

ALUMINUM EXTRUDERS COUNCIL



DOE Energy Star Stakeholder Meeting – Aug 13, 2008

- 155+ members representing ~ 75% of all aluminum extrusion lines in the U.S. and Canada
- 90% of all commercial fenestration is aluminum.
- Less in residential, but aluminum is still a dominant material in the south where *structural* and *durability* concerns are paramount.



ALUMINUM

recyclable sustainable versatile

Today's Material of Choice

Energy Star and the Environment

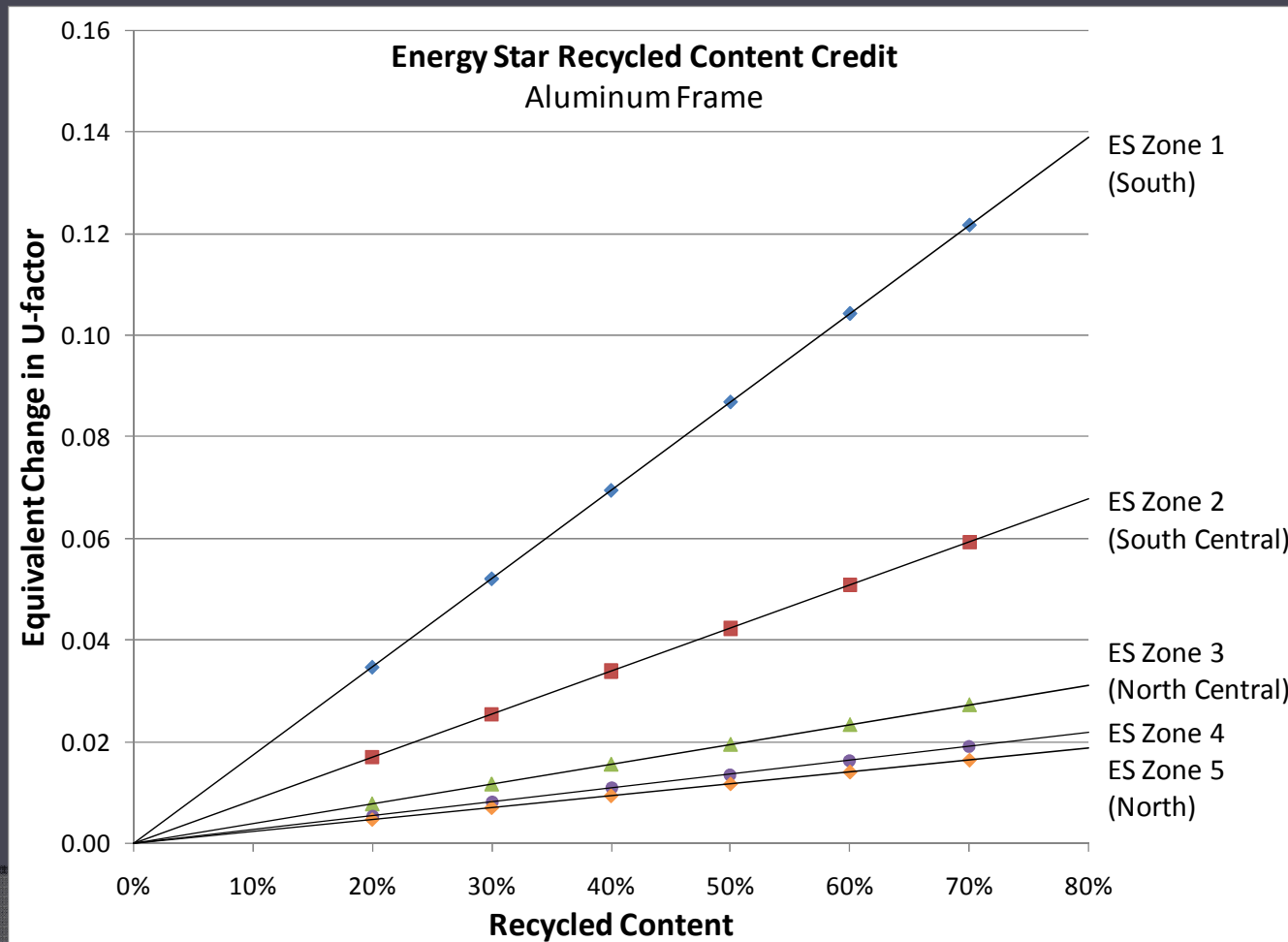
- ⦿ Energy savings are the focus, but DOE must also consider the entire environmental picture.
- ⦿ In ES Zones 1 and 5, the draft criteria push consumers *away* from green materials like aluminum and wood towards questionable, less environmentally friendly products.
- ⦿ We should examine all aspects of **cradle-to-grave sustainability**, but at a minimum, one easy concept is to promote use of recycled materials.

Proposal for Recycled Content Credit

- Credit would be given towards meeting U-factor criteria based on use of recycled materials.
- Use of recycled content in fenestration materials can provide significant **embodied energy savings**, which can then be equated to home energy savings over the window lifetime from changes in the U-factor.
- Initial analysis for 14 representative cities.
- Analysis performed for aluminum framing, but similar credit could be developed for other materials.

Recycled Content Credit

- The embodied energy savings from the use of recycled aluminum can be as significant as the energy savings from proposed reductions in U-factor!



What about Code Limitations?

- ⦿ Do Energy Star criteria need to be capped by selected prescriptive code values?
- ⦿ This seems to think only about replacement windows from a big box store.
- ⦿ Ignores other methods of code compliance in **new construction** (area weighting, UA trade-offs, performance analysis).
 - Many green programs for *new construction* reference or require Energy Star windows.
 - These options should not be limited by the replacement window viewpoint.

Performance Trade-Offs

- ⦿ For new construction, equivalent energy performance paths can be extended beyond base Energy Star prescriptive criteria.
 - Program inspector can verify window package satisfies equivalent performance requirements for that specific home and location.
 - Area-weighted averaging for entire window package can also be allowed.
- ⦿ Extends range of consumer choice and technology.
- ⦿ Encourages flexibility and innovative approaches.