

## HEATING/COOLING EQUIPMENT

CONTINUED

unheated spaces.

- Check the thermostat on your hot water heater. Water for use around your home does not need to be heated above 120° F. Depending upon your home, you may also consider insulating your electric hot water storage tank, being careful not to cover the thermostat.
- Oil and gas hot water storage tanks can be insulated as well, but you must be careful not to cover the tank's top, bottom, thermostat or burner compartment. Insulating the first six feet of the hot and cold water pipes connected to the water heater can help reduce energy needs as well.

## LIGHTING

Lighting your home accounts for about 10% of your electric bill. While opening blinds, shades, and curtains on sunny days can help reduce your lighting costs and heat your home, you must also be sure your existing lighting is meeting your needs while not costing you too much.

- Check to make sure your light bulbs are not exceeding your needs. The best targets are 60-100 watt incandescent light bulbs that you use more than five hours a day. You can reduce your lighting costs by 50% to 75% by using compact fluorescent bulbs along with lighting controls like occupancy sensors, dimmers or timers.

## YOUR HOME ENERGY AUDIT CHECKLIST

### Checking for air leaks

- Electrical outlets and switch plates
- Windows, window frames and storm windows
- Baseboards
- Weather stripping around doors, mail slots
- Fireplace dampers
- Attic hatches
- Foundation seals
- Outdoor faucets, pipes, electrical outlets, dryer vents

### Insulation

- Attic hatches
- Attic floor
- Vapor barrier

### Heating and Cooling

- System filters
- Duct work
- Thermostats
- Insulation around water heater and pipes

### Lighting

- Check wattage and use
- Replace bulbs with compact fluorescent bulbs

For more information on home energy audits and energy efficiency, visit:

[www.eere.energy.gov/consumer](http://www.eere.energy.gov/consumer)

To learn more about *ENERGY STAR*-rated equipment, and for a calculator that shows how much you could save with an *ENERGY STAR* product, visit

[www.energystar.gov](http://www.energystar.gov) (5-08)



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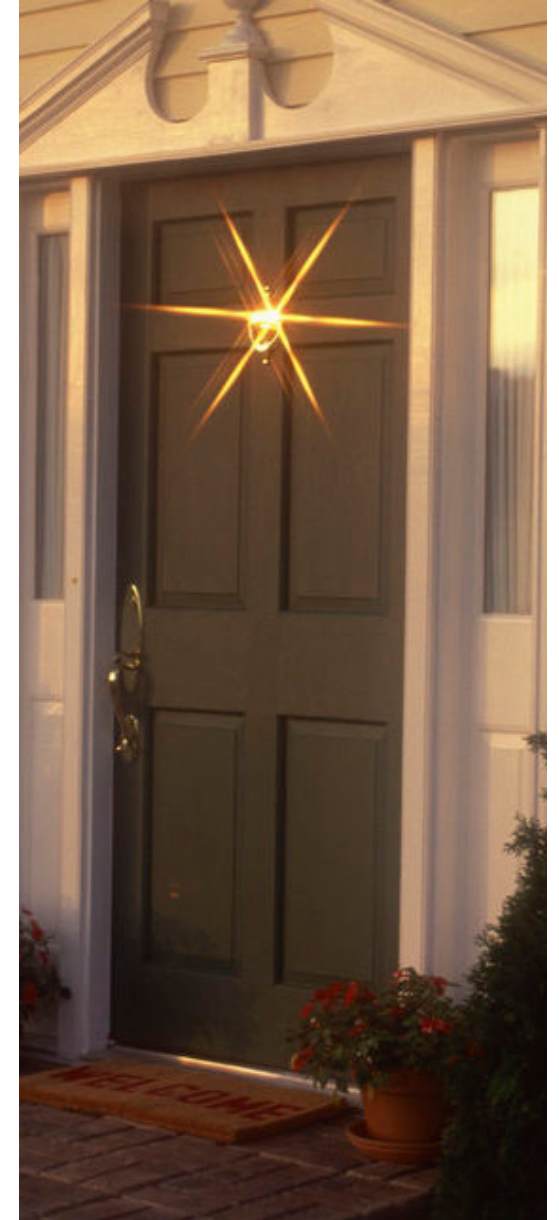
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# Do-It-Yourself Home Energy Audits



# Do-It-Yourself Home Energy Audits

Americans spend more than \$160 billion a year to heat, cool, light, and live in our homes. Unfortunately, some of that money is wasted through leaky doors and windows and inefficient heating and cooling systems. You can easily conduct a home energy audit yourself to identify problems and help reduce your energy costs. In fact, you can spot many problems in any type of house with just a simple walk-through. This guide will help you find and fix energy-related problems in your home.

## LOCATING AIR LEAKS

By simply reducing drafts in your home, your energy savings could be as much as 30% per year! Begin your home audit by first making a list of any obvious air leaks (drafts) that need to be repaired. Next, begin checking for indoor air leaks, such as gaps along the edge of the flooring and at junctures of the walls and ceiling. Then, check to see if air can flow through these places:

- Electrical outlets and switch plates
- Window frames, baseboards and caulking and weather stripping around doors
- Fireplace dampers
- Attic hatches
- Wall- or window-mounted air conditioners.
- Foundation seals
- Mail slots

Inspect windows and doors for air leaks. Can you rattle them or see daylight around the frame? You can usually seal

these leaks by caulking or weather stripping them. Be sure to check the storm windows to make sure they fit properly and are in good condition. You can also place low-cost plastic sheets over the windows to help retain warm air.

On the outside of your house, inspect all areas where two different building materials meet. Common problem areas include exterior corners, lines where siding and chimneys meet, and areas where the foundation and the bottom of exterior brick or siding meet.

- You should seal and caulk any spaces around faucets, pipes, electric outlets, dryer vents, and wiring. Check the exterior caulking for wear around doors and windows, and notice whether exterior storm doors and primary doors seal tightly.
- Look for cracks and holes in the mortar, foundation, and siding, and seal them with the appropriate material. Properly installed weather stripping and caulk can easily close these energy-eating home problems.

## INSULATION

Heat loss through the ceiling and walls in your home can be very significant if your home is not adequately insulated. As such, you should inspect for possible energy loss due to poor insulation.

- Check the “R-value” of your home’s insulation. The R-value indicates an insulation’s resistance to heat flow where the higher the R-value, the

greater the insulating effectiveness. It is important to remember that the R-value depends on the type of insulation and includes its material, thickness, and density.

- Check your attic entrance, especially hatches above conditioned spaces. Make sure it closes properly and contains weather stripping where necessary. Additionally, your attic hatch should be as heavily insulated as the attic itself. In the attic, look for openings around pipes, ductwork, and chimneys that should be sealed.
- While you are inspecting the attic, check to see if there is a vapor barrier under the attic insulation. Vapor barriers reduce the amount of water vapor that can pass through the ceiling, which can reduce the effectiveness of insulation and cause structural damage. If there does not appear to be a vapor barrier, you may want to consider painting the interior ceilings with vapor barrier paint.
- Check with your nearest home improvement or hardware store for other vapor barrier options like aluminum foils, polyethylene plastic sheeting, and roofing membranes.
- Be sure not to block your attic vents with insulation while making sure the entire attic floor is covered with at least the current recommended amount.
- Ideally, your wall cavities should be totally filled with some form of

insulation. Unfortunately, only a thermographic inspection can tell you if your walls are properly insulated throughout.

## HEATING/COOLING EQUIPMENT

Heating-related expenses account for more than one-third of the energy consumed in the place you call home. Therefore, it is extremely important that your home’s heating and cooling systems are properly functioning.

- Inspect heating and cooling equipment annually or in accordance with the manufacturer’s specifications. If your system uses filters, check and replace them as needed. Filters should be changed about every one or two months, especially during periods of heavy usage. You may also consider having a professional check and clean your equipment once a year.
- If your heating and cooling units are 15 years old or older, it may soon be time to replace them. When replacing older equipment, such as an older furnace, air conditioning unit, or even refrigerator, consider replacement with an *ENERGY STAR*-rated unit. These units typically consume at least 10% less energy than a comparable, non-rated unit.
- Check your systems’ ductwork for dirt streaks, especially near seams. This dirt indicates air leaks that should be sealed. You should also insulate any ducts or pipes that travel through