

What is an Energy Audit Anyway?

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Most people hear the word audit, break out in a cold sweat and run the other way. Instead of hiding, every property owner/manager should thankfully schedule an energy audit because the service does nothing but help lower energy bills. For those that hear the term everyday and have no idea what it is, an energy audit is an analysis of how a property can save money through the application of green solutions. The process involves inspections of mechanical, electrical and plumbing equipment in addition to each of their specifications in order to evaluate possible changes or upgrades that can be made to reduce energy usage. An energy audit also includes other energy saving suggestions such as sealing air leaks, installing additional insulation and switching to florescent lighting.



Air Leaks:

The first focus of a professional energy audit is locating areas where air leaks may occur. Using a device called a "blower door" to pressurize the building, auditors can find the places where hot or cool air escape from the building. Sealing these gaps or cracks of air leakage with caulking or weather stripping will reduce drafts and can result in energy savings of 5 to 30 percent per year.



Insulation:

Another major component of an energy audit is analyzing a building's insulation. This padding is a relatively inexpensive product that can have a huge impact on energy bills. It is easiest to improve insulation in easy-to-access areas, such as the attic floor between the basement and living space. Insulating existing exterior walls by blowing in insulation is another beneficial option.



Windows:

In winter, windows are one of the largest sources of heat loss because of their low insulating ability and high air leakage rates. Likewise, in summer, windows are a major source of unwanted heat gain. An energy audit includes a measurement of the thermal transmission or U-factor of a building's windows and may show that windows are responsible for up to 50 percent of the property's heating and cooling energy costs. The auditor may suggest retrofitting single-glazed (one pane of glass) for double-glazed windows, which can cut heat loss in half.



High Efficiency Equipment:

The most significant cost savings are found by switching to more efficient energy-dependant systems. An HVAC system typically represents a home's single largest source of energy use, representing over 50 percent of the total energy use in U.S. houses. A more efficient furnace of the correct size with an appropriately set thermostat, can reduce annual energy costs considerably.

Similarly, hot water heaters can account for 25 percent of a home's energy needs. Today, conventional heating systems can achieve efficiencies as high as 97%, converting nearly all the fuel to useful heat for your home. Upgrading or replacing a property's boiler can cut its fuel bills in half, not to mention their pollution output.



High Efficiency Appliances:

In addition to greener heating and cooling systems, using more energy efficient appliances such as refrigerators and stoves can also cut energy costs substantially. In most homes the refrigerator is the single biggest plug load. Old refrigerators can be extremely inefficient and a modern Energy Star refrigerator can use 40 percent less energy than a conventional model sold just seven years ago.



Lighting:

Lighting is yet another factor that can be a significant source of energy savings. Professionals performing an energy audit may suggest replacing existing incandescent bulbs with compact fluorescents lights (CFLs) because they use approximately one-fifth the energy and last up to 10 times longer. Now available in a variety of shapes and sizes, fluorescents can replace bulbs in almost any fixture.

Simply put, an energy audit figures out and then explains how a property owner/manager can reduce annual energy expenses. After the initial inspection and analysis, the auditor will make green suggestions from installing more insulation to replacing a hot water boiler in order to save the client money. A Kipcon energy audit actually calculates the time frame for the property's return on investment and reports where money can be saved and at what rate. In other words, an energy audit quantifies how much money can be saved through the application of green solutions, which is hardly something to run from.