

Energy Audits – A to Z

An energy auditor is a building science professional who has been trained and certified by a recognized body such as RESNET to conduct home diagnostic work. The services provided through an energy audit should be similar to those presented below, which represent an overview of the homeowner services provided by EnergyLogic:

Consultation: An effective energy audit should start here, with a conversation between the auditor and the homeowner about the homeowner's motivation for the audit. High utility bills and comfort issues are two common areas of discussion, though indoor air quality concerns and moisture issues are also fair game. The auditor should let the homeowner's particular concerns and objectives guide the entire testing and reporting process.

Visual Inspection: A thorough once-over from a trained auditor sets the stage for more specific diagnostics. Areas like attics and crawlspaces are carefully inspected for leakage areas, pressure differentials and thermal weak-points, and walls are selectively probed to inspect quality and quantity of insulation inside stud bays. Basic information from mechanical systems (furnaces, water heaters) and household appliances is logged, and the cost-effectiveness of their replacement can be weighed against other options.

Diagnostic Tests: Calibrated air-pressure gauges are used to monitor pressure differences between rooms when the mechanical systems are running. Too much or too little airflow in living spaces throughout the home means compromised comfort levels and can also present serious air quality issues when negative air pressures come into contact with combustion appliances like furnaces and water heaters. A device called a blower-door is used to de-pressurize the entire home, which enables the auditor to pin-point air leaks and, when combined with an infra-red camera, to identify areas in the building envelope that are thermally deficient, either from a lack of insulation, air leakage, or improper construction detailing. Duct systems are inspected for tightness and effectiveness of design.

Follow-up Report: Once the on-site audit is complete (the process should take between 2-4 hours), the information is translated into a written report for the homeowner. The essential findings of the audit are presented in a readable style and with multiple pictures to promote maximum clarity of the technical issues at hand. Strategies based on the homeowner's goals are offered in a sequential, incremental format with a focus on addressing the "low-hanging fruit" of efficiency gains first, and remaining, down-the-road options profiled according to cost-effectiveness and overall impact. Homeowners have the option of taking matters into their own hands at this point, whether on a DIY basis or by finding outside contractors, or they can continue to consult EnergyLogic for services and referrals on the needed work. Please see the [EnergyLogic web site](#) for details and pricing.