

EPA Most Efficient March 2011 Proposal for Appliances: Stakeholder Comments and EPA Responses

Comment	EPA Response
<p>Numerous commenters supported the proposed requirements while others recommended ENERGY STAR revisit the proposed hard # cap of 403 kWh per year on all refrigerators and instead establish an increasingly stringent specification for models that exceed a certain volume. However, commenters also encouraged EPA to look for ways to increase the variety of products that achieve recognition in the program. Recognition criteria could be developed to ensure exceptional energy performance while also ensuring that environmentally-conscious consumers with a variety of needs can find qualifying products.</p> <p>Several commenters noted that under proposed criteria, no models under 17 cu ft would be eligible, which serve consumers in small homes. Additionally, commenters noted that none would be over 22 cu ft and since the average refrigerator sold is 22 cu ft., this would deny "most efficient" purchasing guidance to a substantial portion of those buying new refrigerators. Commenters also noted that largest savings are available from these larger products and said that without a modification to the 403 kWh/year cap we are less likely to see the types of energy efficiency gains among the largest and biggest energy consuming models on the market</p>	<p>EPA appreciates the comments supporting the proposed requirements for refrigerator-freezers. In the final eligibility criteria, EPA has maintained the requirement that refrigerator-freezers be 30 percent better than the minimum federal standard.</p> <p>EPA believes that a cap on absolute energy consumption is important to ensure the Most Efficient program recognizes only products with truly exceptional energy performance. However, based on this and similar comments received, EPA has reviewed the proposed cap and adjusted it from 403 kWh/year to 422 kWh/year, which will allow several larger refrigerator-freezers (total volumes of 25-26 cubic feet) to also be eligible. EPA recognizes some consumers need larger refrigerators and believes this modification will provide consumers with a larger selection of Most Efficient models while still only recognizing refrigerator-freezers with superior energy performance, both from an efficiency and overall energy use, perspective. EPA also agrees with stakeholders on the need to continue to drive efficiency improvements in the largest and more energy consuming models on the market, and believes that the ENERGY STAR refrigerator-freezer program is well positioned to continue to drive these improvements.</p> <p>Specifically for smaller refrigerator-freezers, EPA has re-examined its data set. EPA notes there are several refrigerator-freezer models of 16.5 cubic feet that would be eligible, as well as 14 and 10 cu-ft models (with partial automatic defrost). EPA also observed the majority of models currently on the market with volumes < 18 cubic feet and automatic defrost just meet the minimum ENERGY STAR criteria of 20 percent better than the federal standard, and therefore, don't represent a significant improvement beyond the base ENERGY STAR levels. EPA, therefore, has not adjusted the eligibility criteria for small refrigerator-freezers but will continue to evaluate the opportunity to highlight highly efficient smaller refrigerator-freezers, when the criteria are next reviewed and revised.</p>

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<p>A commenter noted that proposed recognition criteria are too stringent for current through-the-door ice models to obtain the Most Efficient designation. The commenter noted that refrigerator-freezers with through-the-door ice have a higher measured energy under the DOE test procedure than products without that feature because, due to their design, they have a higher heat leak. And the impact of that heat leak on measured energy is greater under the test conditions than it is in the field due to differences in ambient temperature (90 degrees Fahrenheit under the test procedure as compared to an estimated average of about 70 to 75 degrees Fahrenheit in a consumer's home). Commenter also noted that this difference between products with and without through-the-door ice is not accounted for in the refrigerator/freezer test procedure, which is a closed door test, meaning that it does not incorporate door openings. Door openings contribute significantly to energy use in the home. DOE's energy efficiency standards for refrigerator-freezers recognize these design differences and test procedure limitations through less stringent standards for products with through-the-door ice than for products without that feature. Commenter suggests EPA encourage consumers to open and close the refrigerator or freezer door less frequently because that behavior ultimately uses less energy and that setting less rigorous eligibility levels for refrigerator-freezers with through-the-door ice would do so.</p>	<p>Given the role Most Efficient recognition is intended to play relative to the ENERGY STAR label, it is not the goal of the program to ensure that there are qualifying models in all configurations or with all feature sets. EPA recognizes it might not be possible for models with through the door ice to be eligible, despite the additional energy use provided through the higher maximum annual energy use requirement of 422 kWh/year, specified in the final Eligibility Criteria for Refrigerator-Freezers. However, EPA notes consumers have a variety of ENERGY STAR qualified products with through the door ice to chose from.</p> <p>EPA agrees with stakeholders' comment that it is important to encourage consumers to minimize door openings and currently highlights this best practice on the ENERGY STAR website. EPA welcomes any supporting data on such differences in consumer use behaviors and energy use associated with the through the door ice feature, that could be relayed directly to consumers through new ENERGY STAR tips or used to inform future specification setting efforts. EPA agrees with the comment that consumers may open/close door less frequently when they have product with through the door ice, but also notes there may be additional consumer useage patterns that shoud also be accounted for such as the frequency and volume of ice use. These use patterns would need to be considered to further compare the energy use of models with and without through the door ice. EPA also notes that stakeholders may want to recommend changes to the test procedure so that any difference in energy use associated with through the door ice can be considered and possibly better characterized through testing.</p>

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<p>Commenter notes that many of the configurations that may not be eligible, are consumer preferred by as much 3 to 1 when compared to the configurations that will qualify under the "Most Efficient" ENERGY STAR program. Moreover, when a consumer is in the process of making their purchase decision, the lack of consistency with this key guiding principle could inadvertently deceive them into thinking these configurations are comparatively inadequate by not clarifying how these "Most Efficient" levels implicitly exclude the most popular configurations.</p>	<p>One of the goals of the Most Efficient program is to highlight products whose efficiency performance is truly exception and leading edge. In light of this, EPA recognizes that the Most Efficient refrigerator-freezer criteria may not be achievable by all configurations or by models with certain feature sets. EPA acknowledges certain consumers need larger refrigerators and believes the modifications made to the final eligibility criteria for refrigerator-freezers will provide consumers with additional Most Efficient options from a broader range of sizes, while still only recognizing refrigerator-freezers with superior energy performance.</p> <p>EPA also notes that the ENERGY STAR program will recognizes products with superior energy efficiency performance from a wider range of sizes, feature sets, and configurations.</p>
<p>Commenter flagged potential for stringent levels to affect performance absent cleaning and rinse performance requirements.</p>	<p>EPA is interested in considering cleaning and rinse performance requirements in the ENERGY STAR clothes washer program as well as Most Efficient program should it continue, in the future. EPA notes that the Consortium for Energy Efficiency (CEE) has encouraged manufacturers to work within industry organizations to develop standard scoring metrics for cleaning and rinse performance. When an industry cleaning and rinse performance method becomes available, EPA will work closely with DOE to consider cleaning and rinse performance ratings for both the ENERGY STAR clothes washer program and Most Efficient.</p> <p>For the 2011 pilot, EPA has reviewed available consumer reviews and ratings of clothes washers on the market that can meet the proposed energy and water performance requirements and found the performance ratings and consumer satisfaction to be satisfactory.</p>

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<p>Suggests EPA refer to the guidelines provided by the Consortium for Energy Efficiency (CEE), particularly as they relate to Tier 3 products, to help ensure that the EPA's initiative dovetails with existing programs that are designed to increase energy efficiency.</p> <p>Another commenter recommends EPA relax proposed requirements in 1 of 2 ways: 1) Set the Most Efficient criteria at CEE Tier 3 levels. At these levels, 152 models would qualify, which is approximately 53 percent of ENERGY STAR qualified models; or 2) Modify the proposed Most Efficient criteria for smaller clothes washers either by proposing a different MEF and WF for machines under a certain size or by setting a maximum annual energy and water usage that a machine could meet if it did not meet the MEF and WF specifications</p>	<p>EPA appreciates this comment and did, in the course of its product category review, examine the CEE Tier 3. EPA notes that over 50% of the models on the ENERGY STAR qualified product list meet CEE Tier 3 levels, which is not consistent with the goal of the Most Efficient program to only identify the top, few, most efficient products for early adopters. However, based on its data set of ENERGY STAR qualified models, EPA has developed a separate category for small clothes washers ≤ 2.5 cu ft, and based on product availability, has set requirements of 2.3 MEF and 4.5 WF to recognize the most efficient small clothes washers. In addition, EPA has made minor change to the WF criteria for washers > 2.5 cu-ft, relaxing it from 3.0 to 3.3, which will enable several additional highly efficient models, most with capacities in the range of 3.8 cu-ft, to be eligible for recognition.</p>
<p>Commenter cautioned that proposed criteria levels will exclude popular features and comfort packages for consumers, making the "Most Efficient" program inconsistent with the ENERGY STAR promise.</p>	<p>EPA set forth a number of recognition principles for Most Efficient program in the March cover letter, relying that criteria for this program were developed in order to highlight products with truly exception efficiency performance. In these principles, EPA stated it was not the goal of the Most Efficient program to ensure that there were qualifying models in all sizes or configurations. However, based on comments received, EPA has modified the clothes washer criteria, enabling more washers in a greater range of capacities, to be eligible for recognition.</p>
<p>A commenter suggested EPA add estimated annual electricity use to the recognition criteria, as this figure (which is part of the Energy Guide label) serves as an important guide to consumers. Commenter further suggests EPA require the requisite amount be equal to or less than 100 kWh/year for this product category. Such a standard should help ensure that the EPA's goal of reducing overall energy consumption is achieved.</p>	<p>EPA appreciates this comment and notes that the estimated annual electricity use expressed in terms of kWh on the Energy Guide label is not a metric used in the ENERGY STAR clothes washer specification. Instead, the ENERGY STAR specification uses Modified Energy Factor (MEF) to rate the energy performance of clothes washers. This performance metric accounts for the washing machine energy consumption, the hot water energy consumption, and the amount of energy to remove the remaining moisture in the wash load. EPA believes this metric provides consumers with the most comprehensive rating of energy performance. For this year's pilot program, EPA plans to continue to use MEF performance metric.</p>