

## Comments on EPA's Proposed Recognition Criteria for the ENERGY STAR Most Efficient Pilot Program

April 8, 2011

Thank you for the opportunity to provide comments on EPA's proposed recognition criteria for the ENERGY STAR Most Efficient pilot program. ACEEE is a long-term supporter of the ENERGY STAR program and appreciates efforts to enhance the program through special recognition of products with superior efficiency performance. We begin with some general comments on the process of developing and implementing the recognition criteria and then offer feedback on the criteria for specific product categories.

### General Comments

*ACEEE supports the inclusion of Most Efficient recognition within the ENERGY STAR program.* Introduction of the Most Efficient designation will enhance the ENERGY STAR program by offering consumers a way to differentiate exemplary performance in energy efficiency from good performance as identified by ENERGY STAR. The designation will also provide manufacturers and retailers recognition for developing and stocking products that outperform others in the market. We also support the decision to prominently display the year in which the product met the Most Efficient criteria as the simplest and most straightforward way of dealing with more frequent updates of the Most Efficient recognition criteria. Such clear indication of when the product was deemed "Most Efficient" will help build consumer confidence and support of the program.

*We encourage EPA to further explore and promote opportunities for coordination of the Most Efficient recognition program with existing efforts.* As noted in our earlier comments on the initial Top Tier program proposal, coordination of the program with existing efforts to promote the highest efficiency products available—including CEE, TopTen USA, and state/regional programs, among others—should be a priority of the program and will best serve the needs of consumers and manufacturers.

*ACEEE encourages EPA to provide stakeholders with more information on how the recognition criteria were developed.* The materials provided by EPA on the program (cover letter and proposed recognition criteria document) lack specifics on the methodology used to determine the recognition criteria for each product category. Without specifics, stakeholders cannot comment on the validity of the selection methodology; rather we must limit our comments to the results when the recognition criteria are applied to products currently in the market. We are concerned that the lack of transparency regarding development of recognition criteria gives the impression that the levels were set arbitrarily. This could have negative implications for ENERGY STAR and the Most Efficient pilot program.

Given these concerns and the specific issues outlined below, we encourage EPA to reconsider the decision to establish Most Efficient criteria on a case-by-case basis for each product type without any common underlying methodology or guiding principles. Using a common approach to setting requirements (e.g., to identify the top 2% or 5% of products or a set number of products) would provide transparency for stakeholders as to what the criteria are and how the requirements were set while allowing some flexibility to tailor the criteria as needed for each product category.

## Comments on Product Recognition Criteria

*Clothes Washers* Products meeting the proposed recognition criteria are among the largest models available. Our analysis of products on the most recent ENERGY STAR qualified products list shows that the 10 products (representing 8 base models) meeting the water and energy criteria range from 3.81 to 4.42 cubic feet capacity. These products do not offer meaningful energy or water savings relative to smaller units with MEF and WF ratings very close to the Most Efficient thresholds. For example, the ENERGY STAR list includes a 3.47 cubic foot washer with an MEF of 2.99 and annual energy consumption of 97 kWh/year (lower than any products meeting the Most Efficient criteria) and WF of 3.5 and annual water use of 4,706 gallons/year (comparable to many models meeting the Most Efficient criteria). Another 3.65 cubic foot model with an MEF of 2.91 uses 83 kWh/yr (20% to 35% less than models meeting Most Efficient). Washers of 3.0 cubic feet and less offer similar energy consumption, lower water consumption, and can meet the needs of apartment dwellers and small households.

Based on our analysis, it is not clear that the proposed Most Efficient recognition criteria represent “more than an incremental improvement in energy efficiency” or “demonstrate efficiency performance that is truly exceptional, inspirational, or leading edge—consistent with the interests of environmentally-motivated consumers and early adopters” as outlined in EPA’s stated principles. We are particularly concerned that recognition criteria that result in only the largest models achieving the Most Efficient designation will not be deemed credible to the environmentally-motivated consumers that are an important target audience for the program. We suggest that EPA explore approaches that would recognize exemplary performance for products of varying sizes, for example by requiring increasingly higher efficiency requirements for larger products.

*Refrigerators* The Most Efficient recognition criteria for refrigerators require an improvement in efficiency relative to the federal minimum standards as well as an absolute cap on energy consumption. Unlike some of the other product categories, the criteria does not allow larger than average models (or less-efficient configurations) to qualify. We applaud the effort to develop strict requirements for the largest products and those configurations that are inherently less efficient. Still, we encourage EPA to look for ways to increase the variety of products that achieve recognition in the program. The smallest qualifying models are 17 cubic feet, larger than models used in many apartments. No models larger than 22 cubic feet qualify although the largest savings are available from these products. 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.

*Televisions* An analysis of models eligible for Most Efficient recognition reveals a very high representation of larger models (46” or larger screen size). We encourage EPA to revisit the criteria and try to develop recognition levels that cover a broader range of product sizes to discourage consumers from purchasing larger TVs than needed. We are also concerned that manufacturers may reduce luminance levels to meet the Most Efficient criteria undermining the program and the principle of ensuring no compromise in product performance and urge EPA to consider ways to address this issue.

*Heating and Cooling Equipment* ACEEE supports the decision to include heating and cooling equipment in the ENERGY STAR Most Efficient pilot program. Given their high initial cost, large contribution to household energy consumption, and long lifetimes, the largest energy savings and consumer energy cost savings are possible from these product categories. We also recognize that developing program criteria that will ensure energy savings, good performance and customer satisfaction is more complex for these product categories. For all heating and cooling equipment, we encourage EPA to:

- 1) Require quality installation. It is widely understood that proper sizing and installation of HVAC equipment make far more difference in delivered efficiency than a few points of the rating metric. These factors may account for up to 30% performance differences. Without a requirement that qualifying equipment have a Quality Installation equivalent, the probability is high that many consumers will have very expensive and very unsatisfactory experiences. One possibility, roughly paralleled by the ENERGY STAR water heater program, would be to require a quality installation as a warranty condition for these products.

- 2) Modify the proposed efficiency levels and prescriptive requirements. As currently proposed, very few products from very few manufacturers qualify for the Most Efficient designation. Furthermore, the energy savings associated with these extremely high ratings are small—in many cases, there are additional prescriptive requirements that would assure better performance and greater energy savings. It is very important that the Most Efficient program demonstrate technologies and equipment that will save the most energy. We are concerned that the proposed HVAC specifications are likely to result in either manufacturer certification of a few “trophy” or “halo” models that are not stocked by distributors or mentioned by contractors because their prices are not commensurate with their value; or set off a “SEER race,” in which manufacturers compete to offer and publicize more models with higher metrics while diverting resources from approaches that would actually save much more energy.

Furnaces The proposed recognition for criteria for furnaces sets a very high bar, but as noted above, the energy savings of moving from 95 or 96 AFUE to 98 AFUE is small as is the availability of products. Our analysis of the current product list shows that at 98 AFUE, there are 10 models available from only 2 manufacturers. Of greater concern, the smallest unit is 88,000 Btu, most likely only needed by larger than average size homes except in the most northern climates. At 97 AFUE, there are approximately 120 models from only three or four manufacturers with a wider range of capacities. Selection increases with little energy penalty at 95 or 96 AFUE; we recommend that EPA consider these levels for the Most Efficient program. ACEEE supports inclusion of the communicating controls requirement, but would prefer a requirement that trouble codes be automatically transmitted to a dealer or the factory. We also recommend including a requirement for “sealed combustion,” which isolates the furnace from the space it is installed in rather than allowing indoor air for combustion.

Central Air Conditioners and Heat Pumps As with furnaces, a small number of models qualify at the SEER/EER/HSPF levels proposed. As with furnaces, we support the inclusion of a requirement for communicating controls, but would prefer a requirement that trouble codes be automatically transmitted to a dealer or the factory. In addition, we encourage EPA to consider requiring features and controls that enable outdoor air delivery for controlled ventilation and automatic economizer operation when outdoor conditions allow it. Such features are widely available in commercial roof-top units and could provide savings in residential systems. EPA has stated their intent that all qualified products provide exemplary performance wherever it is installed in the US (as opposed to having regional specifications). To assure exemplary control of both temperature and humidity in all climates, we believe that all qualifying central AC and heat pumps must be equipped with variable speed air handler fans, modulating compressors (2-step minimum), and humidistats; or alternatively demonstrate that they meet short-term event and seasonal needs in humid climates. In addition, we are very concerned about the decision to include packaged AC, designed for outdoor installation and urge EPA to reconsider for the following reasons: this equipment is not available with condensing furnace sections, so the winter performance is very poor; and there is a high potential for off-cycle losses and cabinet losses as the vertical supply and return ducts serve as convective loops throughout the winter, carrying warm air from the living area into the unit, whose poor insulation and uncertain sealing against infiltration all but guarantee high thermal losses.

We appreciate the opportunity to provide our input and look forward to working with EPA on continued improvements to the ENERGY STAR program including the Most Efficient recognition effort. If you have any questions or comments, please don't hesitate to contact me at 202.507.4015 or [jamann@aceee.org](mailto:jamann@aceee.org).

Sincerely,



Jennifer Amann  
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