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SPECIAL ISSUE: GREEN BUILDING

WHAT GREEN REALLY MEANS

INSIDE: REAL-WORLD INSIGHTS FROM GREEN BUILDING EXPERT JOHN D. WAGNER TO HELP YOU UNDERSTAND AND PROFIT FROM THIS EXPLOSIVE NEW OPPORTUNITY

IN DEPTH: GREEN PRODUCTS

A sample of products—old and new—and what makes them green

+ GREAT GREEN WEBSITES

MPG Ratings for Homes

The Department of Energy's Builders Challenge initiative gives homeowners an at-a-glance understanding of a home's energy efficiency.

With the increasing focus on green building, I'm frequently asked if there's an easy way to sort through the conflicting codes and standards to determine what makes for an energy-efficient home. Here are some ways to help your builder and homeowner customers navigate this increasingly important area.

In February 2008 the U.S. Department of Energy, D.O.E., unveiled a new initiative called the Builders Challenge. This program showcases a new energy rating scale for homes of three stories or less. The new rating scale, called the Energy Smart Home Scale or E –Scale, is designed to help consumers easily compare the energy efficiency of homes. This is a huge benefit for consumers because, at a glance, it takes the guesswork out of sorting fact from fiction when trying to buy an energy efficient home. Homes currently account for about 21% of all the energy used in the U.S. The average annual utility bills for consumers are about $1,800 per year and rising. We have had mile per gallon ratings or MPG performance numbers published on car stickers for years. This MPG rating has resulted in tremendous increases in the fuel economy of cars since the late 1980's.

Consumers depend on Energy Guide labels for selecting new appliances. These ratings have generated healthy competition among appliance manufacturers and have spawned greater consumer demand for energy efficient appliances. Refrigerators made today, for example, use a fraction of the energy of models made before 1990. Consumers trust the label because they are standardized, independent third-party tests.

Understanding the E-Scale

The E-Scale is a rating scale where homes can score between 0 and 150. A zero would be a "net zero" energy using home or a home that would produce as much energy as it consumes. An average new home would rate about 100. An older home would typically rate between 130 and 150.

A 70 on the E-Scale indicates that a home is approximately 30% more energy efficient than a typical new home built to code. A 60 on the E-Scale would be 40% more energy efficient than code. The ultimate goal is to get to 0–a Net-Zero Energy home.

DOE has challenged the home building industry to build 220,000 high performance homes by the year 2012 that rate 70 or lower on the E-Scale. Hence the term, "The Builders Challenge." Currently The Builders Challenge has signed up over 200 builders, 100 partners and over 10,000 homes have been pledged.

This is good news for builders. The builders of higher quality homes benefit as well. For years builders who built true high performance homes have had to

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Eligible Candidates	Pathways to Meeting the Challenge	Design & Performance Analysis	Minimum Required Performance	Verification Process
Any builder of new U.S. housing, including all single-family (attached and detached) and low-rise multi-family (3 stories or less)	1. Partner Program	Achieve an equivalent level of performance within a partner program	Equivalent performance as defines by the partner program and certified as equivalent by DOE	Partner-specified QA/QC procedure
	2. Prescriptive	Build to the Builders Challenge-Builder Option Package (BC-BOP) guidelines for the appropriate climate	Meet all BC-BOP criteria for the climate	Third-party verification or company-based QA/QC program
	3. Performance (MS Word 449 KB	Build a high performance house that achieves, at a minimum, the required E-Scale performance level	Meet the E-Scale level of 70 or better, as determined by modeling software accredited by RESNET accreditation procedures	Third-party verification or company-based QA/QC program

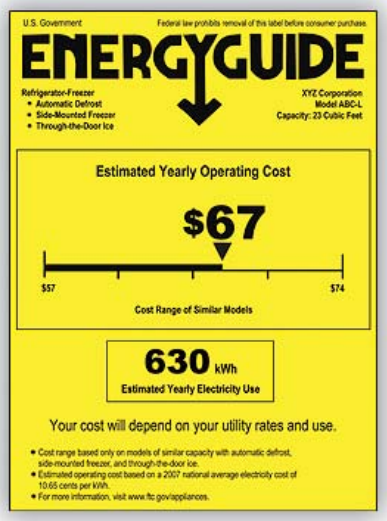
convince their customers that their homes really are better than the lower-cost competition.

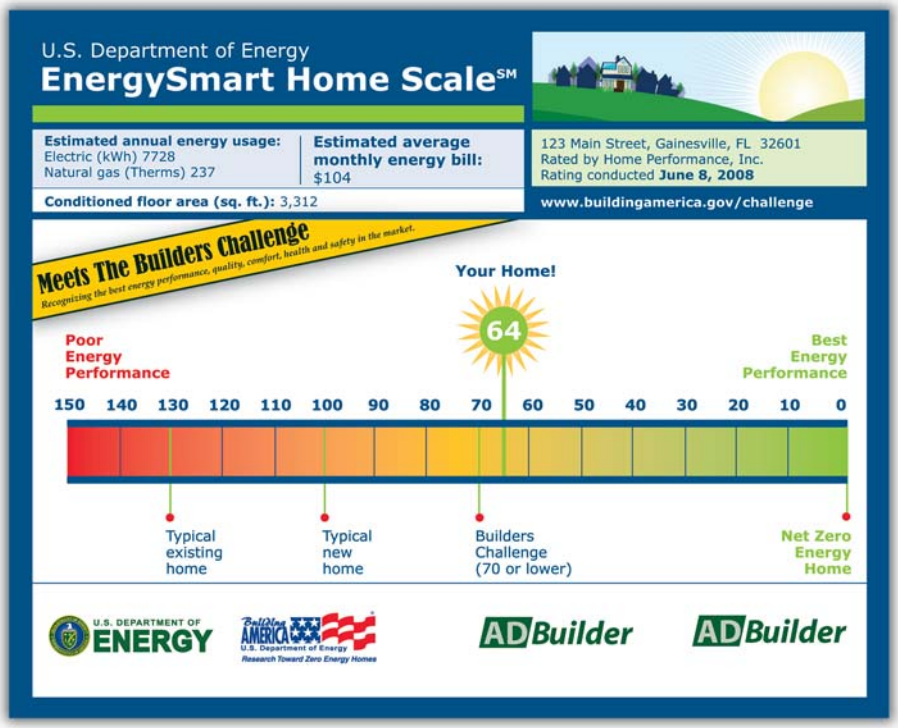
MEETING THE BUILDERS CHALLENGE

The three pathways that builders can take to meet the Builders Challenge are outlined in the table above.

The E-Scale provides a common metric that consumers can trust. The most common metric used today by consumers for purchasing homes is comparing the cost per square foot price. This has led to larger homes overall and moved a home's energy use down the list in the decision-making process. In fact the average size of a home has increased from about 1,800 sq. ft. in the 1990's to about 2,400 sq. ft. today. Now, builders will have a standard to shoot for—plus, they will have a solid rating system that backs up their marketing efforts. ➤

Just as window stickers state a new car's MPG performance and EnergyGuide stickers estimate an appliance's yearly operating cost (below), the new EnergySmart Home Scale from the U.S. Department of Energy's Energy (right) is designed to provide consumers with an at-a-glance insight into a home's relative energy efficiency.





Energy use is also a big part of most green building programs. The energy used by homes in this country contributes about 21% of all our nation's greenhouse gas emissions.

This will inspire competition that will drive down the energy use of homes. Just like the MPG and Energy Guide labels did for cars and appliances. Energy use is also a big part of most green building programs. The energy used by homes in this country contributes about 21% of all our nation's greenhouse gas emissions.

The E-Scale is based on the well established Home Energy Rating System (HERS) Index, developed by RESNET, the Residential Energy Services Network (www.natresnet.org). The energy rating will be conducted by RESNET-certified energy raters for the performance pathway. RESNET has an established system for quality assurance for raters as well as providers (who oversee the raters). For more information, check out the National Home Energy Rating Standards (www.resnet.us/standards). This is the same system that underlies the Energy Star homes program. The Builders Challenge will also require third-party verification of Builders Challenge Quality Criteria.

Builders can use the E-Scale as a major component in their marketing programs and brochures etc. They can place the E-Scale on or near the home's electric panel to show potential homeowners the energy performance achieved by that particular home or model.

Participating builders and partner organizations can also:

1. **Place their logo on the E-Scale label with program or product names**
2. **Augment the rating with estimates of annual energy cost savings—which may help homebuyers get better mortgage terms**
3. **Include estimates of the carbon footprint associated with the energy rating.**

To learn more about the Builders Challenge go to: http://www.buildingamerica.gov/challenge ■

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