

# Auditing for Savings

An audit of a home's energy use may help many homeowners cut their home's energy use and therefore save money.

by Brenda Kleinjan

**M**ENTION THE WORD "AUDIT" AND THE FIRST thing to come to mind for many will deal with income taxes.

But, an audit of a home's energy use may help many homeowners cut their home's energy use and therefore save money.

Many local Touchstone Energy® Cooperatives include links to online energy audits, such as those found at [www.touchstoneenergy.coop](http://www.touchstoneenergy.coop) and [www.stopenergyleaks.com](http://www.stopenergyleaks.com). These tools can help homeowners quickly identify potential problem areas. And, for homeowners who really want to dig in, the audit tools can get quite specific. For example, you can enter the age of a chest deep freeze and estimate its energy use. You can then figure what the cost of a new, more efficient model would be. If the appliance is more than a dozen or so years old, the energy savings from upgrading may be significant.

While a basic energy audit is a great – and essential – start, additional tools and services are also available to homeowners.

One such tool is a blower door test. According to a the [www.sdenergysmart.com](http://www.sdenergysmart.com) Web site

recently launched by the South Dakota Public Utilities Commission and the state's utility providers, a blower door test, performed by a trained technician, measures the amount of air leakage in a building. It identifies areas where air is escaping. That's air you are paying to be warm or cool. Problems often show up around windows, doors, recessed lights and kitchen ceiling areas.

To conduct the test, a blower door device is attached to an outside door of the home. A fan on the door pulls air from the house. The technician measures the differences in pressure and calculates the leakage rate. The technician points out problem areas and tells homeowners what repairs are needed.

The Web site lists groups that are able to provide the blower door tests in the state. Among the entities that conduct the tests are regional community action groups such as Northeast South Dakota Community Action Program based in Sisseton, S.D. While NSDCAP's primarily works with low-income households, their energy audit services are also available for a fee.



**Opposite:** Member service personnel from various electric cooperatives watch as Steve Wegman of the South Dakota Public Utilities Commission demonstrates a blower door which can be used to determine how much air is leaking from a home. **Right:** Moreau-Grand Electric Cooperative Member Services Director Roger Lawien uses an infrared camera to detect areas of heat loss in a home during a training conference. Infrared cameras are among many tools that can be used in detecting ways to improve a home's energy efficiency.



## WAYS TO FIX AIR LEAKS

- Add caulk and weather stripping around windows and doors
- Insert foam insulators behind outlet and switch plate covers
- Replace old windows and storm doors with high-efficiency models. Look for the Energy Star® label, indicating the product has met strict energy-saving standards

# Home Energy Checklist for Action

## To Do Today

- Turn down the temperature of your water heater to the warm setting (120°F). You'll not only save energy, you'll avoid scalding your hands.
- Start using energy-saving settings on refrigerators, dishwashers, washing machines and clothes dryers.
- Survey your incandescent lights for opportunities to replace them with compact fluorescents (CFLs). These lamps can save three-quarters of the electricity used by incandescents. The best targets are 60-watt to 100-watt bulbs used several hours a day. New CFLs come in many sizes and styles to fit in most standard fixtures.
- Check the age and condition of your major appliances, especially the refrigerator. You may want to replace it with a more energy-efficient model before it dies.
- Clean or replace furnace, air-conditioner and heat-pump filters.
- If you have one of those silent guzzlers – a waterbed – make your bed today. The covers will insulate it and save up to one-third of the energy it uses.

## This Week

- Visit the hardware store. Buy low-flow showerheads, faucet aerators and compact fluorescent light bulbs, as needed. These can be purchased from any hardware or home improvement store. CFLs are now sold at some drug stores and grocery stores.
- If your water heater is old enough that its insulation is fiberglass instead of foam, it clearly will benefit from a water heater blanket from the local hardware or home supplies store. (To tell the difference, check at the pilot light access (gas). For electric water heaters, the best access is probably at the thermostat, but be sure to turn off the power before checking.)
- Rope caulk very leaky windows.
- Assess your heating and cooling systems. Determine if replacements are justified or whether you should retrofit them to make them work more efficiently to provide the same comfort (or better) for less energy.

## This Month

- Collect your utility bills. Separate electricity and fuel bills. Target the biggest bill for energy conservation remedies.
- Crawl into your attic or crawlspace and inspect for insulation. Is there any? How much?
- Insulate hot water pipes and ducts wherever they run through unheated areas.
- Seal up the largest air leaks in your house – the ones that whistle on windy days or feel drafty. The worst culprits are usually not windows and doors, but utility cut-throughs for pipes ("plumbing penetrations"), gaps around chimneys and recessed lights in insulated ceilings and unfinished spaces behind cupboards and closets. Better yet, hire an energy auditor with a blower door to point out where the worst cracks are. All the little, invisible cracks and holes may add up to as much as an open window or door, without you ever knowing it!
- Set your thermostat back (forward) when you can accept cooler (warmer) conditions. This generally includes night time and whenever you leave your home for several hours. Many people find it easier to use an Energy Star® programmable thermostat that will automatically adjust the thermostat based on your time-of-day instructions.
- Schedule an energy audit for more expert advice on your home as a whole, or learn how to conduct your own by visiting the Home Energy Saver Web site. (You can find a link to it from [www.stopenergyleaks.com](http://www.stopenergyleaks.com) or [touchstoneenergy.com](http://touchstoneenergy.com)).

## This Year

- Insulate. If your walls aren't insulated, have an insulation contractor blow cellulose into the walls. Bring your attic insulation level up to snuff.
- Replace aging, inefficient appliances. Even if the appliance has a few useful years left, replacing it with a top-efficiency model is generally a good investment.
- Upgrade leaky windows. It may be time to replace them with energy-efficient models or to boost their efficiency with weatherstripping and storm windows.
- Have your heating and cooling systems tuned up in the fall and spring. Duct sealing can also improve the energy efficiency and overall performance of your system (warm-air furnace and central air conditioners).