified residential clothes washers are connected.
- Updating optional connected criteria section to add clarity coming from ENERGY STAR Connected Criteria Q&A .
- Connected Allowance not revisited for residential clothes washers at this time.
- Developing ENERGY STAR test method to validate the demand response capabilities of residential clothes washers
 - Manufacturers encouraged to submit products to DOE for test method development. Please contact Melissa for an introduction.



Connected Appliance Roadmapping Working Group (CARWG)

- “ENERGY STAR Connected Appliances” folder on Google Drive
 - Configured as restricted access
 - This resource is for you to:
 - Learn
 - Share information and studies on connected appliances
 - Network, and
 - Advance the connected appliance value proposition
- [Click here to request access](#)
 - Note: A Google account is required, so if you are not a current user, please register for an account [here](#).
- Finale will be at the ENERGY STAR Partner Meeting in New Orleans from 9 am to 12 pm on October 25



Residential Clothes Washer Cleaning and Rinse Performance

- EPA has continued to monitor performance associated with ENERGY STAR Clothes Washers.
 - Stakeholders have expressed concerns that further improvements to efficiency may impact performance.
- Criteria not added to V8.0 ENERGY STAR standard for clothes washers.
- DOE is launching development of an ENERGY STAR cleaning and rinse performance test method.
 - Looking for participants to help inform and shape test method development.
 - V 8.0 specification will include a placeholder for the optional reporting of this data once the method is available.
 - Data reported will not be posted publicly.
 - EPA intends to require reporting for ENERGY STAR Most Efficient once the method is available.



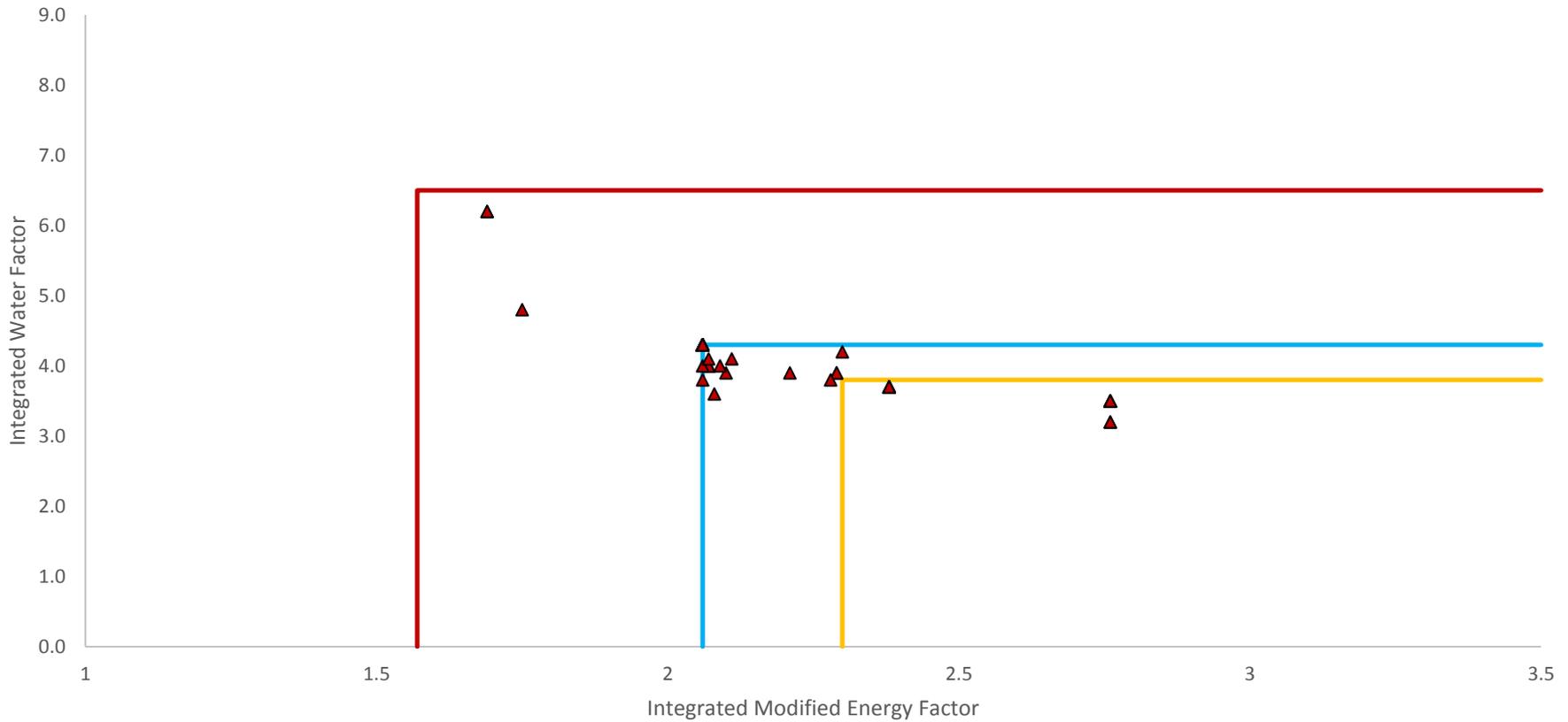
Residential Clothes Washers Proposed V8 Criteria

	IMEF V7.1	IMEF V8.0	IWF V7.1	IWF V8.0
Front Load Washer	2.38	2.76	3.70	3.20
Top Load Washer	2.06	2.30	4.30	3.80



Residential Top Load CW Scatter Plot

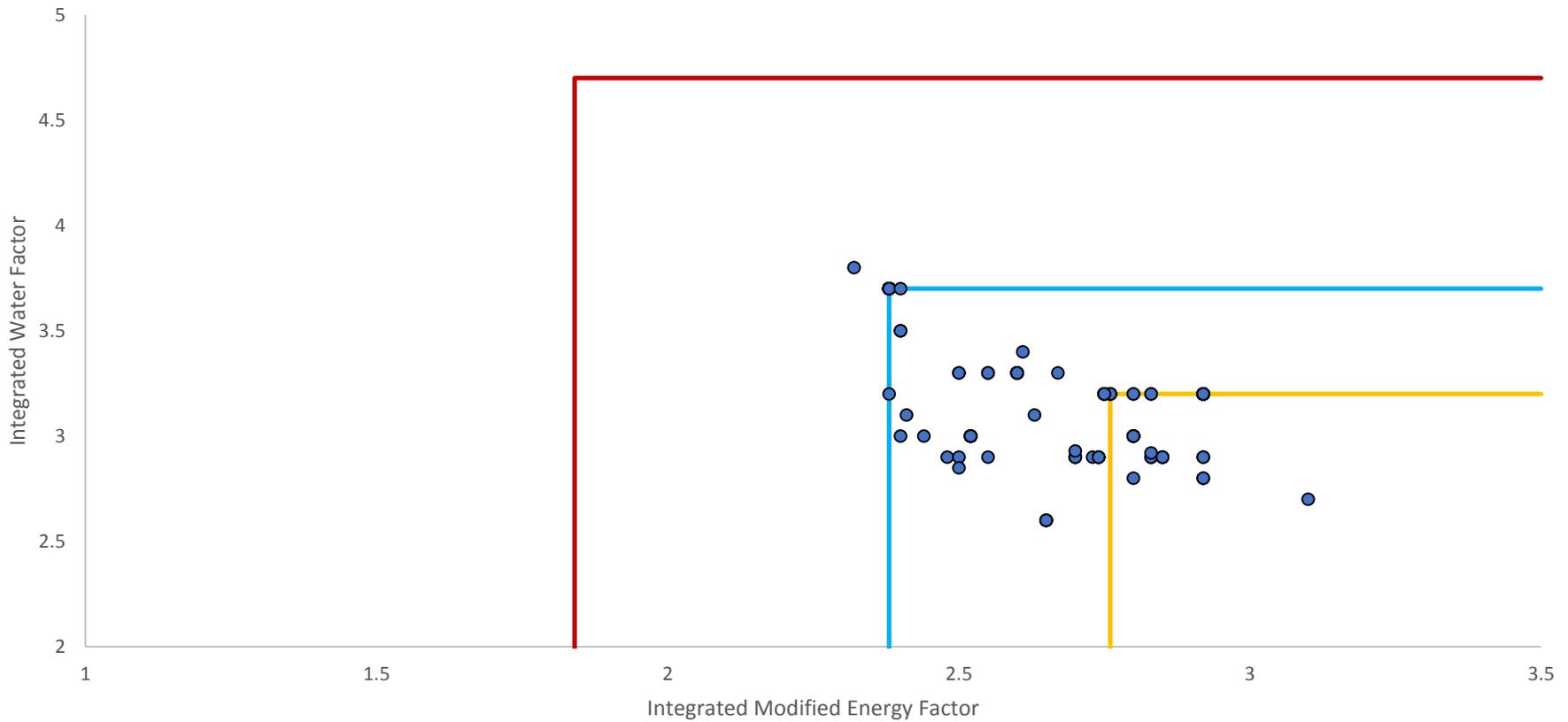
Top Load Products





Residential Front Load CW Scatter Plot

Front Load Products





Residential Product Availability

Configuration	Current ENERGY STAR Market Penetration	% of Market Meeting Proposed V8.0
Front Load	56%	27%
Top Load		30%

- Includes products from five manufacturers and seven brand names.
- Products that would not meet 2018 DOE standards were filtered out for calculating the percentage of models meeting the proposal.



Residential Consumer Savings: Energy & Water Use

Proposed V8.0 Criteria

	Annual Savings			Lifetime Savings		
	Electricity (kWh/yr)	Gas (therms/yr)	Water (gallons)	Electricity (kWh)	Gas (therms)	Water (gallons)
Top Load >2.5 cu-ft	132	3.20	2,788	1449	34.70	30,665
Front Load >2.5 cu-ft	134	2.00	1,549	1470	22.30	17,036

Assumptions: Applicable 2018 Federal standards for each category were used as the baseline. Weighted per-unit electricity and gas savings incorporate water heating (WH) and clothes dryer (D) scenarios taken from RECS 2009. Calculations assume 295 cycles per year and an average lifetime of 11 years.



Residential Consumer Savings: Dollars & Payback Proposed V8.0 Criteria

	Annual Savings (Lifetime Savings)				Cost	
	Electricity	Gas	Water	Total	Price Premium	Pay Back Period
Top Load > 2.5 cu-ft	\$16 (\$175)	\$4 (\$39)	\$23 (\$257)	\$43 (\$471)	N/A	0
Front Load > 2.5 cu-ft	\$16 (\$178)	\$2 (\$25)	\$13 (\$143)	\$31 (\$345)	\$181	5.80

Assumptions: Prices of \$0.121 per kWh; \$1.064 per therm; \$0.0084 per gallon were applied to estimate consumers' cost savings.

- No price premium could be calculated as it appeared that a similar product that was not ENERGY STAR certified was more expensive than the product meeting the proposed V8.0 criteria.



Commercial Clothes Washers



Commercial Clothes Washers Proposed V8 Criteria

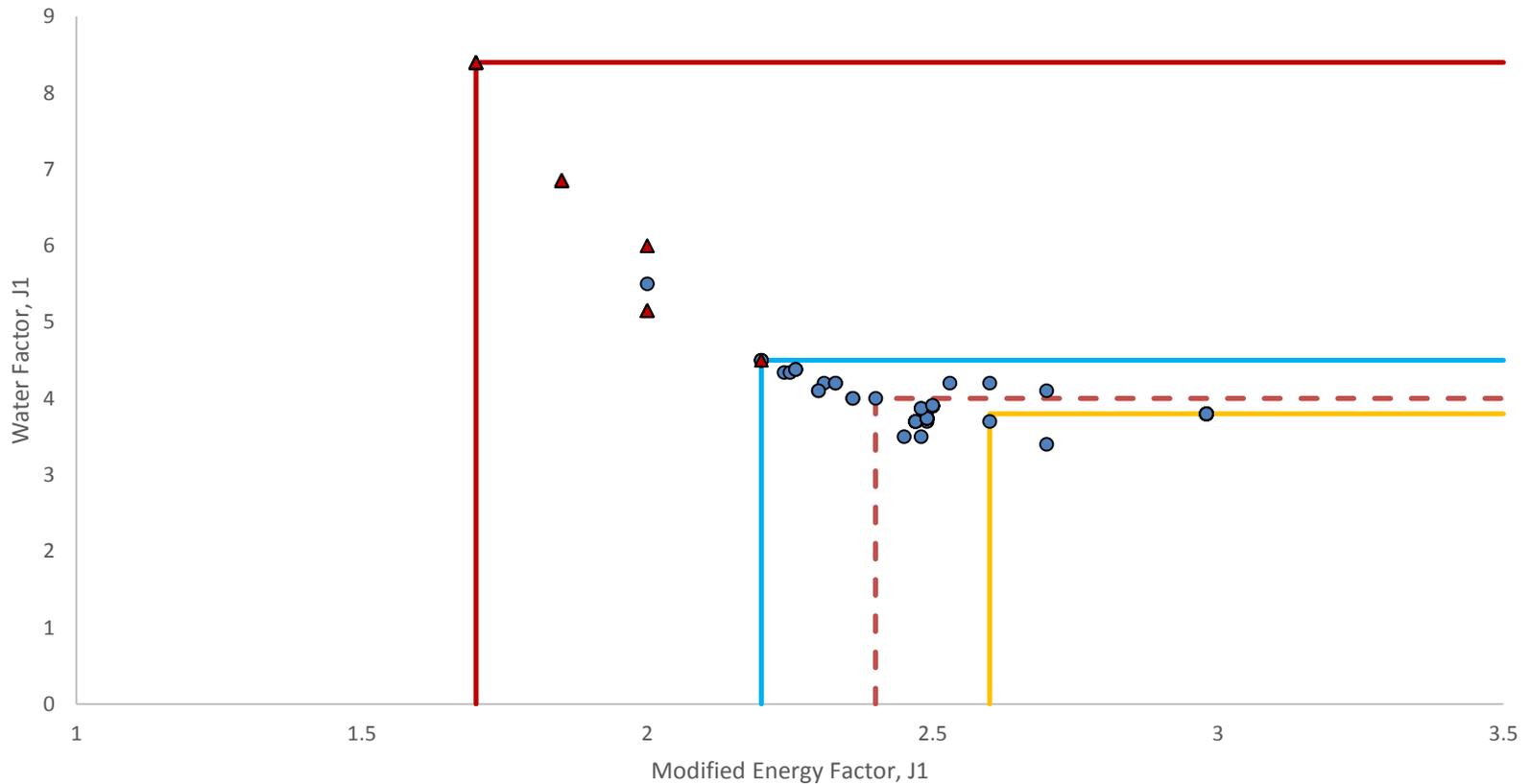
	V7.1 MEFJ2	Proposed MEFJ2	V7.1 IWF	Proposed IWF
Commercial Clothes Washers	1.80	2.20	4.5	4.0

- Commercial clothes washers are used in coin-op laundromats and multi-family housing common areas.
- Proposed criteria adopts new efficiency metrics for commercial washers which will take effect with the January 2018 federal standards: MEFJ2 and IWF.
 - The new efficiency metrics will use the Appendix J2 test method.



Commercial CW Scatter Plot

Commercial Clothes Washers





Commercial Washer Product Availability

Type	Current ENERGY STAR Market Penetration	% of Market Meeting Proposed V8.0
Commercial Washers	40%	30%

- EPA found that approximately 30% of commercial CWs on the market meet the proposed criteria.
 - Includes products from two manufacturers and four brand names.
 - Products that would not meet 2018 DOE standards were filtered out.



Commercial Clothes Washer Savings: Energy & Water Use Proposed V8.0 Criteria

	Annual Savings			Lifetime Savings		
	Electricity (kWh/yr)	Gas (therms/yr)	Water (gallons)	Electricity (kWh)	Gas (therms)	Water (gallons)
Top Load (Multi)	312	19	17,630	3,522	212	199,213
Top Load (Laundromat)	50	40	24,102	356	286	171,122
Front Load (Multi)	49	2.90	767	557	33	8,661
Front Load (Laundromat)	7	6.30	1,048	51	45	7,440

Assumptions: Applicable 2018 federal standards for each category were used as the baseline. Weighted per-unit electricity and gas savings incorporate data provided by DOE in the TSD. For multi-family installations, the calculations assume 1095 cycles per year and an average lifetime of 11.3 years. For laundromats, the calculations assume 1497 cycles per year and an average lifetime of 7.1 years.



Commercial Clothes Washer Savings: Dollars & Payback Proposed V8.0 Criteria

	Annual Savings (Lifetime Savings)				Cost	
	Electricity	Gas	Water	Total	Price Premium	Pay Back Period
Top Load (Multi)	\$32 (\$366)	\$17 (\$192)	\$123 (\$1,391)	\$172 (\$1,948)	\$619	3.5
Top Load (Laundromat)	\$5 (\$37)	\$37 (\$259)	\$168 (\$1,194)	\$211 (\$1,491)	\$619	2.9
Front Load (Multi)	\$5 (\$58)	\$3 (\$30)	\$5 (\$60)	\$13 (\$148)	\$30	2
Front Load (Laundromat)	\$1 (\$5)	\$6 (\$41)	\$7 (\$52)	\$14 (\$98)	\$30	2

Assumptions: Prices of \$0.121 per kWh; \$1.064 per therm; \$0.0084 per gallon were applied to estimate consumers' cost savings. Price premium for top-load products assumed to be \$619, per the DOE TSD. Price premium for front-load products assumed to be \$30 per the DOE TSD.



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Anticipated Timeline for V8.0 Specification Revision

July 22, 2016	EPA releases Draft 1, Version 8.0 specification
August 3, 2016	Stakeholder webinar on Draft 1 specification
August 22, 2016	Comment period closes on Draft 1 specification
October 2016	EPA releases Draft 2, Version 8.0 specification; stakeholder webinar and comment period
TBD	Final Draft Version 8.0 specification and comment period
April 1, 2017	Final Version 8.0 specification released
January 1, 2018	Final Version 8.0 specification is effective

- EPA welcomes all partner and stakeholder comments by August 22, 2016.
- Comments should be submitted in writing to appliances@energystar.gov



Questions?



Key Contacts – Appliances

- **Appliance Specification Development**
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Presented material can be found on the
[ENERGY STAR Version 8.0 Clothes Washer Product Development webpage](#)