

---

## Home Energy Audits

A home energy audit is the first step to assess how much energy your home consumes, and to evaluate what measures you can take to make your home more energy efficient. An audit will show you problems that may, when corrected, save you significant amounts of money over time. During the audit, you can pinpoint where your house is losing energy. Audits also determine the efficiency of your home's heating and cooling systems. An audit may also show you ways to conserve hot water and electricity. You can perform a simple energy audit yourself, or have a professional energy auditor carry out a more thorough audit.

A professional auditor uses a variety of techniques and equipment to determine the energy efficiency of a structure. Thorough audits often use equipment such as blower doors, which measure the extent of leaks in the building envelope, and infrared cameras, which reveal hard-to-detect areas of air infiltration and missing insulation.

Call 517.669.5389 to schedule your audit today!

## Preparing for an Energy Audit

Before the energy auditor visits your house, make a list of any existing problems such as condensation and uncomfortable or drafty rooms. Have copies or a summary of the home's yearly energy bills. (Your utility can get these for you.) Auditors use this information to establish what to look for during the audit. The auditor first examines the outside of the home to determine the size of the house and its features (i.e., wall area, number and size of windows). The auditor then will analyze the residents' behavior:

- Is anyone home during working hours?
- What is the average thermostat setting for summer and winter?
- How many people live here?
- Is every room in use?

Your answers may help uncover some simple ways to reduce your household's energy consumption. Walk through your home with the auditors as they work, and ask questions. They may use equipment to detect sources of energy loss, such as blower doors, infrared cameras, furnace efficiency meters, and surface thermometers.

**GREAT LAKES ENERGY SERVICE**

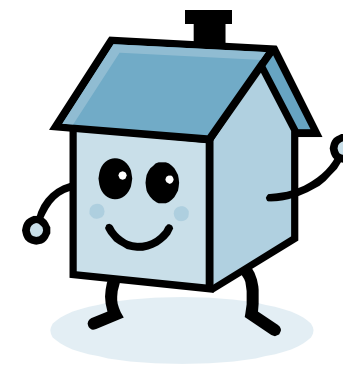


**Phone: 517.669.5389**  
**[www.greatlakesenergyservice.org](http://www.greatlakesenergyservice.org)**

**GREAT LAKES ENERGY SERVICE**

*Common sense energy plans*

## Home Energy Audits



**Tel: 517.669.5389**

# After the Audit

You can reduce your home's heating and cooling costs through proper insulation and air sealing techniques. These techniques will also make your home more comfortable. Any air sealing efforts will complement your insulation efforts, and vice versa. Proper moisture control and ventilation strategies will improve the effectiveness of air sealing and insulation, and vice versa. Therefore, a home's energy efficiency depends on a balance between all of these elements: Air sealing, Insulation, Moisture control, and Ventilation.

A proper balance between all of these elements will also result in a more comfortable, healthier home environment.

## Find and seal air leaks

Hidden air leaks cause some of the largest heat losses in older homes. Common air leakage sites include:



- Plumbing penetrations through insulated floors and ceilings
- Chimney penetrations through insulated ceilings and exterior walls
- Fireplace dampers
- Attic access hatches
- Recessed lights and fans in insulated ceilings
- Wiring penetrations through insulated floors, ceilings, and walls
- Missing plaster
- Electrical outlets and switches, especially on exterior walls
- Window, door, and baseboard moldings

## Upgrade inefficient windows and doors

About one-third of the home's total heat loss usually occurs through windows and doors. If your existing windows have rotted or damaged wood, cracked glass, missing putty, poorly fitting sashes, or locks that don't work, you may be better off replacing them.

- Windows in generally good condition: Probably more cost-effective to increase their efficiency by weather-stripping, caulking, and fitting them with storm panels rather than undergo the expense of window replacement.



*Check and seal your windows and doors*

- Increase window energy efficiency by installing insulating curtains or drapes on the interior.
- When replacing your home's windows, buy new high performance models. Look for the National

Fenestration Rating Council (NFRC) label and choose a product with U-factor of 0.40 or less, Solar Heat Gain Coefficient of 0.40 or less, and Visible Light Transmittance of 0.60 or higher.

- Make sure doors are in good shape. Weatherstrip around the whole perimeter to ensure a tight seal when closed. Install quality door sweeps on the bottom of the doors if needed.

## Home Insulation

Your primary defense against heat loss through the house envelope is insulation. If there isn't any insulation, the best option is to bring in an insulation contractor to blow cellulose or fiberglass into the walls.

- Adding insulation to an unheated attic is usually a lot easier than adding to existing walls. If there is no floor in the attic, simply add more insulation, either loose fill or unfaced fiberglass batts.
- If the basement or crawl space is unheated, insulate between the floor joists instead of around the perimeter walls.
- If the basement is heated and used, you need to insulate the basement walls instead.



## Sealing Options

- Caulk is best for cracks and gaps less than about 1/4" wide.
- Expanding foam sealant is an excellent material to use for sealing larger cracks and holes that are protected from sunlight and moisture.
- Use rigid foam insulation for sealing very large openings such as plumbing chases and attic hatch covers.
- Fiberglass insulation can also be used for sealing large holes, but it will work better if wrapped in plastic or stuffed in plastic bags.
- Specialized materials such as metal flashing and high-temperature silicone sealants may be required for sealing around chimneys and flue pipes.