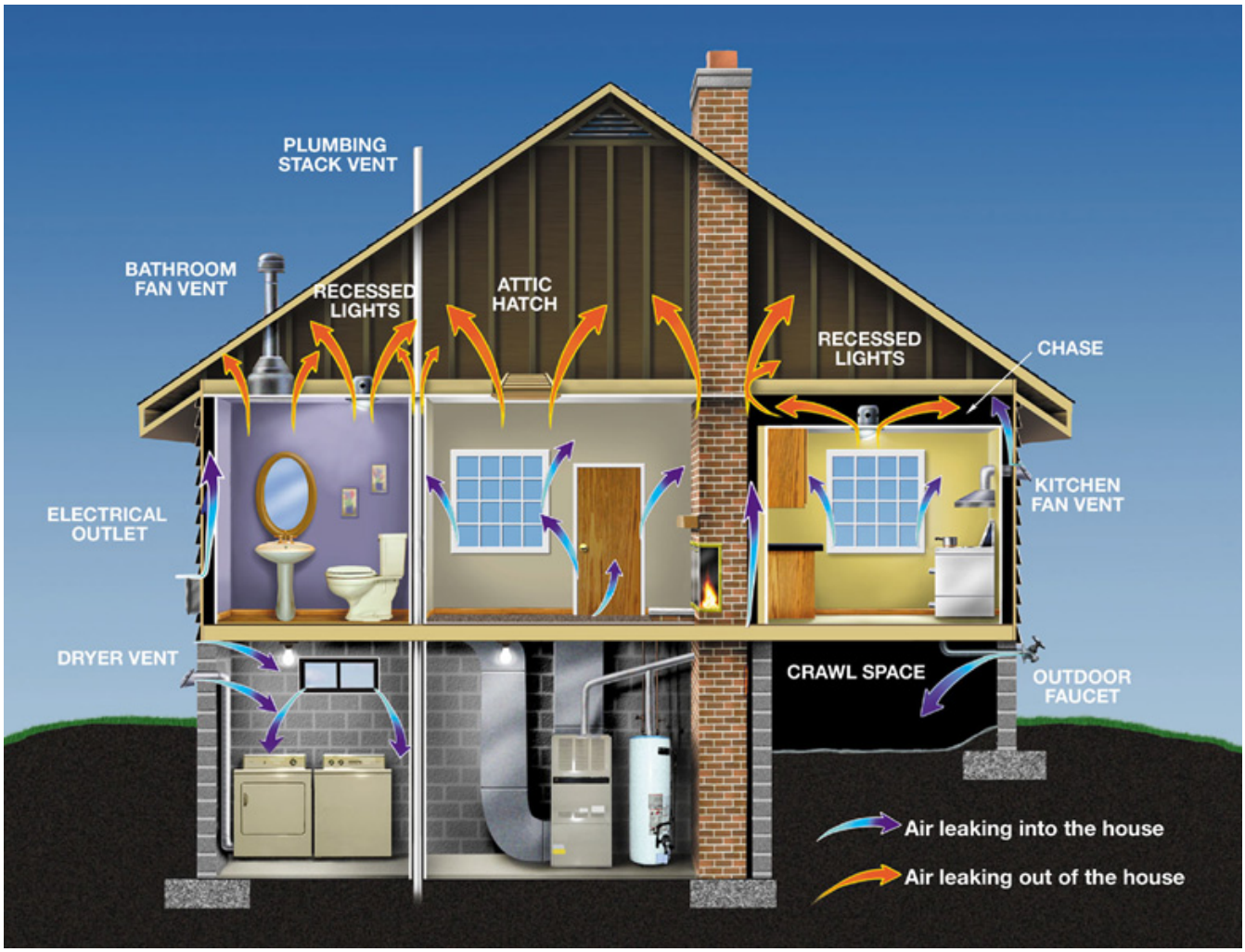
By Hannah Kerns

Source: http://yourlocalsecurity.com/manage-reduce-home-energy-usage

In the United States, most households could benefit from conserving energy. By reducing energy use they also reduce greenhouse emissions and positively impact the environment. Families will also see the positive impact of their actions in terms of their finances. On average, people can save almost $2,000 annually on the energy that they spend in their homes. In households that actively take steps to be more energy-efficient, energy bills may be as much as 40 percent lower than other homes. The impact that energy has on a typical family's finances is often a motivating factor in the decision to develop a plan to conserve energy.



In order to develop the most effective plan, it must first be determined what areas in the house are using excess energy. To accomplish this, an inspection of the home is necessary. When checking the house for areas of energy loss, start by closing off all windows, doors or anything that leads outside of the home. Shut off water heaters and gas appliances, and then turn on the exhaust fans and floor and window fans. To test for drafts, a person may use a dampened hand, a lit incense stick or a lit candle. In each room, hold the damp hand, candle or incense up to cracks, baseboards, outlets, attic hatches, doors, windows, and room corners. If there is a draft, it will make a damp hand feel cold. When using incense or a candle, a draft will cause the smoke to move. Once these draft areas have been identified, create a list of which areas are the most inefficient and the most costly in terms of energy lost. To make energy improvements, start at the top of the list and work down.

Improve Heating Efficiency

Thirty-eight percent of the energy used yearly in most homes comes from heating. By taking the right steps this can be significantly lowered. In every home, energy saving during colder months begins with setting the home's thermostat. When the home is occupied, the thermostat should be kept at sixty-eight degrees during the day. When the home is unoccupied, during the day or at night, setting the thermostat to sixty is advised. A majority of energy-saving experts recommend the use of a programmable thermostat that can make these changes automatically. When heaters are being run, monthly air filter replacement can help the heating system work more efficiently. People can naturally warm up a room by opening curtains on sunny days, even if it is cold outside; however, curtains should be drawn again during the night. Other common tips for heating efficiency include sealing heating ducts with metal-backed tape or mastic for up to twenty percent improvement in energy efficiency.

Hot Water

Hot water is one of the top three energy hogs in a home, just behind heating and cooling. The cost associated with hot water use may also be lowered by making a few simple changes. Leaks can be costly and need to be repaired as soon as possible. A new water heater is typically necessary if the old heater leaks. When replacing the old water heater, buy one that is an Energy Star energy efficient heater. People will want to adjust the temperature of their water heater so that it is not overly hot. Generally the temperature should be adjusted to around 120 degrees Fahrenheit. A person can further conserve their hot water by using warm or cold water to wash clothing, and by using an insulation jacket around the heater. Wrapping the heater

helps it to stay warmer and reduces the loss of water and energy when the heater is in standby.

Buy Energy Star Labeled Products

Energy Star is a collaboration between the U.S. Department of Energy and the U.S. Environmental Agency. Its purpose is to provide a simple way for consumers to identify products that are energy-efficient. They do this by qualifying certain products as energy-efficient. A product that is labeled Energy Star rated can help consumers use as much as ten to fifty percent less energy than products that are not Energy Star qualified. Whenever having to replace old products in the home, check for Energy Star qualified replacements.

Properly Use Appliances

At any given time, one or more appliance is running in most homes. Although most appliances are a necessity and many cannot be turned off, they can be used in an efficient manner. Set temperatures to between thirty-five and forty degrees Fahrenheit for refrigerators and at zero degrees for freezers. Keep the doors for both types of appliances closed as much as possible and regularly clean the coils beneath and behind them. When it comes to ovens and stoves, replace gas stoves with those that use automatic electric ignitions. If this is not an option, adjust the flame to blue instead of yellow. Whenever possible, avoid using ovens in favor of microwaves or small toaster ovens. Dishwashers should only be run when full, and air-dried when clean. When computers are idle, they should be shut down. Small appliances and consumer electronics, such as coffee makers and DVD players, should be unplugged to prevent phantom power loss.

Adjust Lighting

Lighting accounts for eighteen percent of the electricity that is used in the U.S. When it comes to the electricity use in homes and commercial buildings, lighting accounts for twenty-one percent of the electricity used. To improve energy efficiency in this area, people should always turn out lights in rooms where they are not needed, including outdoor lighting. Replace any incandescent light bulbs with compact fluorescent lamps (CFLs). CFLs use roughly two-thirds less energy than standard incandescent bulbs. Outdoor lighting also presents a problem in terms of excessive use, because it is often left on throughout the night, and may stay on

throughout the day as well. Sensor activated or sensor timed lights prevent this by turning on only at a certain time or whenever there is movement. Holidays are also a time when lights are overused. During the holidays, use LED lights around the home.

Caulking

Caulking is an inexpensive fix that can repair small leaks from cracks or other openings, particularly around windows and doors, and it is useful in keeping both heating and cooling costs down. To effectively caulk up trouble areas, first clean and then remove any old paint or caulk. The caulk comes in a gun-like apparatus that must be held at a forty-five degree angle during the application process. Squeezing the trigger forces the caulk out in a continuous stream along the bottom of the clean, dry crack or opening. When finished with a spot, the trigger is released and the gun moved away. Excess calk should be wiped clean with a damp rag before it dries and hardens. After twenty-four hours have passed, check the caulk to see if it has dried, and reapply if there is any shrinkage.

Cooling

To cool down the home more efficiently, there are certain steps that people should follow. Keep the house cooler during the day by closing windows, drapes and blinds to prevent the sun's heat from entering the home. Windows that face the west should be shaded either by window shades or outdoor shade trees. Shade trees should also be planted on the southernmost side of the home. In the evenings, open the windows, curtains and blinds to let in the cooler outside air. Running whole house fans at night can also help draw in the outside air. Whenever possible, avoid turning on the air conditioning. When the air conditioning is on, it should be set no lower than seventy-eight degrees.

Incorporate Sun-Tempered Superinsulated Home Features

A sun-tempered superinsulated home (SLS) is a home that is superinsulated to improve its thermal efficiency. It also incorporates passive solar power. People may incorporate some of the SLS home concepts into their own homes in order to improve energy efficiency. To mimic SLS homes, set up high activity rooms, patios, and decks so that they are oriented toward the south. Insulation should be increased throughout the home, including walls and ceilings.

Window treatments should be energy efficient. Homeowners should also create an air barrier to prevent air infiltration and to keep moisture out of wall cavities. This is done by applying an impervious membrane. In SLS homes drywall is used in what is called an air-tight drywall approach.

Resources

- Energy.gov - The New EnergySaver.gov -- Save Money by Saving Energy!
- Save Energy in Heating and Cooling
- California Energy Commission: Five Action Steps to Cut Natural Gas and Propane Use
- Forty Simple Ways to Save Energy Around the Home
- Mass Save - Energy Star Tips for Heating and Cooling Efficiently
- The Sun-tempered Superinsulated House
- American Council for an Energy-Efficient Economy: Water Heating
- How a Product Earns the Energy Star Label
- Energy Efficient Lighting PDF
- What You Need to Know About Energy ? Lighting
- Heating and Cooling: Top Five Energy Saving (and Bill Cutting) Tips
- Energy Efficient Residential Windows
- Energy Efficiency: Reduce Energy Bills, Protect the Environment (PDF)
- Home Envelope Energy Guide(PDF)
- City of Greenville - Energy Conservation
- Top Ten Home Energy Saving Tips
- Living Green ? Energy Money Saving Tips
- Home Energy Checklist: Simple Ways to Save Energy, Save Money, & Reduce Your Carbon Footprint (PDF)
- Purdue University - Saving Energy in Your Home: Lighting (PDF)
- Energy Tips - Energy Efficient Appliances
- Consumer Information - Heating and Cooling Your Home for Less