C.R.I., INC.
COMPREHENSIVE RESIDENTIAL INSPECTIONS

Home Energy Audits

What is a Home Energy Audit?

A home energy audit, also known as a home energy assessment, is a thorough evaluation of your home to determine how much energy your home consumes. An audit will identify issues you can correct and steps you can take to increase the efficiency of your home. Correcting these issues can save you a significant amount of money over time.

During a home energy audit, the inspector will do the following:

- Conduct visual assessment of home
- Analyze energy bills
- Assess insulation levels
- Check for air leaks in the home structure with a visual inspection and a blower door test
- Check for air leaks in ductwork using a duct blaster test
- Inspect combustion equipment and appliances
- Inspect furnace, air conditioner, and water heater
- Use equipment, such as an infrared camera, to detect sources of energy loss

After the audit, you will be provided with a report of the findings and recommendations for improvement.

Defects and Issues Identified in an Energy Audit

There are a variety of diagnostic tools used during an energy audit. Potential health and safety issues will be identified and energy efficiency recommendations will be made. The health and safety issues need to be the homeowner's first priority above correction of any energy efficiency problems. Here are some of the common defects and issues that can be identified through an energy audit.

Health and safety issues:

- **Excess moisture:** too much moisture can contribute to the growth of mold; moisture can enter your home through condensation due to air leaks. In addition, roof and plumbing leaks can also cause excess moisture.
- **Combustion by-products:** when carbon-based fuels, such as gas, oil, kerosene, wood, or coal, are burned, combustion by-products are produced. During an energy audit, your combustion appliances will be tested to identify any flue gas spillage, carbon monoxide, or fuel leaks.

- **Improper appliance venting:** to keep your home safe, appliances must be vented properly. Some common venting problems include bathroom and kitchen exhaust fans being vented to the attic rather than outside. Another common problem is clothes dryer vents not properly vented to the outside – this poses a waste of energy by making it take longer to dry your clothes and also creates a fire hazard. Improper venting of the dryer also distributes moisture throughout the home rather than discharging it outdoors.

Energy Efficiency Problems

- **Energy waste:** there are several factors that contribute to energy waste including the behavior of the home occupants as well as the age and condition of appliances and systems in the home. Ducts or pipes that travel through unheated spaces can also be a source of heat loss and energy waste.
- **Air leakage:** air leaks (or drafts) make the home feel less comfortable. They can occur in areas where two different building materials meet as well as at junctions of the walls and ceiling. Cracks or holes in the mortar, foundation, or siding can allow air leakage, as well as inadequate caulk and weather stripping around windows and doors.
- **Inadequate insulation:** a significant amount of heat loss can occur through the ceiling and walls if the insulation levels are less than the recommended minimum.

Some possible fixes that may be recommended include adding insulation to the attic; installing gaskets on outlets on exterior walls (to cut down on drafts); sealing air leaks; installing weather stripping around attic opening and exterior doors; sealing unused fireplaces; and sealing can lights in the ceiling (these are a major source of air leakage and are easy and inexpensive to seal). Recommendations will vary depending on the audit findings.

Why Have a Home Energy Audit

An energy audit will help you understand how much energy you use and identify where you are wasting energy. It can help you prioritize home improvements to ensure the health and safety issues are taken care of first as well as less costly fixes that can have a big impact on the efficiency of your home. Making upgrades that are recommended in your home energy audit can save you 5 to 30 percent on your home energy costs (according to energy.gov). Upgrades can also help make your home feel more comfortable (less drafty in the winter and cooler in the summer).

You may be eligible for state, local, or utility incentives to help cover the cost of home energy work. To find out what is available in your area and to see if you qualify, visit http://dsireusa.org/

Technical Standards

We comply with the standards put forth by the Building Performance Institute (BPI). These essential industry standards were developed by BPI to ensure quality and consistency in the home performance and weatherization industry. The home energy auditing standards include specifications on what should be included in a home energy audit.

Licensing

At C.R.I., Inc., we hold a variety of certifications and licenses in the home energy audit field. We are committed to participating in continuing education to stay informed of issues and emerging trends that affect our clients. Our certifications include the following:

- Building Performance Institute (BPI) Building Analyst Professional and Envelope Professional
- HERS Rater through Resnet
- Master level in building science through NAHB's green building program
- Level three infrared thermographer
- Certified mold inspector

At C.R.I., our goal is to provide you with a high-quality, comprehensive home energy audit to help you make informed decisions in maintaining your home.