The Future of High-Performance Housing Policy: ENERGY STAR Certified Homes

October 12, 2017
ENERGY STAR Version 3

Performance Target + Mandatory Features
Who’s Ready for Version 4?
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National Program Requirements
ENERGY STAR Certified Homes, Version 4

Program Checklists

<table>
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<tr>
<th>ENERGY STAR Version 4 Inspection Checklist</th>
<th>Must Correct</th>
<th>Rater Verified</th>
<th>N/A</th>
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<td>1.1 Don’t do anything dumb</td>
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Lessons Learned
Basic Program Structure Works Well

Performance Target + Mandatory Features
Size Adjustment Factor Worked For Version 3
Higher Performance Target Was Manageable
The Kitchen Sink Was A Bit Much
Process Trumped Requirements
Verification Standards Are Important
What's On The Menu?
Efficiency Features
Overview

• Central to our program

• Need to:
  – Achieve meaningful savings
  – Maintain cost-effectiveness
  – Be integrated with HERS standard (before they’re required!)
Possible Efficiency Features

- Increased insulation, in some markets
- High-efficiency water heaters
- LED lighting
- ENERGY STAR smart thermostats
- Credit for proper HVAC design & installation
- Buried & encapsulated ducts / ducts in conditioned space
- Variable capacity HVAC
- Efficient whole-house ventilation systems
- Home Energy Management Systems
Overview

• Also central to our program.
• Non-energy features ensure that efficiency is not delivered by sacrificing other attributes.
• Rooted in building science.
• Need to:
  – Be verifiable by the Rater through their normal workflow
  – Recognize that non-energy features will negatively impact cost-effectiveness.
  – Clearly express the value of these features
Possible Non-Energy Features

• Better / smarter whole-house ventilation systems
• Dehumidification in hot-humid climates
• Higher MERV filters
• Balancing of register airflows
• Smarter kitchen and bath fans
• No unvented combustion appliances
• Enhanced verification
Renewable Energy Features
Overview

• Traditionally, renewable energy features have not been part of the program.

• The landscape is starting to shift.

• Want to be proactive in figuring out what role they can play.

• Need to:
  – Recognize that we’ll continue to be an efficiency first program.
  – Develop clear messaging on how efficiency and renewable energy work together in ENERGY STAR homes.
  – Be complimentary (or at least not contradictory) to goals of utility partners
  – Be verifiable by the Rater through their normal workflow
Possible Renewable Energy Features

• Promote inclusion of renewable-energy-ready features
• Allow use of renewable energy features, beyond mandatory efficiency target, to earn special recognition
• Simply set a more stringent HERS index target, beyond ENERGY STAR, and recognize partners who hit this target through either efficiency or renewable energy features
Demand Management Features
Overview

• Utility partners have historically valued energy savings.
• Increasingly, utilities are valuing demand savings.
• Is there a way to overlay a package of measures that reduce demand, to help meet utility goals?
• Need to:
  – Not compromise homeowners’ experience.
  – Ensure that program does not become too complex
  – Be verifiable by the Rater through their normal workflow
Possible Demand Management Features

- Very low SHGC windows
- Buried & encapsulated ducts / ducts in conditioned space
- Connected ENERGY STAR appliances
- Variable-capacity HVAC
- Energy storage
- A demand-management performance target
Summary

• We’re in no rush to launch Version 4.
• Lessons learned from Version 3 will make the transition more seamless.
• Key components we’re thinking through include:
  – Efficiency features
  – Non-energy features
  – Renewable energy features
  – Demand management features
ENERGY STAR Certified Homes

Web:
Main:  www.energystar.gov/newhomespartners
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Email:
energystarhomes@energystar.gov

Social Media:
@energystarhomes
facebook.com/energystar

Contacts:
Dean Gamble
US EPA
Technical Manager
ENERGY STAR Certified Homes
gamble.dean@epa.gov