## Does Your Home Need an Energy-efficiency Checkup?

## The typical U.S. household spends almost $1,900 a year on utility bills, which takes a big bite out of the budget.[[1]](#footnote-1) Fortunately, it’s possible to cut energy bills down to size and improve year-round comfort by making small investments of time and money. But many homeowners ask where to begin.

## A home energy analysis, sometimes referred to as an energy audit or assessment, takes the mystery out of what improvements offer the biggest bang for the buck. It’s like an energy-efficiency checkup that takes a comprehensive look at a home’s walls, ceilings, floors, doors, windows, heating and cooling system, thermostat, lighting, and other energy-using appliances. Many home energy assessments take into account factors such as climate, region, age of the home, occupants living in the home, home square footage, and building materials. You’ll learn how much energy your home consumes, where the greatest energy losses occur and what steps you can take to make your home more energy efficient.

### Some utility companies offer free or discounted energy audits to customers, so be sure to inquire. Otherwise, a home energy analysis commonly is done by either the homeowner or by a hired professional. The benefit of of a do-it-yourself analysis is that it’s free and you get fast results. The advantage of using a professional service is that the analysis is officially documented, which can be useful if you want to get the home “rated” by the Residential Energy Service Network (RESNET) or ENERGY STAR® to obtain an energy-efficient mortgage, or for resale.

### Do-It-Yourself Options

Many natural gas utilities offer a free online energy assessment, so check first with your local energy provider. These assessments work similar to other online assessments discussed below.

The U.S. Department of Energy offers a basic online [**Do-It-Yourself Home Energy Assessment**](http://www.energysavers.gov/your_home/energy_audits/index.cfm/mytopic=11170). It tells you where to look for air leaks, which could be wasting 5 to 30 percent [[2]](#footnote-2)of your heating and cooling energy per year, and making your home feel drafty and uncomfortable. Examples of air leak locations include where your siding meets your chimney or behind your electrical outlets. DOE even shows you how to do a simple building air pressurization test, using incense sticks, to locate those hard-to-find air leaks. The DOE assessment explains how to evaluate whether the home has sufficient insulation and how to do a simple check to see if your home’s heating system or ductwork need attention. You’ll also learn a bit about saving lighting energy, which accounts for about 10 percent of the average home’s electric bill.[[3]](#footnote-3) This home energy analysis is qualitative only. It doesn’t give you any data on how much energy a home is using or how much you’ll save by taking steps to save energy.

Another option is the [ENERGY STAR® Home Energy Yardstick](http://www.energystar.gov/index.cfm?fuseaction=home_energy_yardstick.showStep2), which compares a home's energy efficiency to similar homes across the country and provides recommendations for energy-saving home improvements from ENERGY STAR®. Some basic information about the home (such as Zip code, age, square footage, and number of occupants) and 12 months of utility bills are necessary.

A more accurate and sophistated online energy analysis is available through the free [Home Energy Saver **™**](http://hes.lbl.gov/consumer/) tool. This tool asks you to enter your Zip code so it can provide calculated results based on your climate and local costs for energy such as natural gas and electricity. It asks detailed questions about your home’s age; type of construction; amount of insulation in attics, walls and floors; and type and condition of windows. You also provide information on your heating and cooling system, thermal delivery system (ducts or pipes, if you have a boiler), water heater, clothes washer, and refrigerator. You can save your session and come back to it, giving you time to check things like insulation level. You can even enter your actual utility bill amounts for more accurate results. The result is a detailed report of how much energy the home uses, its carbon footprint, detailed recommendations to save energy, and how much money those improvements will save.

### Professional Home Energy Audits

### A professional energy assessment offers a much more thorough analysis of a home’s energy use and recommendations for energy savings. Costs typically range from $300 - $500.[[4]](#footnote-4) But the more detailed information often pays for itself in substantially higher energy savings, and a homeowner shouldn't need another audit for 15 to 20 years.

Professional home energy audits take into account local [climate](http://en.wikipedia.org/wiki/Climate_zone) criteria, thermostat settings, roof overhang, [solar orientation](http://en.wikipedia.org/wiki/Sun_path), and up to two years of the utility billing history. The professional auditor goes through the home room by room. The analysis often involves tools, materials and resources not available to the typical homeowner. Examples include: a blower door test to determine how airtight the home is; a thermographic scan that detects air leaks and moisture problems; a combustion safety test for the heating system; plus an insulation, lighting ,and appliance survey.

There are several ways to locate professional energy assessment or auditing services. Check your telephone directory under headings beginning with the word "Energy" for companies that perform residential energy assessments.

You also can find out if [Home Performance with ENERGY STAR](http://www.energystar.gov/index.cfm?fuseaction=hpwes_profiles.showSplash)® is available in your area. Under this service, a specially trained and qualified contractor inspects your home, and recommends customized and cost-effective energy and comfort improvements.

Another option is to hire a certified Home Energy Rater, a professional trained and certified in energy efficiency, combustion safety and building analysis. This is the most detailed type of energy analysis available and will rate your home on a on a scale of 1 to 100. You can locate a home energy rater through [Residential Energy Services Network](http://www.resnet.us/directory/raters) or RESNET, a nonprofit organization that works to ensure the success of the building energy performance certification industry. RESNET’s standards are officially recognized by the federal government for verification of building energy performance. A home energy rating is a recognized tool in the mortgage industry. It can help homeowners obtain an energy mortgage that credits a home's energy efficiency in the home loan, giving borrowers the ability to buy a higher quality home because of lower monthly energy costs.

1. *U.S. Department of Energy:* [*http://www1.eere.energy.gov/consumer/tips/pdfs/energy\_savers.pdf*](http://www1.eere.energy.gov/consumer/tips/pdfs/energy_savers.pdf) [↑](#footnote-ref-1)
2. *U.S. Department of Energy: http://www.energysavers.gov/your\_home/energy\_audits/index.cfm/mytopic=11170* [↑](#footnote-ref-2)
3. *U.S. Department of Energy: http://www.energysavers.gov/your\_home/energy\_audits/index.cfm/mytopic=11170* [↑](#footnote-ref-3)
4. *Fox Business:* [*http://www.foxbusiness.com/personal-finance/2012/04/18/home-energy-audits-worth-cost/*](http://www.foxbusiness.com/personal-finance/2012/04/18/home-energy-audits-worth-cost/) [↑](#footnote-ref-4)