

Via Electronic Transmission Only

September 28, 2012

Mr. Doug Anderson
ENERGY STAR Programs
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460-0001

Re: ENERGY STAR Version 6.0, Draft 1 Criteria and Analysis Report (“Version 6 Report”)

Dear Mr. Anderson:

Thank you for the opportunity to comment on the proposed changes in the Version 6 Report. We appreciate the EPA’s willingness to discuss, and modify the ENERGY STAR proposals to establish the best program for product consumers and manufacturers.

The ongoing weakness of the U.S. housing market continues to be the core concern of our industry. Just in the last few months, four high-end, niche window manufacturers, that heavily promoted ENERGY STAR products, are no longer in business. In consideration of these points JELD-WEN reiterates our position that the 6.0 version criteria implementation be delayed at least until 2015, and revisited at that time to ensure that sustained relief is occurring in the housing industry.

JELD-WEN would like to address four key points in response to EPA’s Version 6 Report:

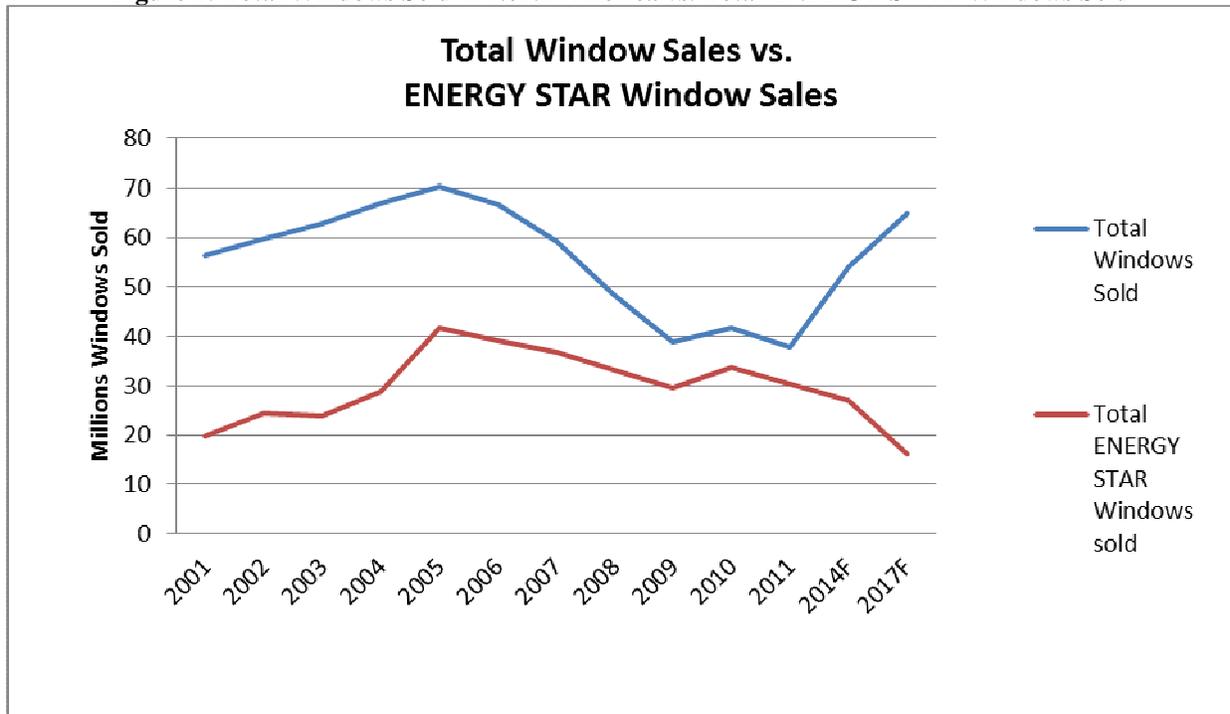
- Market Share. EPA’s measurement of ENERGY STAR’s market share should not be based on a market that has lost 50% of its total sales.
- Regional Energy Savings. Population growth has shifted to the Southern climate zones, and thus emphasis on the Northern climate zones does not afford the most energy savings.
- Affordability. Affordability must be the primary driver of the ENERGY STAR program.
- Qualification Criteria. A larger ENERGY STAR market share is good for consumers because it offers more choice.

Market Share

While the market share of ENERGY STAR qualified windows has increased since 2006, the number of ENERGY STAR windows sold has declined. Please refer to Figure 1, the blue line is based on Ducker research and the red line is based on Ducker Research and forecasted market share by EPA (2014 @ 50% ENERGY STAR share & 2017 @ 25% ENERGY STAR share). If the EPA 25% share goal is achieved, consumers will be buying fewer ENERGY STAR windows than they did 16 years previously (2001), considering that window sales will double by 2017 over 2011 sales.

The market place still has over a billion inefficient windows that need to be replaced in 130 million housing units.¹ If the EPA achieves their goal of 25% of market share, the vast majority of replacement windows will not be ENERGY STAR windows, defeating the purpose of the ENERGY STAR program.

Figure 1: Total Windows Sold in North America vs. Total ENERGY STAR Windows Sold



Energy Savings by Region

The Version 6 Analysis Report states that the aggregate annual energy savings over Version 5 criteria is 45% in the Southern climate zone, and 24% in the Northern climate zone. The DOE 2003 ENERGY STAR criteria resulted in an aggregate national energy savings of about 12 trillion Btus. The 2009 revision resulted in 9.2 trillion Btus. The EPA Version 6 Report criteria

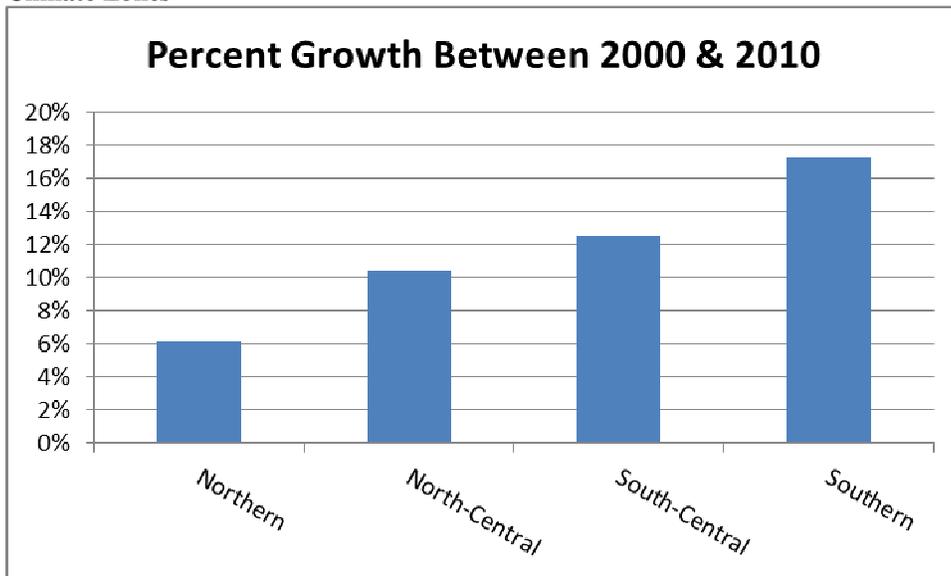
¹ American Housing Survey for the United States: 2009. Issued March, 2011 by US Department of Housing and Urban Development.

will only result in savings of 2.2 trillion Btus, or about one-fourth of the savings of 2009 revision. The savings in the Northern zone only are 24%, or 0.53 Btus.

Driving the Northern zone to have poor affordability of products with such a small energy savings, does not serve the consumers.

While 2010 US Census results show that the US population is shifting to the South, the EPA seems to be concentrating on changes in the North. As shown in Figure 2, the population of the US over the last decade has moved to the Southern climate zone at a rate more than double to that of growth in the Northern climate zone.

Figure 2: Percent of Population Growth for USA Between 2000-2010 per US Census Data, Sorted by EPA Climate Zones



JELD-WEN believes that energy savings are the over-arching goal of the ENERGY STAR program, and that the largest energy savings will be realized by limiting the change in the Northern zone. The emphasis of the changes should be on the Southern and South-Central climate zones. Generally the cost of cooling is more than the cost of heating.

Affordability

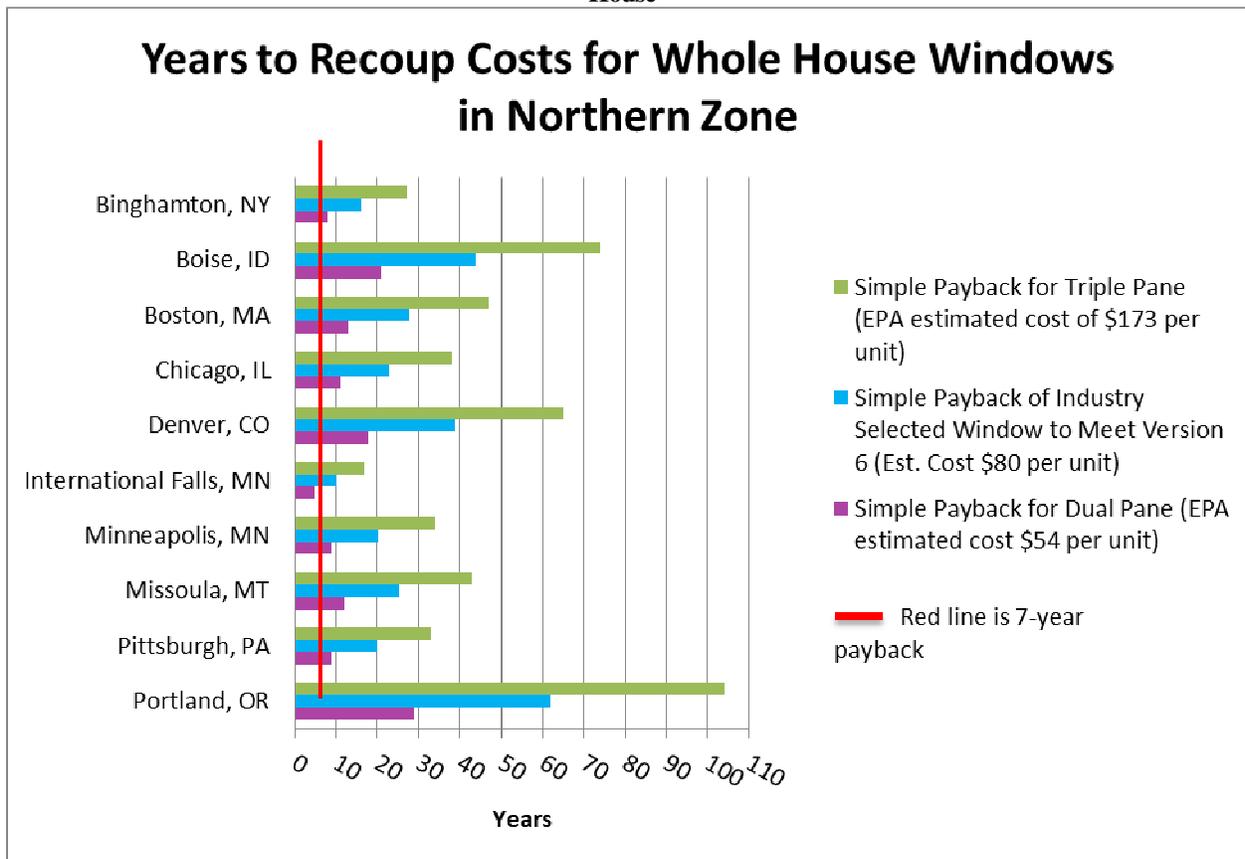
The EPA is urged to reconsider the qualification criteria of the Version 6 Report. *ENERGY STAR Products Program Strategic Vision and Guiding Principles* (“Guiding Principles”), Guiding Principle 3, suggests that purchasers recover their investment in reasonable time with increased energy savings. ENERGY STAR specifications are set so that if there is a cost differential at time of purchase, that cost is recovered through utility bill savings. Using the EPA’s own cost effectiveness methodologies in the simple payback calculation in Table 8, this guiding principle is only met in the Southern climate zone.

The EPA must consider that the current basic assumptions of the Version 6 Report, and ENERGY STAR Program goals conflict with each other -- significant savings on a national scale will not be realized if the criteria encompasses only the top 25% of market. When more products are available, at affordable prices, and offer reasonable paybacks – everyone wins. Niche markets do not, generally, lend themselves to cost effectiveness. Real affordability must be the primary driver of the ENERGY STAR program.

The EPA’s payback analysis in the Version 6 Report, Table 8 needs to show a strictly simple payback analysis, and not include the recouped investment upon sale of the house. Recouped payback analysis can be misleading.

See Figure 4 below illustrating the years to recover the cost of replacing windows in the Northern climate zone. The average payback period for an industry selected window to meet Phase 6 criteria in the Northern climate zone is 29 years. For example in Boston, which is a heating dominated climate, the payback period is 13 years for dual pane based on EPA estimated costs, 28 years to meet Version 6 based on industry estimate, and 47 years for triple pane based on EPA estimated costs. These paybacks do not represent a reasonable, consumer-acceptable time period, nor do they meet the ENERGY STAR Guiding Principles.

Figure 3: Years Required to Recover Costs of Version 6 Window Replacement in Northern Climate Zone in Whole House²



² Data based on Version 6 Report, Table 5, Table 8, and industry data.

Qualification Criteria

A larger market share than the 25% target is best for consumers. If the market share is larger, there are more products available at different price points. Driving down the market share pushes ENERGY STAR products into high-end, niche markets is not the best strategy if these products are to reduce energy use across all of the USA.

In consideration of all our previous points, JELD-WEN offers the following recommendations for windows:

Figure 4: Current, EPA Proposed, and JELD-WEN Proposed Limits on U-Factor and SHGC for Windows

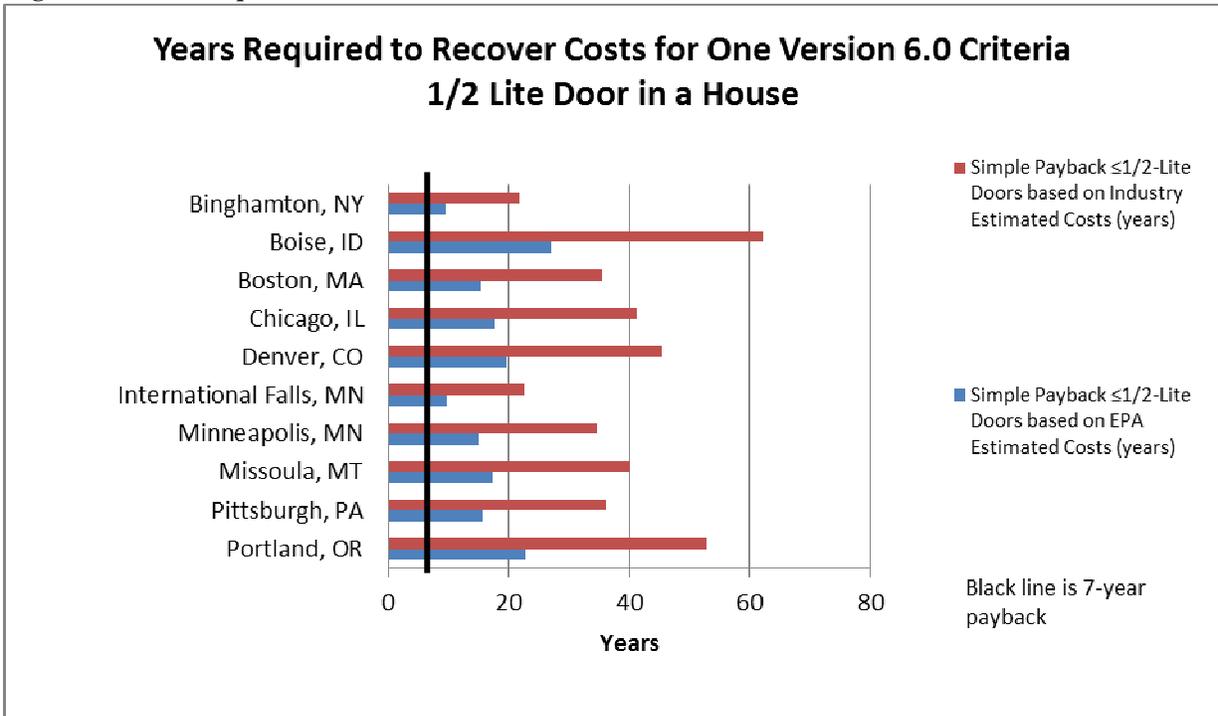
	Version 5.0 ENERGY STAR		Version 6.0 ENERGY STAR Proposed		JELD-WEN Proposed	
	Max U- factor	SHGC	Max U- factor	SHGC	Max U- factor	SHGC
Climate Zones	Windows					
Northern	0.30	Any	≤0.27	Any	≤0.29	Any
North-Central	0.32	0.40	≤0.29	≤0.35	≤0.31	≤0.40
South-Central	0.35	0.30	≤0.31	≤0.25	≤0.32	≤0.25
Southern	0.60	0.27	≤0.40	≤0.25	≤0.40	≤0.25

Comments on Version 6.0 Criteria for Doors

Considering the points EPA makes in the Version 6.0 Analysis Report, changes to the qualification criteria for opaque doors will offer no additional energy savings, and energy savings for full-lite doors were rounded down to zero by RESFEN. Based on this point, the U-value and SHGC changes proposed by EPA simply damage the affordability of the product without providing any payback to the consumer.

For less than half-lite doors, EPA indicates there would be minimal incremental cost, but the manufacturers' analysis have suggested the cost is more than double the EPA estimate. Figure 5 shows the years to recover costs with the EPA suggested marginal cost versus an industry estimate of costs. Less than half-lite doors should be in the same category as opaque, as there are no additional savings with reasonable payback for the consumer. For example in Boston, which is a heating dominated climate, the payback period is 15 years for EPA estimated costs, 35 years to meet Version 6 based on industry estimates. These paybacks do not represent a reasonable, consumer-acceptable time period, nor do they meet the ENERGY STAR Guiding Principles.

Figure 5: Years Required to Recover Costs for Version 6 ≤1/2 lites in the Northern Zone in Whole House³



JELD-WEN continues to support one climate zone criteria for door products. However when reviewing the proposed criteria, we suggest the SHGC maximum be modified to be no greater than 0.27 for >1/2 lite assemblies. Most door systems are shaded by overhangs and this change to SHGC will not have a major effect on energy consumption.

Modifying the U-value requirements for opaque doors to 0.19, the half-lite doors to 0.25, and the full-lite doors to 0.30, maintains a consistency of 0.02 change across the product lines, allows same glass usage and appropriately reduces affordability pressures.

JELD-WEN urges the EPA to use the practical U-factor and SHGC numbers suggested in Figure 6.

Figure 6: Table of Current, EPA Proposed, & JELD-WEN Proposed Limits on U-Factor & SHGC for Doors

	Version 5.0 ENERGY STAR		Version 6.0 ENERGY STAR Proposed		JELD-WEN Proposed	
	Max U-factor	SHGC	Max U-factor	SHGC	Max U-factor	SHGC
Door Types	Doors					
Opaque	≤0.21	n/a	≤0.17	n/a	≤0.19	n/a
≤ 1/2 lite	≤0.27	≤0.30	≤0.23	≤0.25	≤0.25	≤0.25
> 1/2 lite	≤0.32	≤0.30	≤0.30	≤0.25	≤0.30	≤0.27

³ Based on Table 15 and industry sales data.

Comments on New Requirements of Version 6.0

JELD-WEN agrees with the EPA, that a structural requirement could help assure that consumers are purchasing quality fenestration, and supporting the renewed effort to deliver on the ENERGY STAR brand promise. Since most fenestration products are already certified by NAFS for air, water, and structural performance, it is logical to include NAFS certification as an ENERGY STAR requirement. The EPA is strongly encouraged to include structural certification with NAFS in Version 6.

JELD-WEN supports the addition of two new requirements in the Version 6 Report, the air leakage requirements, and the installation instructions requirement, with consideration for the following.

The air leakage requirement should be fulfilled by either compliance with a certified NAFS label, or NFRC air infiltration labeling. Air labeling needs to be reported as ≤ 0.3 , for windows or ≤ 0.5 for doors.

Installation instructions address an extremely important issue, and JELD-WEN recognizes that installation methods can vary greatly by type of building construction and product manufacturer. The ENERGY STAR installation instruction requirement should be changed to provide instructions for only typical window, door, and skylight installations, like those found at JELD-WEN.com. In addition, any LRRP information should be developed by and solely attributed to EPA, with the only requirement of manufacturers being, to simply provide a weblink to the EPA LRRP website.

For the EPA's consideration in Version 7.0, JELD-WEN suggests that industry and the EPA work together to create a tiered program. A viable idea would be to create three levels of compliance – for example, Gold ENERGY STAR would be for Most Efficient Products, Silver ENERGY STAR would be for the current version of the ENERGY STAR program, and Bronze ENERGY STAR would be for the past version. This concept is modeled on other successful programs, such as LEED. This idea seems to be a solution to the opposing forces (affordability vs. driving technology) that threaten the future of ENERGY STAR.

Conclusion

JELD-WEN, inc. has been an ENERGY STAR partner since ENERGY STAR's beginning in 1998 and is a multi-year Partner of the Year award winner. JELD-WEN is the largest certifier of energy efficient windows and doors globally. We must continue to consider all aspects of the Version 6 Report, and ensure that it fits the technology, market, and affordability criteria the U.S. needs for better energy efficiency.

In conclusion, JELD-WEN's position is

- That the ENERGY STAR market share indicators should not drive implementation of Version 6 at this time. Re-evaluation should happen in 2015.
- The Northern climate zone criteria should not be the primary driver of the program.
- Affordability must be the primary driver of the ENERGY STAR program.

Administration

- A larger ENERGY STAR market share is good for consumers because it offers more choice.

Again, we want to convey our appreciation for the opportunity the EPA has created to promote industry, consultant, and Department of Energy cooperation. The only way the consumer wins is if we all work together to create the best system.

Sincerely,

Ray Garries
JELD-WEN, inc.