



## Home Energy Audits

START HERE to learn about Audits... because this is the very beginning of home energy efficiency. Home Energy Auditors measure the energy usage in your home, inspect and test existing appliances and systems, and provide a report that will help you start smart.

By Energy Circle Staff - March 17th, 2009

### ***I. Overview: This is where the Home Energy Efficiency Story Begins!***

Your utility bill may be shocking, but it offers you fewer useful facts than a teenager stumbling home late from a party. Utility bills don't tell you when your energy use peaks. They don't explain how best to reduce power consumption. They don't tell you how your home is spending your money.

We think it's worth finding out. A home energy audit is one of the first steps to understanding your home's power usage, air flow and overall level of health and functioning. A whole house energy audit by a certified professional is an essential first step toward whipping your house into shape. If you are like most of us, you know very little about the energy usage, air leakage, moisture and air quality issues in your house.

That's the point of an energy audit. Using a combination of high tech tests and common sense evaluations, a good auditor provides homeowners with a list of energy and money saving steps. An auditor explains how and why your house is costing you money, and then prioritizes steps to take to knock down those costs over the long haul. After assessing the work involved and the likely ROI (return on investment), you decide if improvements should be tackled immediately or over time.

## ***II: The Basics: What to expect during a Professional Home Energy Audit***

A typical audit is comprised of several parts.

(1) The auditor will conduct a visual inspection, which entails poking around every crevice of the house inside and out that can be safely investigated. In older houses in particular, evidence of moisture build up can be obvious at a glance.

(2) An insulation check will reveal weaknesses in the insulation barrier in key locations, and, in some cases, the lack of insulation. Good auditors will use infrared technology, and may have to resort to cutting a tiny hole in an unobtrusive section of drywall to investigate further. Insulation in knee-walls and around recessed lighting fixtures may garner particular attention, as they tend to be trouble spots. Visit our article, "Getting Started: Insulation" for more information on the basics of insulation, and Insulation II for tips on the best type of insulation for your home.

(3) The auditor will conduct an air leakage test to determine how well your house resists air infiltration. This is a central element of the audit likely to result in some quick DIY caulking assignments, as well as some larger air sealing projects, all with a remarkably high ROI. The Blower Door Test process is described more fully in how to prepare for an audit.

(4) The auditor's concern is not limited to reducing energy waste. Healthy houses have appropriate ventilation. The auditor will test ventilation systems to ensure that they conform to safety standards.

(5) All visible gas lines, the gas stove, and gas powered water heater will be examined to insure that there are no leaks.

(6) The auditor will evaluate if your central heating system needs cleaning or a tune-up in order to perform efficiently.

(7) Finally, expect a few suspect appliances, including old driers or refrigerators to be tested by electricity meter. There are times when one terrifically inefficient appliance throws an entire house's energy use out of whack.

### **III: Taking it on - Getting a Home Energy Audit done at your house.**

In order to get the most out of your audit, prepare in advance. And, as the auditor makes the rounds of your house, take notes in your own words (ideally in a form that will make sense to you when you look them over several days or weeks later), and ask questions.

We believe that whole house energy audits by certified professionals are worth every penny, so long as you act on what the audit turns up. Bear in mind that what turns up might surprise you. The auditor who visited one Energy Circle team member's house told us that air was leaking in and out so easily, "It's the equivalent of having a two-foot square hole cut into the middle of your roof, year round." Ouch. But better to know? Absolutely!