



Home Energy Audits and Energy Ratings

Hiring an expert to conduct a home energy analysis is the best way to understand how your home works as an energy system. With the proper diagnostic equipment, this expert will provide you with a custom roadmap to reduce monthly energy bills and comfort problems. Professionals who conduct this assessment do so in several forms; audits, ratings and home performance audits.

Professional auditors or raters use diagnostic equipment to determine air leakage and flow, and to evaluate insulation levels, windows, heating and cooling systems, and appliances. The professional energy auditor will ask you about home comfort problems and some provide independent quality assurance for work done by contractors. A blower door test helps locate these leaks.

Energy Savings

A well-designed game plan will maximize your return on investment for efficiency improvements. A professional analysis will detail the

most cost-effective improvements and the predicted energy savings. Some audits have detailed reports and some use building simulation software.

More often than not, doing a combination of improvements will produce the best energy savings. As energy costs rise, your return on this investment increases.

Comfortable Living

Energy conservation doesn't mean using candles instead of lights, and turning the thermostat down so the heat never kicks on. Your house can be efficient and comfortable without making sacrifices. A good energy analyst helps you take a whole-house approach to efficiency to solve home comfort problems while saving you money. With the proper upgrades, you will experience even temperatures throughout the home, eliminating cold/drafty rooms or the need to crank up the thermostat to keep warm.

Safety & Indoor Air Quality

An energy analyst can review potential safety issues in your home and suggest the appropriate corrective measures. Combustion



Energy Audits and Ratings

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appliances have the potential to backdraft by-products like carbon monoxide into your home. It always a good idea to have combustion safety test performed at the time of your energy audit, and after work has been completed to improve the efficiency of your home.

Equipment & Services

Energy analysts use a variety of tools to diagnose your home.

1. Blower doors quantify the air leakage of the home and help the analyst pinpoint where the leaks are.
2. A duct blaster determines the tightness of duct work.
3. Flow hoods measure air flow from supply and return air registers.
4. Air pressure gauges identify imbalances in air pressure throughout a home that can pose a safety risk or cause comfort problems.
5. Infrared cameras are used to detect thermal defects and air leakage in building envelopes.
6. Building simulation software simulates energy performance and estimates bill savings from various efficiency improvements.

Professional Certifications

When selecting a professional to perform an energy audit you should inquire about their certifications. Once provided with their certification check to see if they are in good standing. There are currently two nationally recognized organizations offering these certifications:

- Residential Energy Services Network (RESNET) – RESNET is the governing body for certified raters.
- Building Performance Institute (BPI) – BPI certifies Building Analysts.

Go to www.SmartEnergyLiving.org for More Information About Energy Efficiency

Smart Energy Living Alliance® is a 501(c)(3) non-profit organization dedicated to helping consumers, like you, make smart energy decisions and ensuring qualified professionals are available to meet consumer needs. We provide unbiased information, tools and resources, including connecting you to local energy businesses.

The managing partners of the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) created us in 1999. We publish an award-winning magazine, Smart Energy Living, in partnership with NREL.

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