October 17, 2019

To: windows@energystar.gov
Attention: Doug Anderson, Anderson.Doug@epa.gov

The more than 300 AAMA member companies, and an additional 300 professional and technical individual members have been longtime supporters of the ENERGY STAR® program to help encourage Americans to make energy-efficient choices.

AAMA offers these questions and comments on the proposed ENERGY STAR Version 7.0 program in the spirit of continuous improvement of the program and its use.

U.S. program focus, impact on market share
The Discussion Guide indicates that the ENERGY STAR market share has stabilized at a high level and has not significantly increased for windows or doors in the last five years. Therefore, increasing stringency of U-factors in Version 7.0 — which often comes with added cost to the consumer for greater product performance — could discourage the purchase and use of ENERGY STAR windows, doors or skylights.

To provide the most helpful information necessary to grow ENERGY STAR market penetration, AAMA encourages EPA to segregate ENERGY STAR market penetration by product category (windows, doors, skylights) and by Climate Zone. If possible, it would also be helpful to segment the Climate Zone data by market segment for new construction versus remodeling/replacement applications. This more detailed segmented market data is essential to understanding where the current ENERGY STAR saturation is greatest, and where opportunities exist geographically to focus efforts on growing market share. We suspect that a closer analysis will indicate a significantly lower market share for the Northern Climate Zone than the aggregate number indicated in the Discussion Guide.

While the U.S. and Canadian ENERGY STAR programs both strive to help consumers make energy-efficient choices, the way in which each country goes about it differs. While Canada is moving to a single ENERGY STAR zone for the whole country, it's not realistic for the United States to take that approach. Significantly different climate conditions necessitate the need for separate ENERGY STAR Climate Zones across the U.S. AAMA encourages EPA to pursue the U.S. ENERGY STAR program independent of the Canadian program.

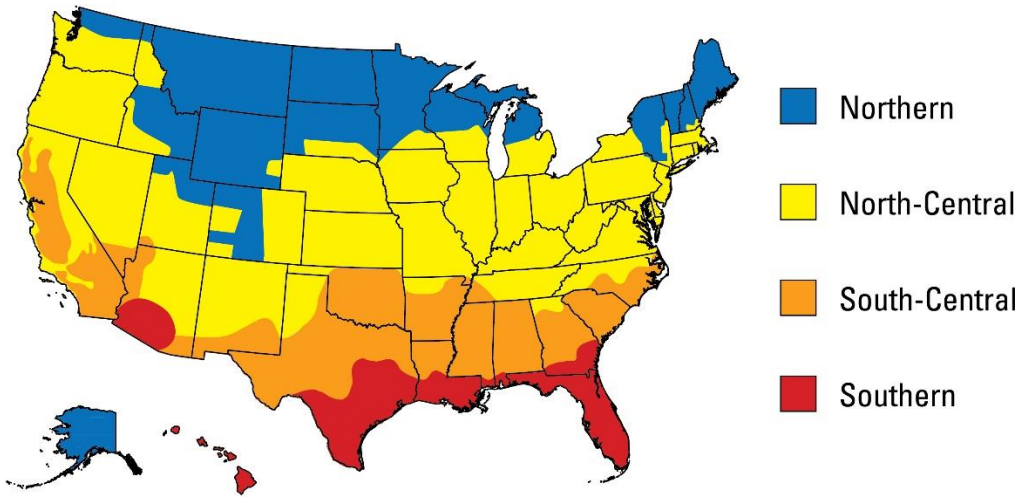
Delay Version 7 discussions until 2021 IECC is published
AAMA believes it is important to maintain ENERGY STAR as a voluntary program and guideline, with fenestration product performance set at levels more stringent than the minimum prescriptive model code performance levels for corresponding Climate Zones.

Since ENERGY STAR is a uniform, voluntary program, it's a goal which consumers can aspire to in their purchases to help save energy. Energy code adoptions vary by jurisdiction, so it's important for ENERGY STAR to be more stringent than the latest published versions of model code, and not vice versa.
AAMA encourages EPA to wait until the 2021 IECC is published before considering criteria revisions.

Southern Climate Zone considerations
If the criteria for the existing Southern Climate Zone — a cooling dominated climate, where the U-factor is not the primary concern. — is also proposed for the South-Central Climate Zone, the two could be combined if the U-factor is set at 0.35 for the combined zone. If that's not the case, leave the Southern and South-Central Climate Zones as they now stand.

Northern and North-Central Climate Zone considerations
AAMA supports further consideration of moving IECC Climate Zone 5 out of the Northern Climate Zone, provided the North-Central Zone criteria remains the same. The data suggests that the IECC Climate Zone 5 might be better suited for the North-Central Climate Zone, rather than the Northern Climate Zone. Many of the heavily populated areas in the revised North-Central Zone would then have a maximum SHGC requirement that could help reduce solar gain and thus lower air conditioning demand to help save energy.

An approximate suggested revised Climate Zone map is provided below. Generally, in this map the 2016 ASHRAE (and IECC) Climate Zone 5 moves to the North-Central Climate Zone. Climate Zones 6, 7 and 8 stay in the Northern Zone.



Potential minimum Solar Heat Gain Coefficient (SHGC) for the Northern Climate Zone
AAMA does not support establishing a minimum Solar Heat Gain Coefficient for the Northern Climate Zone. The concept may not be optimum for all elevations (and result in over-heating). Since ENERGY STAR has a significant impact in the replacement market in existing housing, this assumes that existing housing is designed for passive solar, which is not the case in most instances.

Special considerations for high altitude and impact-resistant products
We appreciate the consideration but recognize the complex challenges that come with trying to assure that the right product gets to the right high altitude or impact-resistant market area. High altitude and impact-resistant products represent a small share of the market. Allowances for high altitude and impact-resistant products add significantly more complexity for product labeling and marketing. The minimal benefit doesn't justify the added complexity.

Proposed payback period recommended at no more than eight years
Consumers expect a reasonable payback period when making energy-efficient purchases for their home. Given ENERGY STAR's high market share, to attract new consumers to making ENERGY STAR purchases AAMA recommends the payback period for ENERGY STAR products be no more than eight years, the length of time most Americans owned their homes before the housing recession, and about the half the length of time now.

Proposed methodology on list of products available for sale
The proposed filtered list of product lines selected for FenStar® is not a reasonable proxy for, nor a comprehensive list of products available for sale, because it doesn't necessarily represent what has been sold or what a consumer may be willing to buy. Instead, AAMA recommends using the Ducker Study (or the Hanley

Wood Study) as better options.

Cost versus price
Manufacturers' pricing varies significantly and depends on a myriad of complex and highly variable inputs that form a manufacturer's pricing and go-to-market strategies. Due to the need to maintain proprietary information, some manufacturers and/or their suppliers simply cannot share their cost information. Instead, AAMA recommends that EPA use list pricing, or the manufacturer's suggested retail price for products, rather than the manufacturer's or supplier's cost, which is proprietary data. To align the program with the intended consumer target, the price a consumer is likely to pay is much more relevant than the manufacturer's cost.

Ultimately, the consumer considers the total out-of-pocket price of a product versus their needs and budget. Therefore, in a free market economy, it is not necessary for EPA (or anyone it contracts with on its behalf) to try to estimate the additional cost of materials for manufacturing ENERGY STAR products, as that end decision lies with consumers in whether they find value in, and are willing to invest in, ENERGY STAR-certified products.

Many fenestration products are sold through dedicated distributors, lumberyards, installers, etc., in addition to those sold through "big box" retailers. If mystery shopping is conducted, AAMA recommends it include all market segments, not just "big box" retailers. In addition, to reflect geographical consumer pricing, if mystery shopping is conducted, it should be carried out in each ENERGY STAR Climate Zone.

Require North American Fenestration Standard (NAFS) Certification for all products other than side-hinged doors
Currently, ENERGY STAR requires NAFS certification for air leakage only. For all products other than side-hinged doors, AAMA encourages EPA to consider requiring ENERGY STAR-certified products to be fully NAFS-certified.

Door criteria should be retained
AAMA encourages EPA not to apply the criteria for windows to sliding doors in Version 7.0. ENERGY STAR Version 6.0 established a clear distinction between windows and doors. That separation is easily understood by consumers, who consider windows and sliding doors as different types of products for different needs.

AAMA also encourages EPA to retain and not sunset the door criteria. If the criteria is sunset for some doors but not others, it will confuse and potentially frustrate consumers and manufacturers. It would also be difficult to explain to a consumer why a sliding door with certain performance ratings can qualify for a tax credit or a utility rebate, but a hinged door that may have equal or perhaps better performance ratings does not.

From the sales and marketing perspective of a manufacturer, the ability to offer a comprehensive ENERGY STAR-certified product package is an important tool in promoting energy efficiency and sales of ENERGY STAR-certified products to target audiences. EPA recognized this by adding sliding doors to the Most Efficient program recently. AAMA encourages EPA to maintain the same rationale for consistency and clear understanding of ENERGY STAR Version 7.0.

Maintain skylight and tubular daylighting device information separately from window specifications
AAMA encourages EPA to retain the ENERGY STAR specification for skylights.

Skylight and tubular daylighting device (TDD) U-factors are determined differently than window U-factors. Most consumers don't know, nor do they care how performance criteria for fenestration products are calculated. What they care about most is whether a given product is more likely to be energy-efficient than others in each product category. If skylights are included in the same ENERGY STAR specification as windows, it will be

confusing for consumers. That separate categorization is also consistent with the IECC which recognizes that skylight U-factors are different than window U-factors. Keeping skylights separate from the ENERGY STAR windows specification will help avoid potential confusion for the program's many target audiences, especially consumers.

AAMA does not encourage ENERGY STAR to use a multiplier to the windows specification to calculate performance of skylights. A multiplier would add further complexity to the program, adding to confusion and potentially decreasing program participation or the risk of error.

One of the strengths of the ENERGY STAR program is the ease in helping consumers compare two like products to determine the potential energy use and savings of each. From a market perspective, vertical fenestration like windows, differs from that of horizontal fenestration like skylights and tubular daylighting devices. Tubular daylighting devices are even more unique than skylights in terms of their difference versus windows, as TDDs are installed differently from windows.

Skylight manufacturers are not reporting consumers asking for windows and skylights to be combined in ENERGY STAR specifications. Therefore, windows and skylights should remain independent to reduce confusion in the marketplace, especially with consumer audiences.

Skylights and TDDs are often purchased to enhance a building's daylighting through natural light. Windows are typically purchased to enhance a view and protect a building and its occupants from exterior conditions and in the case of venting units, to allow for ventilation.

ENERGY STAR does not recognize daylighting as part of its criteria. Skylights and TDDs also differ from windows in that they may be made from glass or plastic glazing and they are typically installed on a structure's roof, versus in the wall as in the case of windows. Installation methods, costs and techniques for windows are very different than those for skylights and TDDs.

Extend effective date to 12 to 15 months after release of final specification, starting January 1 of a year
AAMA encourages EPA to extend the ENERGY STAR Version 7.0 effective date from the current 9-12 months to a longer period of at least 12-15 months after the release of a final specification, starting at the beginning of a calendar year. Nine months doesn't allow enough time for all that's required to update products, sales and marketing materials, training and distribution plans for products that meet new ENERGY STAR specifications. Instead, AAMA encourages EPA to extend the period to 12-15 months. This allows more time for comprehensive program implementation, development of consumer information and product redesigns.

AAMA welcomes the opportunity to continue to work with EPA to help build interest and participation in the ENERGY STAR program. We look forward to continued dialogue as part of the process when future program enhancements are considered and adopted.

Sincerely,

Steven Saffell
Technical Director
American Architectural Manufacturers Association (AAMA)
1900 E. Golf Road, Suite 1250
Schaumburg, IL 60173
SSaffell@aamanet.org
Office: 847-303-5859, extension 132