

*Baseline Market Assessment* Executive Summary

**ENERGY STAR<sup>®</sup> High Efficiency  
Residential Windows**

*prepared by*

**Macro International, Inc.**

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**NORTHWEST ENERGY EFFICIENCY ALLIANCE**

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**BASELINE STUDY  
AND MARKET CHARACTERIZATION  
FOR THE  
ENERGY STAR® FENESTRATION  
PROGRAM**

*Final Report*

**Prepared For:  
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## EXECUTIVE SUMMARY

### Background

The Northwest Energy Efficiency Alliance (the Alliance) is supporting the efforts to promote Energy Star® level windows in the four Northwest states. A marketing effort is now underway to expand the use of qualifying fenestration items which would meet Energy Star specifications – windows and patio doors with U values of U-35 or less, and skylights with U-values of U-45 or less. The purpose of this study is to:

- Develop baseline information on market penetration of  $\leq$ U-35 window and patio door and  $\leq$ U-45 skylight estimates in the four Northwest states.
- Characterize the manufacture, distribution, and purchase patterns of windows, patio doors, and skylights in the four Northwest states.
- Identify and discuss factors influencing window and skylight purchases.

### Approach

To obtain a comprehensive overview of the baseline of fenestration products, the consultants focussed on four areas:

1. A survey of window, door, and skylight manufacturers providing windows to the Northwest market. Survey findings provided estimates of total production of  $\leq$ U-35 windows and patio doors, and  $\leq$ U-45 skylights for the entire region.
2. A survey of high-volume builders of single and multifamily units in the Northwest. This survey identified the penetration of  $\leq$ U-35 windows and patio doors, and  $\leq$ U-45 skylights among larger builders.
3. A survey of Northwest retailers of windows, patio doors, and skylights. This survey identified the penetration of  $\leq$ U-35 windows and patio doors and  $\leq$ U-45 skylights among smaller builders, ‘do-it-yourselfers’, and remodelers.
4. A survey of Northwest builders in the high-end remodel business. This survey focused on the penetration of efficient fenestration products in this niche market.

### Findings

**Penetration of Energy Star level windows and patio doors in 1997 was approximately 15% region wide.** Windows are somewhat more likely to be  $\leq$ U-35 than patio doors.

**The retailer survey found that penetration of Energy Star level skylights in 1997 was considerably higher, with approximately four-fifths of skylights at that level.** However, skylights make up a small proportion of total fenestration market.

**Fenestration products are sold to builders through various channels.** Manufacturers, window distributors, and retail outlets each carry a significant portion of sales of fenestration products.

**Manufacturers, distributors, and retailers are carrying windows and doors which are  $\leq$ U-35.** Virtually every individual brand and product line is sold in a range of U-values.

**Retail stores make purchase decisions at the top** – Decisions on fenestration purchases tend to be made at the corporate or regional level. Cost and quality are the primary considerations for corporate buyers.

**Large-volume builders, builders of multifamily, and speculative builders are less likely to use Energy Star level products in construction.** This is due largely to a focus on “first cost”. Lack of consumer awareness is also a contributing factor. Smaller builders, builders of custom homes, and remodelers are more likely to use Energy Star level products.

**First cost comes first, efficiency is last.** Price is the primary consideration, in purchasing fenestration products, followed by quality, appearance, and by energy efficiency.

**There is uncertainty about the argon gas component of U $\leq$ 35 products.** Some retailers are not convinced of the quality or the long-term energy savings from argon-filled products. Such concerns seem to carry over from earlier experience with defective windows.

**Fame still awaits Energy Star.** Few of the retail staff and builders contacted in the course of this study had heard of Energy Star.