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FORT VALLEY STATE UNIVERSITY • COOPERATIVE EXTENSION PROGRAM

ENERGY AUDIT TIPS



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ENERGY AUDIT TIPS | 1

A home energy audit is the first step in assessing home energy consumption. Energy audits help to evaluate measures that can be taken to make home energy usage more efficient. An audit will show problems that once corrected, may save significant amounts of money over time. In addition, audits help to pinpoint where a home is losing energy and also help to determine the efficiency of a home's heating and cooling system. Furthermore, audits may also show ways to conserve hot water.

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, as well as infrared cameras, which reveal hard-to-detect areas of air infiltration and missing insulation. For a thorough energy audit contact a professional energy auditor. A non-professional can conduct a simple energy audit. The following is a guide for a do-it-yourself energy audit.

A simple do-it-yourself home energy audit is free. Keeping a checklist of areas inspected and making notes of any problems will help to prioritize energy efficiency upgrades.



Did You Know?

- Most professional home energy audits range from \$300 to \$450.
- Some energy providers will provide audits at no cost or with rebates.
- Some non-profit organizations will assist low to moderate income families with grant funding to weatherize their homes.

Locate Air Leaks (Drafts)

First make a list of air leaks. Most indoor air leaks are found around baseboards or the edge of the flooring and at the junctures of the walls and ceiling. On the outside of the home, leaks occur where two different building materials meet. Once the air leaks have been addressed, the potential energy savings can range from five to 30 percent annually. Check to see if air can flow through the following:

- ☞ Electrical outlets
- ☞ Switch plates
- ☞ Window frames
- ☞ Baseboards
- ☞ Weather-stripping around doors, fireplace dampers, attic hatches, and wall or window-mounted air conditioners
- ☞ Gaps around pipes and wires, electrical outlets, foundation seals and mail slots

Seal Air Leaks

All holes and cracks around windows and doors, siding, foundation, faucets, pipes, electric outlets and wiring should be sealed with caulk or weather-stripping to reduce air leaks in the home.



CAUTION: When sealing any home, be aware of the dangers of indoor air pollution and combustion appliances referred to as backdrafts. Backdrafts occur when various combustion appliances and exhaust fans compete for air. An exhaust fan may pull the combustion gases back into the living space. This can create a very dangerous and unhealthy situation in the home.

Ventilation

According to Flint Energies, attic ventilation prevents winter condensation and reduces summer attic temperatures.

Inadequate ventilation diminishes energy conservation and may cause structural damage to the home. Every home needs proper ventilation because various combustion appliances (clothes dryers, furnaces, ranges, etc.) and exhaust fans are competing for air. Improper ventilation can cause serious health issues and sometimes even be fatal.



Check Insulation

Heat loss through the ceilings and walls of a home can be very large if the insulation levels are less than the recommended minimum.

Be sure to check to see if the level of the attic and wall insulation is at the R value of R-30 which equates to 13 inches of insulation. This is considered the minimum recommended amount. Insulation requirements vary given

the time of construction. As a result, homes were built according to the insulation recommended during the time of construction. Given today's energy prices, and that future prices probably will be higher, the level might be inadequate, especially in an older home. In the attic, determine whether openings for items such as pipes, ductwork, and chimneys are sealed. Any gaps should be sealed with an expanding foam caulk or some other permanent sealant.

According to the U.S. Department of Energy, the recommended R-value for attics in the state of Georgia is between R-25 and R-38. Attic vents should not be blocked by insulation and there should be a vapor barrier or tarpaper under the attic insulation which reduces the water vapor that can pass through the ceiling. For basements and crawlspaces, the recommended R-value is a minimum of R-25.

Heating and Cooling Equipment

A professional should inspect and clean the equipment once a year. For homeowners with forced air furnaces, check filters and replace them as needed. Generally they should be changed about once every month or two, especially during periods of high usage. Insulate any ducts or pipes to reduce air leaks. If the unit is more than 15 years old, consider replacing it with a newer, energy-efficient unit. Also set thermostats to 68 degrees in the winter and 78 degrees in the summer.



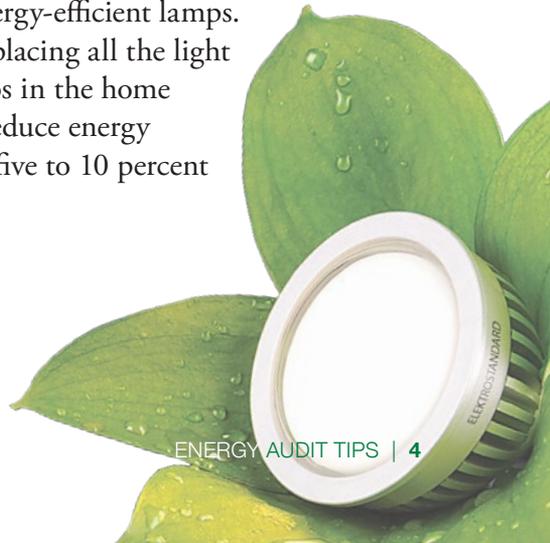
Lighting

Examine home light bulbs and consider replacing inefficient bulbs with more efficient choices such as energy-saving incandescent, compact fluorescent lamps (CFLs) or light-emitting diodes (LEDs).

When shopping for bulbs, consider the brightness of the bulbs, and look for lumens and the lighting facts label.

Electric utility may offer rebates or other incentives for purchasing energy-efficient lamps.

Replacing all the light bulbs in the home can reduce energy bills by five to 10 percent annually.



Appliances and Electronics

Electricity is wasted when turned-off appliances remain plugged into the wall. A 46-inch LCD TV alone can waste about \$11 per month in electricity when plugged in but turned off. Although there is an opportunity to save, few residents unplug entertainment systems, coffee makers, computers and printers before going to bed at night or leaving home every morning. Fortunately, there are new smart power strips that can automatically detect when electronic devices or appliances are not in use and will shut off power accordingly.

Smart power strips range \$15 to \$40, depending on their capabilities.

Homeowners can also cut costs by purchasing a new, more efficient product. Look for the Energy Star label on the appliances for the best results.



References



U.S. Department of Energy

energy.gov/energysaver/articles/do-it-yourself-home-energy-audits



Flint Energies

flintenergies.com



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