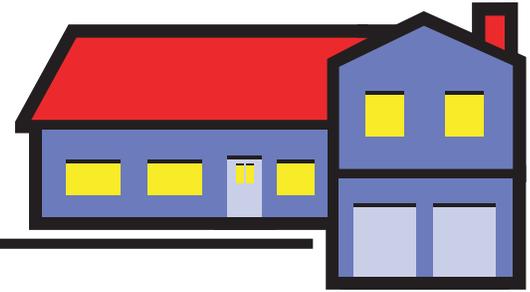


Home Energy Ratings



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What is a Home Energy Rating?

A Home Energy Rating (HER) is an assessment of the energy performance of a home. It evaluates home features such as the amount, type, and placement of insulation; performance of windows and doors; efficiency of heating, cooling, and water heating equipment; airtightness of the home; and more. These features are entered into a computer program that compares the estimated energy use of the home to a reference home and computes a rating score from 0 to 100. The software also estimates the annual cost of energy to heat, cool, and provide hot water for the home.

What does the score mean?

A home that meets minimum energy code requirements would receive a score of about 80. The higher the score, the more efficient the home is. Each one point increase in the HER represents a five percent reduction in annual energy use. For example, a home with a rating of 85 would use 25 percent less energy than a similar home that met the minimum energy code. A home with a rating of 70 would use 50 percent more energy than a similar code-compliant home.



Blower door test to determine house tightness.

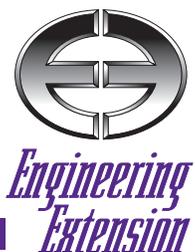
How is a Home Energy Rating different from other energy audits?

Several key features separate Home Energy Ratings from other types of energy audits.

The rating methodology has been standardized. A national organization, the Residential Energy Services Network (RESNET), has set standards for training and testing of raters. A rater trained and certified in Alabama must meet the same standards as a rater in Kansas. The rating software also must go through rigorous testing and provide results that are consistent with RESNET standards.

Training is extensive and includes in-field activities. Passing a comprehensive test is required to achieve certification. After initial training, the individual must also submit sample ratings for review and critique prior to certification. Even after certification, all ratings must be submitted to a second party for archiving and quality control verification.

Diagnostic tools are used in the rating. At minimum, the rater will perform a blower door test to determine air tightness of the home. Often, the rater will also use a Duct Blaster™ to determine overall heating and air-conditioning duct leakage. Air infiltration and duct leakage significantly affect energy performance of homes.



How do Home Energy Ratings differ from new homes' energy code evaluations?

The real difference is performance testing. Energy codes specify the minimum levels of insulation and equipment that must be installed. Home Energy Ratings evaluate, through in-field inspection and testing, how well these components were installed and will perform.

In Kansas, receiving a Home Energy Rating of 80 is an alternative method of showing compliance with the state-adopted energy code.

What do you do with the rating results?

This depends on the reason the rating was performed. If the owner or builder wants to know what can be done to make the home more efficient, the rater will perform an improvement analysis in addition to the basic rating. This analysis evaluates the energy and cost savings resulting from improving certain features. For example, the improvement analysis can estimate the energy and cost savings resulting from adding wall or ceiling insulation, upgrading the heating and cooling system, or reducing air leaks into the home. The owner can then evaluate both the savings and cost of the upgrades.

In some cases, a rating may be done to verify the energy performance guaranteed by a builder. For example, a builder may promise the home will receive an Energy Star® label. A rating must be performed to verify that the home will perform to those standards.

Ratings may also be required to obtain an energy-efficient mortgage.



The image shows a typical Energy Star label. At the top is the Energy Star logo, which features a stylized yellow star with the word "Energy" written in a cursive font across it, set against a blue background with a globe. Below the logo, the text "An ENERGY STAR® Labeled Home" is prominently displayed. The label is divided into several sections by horizontal lines. The first section is labeled "Address:" and contains the text "3505 Efficiency Road" and "South Wind, MO". The second section is labeled "Built by:" and contains "Bud Swellguy & Associates". The third section is labeled "Verified by:" and contains "AOK Enterprises, LLC". The fourth section is labeled "Date:" and contains "10/3/2003". The fifth section is labeled "Optional Information:" and contains "HERS Score: 86.8". At the bottom of the label, there is a paragraph of text: "This home has been individually verified by an independent professional to meet ENERGY STAR guidelines for energy efficiency. ENERGY STAR labeled homes protect the environment by using less energy." followed by the website "www.energystar.gov".

A typical Energy Star® label.

What is Energy Star®?

Energy Star® is a program established by the Environmental Protection Agency (EPA) to promote and reward higher levels of energy performance. EPA has Energy Star® standards for many appliances, home and office equipment like computers and printers, and most energy-consuming devices as well as homes. In general, to qualify as Energy Star®, the product must use 30 percent less energy than the average similar product being sold. An Energy Star® house uses 30 percent less energy than a home just meeting local energy codes. A Home Energy Rating of 86 is required to achieve the Energy Star® label.

What is an Energy-Efficient Mortgage?

An Energy-Efficient Mortgage credits a home's energy efficiency in the home loan process. Because the buyers of an energy-efficient home will spend less on energy, they can afford higher mortgage payments. In new homes, a buyer of an energy-efficient home could qualify for a larger mortgage because of lower operating costs. If buying or refinancing an existing home, the cost of upgrading energy features could be financed as part of the loan. This is referred to as an Energy Improvement Mortgage.

Energy mortgages are sponsored by both federally insured mortgages programs (Federal Housing Administration and Veterans Administration), as well as the conventional secondary mortgage market (Fannie Mae and Freddie Mac). You may have to ask about energy mortgages because not all lenders may be familiar with them.

Where do I find a Home Energy Rater?

Residential Energy Services Network (RESNET) maintains a list of certified raters on its Web site at www.natresnet.org. You can also contact Engineering Extension at 800-KSU-8898 (800-578-8898) for assistance in locating a certified rater.

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