



Douglas Anderson
USEPA Headquarters
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1200 Pennsylvania Avenue NW
Mail Code: 6202J
Washington, DC 20460

REF: Proposed specifications for ENERGY STAR Windows, Version 6.0

Dear Doug:

The Alliance to Save Energy, a non-profit 501(c)(3) energy efficiency organization based in Washington DC, welcomes the opportunity to submit these comments on the latest proposed specifications for ENERGY STAR residential windows, doors, and skylights (Draft 1, Version 6.0).

First, we wish to commend the ENERGY STAR team for a thorough, and thoughtful, and transparent process of updating the existing window specifications, one that has sought to clearly convey the goals, data sources, and analysis approach used to arrive at a proposed new specification, and along the way, to inform and engage all interested stakeholders. Those commenting on the proposed 6.0 specification may have differing views, but the approach you and your colleagues have taken has certainly provided a valuable framework for that discussion to take place among well-informed parties.

We would like to offer a few comments on the substance of the proposed changes in the specification, and then briefly on the view ahead that was offered and recently discussed at EPA's recent public workshop.

New requirements for air leakage and installation instructions. We applaud ENERGY STAR for adding the requirements for air leakage and manufacturers' installation instructions (including clear diagrams). At the same time, we agree with other stakeholders that: a) ideally, air leakage testing would apply to the installed window rather than a laboratory-tested unit (EPA might encourage DOE and others to develop improved *in situ* test methods); and b) that written installation instructions are only a limited first step toward a broad-based quality assurance program, that would ideally training and certification for installers, follow-up checks on installation quality, and consumer warranties. Some manufacturers or installers offer one or more of these elements today, and the considerable success with HVAC installation quality programs, sponsored by industry and utilities, might serve as a model for window installations as well. If ENERGY STAR decides that future versions of the specification should place added emphasis on quality installation, it is important to make this a collaborative effort with manufacturers, leading contractors, and training organizations.

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U-factor and SHGC requirements. While we have no significant objections to the proposed U-factor and SHGC criteria in V 6.0 of ENERGY STAR, at the same time we would comment in two areas:

- a) *Relation to the model energy code.* The U-factor for the Southern Zone (≤ 0.40) and the SHGC for both Southern and South-Central Zones (≤ 0.25) are exactly the same as the 2012 IECC requirements. In theory, this may make it more difficult for utilities in these regions to justify offering rebates for ENERGY STAR windows that are already required by code. However, in practice this may not be a serious constraint for the near term, since adoption of the latest model energy code and code compliance in many of these states tend to lag behind other regions. Also, since the largest market for windows, including ENERGY STAR windows, is for replacements in existing homes, this appears to be an area where energy code requirements have made little impact. And conversely, as the new ENERGY STAR window specifications gain market share in these regions, this may in turn help lessen resistance to adoption of the 2012 IECC.
- b) *SHGC trade-off.* The concept of a trade-off between U-factor and SHGC in the Northern zone remains an area of concern for us – so long as there is no distinction made between ENERGY STAR windows installed in exposed (unshaded) West and South façades where excess solar gain is most likely to lead to overheating discomfort, added on-peak air conditioning loads, and fading of carpets and furnishings. In practice, the proposed adjustment in U-factor is very small (0.01), which lessens our concern about V 6.0. However, looking ahead, we would strongly urge ENERGY STAR to consider ways to provide useful and effective guidance to consumers and contractors about where to install low- vs high-SHGC windows. Having made a start with the requirement for manufacturers to provide instructions on high-quality window installation, perhaps additional guidance could be provided to both consumers and contractors on the proper applications for low- vs high-SHGC glazing.

At the current proposed levels we agree with conclusions in the “Criteria and Analysis Report” that it does not appear necessary to require a minimum level of Visible Transmittance (VT), nor a minimum ratio of VT to SHGC. However, we note that ENERGY STAR is proposing a minimum VT requirement for the more stringent criteria recently introduced for the “Most Efficient” window designation. We believe that new level of product recognition may be a useful way to test the concept of minimum VT for possible future inclusion in the core ENERGY STAR criteria. (We comment further, below, on “Most Efficient.”)

Effective Date. We agree with the proposed effective date of January 2014, while suggesting that EPA continue to monitor closely any proposed changes in the 2015 IECC (for which Final Action Hearings will be held in October 2013), to see if it might be

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necessary to speed up the timeline for the next update of ENERGY STAR windows (V 7.0) in the event that provisions in the 2015 residential model code begin to approach (or surpass) the ENERGY STAR criteria in V 6.0. The same applies to the need to monitor window proposals that may be introduced in the current update of ASHRAE Standard 90.2 (even though in the past this standard has not been widely adopted as the energy code for residential buildings).

Future directions. While it is not the main purpose of this letter, we would also like to comment on the recently proposed specifications for “Most Efficient” ENERGY STAR windows. The proposal for a U-factor ≤ 0.20 is certainly an aggressive goal, and in the context of this market-leading recognition label it may be helpful in terms of:

- encouraging more manufacturers to produce triple-glazed windows that meet consumer preferences (regarding weight and VT, for example);
- creating opportunities for builders and window installers to gain experience in proper installation of these windows; and
- helping to reduce the current high premium costs of such windows through increased manufacturing volume and more common stocking practices.

However, we do question whether this large a reduction in U-factor (≤ 0.20) makes sense for the South and South-Central zones, even for a highly selective designation of “Most Efficient” ENERGY STAR windows, especially when the SHGC requirements for these two regions remain unchanged from V 5.0 and are notably less stringent than the proposed requirements under V 6.0. Even more to the point, the SHGC requirement for these two zones is less stringent than the IECC 2012!

We recognize that the “Most Efficient” program is intended to take effect before V 6.0 of ENERGY STAR and to be updated about every year, so the higher SHGC would not be a step backwards from ENERGY STAR V. 6.0 once that new spec takes effect. We also agree that there may be some benefit in having a simple, nationwide specification for U-Factor. Even so, we would expect to see a “Most Efficient” window place relatively more emphasis on reducing SHGC in these two regions, to reduce cooling loads and peak electricity demand, in preference to such a stringent U-factor.

Thank you for your careful consideration of these comments.

Respectfully submitted,

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About the Alliance

The Alliance to Save Energy is a nonprofit organization working for more than three decades to promote energy efficiency worldwide through research, education and advocacy. We bring together business, government, environmental and consumer leaders to promote energy efficiency worldwide through research, education and advocacy. In concert with our 180+ Alliance Associates and our many coalition partners and allies we encourage business, government, environmental and consumer leaders to look to energy efficiency as a means to achieve a healthier economy, a cleaner environment and greater energy security. Our staff of about 80 located in Washington, D.C., other U.S. cities, and several other countries includes economists, engineers, financial experts, public policy specialists and communications professionals with a wealth of experience on energy efficiency in the private and public sectors. In addition, for many years the Alliance has administered the Efficient Windows Collaborative (EWC) on behalf of itself, the University of Minnesota, and Lawrence Berkeley National Laboratory – working with window manufacturers and other stakeholders to provide unbiased information on the benefits of energy-efficient windows, descriptions of how they work, and recommendations for their selection and use..

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