



# Energy Efficiency Bulletin

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## Performing A Home Energy Audit

According to the U.S. Department of Energy, the average family in the United States spends approximately \$1,500 on their annual utility bill. All together Americans spend more than \$160 billion a year to heat, cool, and light their homes. By performing home energy audits, you can determine how much energy your home consumes and then assess what measures you can take to make your home more efficient.

A professional home energy auditor can help you assess the energy efficiency of your home. The auditor should do a room-by-room examination of your home as well as an examination of previous utility bills. In addition, the auditor should perform a blower door test and a thermographic scan.

A blower door is a powerful fan that mounts into the frame of an exterior door. The fan pulls air out of the house lowering the air pressure inside. The higher outside air pressure will then flow in through all the unsealed cracks and openings in your house. In addition to the blower door, the auditors may use a smoke pencil to help detect air leaks within your home.

The thermographic scan allows auditors to check the effectiveness of the insulations within your home. The scan uses specially designed infrared video or still cameras to make images that show surface heat variations in your home. The resulting thermogram will help the auditors determine if your home needs insulation and where the insulation should go.

However, before the auditor begins the blower door test and the thermographic scan of your home, they will first examine the outside of the home. From observing the outside of your home, they can determine the size of your home and its features such as the wall area and number of the windows. They will also ask you questions about your home such as: What is the average thermostat setting for the summer and winter? How many people live in the home? Is every room in the home used? Is anyone home during working hours?

However, before the professional home energy auditor comes over, you can perform your own home energy audit. The first thing to do when performing your own home energy audit is to make a list of any existing problems such as condensation and uncomfortable or drafty rooms. The next thing is to look for air leaks throughout your home. Places where air leaks might be include: electrical outlets, switch plates, window frames, baseboards, weather stripping around doors, fireplace dampers, attic hatches, and wall or window-mounted air conditioners. When inspecting windows and doors for air leaks, if you can see daylight around the door or window frame, that is where the leak is.

When looking at the outside of your home, you should examine areas where two different building materials meet. This could include: all exterior corners, where siding and chimneys meet, and areas where the foundation and the bottom of the exterior brick or siding meet. Make sure to plug and caulk holes or penetrations for faucets, pipes, electric outlets, and wiring. You should also look for cracks and holes in the mortar, foundation, and siding of your home. If you see cracks and holes make sure to seal them with the appropriate material. Finally, check the exterior caulking around doors and windows as well as to see if the exterior storm doors and primary doors seal tightly.

When performing your own home audit make sure to examine closely the ceilings and walls within your home. If these two areas within your home are not properly insulated, your heat loss, as well as retaining cool air, could be operating at a minimum. You should check to see that the attic hatch is as heavily insulated at the attic as well as weather-stripped and closed tightly. In the attic you should determine if openings for items such as pipes, ductwork, and chimneys are sealed. If you see any gaps you should seal them with expanding foam caulk or another permanent sealant.

Between you and a professional home energy auditor you can keep your utility bills down all year long.

**Use the free Home Energy Audit tool on [www.bemc.org](http://www.bemc.org) to help prioritize your projects and see how much you might be able to save over time.**

