Do-It-Yourself Home Energy Audits

While a professional home energy audit is the best way to determine where your home is losing energy and where you can save, you can conduct your own simple but diligeant walk-through and spot many problems in any type of house. This "do-it-yourself" home energy audit will not be as through as a professional home energy assessment, but it can help you pinpoint some of the easier areas to address.

When walking through your home, keep a checklist of areas you have inspected and problems you found. This list will help you prioritize your energy efficiency upgrades. Do not assume that just because your home is recently constructed–or even new–that there are opportunities to save energy. Energy-saving technology has evolved rapidly over the past few years, outpacing training commonly available to many builders, including some of the most reputable.

Locate Air Leaks

First, make a list of obvious air leaks (drafts). The potential energy savings from reducing drafts in a home may range from 10% to 20% per year, and the home is generally much more comfortable afterward.

Check for indoor air leaks, such as gaps along the baseboard or edge of the flooring and at junctures of the walls and ceiling. Also check for for leaks on the outside of your home, especially in areas where two different building materials meet. Other places to check for leaks include windows, doors, lighting and plumbing fixtures, switches, and electrical outlets. Also check for open fireplace dampers.

Seal Air Leaks

You should plug and caulk holes or penetrations for faucets, pipes, electric outlets, and wiring. Look for cracks and holes in the mortar, foundation, and siding, and look for leaks around windows and doors. Seal them with the appropriate material.

Consider Ventilation

When sealing any home, you must always be aware of the danger of indoor air pollution and combustion appliance "backdrafts. Backdrafting is when the various combuston appliances and exhaust fans in the home compete for air. An exhaust fan may pull the

combustion gases back into the living space. This can obviously create a very dangerous and unhealthy situation in the home.

In homes where a fuel is burned (i.e., natural gas, fuel oil, propane, or wood) for heating, be certain the appliance has an adequate air supply. Generally, one square inch of vent opening are required for each 1,000 Btu of appliance input heat. Burn marks or soot around the appliance burner or at the vent collar, or visible smoke anywhere in the utility room while the appliance is operating, indicate poor draft. When in doubt, contact your local utility company, energy professional, or ventilation contractor

Check 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. When your house was built, the builder likely installed the amount of insulation recommended at that time. Given today's energy prices (and future prices that will probably be higher, the level of insulation might be inadequate, especially if you have an older home.

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. Seal any gaps with an expanding foam coulk or some other permanent sealant. When sealing gaps around chimneys or other heat producing devices, be sure to use a non-combustible sealant.

Inspect heating and 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 them as needed. Generally, you should change them about once every moth or two, especially during periods of high usage. Have a professional check and clean your equipment once a year.

Lighting

Energy for lighting accounts for about 10 percent of your electric bill. Examine the light bulbs in your house and consider replacing inefficient bulbs with a more efficient choice, such as energy-saving incandescents, compact fluorescent lamps (CFEs), or light-emitting

diodes (LEDs). Your electric utility may offer rebates or other incentives for purchasing energy-efficient lamps. Also look for ways to use controls such as sensors, dimmers, or timers to reduce lighting use.