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## Designing ENERGY STAR for New Homes Programs

**Advantages of Working with ENERGY STAR for Homes:** ENERGY STAR for Homes is a powerful tool for achieving utility energy and demand savings goals. Utilities who leverage ENERGY STAR for Homes in their residential new construction program design benefit from key advantages, such as:

- **A turnkey specification and support team.** The Version 3 guidelines deliver significant energy savings for utility programs with a compelling consumer message: improved comfort and durability, better indoor air quality, state-of-the-art construction quality, and energy savings. Technical, marketing, and educational support is also available to partners.
- **A national network.** Utilities can tap into an existing, nationwide network of stakeholders, including homebuilders, Home Energy Raters, energy efficiency training organizations, and product manufacturers.
- **A credible co-branding opportunity.** Savings generated by the EPA's national ENERGY STAR Program requirements have significant credibility in front of public utility commissions.

With over **80% household brand recognition**<sup>1</sup>, utilities can maximize the impact of their consumer marketing efforts.

**Tips for Capturing Best Cost-Effectiveness Results:** Determining cost-effectiveness for residential new construction programs can be a complex task made more challenging by rising baselines and hard-to-determine measure costs and savings. The following are strategies for meeting cost-effectiveness tests with Version 3:

- **Define the baseline.** Understanding the baseline is the first, most critical step. Accurately evaluating Version 3 will require utilities to understand aspects of codes and practices that may be new, such as water management practices found in structural codes like the International Residential Code.
- **Don't overstate costs.** Don't count costs of measures required by code as incremental costs. Many aspects of the Version 3 Water Management System Builder Checklist and the HVAC requirements, for example, are also requirements of code or are standard practice.
- **Pilot new measures.** Measures that are far above standard practice may initially have high incremental costs due to lack of local availability and demand. Piloting new measures captures real-world cost data, accelerates adoption, and reduces incremental costs as products become more widely available, builders negotiate prices, and design teams identify creative, low-cost approaches for meeting the guidelines.
- **Claim full lifetime savings.** Review each measure's effective useful lifetime (EUL) to fully claim its lifetime savings. EUL assumptions are not standardized, and vary considerably. Shell measures (e.g., reduced infiltration, higher R-value insulation, high performance windows) in particular should have lifetimes that reflect their longevity (namely, the life of the structure).
- **Capture the complete savings.** Ensure that the inputs for your engineering model reflect the full benefits of the Version 3 guidelines. Some requirements may have impacts that aren't obvious, like reduced framing fractions and lower costs because of advanced framing practices, or HVAC downsizing because of a tighter, better-insulated shell. The Version 3 checklists also generate additional savings that are important to capture in your calculations. See EPA's estimate of savings associated with the inspection checklists at [www.energystar.gov/ia/partners/bldrs\\_lenders\\_raters/downloads/EstimatedCostandSavings.pdf](http://www.energystar.gov/ia/partners/bldrs_lenders_raters/downloads/EstimatedCostandSavings.pdf).

**Popular Strategies for Incentivizing:** Utilities have several options for integrating ENERGY STAR for Homes into their incentive structures. Several of the most common approaches are described below:

- **Align with ENERGY STAR.** Incentivizing ENERGY STAR qualified homes provides simple, clear messaging that can help utilities successfully market their program to consumers and builders. This model creates an especially compelling recruitment message for builders because the same set of requirements (with some reporting responsibilities) gives them access to all the benefits of utility and national programs.
- **Add high impact measures.** Utilities can boost their savings and cost-effectiveness results by requiring high-impact prescriptive measures that both contribute towards compliance with the national ENERGY STAR guidelines and align with the goals of the utility (e.g., high gas savings, electric energy savings, or electric demand savings). For example, programs might mandate that high-efficiency air conditioners be used in the South, or high-efficiency heat pumps or furnaces be used in mixed or cold climates.
- **Use a tiered structure.** In new or less mature markets, multi-tiered incentive structures that incorporate ENERGY STAR as an incentivized option, or as the "reach" incentive, have been an effective way to establish the brand and grow participation. In more mature markets, ENERGY STAR has been used as the mandatory base that additional prescriptive- or performance-based tiers are built upon.

We're here to work with you! If you have questions or need help, contact us at [energystarhomes@energystar.gov](mailto:energystarhomes@energystar.gov).

<sup>1</sup> EPA Office of Air and Radiation, Climate Protection Partnerships Division. [National Awareness of ENERGY STAR® for 2010: Analysis of 2010 CEE Household Survey](#). U.S. EPA, 2011.