



1250 Elko Drive
Sunnyvale, CA 94089

November 11, 2008

Richard Karney, P.E.
U.S. Department of Energy
1000 Independence Avenue, SW
Washington DC 20505

Re: Proposed criteria revision to Energy Star for Windows, Doors and Skylights

Dear Mr Karney:

First and foremost, I commend the Department of Energy's effort to update the Energy Star for Windows criteria. Since its inception 16 years ago, Energy Star has earned broad public confidence and recognition as a reliable source of information, and has delivered outstanding consumer, energy, and environmental benefits, and effectively encouraged manufacturers to bring improved products to market.

However, the currently proposed revisions to the windows criteria would be a disservice to consumers and to the Energy Star brand. While the current criteria are badly outdated and urgently require revision, the proposed 'Phase I' 2009 criteria still fall far short. Worse still, the proposal would lock in modest requirements for a 5 plus year time span, which would be a grave mistake. Overall, the proposed revisions would virtually eliminate the opportunity for high performance products to gain differentiation in the market, and would greatly reduce pressure on manufacturers to deliver highly efficient products.

At a minimum, **we submit that: a) the proposed "2012" phase criteria should be adopted in 2009; and b) that no action locking in mid- and long-term criteria be taken at this time.**

Our proposed approach is both achievable and critical, and reflects three important forces in the present window industry:

- 1) The changes are necessary for Energy Star to remain a positive and relevant program and consumer brand;
- 2) Currently available window technology has greatly improved to surpass the proposed 2009 criteria, and will continue to improve *with meaningful Energy Star support*; performance criteria and labels must reflect this; and



1250 Elko Drive
Sunnyvale, CA 94089

- 3) Highly efficient windows far surpassing the proposed 2013 criteria can and must play an important role in the fight against climate change, and must be encouraged and leveraged as such.

Energy Star as a Relevant Brand

At the most basic level, Energy Star must update its standard to fulfill its mandate. As stated on Energy Star's own website, the program intends to promote products such that: "ENERGY STAR products are the same or better than standard products, only they use less energy"¹. However, DOE's own report² indicated that 90% of all current residential windows sales boast an Energy Star label.

That means that Energy Star brings virtually no product differentiation to the market.

The terms 'Energy Star window' and 'residential window' have become synonymous.

Unfortunately, a consumer making a purchasing decision based on the Energy Star mark is no longer able to ensure he or she is getting a superior, highly energy efficient window or door product. It should be noted that there are windows on the market today that have thermal performance two to four times better than their peers³, but both bear the same Energy Star brand. Again, this fact undermines the mission of Energy Star and compromises the Energy Star brand for both consumers and manufacturers.

Technological Capability

Some reluctant industry partners have stated that the proposed criteria revisions are impossible because of window cost/integrity issues and the need for instances of sample retest and recertification. The facts do not support these opinion-based claims. The proposed Energy Star changes do not require new technology. In fact, the fundamental window components behind high performance windows (insulating gases, non-structural panes, warm-edge spacers) have been commercially available for up to 30 years. Windows employing these technologies have been used in harsh environments for decades without failure or loss of performance⁴.

At the stakeholder's meeting on August 13, 2008, some hesitant window manufacturers cited additional product testing as an obstacle to change. They suggested that they were willing to adopt a rapid revision schedule, but that test labs would not be able to accommodate the influx of new samples. Their claim is not supported by fact. I have worked directly with third party labs my entire career and have experience in building products labs, having managed two nationally

¹ From the Energy Star website at: http://www.energystar.gov/index.cfm?c=products.pr_what_makes_es

² D&R International, Ltd., 2008. Analysis of bi-yearly national ENERGY STAR market share and the market share of low-e glass as published in Ducker Research, 2004, 2006, and 2008. Appendix F in *Study of the U.S. Market for Windows, Doors, and Skylights*, published by AAMA.

³ www.thermaproof.com

⁴ <http://www.alpeninc.com/photos/projects.html>



1250 Elko Drive
Sunnyvale, CA 94089

recognized, NIST accredited facilities for a decade. It is my experience that testing labs are *always* willing to meet increased demand within a reasonable timeframe. Currently, there are 7 NFRC accredited testing laboratories. Each of these labs is underutilized as a resource, generally operating a five day, single shift work week. The existing testing capacity is well suited to meet the demands of an Energy Star criteria change within a short adoption period. My conclusion is supported by the opinion of the country's leading test lab. It is the opinion of that lab's director that meeting the increased demand is achievable. They too embrace the criteria change. The technology and testing resources are in place to allow for Energy Star revisions.

Contributing to Climate Change

Further to the Energy Star program mandate, the program itself states that it has: "...worked to dismantle identifiable and pervasive market barriers stifling investment in energy efficiency and bring practical solutions to the residential, commercial, and industrial sectors."⁵ Unfortunately, that is no longer the case with Energy Star Windows. By retaining out-dated window performance criteria that merely require long-standing technology, the program has underperformed for North American consumers and the environment with an additional 20 trillion BTUs of unnecessary energy consumption⁶. This additional consumption represents approximately \$200M per year in consumer energy expenses and an additional 2.3 billion pounds of greenhouse gas emitted into the country's skies (based on 117.08 pounds of CO₂ per million BTUs⁷). The combination of these shortcomings has an unacceptable conflict with the program's urgent mission that can only be resolved by an immediate and meaningful update to Energy Star window criteria.

⁵ "Energy Star review of 2007 Achievements",

<http://www.energystar.gov/ia/partners/publications/pubdocs/2007%20CPPD%204pg.pdf>

⁶ "ENERGY STAR Savings Estimates, presented by LBNL", http://www.energystar.gov/ia/partners/prod_development/archives/downloads/windows_doors/LBNL_ESTAR_8.13.08-D-Results.pdf

⁷ "Fuel and Energy Source Codes and Emission Coefficients". *Voluntary Reporting of Greenhouse Gases Program*. U.S. Department of Energy, Energy Information Administration (EIA).



1250 Elko Drive
Sunnyvale, CA 94089

Thank you for your diligence and perseverance in furthering the Energy Star brand, and consumer and environmental benefits by giving window manufacturers a tool with which to measure and highlight their constantly improving product family. I look forward to the improved criteria and a stronger Energy Star brand in the marketplace in the future.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Brandon Tinianov', written over a large, light blue circular scribble.

Brandon Tinianov, Ph.D., P.E., LEED AP
Chief Technology Officer
Serious Materials, Inc.