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# ENERGY STAR<sup>®</sup> Insulation Products: Program Enhancements

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# Agenda

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- Goals of the Call
- Air Sealing Products Program Plan
- Seal and Insulate with ENERGY STAR Overview
- Current Seal and Insulate Program Challenges
- Insulation Program Proposed Enhancements
- Timing Considerations and Next Steps
- Questions

# Goals of this Call



- Address long standing insulation program issues
- Clarify the way ENERGY STAR promotes residential insulation
- Propose program enhancements
- Engage stakeholders in the enhancement process

## To be clear...

- ENERGY STAR will propose changing the eligibility and participation requirements for all insulation manufacturers.
- These are proposals and ENERGY STAR seeks comments from industry and interested parties.

# Air Sealing Products: Challenges



- Air Sealing products for homes are not included in the insulation labeling revision process
- Air sealing products have included: elastomeric caulk, spray foam in-a-can (OCF), weather stripping, attic hatch and fan covers, house wrap, sealing tapes, sill sealers
- Currently:
  - No technical specification or written agreement for logo use
  - Not labeled – “Seal and Insulate with ES” mark can never appear on air sealing products or product packaging
  - Manufacturers use Seal and Insulate with ES graphic on promotional materials, such as: retail displays or signs, ads, brochures, technical sheets, and web sites
  - Each use of the S&I logo must be approved

# Air Sealing Products: Planned Changes



- Development of a New S&I Logo Use Agreement form for air sealing product manufacturers
  - Will include basic product definitions, clear logo use requirements, and require installation instructions
  - Manufacturers will not be partners
- New limits on S&I logo use for air sealing products
  - Retail signs and displays only, syndicated content on web sites, and perhaps limited educational materials
  - EPA will develop standard messaging and syndicated content for web sites
  - Pre-approval of each use will still be required

A separate webinar will be given on this in the next few months.

# ENERGY STAR Program

## Commitment to Insulation



- EPA provides detailed guidance on insulation in documents, on the ES web site, and to our retail and utility partners
- EPA incorporates quality installation requirements for insulation into the ES Homes Program and Home Performance with ES
- The ES Program will always promote air sealing and insulation as a cornerstone of home energy efficiency

# Seal and Insulate with ENERGY STAR

## Program History



- **1996** – EPA created a labeling program to “promote” insulation – “ENERGY STAR Insulation”
- **2003** – EPA changed the program name and logo to “ENERGY STAR Home Sealing”
- **2007** – EPA changed the program name and logo to “Seal and Insulate with ENERGY STAR”
- **2009** – EPA sent 2 e-mails reminding all insulation manufacturer partners about program changes



**Only for manufacturer partners**

# Seal and Insulate with ENERGY STAR

## Program Challenges



- Eligibility and Testing Requirements
  - Setting Program Requirements for products without clear differentiation
  - Diversity of eligible products – diversity of applications
  - No R-value test results for products prior to 2002
  - No product physical performance certification
- Review Process
  - Lengthy and costly review process
  - Difficulty of verifying manufacturer claims
- Program Compliance by Partners
  - Misleading claims about products and savings
  - Incorrect logo use



# Seal and Insulate with ENERGY STAR

## Why Enhancement Now?



- New EPA and DOE MOU (Fall 2009)  
[www.energystar.gov/mou](http://www.energystar.gov/mou)
- Improve program integrity to protect the brand
- Maintain program goals of market transformation and education
- “Level the playing field” for partners
- Ensure participation requirements are routine
- Increased attention - “Insulation is Sexy”

# ENERGY STAR Qualified Products Certification and Verification Testing



## ES Qualified Products Program Goals:

- Third-party certification of test data prior to qualification and labeling
  - EPA-recognized certification bodies, laboratories, and accreditation bodies
- Verification testing after qualification
  - Verify that products continue to meet the ENERGY STAR requirements regardless of changes in the production process

# Seal and Insulate with ENERGY STAR

## Product Differences

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### However, insulation is unique:

- Performance is highly installation dependant.
- Wide variety of applications (type of house, location in house, appropriate for climate, other attributes).
- Most product differentiation can be overcome with more insulation or other prep work (air sealing).
- Builders, contractors, and homeowners want choices.

# Proposed Eligibility Requirements

## Eligible products



### To be eligible, the “Insulation Product” must:

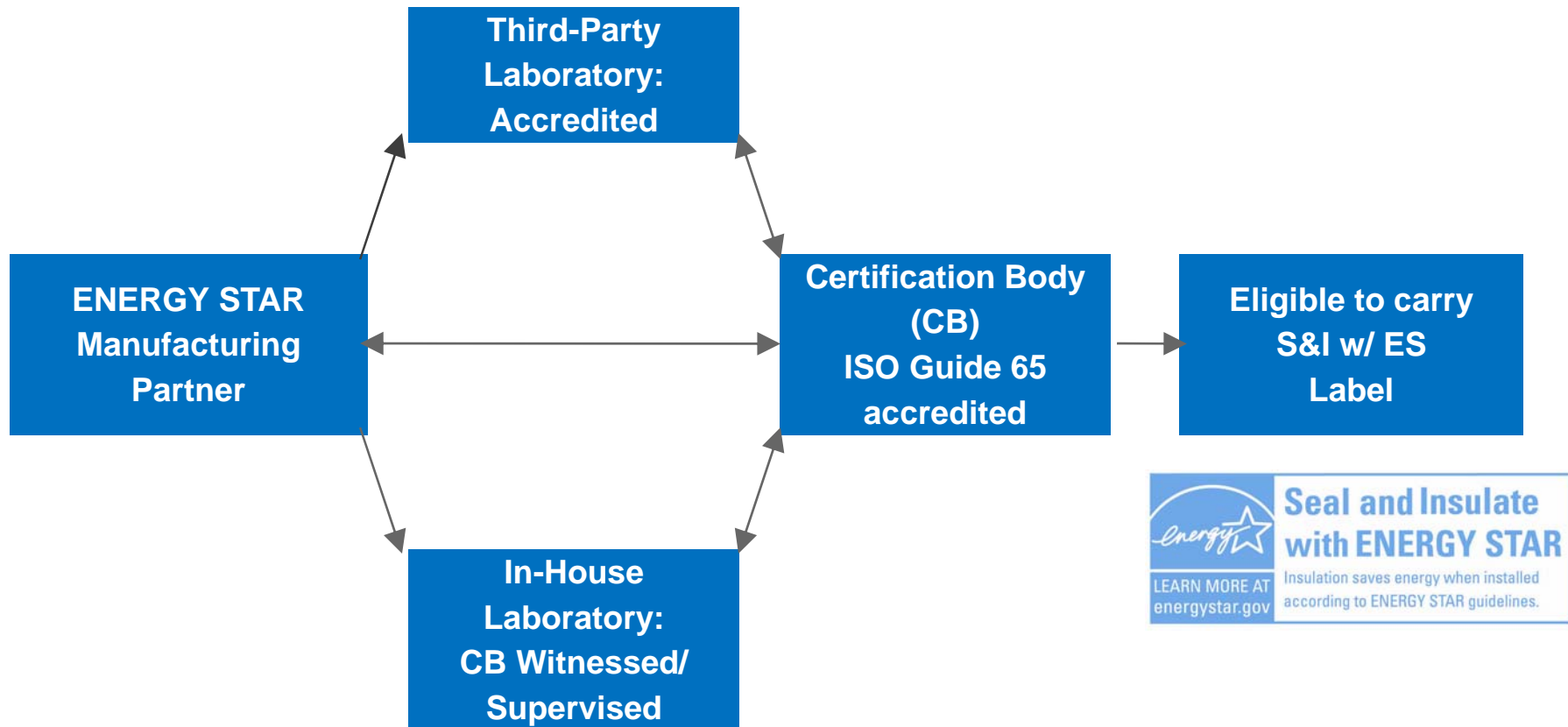
- Meet the FTC 16 CFR Part 460 definition of “Home Insulation”
- Have been certified for R-value according to the test procedures outlined in FTC 16 CFR Part 460
- Be designed and marketed to insulate a whole wall, ceiling, or floor system to help meet or exceed the current IECC and IRC (certified surface-burn characteristic ASTM E 84) for residential applications
- Always be manufactured, marketed and sold primarily as a product used to resist heat flow in to or out of a residential structure (i.e. across a thermal boundary)
- Be marketed and sold in the U.S.A.

# Seal and Insulate with ENERGY STAR

## 3<sup>rd</sup> Party Certification Flowchart



Require 3<sup>rd</sup> party certification of R-values and ASTM E84 tests



# Seal and Insulate with ENERGY STAR

## New Program Proposal



- EPA will continue to grant the “label” to insulation products for educational and promotional purposes
- EPA will continue to partner with insulation manufacturers whose products eligible to carry the promotional label
- EPA will improve information on its web site on eligible product lines or brands
- ENERGY STAR will clarify that it does **not** “qualify”, “rate”, “certify”, “approve”, or “endorse” specific insulation products

# Seal and Insulate with ENERGY STAR

## New Program Proposal



## What does this mean for manufacturers?

- To demonstrate eligibility, labeled products will be 3<sup>rd</sup> Party certified for 2 physical attributes
- Manufacturer will provide information on what the product is, how it works, and how to install it correctly on their web site (most do this already)
- Manufacturer will provide supporting documentation for certain claims made in literature on their web site (some do this)
- Some products will have additional requirements

# Seal and Insulate with ENERGY STAR

## New Insulation Proposal



### What does 3<sup>rd</sup> Party Certification Mean?

- Any certification body accredited under ISO Guide 65
- Data generated by ISO/IEC 17025 std. for lab testing.
- 2 physical parameters being “certified”:
  - R-value (16 CFR 460) or emissivity testing
  - Surface Burning Characteristic ASTM E 84
  - EPA also considering requiring certification body evaluation of residential installation instructions
- Certify to latest IECC (2009) and IRC code
- Manufacturer pays for all testing and certification
- Example: ICC-Evaluation Service
  - Already ~30 ES insulation manufacturer partners have ICC-ES Reports on some of their products



# Seal and Insulate with ENERGY STAR

## New Program Proposal



	<b>Manuf. is a Partner</b>	<b>Product Requires Certification</b>	<b>Product Requires Verification</b>	<b>Require Sales Data</b>	<b>Qualified</b>	<b>Labeled</b>
<b><u>Insulation</u></b>		 To be eligible				
<b><u>Other ES Product Categories</u></b>						

# Proposed Review Process



1. Product basic eligibility determined
2. Prospective Partner becomes a Provisional Partner (PV) via Partnership Agreement and Commitment Form
3. PV obtains 3<sup>rd</sup> party certification for physical attributes to determine full eligibility.
4. Partner Submits Labeled Product Information Form (EPA reviews form and gives feedback)
5. PV updates information as needed
6. EPA performs final review and approves partnership.
7. Partner has product listed on ENERGY STAR Web site and gains access to logos/marks

# Proposed Eligibility Requirements

## Ineligible Products



- Duct and pipe insulation (or insulating wraps)
- Products primarily used as an air sealer, not as whole-wall insulation
- Paints and coatings
- Exterior and interior finishing systems
- Fenestration covers or shades
- House wraps
- Insulation products under R-5 (minimum value)
- Under-slab foil-faced products

# Proposed Program Requirements

## Documentation of Claims



**Independent documentation will be required on manufacturer web site for the following claims:**

- Thermal Performance Claims
- Mold/mildew/fungus resistance
- Pest resistance (EPA Approved)
- Energy Savings Claims
- Whole-House Performance Claims

# Proposed Program Requirements

## Documentation of Claims



### Environmental Performance Claims:

- Nontoxic
- Improved Indoor Air Quality
- Low VOCs - certifications
- Recycled content - certifications
- Rapidly renewable raw materials

### Additional Considerations

- LEED gives points for certain certified attributes
- EPA would consider listing certified attributes or linking to certificates on the ES web site

# Challenging Product Categories

## In-home Spray and Pour Foam



### Issue:

- Health and safety during and immediately after installation of spray and pour foam

### Planned Additional Requirements:

- Material Safety Data Sheets (MSDSs)
- Provide information on chemical reactants and products
- Provide guidance on worker protection requirements
- Provide specific cure times and reentry times for other workers, home owners, or residents after installation

See EPA's Design for the Environment Program:

[http://www.epa.gov/dfepubs/projects/spf/spray\\_polyurethane\\_foam.html](http://www.epa.gov/dfepubs/projects/spf/spray_polyurethane_foam.html)



# Challenging Product Categories: Wall Systems (SIPs, ICFs, Panelized systems)

## Issues:

- Thermal performance beyond insulation thickness
- “Equivalent” R-values for thermal mass walls

## Possible New Requirements:

- ORNL’s Clear-wall R-value: weighted-average including sheathing, cavity insulation, and framing, but not fenestration

[http://www.ornl.gov/sci/roofs+walls/whole\\_wall/rvalue.html](http://www.ornl.gov/sci/roofs+walls/whole_wall/rvalue.html)

- ORNL’s Thermal Mass Benefit by climate zone

EPA will consider separate listing on ES web site with  
3<sup>rd</sup> party certification of system

# Challenging Product Categories

## Radiant Barriers and Reflective Insulation



### Issues:

- Current S&I label make no sense for radiant barriers
- Continued installation horizontally where dust will collect
- Little formal recognition or guidance by industry on climate dependent performance (climate cost effectiveness)
- “Estimated” or “calculated” R-values for wall, ceiling, and floor systems which are rarely tested in a lab and do not seem to address convection or climate  $\Delta T$
- No way to certify product is installed correctly
- No definition of or guidance on such products in IECC
- Guidance not clear how this product should be used in addition to traditional mass insulation



# Challenging Product Categories

## Radiant Barriers and Reflective Insulation cont.



### Options Being Considered:

- Create a new label with a climate map
- Reject certain poor performing installation methodologies
- Reject R-value claims about products which use an air space or require every R-value claim for every product be lab tested and 3<sup>rd</sup> party certified (no calculated R-values)
- End effort until:
  - Climate limitations of products are clearly established and industry accepted
  - Installations are 3<sup>rd</sup> party inspected and certified
  - Product is recognized by the IECC and clear guidance is available



# Summary (highlights)

- EPA will continue to “label” insulation for promotional and educational purposes
- EPA will not “qualify” insulation since performance is highly installation dependant
- EPA will require 3<sup>rd</sup> Party certification of 2 physical attributes for all products to demonstrate that the product is eligible for the label
- EPA will require supporting documentation for many product claims on the manufacturer’s web site
- EPA will require all manufacturers to renew their partnership using the new requirements
- EPA is still considering how to handle radiant barriers and wall systems

# Comments

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**ENERGY STAR is requesting comments and suggestions on these plans as they relate to insulation products.**

# Next Steps



- Comments due by **August 12, 2010**
  - Please send to [Insulation@energystar.gov](mailto:Insulation@energystar.gov)
- Response to Comments and Draft of Program Requirements – **September 2010**
  - Second stakeholder comment period to provide feedback of Draft Program Requirements
- Finalize Program Requirements – **October 2010**
- Require New Partnerships – **September 2011**

# Contact Information

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**Any Questions?  
Please submit in comment box.**

