

## **Do-it-Yourself Home Energy Audit**

A great way to get a handle on your home's energy efficiency is to conduct your own home energy audit. An audit is the first step to assess how much energy your home consumes, where your home is losing energy and to evaluate what measures you can take to make your home more energy efficient.

With a simple, but diligent, "walk-through" you can spot many problems in any type of house. When auditing your home, keep a checklist of areas you have inspected and problems found. This will help you prioritize your energy efficiency upgrades.

### **1. Locating Indoor Air Leaks:**

- Check for leaks along the baseboard or edge of the flooring, and at junctures of the walls and ceiling.
- Check to see if air can flow through electrical outlets, switch plates, window frames, baseboards, fireplace dampers, attic hatches, and wall or window-mounted air conditioners.
- Look for gaps around pipes and wires, electrical outlets, foundation seals, and mail slots. Check to see if the caulking and weather stripping are applied properly (no gaps or cracks), and are in good condition.
- Inspect windows and doors for air leaks. See if you can rattle them, since movement means possible air leaks. If you can see daylight around door and window frames, then the door or window leaks.
- Check the storm windows to see if they fit and are not broken.
- If you are having difficulty locating leaks, on a windy day, hold a lit incense stick next to your windows, doors, baseboards, electrical boxes and outlets, plumbing fixtures, ceiling fixtures, attic hatches and other locations where there is a possible air path to the outside. If the smoke stream travels horizontally, you have located an air leak that may need caulking, sealing, or weather stripping.

### **2. Locating Outdoor Air Leaks**

- On the outside of your house, inspect all areas where two different building materials meet. For example: inspect all exterior corners; where siding and chimneys meet; and areas where the foundation and the bottom of exterior brick or siding meet.
- Look for cracks and holes in the mortar, foundation, and siding.
- Check the exterior caulking around doors and windows, and see whether exterior storm doors and primary doors seal tightly.

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### **3. Insulation:**

- Heat loss through the ceiling and walls in your home could be very large if the insulation levels are less than the recommended minimum. You should check to see if the level of the attic and wall insulation of your home is at least at the minimum recommended amount.
- If the attic hatch is located above a conditioned space, check to see if it is at least as heavily insulated as the attic, is weather-stripped, and closes tightly. In the attic, determine whether openings for items such as pipes, ductwork, and chimneys are sealed.

- While you are inspecting the attic, check to see if there is a vapor barrier under the attic insulation. The vapor barrier might be tar paper, kraft paper attached to fiberglass batts, or a plastic sheet.
- Checking a wall's insulation level is more difficult. Select an exterior wall and turn off the circuit breaker or unscrew the fuse for any outlets in the wall - be sure to test the outlets to make certain that they do not have any electricity running through them. Remove the cover plate from one of the outlets and gently probe into the wall with a thin, long stick or screwdriver. If you encounter a slight resistance, you have some insulation there. Only a thermographic inspection conducted by a professional can determine the full level of insulation.
- If your basement is unheated, determine whether there is insulation under the living area flooring.
- If the basement is heated, the foundation walls should be insulated to at least an R-Value of 19 or greater.
- Water heater, hot water pipes, and furnace ducts should all be insulated.

#### **4. Heating/Cooling Equipment:**

- Inspect heating and cooling equipment annually, or as recommended by the manufacturer.
- If you have a forced air furnace, check your filters and replace or clean them monthly. Have a professional tune up and clean your equipment once a year.
- Check your ductwork for dirt streaks, especially near seams. These indicate air leaks, and they should be sealed with duct sealant.
- Ducts or pipes that travel through unheated spaces should be insulated.

#### **5. Lighting:**

- Examine the wattage size of the light bulbs in your house. You may have 100 watt (or larger) bulbs where 60 or 75 watts would do. You should also replace traditional incandescent bulbs with energy efficient compact fluorescent bulbs, particularly in high-use or hard to reach fixtures.

#### **6. Call a Professional**

- Based on your home audit, you may have identified areas which require further inspection. Have a professional home energy evaluator do a thorough home energy audit. Select an organization that specializes in residential energy audits.

*Sources: Office of Energy Efficiency - Natural Resources Canada, and the U.S. Energy Efficiency and Renewable Energy Clearinghouse (EREC).*

**Energy Conservation Tips at [www.goderichhydro.ca](http://www.goderichhydro.ca)**