

## Public Comments – ENERGY STAR Windows, Doors and Skylights v6.0 Framework Document

Submitted by Sneh Kumar, Alcoa Building & Construction Industries

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Dear Doug & Emily –

Thank you for the opportunity to share my thoughts on the proposed guidelines for the residential fenestration Energy Star specifications. I would start by stating that in past Energy Star has had a tremendous impact towards the development of high-performance residential fenestration product. It has been a powerful brand in pulling the market towards energy efficient products. However, with the proposed specification, I feel Energy star program is not setting bar high enough to keep the market moving towards high performance products and maintain the value of Energy Star brand. Here are my thoughts on the current guidelines -

### **When will Energy Star start looking at the bigger picture?**

Energy Star brand is not only associated with energy performance, but also with product's quality, durability, and environmental impact. Unfortunately, Energy Star specification for residential fenestration looks *only* at the energy performance of products in their *new condition*. Products long-term energy performances, environmental impacts, durability, life-cycle impacts, recycle content etc. are not part of current specifications and hence these attributes are completely ignored. This needs to change if the Energy Star brand has to remain relevant as the market moves towards evaluating products in broader sense than that just energy performance.

I appreciate the fact that EPA is talking about these. I hope Energy Star program would be able to integrate these attributes in their program soon. The big question remains – when will these be included in the program?

### **Market share – will Energy star guide consumer in making a better choice or not?**

I was surprised to know that current market share of Energy Star products for residential windows are over whopping 80%. Having a market share of over 80% for current energy star product shows that Energy Star label is not able to differentiate between a good product and better product. It did not provide any meaningful choice for consumers by flooding the market with Energy Star labeled fenestrations. Think about it, when over 80% of windows are labeled Energy Star – it really fails to guide consumer in selecting a better window. When 4 out of 5 windows are Energy Star labeled – Energy star is telling the consumer which one to not pick; instead Energy Star should guide consumer which one to pick (e.g. 1 or 2 products out of 5 should be Energy Star labeled).

With the revised specification, anticipated market share of 41% for energy star windows (based on currently certified products) is too large. Starting with 41% market share of Energy Star products and considering that manufacturers would further improve their product performance in coming days, it would not be surprising if the market is flooded with Energy Star labeled windows and market share reaches close to current % within couple of years. It was my understanding that Energy Star would target the top 25% of market with the proposed specifications. With the proposed criteria, I see that Energy Star is choosing to continue on the

same path of flooding the market with Energy Star labeled windows and not able to provide any real choice for consumer in selecting high performance windows. At the same time, this takes away incentive from manufacturers to improve their product performance, hence slowing the growth and adaptation of high performance products.

I strongly suggest Energy Star should make its criteria stringent enough to allow only *top 25%* of products to qualify under this program from each climate zones. Manufacturers will continue to improve their products and within a year or two of this specification being published, market share of products could reach above 50%. That would be the right time to revise the standard again.

### **Easy U-Factor picking**

Based on the limitations set on U-Factor criteria, Energy Star is taking a lenient approach for the next cycle of product specification. It would be deterring the market to move towards more efficient windows as over 40% of the market already meets the newly proposed criteria. U-factor criteria are too lenient. Any non-metal windows would be able to meet these criteria with mostly double pane glazing.

Over the past few years' the market has already seen a shift towards high performance glazing e.g. triple glazing and suspended film glazing. Manufacturers have added capability to produce high performance products. DOE's Volume purchase program has set a higher bar for product performance and seen a number of manufacturers participate in this program. There is already a momentum for such high performance products, even on the commercial side. "Energy Star" labeled windows should be *significantly* better than 'code minimum" windows. Otherwise it dilutes the Energy Star label.

It would also make it difficult for agencies (government, utilities etc.) to formulate any incentive programs around the Energy Star qualified products since a large share of the fenestration product market would be able to easily meet these criteria.

I suggest that Triple-glazing or high performance glazing should be made the standard for the Northern climate zones.

### **What about the potential condensation issue?**

Current U-Factor criteria would encourage manufacturers to use Double glazed units with an additional hard-coat low-e on room side glass surface (#4 surface) to meet the criteria instead of using triple-glazing. Use of hard-coat on #4 reduces the surface temperature and hence increases the possibility of condensation. Energy star should not encourage this as it would not be fair to consumers to face the condensation problem if they buy "Energy Star" windows.

Perhaps adding a minimum NFRC CR rating would be helpful or limit the use of hard-coat low-e coating on glass surface #4.

### **Glad you thought Air-leakage matters!**

Addition of Air-leakage requirements are a step in the right direction. However, it should be more stringent than the code minimum – perhaps 0.20. For the future, Energy Star should also consider using air-leakage with a temperature gradient across the product (e.g. 0F outside and 70F inside). That's when the air-leakage of product matters; not when the inside and outside temperatures are the same.

### **Is "Super Energy Star" for residential fenestration going to happen?**

Are there any plans for “Super Energy Star” e.g. for top 5% of the products? At least this addition would be able to separate highest performance products from the rest and provide a meaningful choice. I hope energy Star is seriously considering implementing this.

To conclude, I understand finding a consensus with diverse industry is never an easy task. However, to move American economy towards an energy-efficient economy, Energy Star must take the responsibility of promoting highest-performance products and set the specification bar higher than what is being proposed e.g. no more than 25% of residential fenestration products are Energy Star qualified.

Thank you for your consideration. Please feel free to contact me for any questions or clarification.

Sincerely,  
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