



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

October 3, 2014

Dear ENERGY STAR® Partners and Stakeholders:

The U.S. Environmental Protection Agency (EPA) is pleased to announce the final recognition criteria for ENERGY STAR Most Efficient 2015. This letter outlines the criteria, highlighting changes from the original proposal. As noted below, the Agency is seeking additional comments related to cleaning performance requirements for dishwashers, prior to finalizing criteria for that category.

These criteria will recognize, for environmentally minded consumers, the most efficient ENERGY STAR products in 2015 across 12 product categories: Air Source Heat Pumps and Central Air Conditioners, Boilers, Ceiling Fans, Clothes Washers, Dishwashers (proposed), Computer Monitors, Furnaces, Geothermal Heat Pumps, Refrigerator-Freezers, Televisions, Ventilation Fans, and Residential Windows. Products that meet the 2015 criteria will deliver significant savings over a conventional product as noted below:

Estimated Savings for ENERGY STAR Most Efficient 2015 Products by Category

Boilers: 14% energy savings	Furnaces: 20% energy savings	Televisions: 56% energy savings
Central AC and Air Source Heat Pumps (including ductless): 20-30% energy savings	Geothermal Heat Pumps: 20-40% energy savings	Ventilating Fans: 50% energy savings
Clothes Washers: 28% energy savings and 30% water savings (for front load models)	Monitors: 35% energy savings	Windows: Savings vary by climate, house construction, and number and type of windows replaced.
Ceiling Fans: 60% energy savings	Refrigerators: 15% energy savings	Dishwashers: 22% energy savings and 36% water savings (Proposed)

**Note: In the case of appliances and HVAC equipment, energy use of a product that meets ENERGY STAR Most Efficient 2015 criteria is compared to the federal standard.*

Overview of Comments on and Adjustments to ENERGY STAR Most Efficient 2015 Proposals

EPA received a modest number of comments on the proposed criteria distributed on August 4, 2014. Commenters offered program management feedback in the form of support for the program as a complement to ENERGY STAR. Furthermore, the commenters stated that both the annual review of recognition criteria and the two tiers are useful to efficiency program managers and consumers. Some commenters also voiced support for inclusion of performance floors in cases where driving for improved efficiency could threaten consumer acceptance of performance. Multiple commenters supported maintaining 2014 requirements into 2015 for Windows and heating, ventilating, and air-conditioning (HVAC) product categories, Monitors,

Refrigerators, and Clothes Washers.

Televisions

Some concern was expressed regarding the availability of TVs that meet the proposed criteria. While EPA was able to confirm the availability of models at the proposed levels, the Agency noticed a smaller selection of models for some product sizes that are currently particularly attractive to consumers. As such, EPA has relaxed the 2015 criteria modestly.

HVAC

In light of feedback on proposed refinements to communications and system status requirements associated with much of the HVAC suite, EPA has made adjustments to reflect the state of leading edge equipment currently available in the market. While commenters were largely supportive of the communications and systems status requirements, concern was raised over the inclusion of a static pressure requirement. Numerous commenters indicated that this requirement was premature and based on present equipment and ducts in residences, would not deliver intended results. As such, EPA has removed the static pressure requirement. Further, EPA confirmed that while the vast majority of the proposed functionalities are present in the best of many HVAC types now, they are not yet found in ductless units. As such, EPA will delay the communications and system status requirements for ductless units until 2016. EPA also made a minor revision to the HSPF requirement for packaged ASHP units, increasing the requirement from 8 to 8.2, corresponding with the minimum HSPF proposed in ENERGY STAR Draft 2 Version 5. No currently recognized products will be affected by this change.

Dishwashers

EPA received numerous comments on the proposed new recognition criteria for residential dishwashers with most supporting the addition. While no issues were raised regarding the levels proposed, stakeholders did question the rationale for including dishwashers and excluding compact products. EPA's responses to these and all other comments are reflected in the accompanying comment response matrix.

Questions were also raised regarding the rationale for setting a cleaning performance floor only for the heavy cycle. Commenters expressed concern regarding the potential for performance to be adequate in heavy cycles but subpar on more frequently used cycles like medium or light. Considering these comments, EPA is proposing cleaning performance floors for all three test cycles for dishwashers. To develop these proposed levels, EPA reviewed data developed in support of the ENERGY STAR Test Method for Determining Residential Dishwasher Cleaning Performance, as well as additional DOE data recently made available to EPA. In the case of all three test cycles, EPA has selected a performance threshold that is intended as a floor for available products. Stakeholder feedback on this revised proposal regarding cleaning performance floors may be sent to MostEfficient@energystar.gov no later than October 22, 2014. Following consideration of this feedback, EPA will finalize the residential dishwasher recognition criteria.

Responses to the full range of comments can be found in the attached ENERGY STAR Most Efficient 2015 Comment Response document. You may view this and comments received at www.energystar.gov/moste efficient by following the link to "ENERGY STAR Most Efficient 2015 criteria" at the bottom of the page.

ENERGY STAR Most Efficient 2015 Categories and Recognition Criteria

Recognition criteria have been adopted as proposed for all categories except, as noted above, for Televisions; Dishwashers (cleaning performance); as well as CAC/ASHP, GHP, and Furnaces (system status and messaging criteria).

Final criteria for ENERGY STAR Most Efficient 2015 are summarized below. In addition to meeting these performance requirements, products must be certified as ENERGY STAR by an EPA-recognized certification body. Additional detail for each product category is included in the recognition criteria documents available at www.energystar.gov/mostefficient by following the link to “ENERGY STAR Most Efficient 2015 criteria” at the bottom of the page.

Category	Requirements															
Boilers*	Gas Powered Boilers: 95 AFUE or higher; Oil Powered Boilers: 90 AFUE or higher															
Ceiling Fans*	Efficiency cfm/W ≥170 high speed, ≥270 medium speed, ≥400 low speed															
Clothes Washers	<p>Version 6.1:</p> <table border="1"> <thead> <tr> <th>Clothes Washer Volume</th> <th>MEF</th> <th>WF</th> </tr> </thead> <tbody> <tr> <td>> 2.5 cubic feet</td> <td>≥ 3.2</td> <td>≤ 3.0</td> </tr> </tbody> </table> <p>Version 7.0:</p> <table border="1"> <thead> <tr> <th>Product Type</th> <th>IMEF</th> <th>IWF</th> </tr> </thead> <tbody> <tr> <td>Top Loading</td> <td>≥2.76</td> <td>≤3.5</td> </tr> <tr> <td>Front Loading</td> <td>≥2.74</td> <td>≤3.2</td> </tr> </tbody> </table>	Clothes Washer Volume	MEF	WF	> 2.5 cubic feet	≥ 3.2	≤ 3.0	Product Type	IMEF	IWF	Top Loading	≥2.76	≤3.5	Front Loading	≥2.74	≤3.2
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Product Type	IMEF	IWF														
Top Loading	≥2.76	≤3.5														
Front Loading	≥2.74	≤3.2														
Central Air Conditioners	≥18 SEER & 13.0 EER for split CAC, 16 SEER & 12 EER for packaged CAC; system status and messaging capabilities															
Air-Source Heat Pumps	≥18 SEER, 12.5 EER, & 9.6 HSPF for split systems; 16 SEER, 12 EER & 8.2 HSPF for packaged systems; system status and messaging capabilities															
Ductless AC and Heat Pumps	≥20 SEER & 12.5 EER and (for heat pumps) 9.6 HSPF															
Computer Monitors	$P_{ON_MAX} = (2 \times r) + (0.04 \times A) + 1.5$ Where: P_{ON_MAX} = maximum allowable On Mode Power consumption in W. r = screen resolution in megapixels A = viewable screen area of the product in square inches															
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Standard Dishwasher	≤240	≤3.2														
Test Cycle Type	Cleaning Index															
Heavy	70															
Medium	75															
Light	80															
Furnaces	≥97% AFUE; system status and messaging capabilities															

Geothermal Heat Pumps	Equivalent to Tier 3 levels established in the ENERGY STAR Program Requirements; system status and messaging capabilities
Refrigerator-Freezers*	V5.0: ≤637 kWh per year; at least 15% better than the amended Sept 15, 2014 Federal standard
Televisions	$P_{max} = 65.5 * \tanh(0.00046(Area-140)+0.01)+14.5$ P_{max} = maximum allowable On Mode Power consumption in W A = viewable screen area of the product in square inches TANH = hyperbolic tangent function
Ventilating Fans*	Bathroom/utility fans only; Efficacy cfm/W 7.5 cfm/W high speed for 10-89 cfm fans 6.8 cfm/W high speed for ≥90 cfm fans
Windows*	U-factor ≤ 0.20 in all Zones SHGC in Northern Zone ≥ 0.20 SHGC in North-Central Zone ≤ 0.40 SHGC in South-Central and Southern Zones ≤ 0.25 North American Fenestration Standard/Specification (NAFS) Performance Grade ≥15

**Proposed criteria carried over from 2014 for these categories.*

ENERGY STAR Most Efficient 2015 Recognition

ENERGY STAR certified products meeting these requirements will be highlighted as ENERGY STAR Most Efficient for 2015 at: www.energystar.gov/moste efficient beginning January 1, 2015. EPA will shortly begin distributing the 2015 ENERGY STAR Most Efficient designation to brand owners of eligible products. As a reminder, usage guidelines are available at http://www.energystar.gov/index.cfm?c=partners.most_efficient_criteria. As new products are certified that meet the criteria, EPA will contact partners and invite them to augment their product listing with the following:

- A product photo in a jpg file of at least 200 x 200 pixels for the ENERGY STAR Most Efficient web page; and
- A product description for use on the web page (i.e., key features and functionalities, MSRP). The first 50 words will be displayed beside the product photo on the web page; additional text will link to a separate web page.

For all HVAC product categories **except Boilers**, partners must apply for recognition for all products new to ENERGY STAR Most Efficient in order for the Agency to verify the system status and messaging requirements. To this end, partners must submit a narrative description of how their communications system and associated products and controllers meet the requirements. To expedite the recognition process, EPA has provided guidelines that outline all the information EPA requires. EPA recognizes that these narratives apply to series of related products and only expects one submission for the entire series. For product types for which system status and messaging requirements have changed, narratives must be submitted for HVAC products recognized in 2014. EPA will work with partners ensure there is no break in Most Efficient listing of currently recognized systems that also meet the new requirements. New ductless products must submit a narrative but products that are currently recognized need not.

For Window products, partners will need to apply for recognition for all products new to ENERGY STAR Most Efficient in order for the Agency to verify that a product meets the recognition criteria outlined above. Since the recognition criteria have not changed, Window products recognized in 2014 need not be resubmitted. Detailed instructions can be found on this website: (http://www.energystar.gov/index.cfm?c=partners.most_efficient_instructions) For HVAC and Window products, when EPA has confirmed product eligibility for recognition, the ENERGY STAR Most Efficient 2015 designation will be provided along with usage guidelines.

The ENERGY STAR Most Efficient 2015 designation is intended for use at point-of-sale on point-of-purchase materials, product literature, and websites. It may not be factory-applied to products or product packaging. Failure to abide by these guidelines may result in loss of recognition. EPA will highlight recognized products on the ENERGY STAR Most Efficient 2015 web page through December 30, 2015.



We look forward to working with you to market ENERGY STAR Most Efficient products in 2015. Please contact MostEfficient@energystar.gov with any questions.

Thank you for your support of the ENERGY STAR program.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann Bailey". The signature is stylized and cursive.

Ann Bailey, Director
ENERGY STAR Product Labeling