

HOME ENERGY RATING SYSTEM (HERS)

Home Energy Audits

A home energy audit is the first step to assess how much energy your home consumes and to evaluate what measures you can take to make your home more energy efficient. An audit will show you problems that may, when corrected, save you significant amounts of money over time. During the audit, you can pinpoint where your house is losing energy. Audits also determine the efficiency of your home's heating and cooling systems. An audit may also show you ways to conserve hot water and electricity. You can perform a simple energy audit yourself, or have a professional energy auditor carry out a more thorough audit.

A professional auditor uses a variety of techniques and equipment to determine the energy efficiency of a structure. Thorough audits often use equipment such as blower doors, which measure the extent of leaks in the building envelope, and infrared cameras, which reveal hard-to-detect areas of air infiltration and missing insulation, and a duct blaster test to assess the leakiness of the duct system.

The HERS Index

The HERS Index is a scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the HERS Reference Home (based on the 2006 International Energy Conservation Code) should in theory score a HERS Index of 100, while a net zero energy home scores a HERS Index of 0. The lower a home's HERS Index, the more energy efficient it is in comparison to the HERS Reference Home.

What is RESNET?

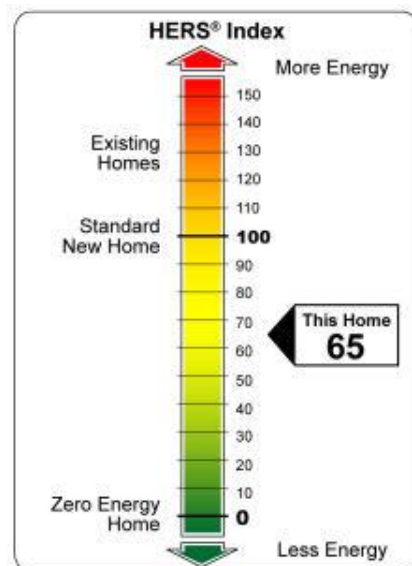
- An industry not-for-profit membership corporation
- A national standards making body for building energy efficiency rating systems

Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home. Thus a home with a HERS Index of 85 is 15% more energy efficient than the HERS Reference Home and a home with a HERS Index of 80 is 20% more energy efficient.

Professional Home Energy Audits

There are various "levels" of energy audits.

Professional energy audits generally go into great detail. The energy auditor should do a room-by-room examination of the residence, appliances, and heating systems, as well



as a thorough examination of past utility bills. There most well know professional energy auditor certifications are as follows:

- The Residential Energy Services Network (RESNET);
- The Building Performance Institute (BPI);
- The Association of Energy Engineers (AEE),
- Home Performance with Energy Star Programs.

Who recognizes RESNET Standards?

- Mortgage industry for capitalizing energy efficiency in mortgages
- Financial industry for certification of "white tags"
- Federal government for verification of building energy performance for:
 - Federal tax credit qualification
 - EPA ENERGY STAR labeled homes
 - U.S. Department of Energy Building America program
- States for minimum code compliance in 16 states

A RESNET-certified auditor, or a HERS (Home Energy Rating System) Rater, has passed an exam in addition to other requirements. RESNET qualified auditors have performed two ratings supervised by a RESNET training provider, and three more "probationary" ratings within 1 year of passing the written exam. ALL ratings done by a HERS Rater are submitted to a RESNET affiliate for quality control and approval. A HERS rater also takes approved continuing education courses throughout the year, totaling at least 12 hours of classroom instruction. Like BPI, RESNET does not provide or mandate formal training as a prerequisite for taking their certification exam, but it comes highly recommended. A typical RESNET training course is about a week's worth of 8-hour days in the classroom and the field. According to RESNET's National Energy Audit Standard, in addition to evaluating a home's energy consumption, an auditor should inspect - and, if a health hazard is detected, repair - combustion appliances.

Note that a **HERS Rater is trained to do both home energy audits and home energy ratings**. Ratings results in a number (some compare a home energy rating to a car's fuel economy), a home energy audit will result in a prioritized list of improvements and a projected cost/benefit for each of the improvements. Most raters are trained and willing to do both. A RESNET-certified auditor should be willing, furthermore, to direct you to a qualified contractor to implement the improvements suggested in the audit.