

Saving Money at Home

Buying energy-efficient appliances is good for the environment, and it can help you reduce your energy bills by 30 percent, according to the Department of Energy and the Environmental Protection Agency. When you hit the stores to buy a refrigerator or an air conditioner or even light bulbs, remember that these products have two price tags. The first is the purchase price, and the second, more important tag, is what the appliance costs you over its life. Less-efficient items may be cheaper— for now, but any savings from that lower price will get eaten by an inefficient appliances' needlessly high electric bills.

The federal government labels the most energy-efficient products through its "Energy Star" program. Any items bearing the "Energy Star" label exceed federal efficiency standards by 13 percent to 20 percent or more. Hardware, appliance and home-supply stores carry Energy Star

items, but call ahead to make sure. You also can call Energy Star, at 1-888-782-7937, or log on to www.eren.doe.gov, an Energy Department website, to locate stores.

Before you even get to a store, ask yourself the right questions so you can make the best purchase for your home. This publication is designed to help you do that. You also can get helpful information from Energy Star, or the U.S. Department of Energy's Energy Efficiency and Renewable Energy Clearinghouse, which puts out a booklet called "Energy Savers: Tips on Saving Energy & Money at Home." Call at 1-800-363-3732, or log on to its website, at www.eren.doe.gov to get a FREE copy.

Finally, when you are prepared to make a purchase, ask the sales clerk and your utility if there are any rebates available for buying efficient products.

Light Bulbs

Replace the incandescent lights you use at least four hours a day with Compact Fluorescent Lightbulbs (CFLs).

Benefits

CFLs cost more than incandescent bulbs, which you can buy for less than \$1, but such energy-efficient bulbs can last as long as 10 incandescent bulbs and save you \$25 or more over the life of the bulb— up to five years. Each fluorescent bulb that replaces an incandescent uses up to 75 percent less energy and saves a ton of carbon dioxide emissions over its life.

Things to consider

Look for CFLs that produce about the same number of lumens (the amount of light produced) that your old incandescent bulbs did. Generally, a CFL that produces the same amount of lumens will be a third to a quarter the wattage of the incandescent.

Before buying CFLs, measure the clearance in your fixtures to make sure they will accommodate such bulbs, which are bigger than incandescents. Consider buying Energy Star fixtures that can fit any CFL.

Read the labels carefully. Dimmer switches can cause an energy-efficient bulb to prematurely fail, unless a dimmer-compatible fluorescent bulb is used. Enclosed fixtures indoors, such as recessed light fixtures, can cause heat and shorten the life of the compact fluorescent bulb. Other light-control options, such as timers and motion sensors, may cause CFLs to fail also. There also are CFLs made for colder temperatures, since regular fluorescents may not produce the desired light in those environments.

Refrigerator

Refrigerators can account for as much as 15 percent of a home's total energy use. Replace yours with a new, Energy Star-labelled model.

Benefits

If your current refrigerator is more than 15 years old, buy a new, energy-efficient one and you can save between \$525 and \$1,050 over its life. The United States could eliminate the need for more than 20 large power plants if every home used the most efficient refrigerators, the federal government says.

Things to consider

Refrigerators with freezers on the side tend to use more energy than those with freezers on top, and automatic ice makers and through-the-door dispensers will increase energy usage by up to 20 percent. Refrigerators that have anti-sweat heaters eat more energy, so look for models that have an "energy saver" switch to turn off or lower heating coils, which will prevent condensation.

Also, manual defrost refrigerators use less electricity than automatic defrost models. But to keep them energy-efficient you'll have to make sure to defrost your refrigerator when frost builds up a quarter inch or more.

Generally, the larger the refrigerator, the more energy it eats. The government says the most efficient models are in the 16 cubic foot to 20 cubic foot range. If two different-sized refrigerators use the same amount of energy, the bigger one is more efficient because it's keeping the bigger space cold.

Room Air Conditioner

Buy a new Energy Star-labelled room air conditioner. In some cases it may be better to purchase a central air conditioning system, but for smaller homes or apartments, a room air conditioner does the job for less money.

Benefits

Typically, a consumer can save about \$150 over the lifetime of an Energy Star room air conditioner. In most cases an Energy Star-labelled air conditioner will have an Energy Efficiency Ratio (EER) that's more than 10, as shown on the black and yellow EnergyGuide sign.

Things to consider

An air conditioner that's too big will cool the room too quickly, leaving the air clammy and causing unnecessary wear and tear on the machine as it turns on and off frequently. The chart below, by the Department of Energy, gives rough guidelines to determine the right size, based on the area that needs cooling and the air conditioner's cooling power— the amount of heat,

Area to be Cooled (Sq. Ft.)	Capacity (BTU/HR)
100-150	5,000
150-250	6,000
250-350	7,000
350-400	9,000
400-450	10,000
450-550	12,000
550-700	14,000
700-1,000	18,000

measured in British Thermal Units (Btu), the machine can remove from a room in an hour. Increase the capacity by 10 percent if the room is very sunny. If more than two people regularly occupy the room, add 600 Btu/hour for each additional person. Increase the capacity by 4,000 Btu/hour if the unit is for the kitchen.

Look for features that make the air conditioner more efficient, such as a fan-only switch that can help ventilate the house at night and reduce air-

conditioning costs. A filter-check light will remind you to check the filter and possibly replace it after a certain number of operating hours, and an automatic delay fan switch will keep the fan running a few minutes after the compressor turns off.

Programmable Thermostat

Buy an Energy Star-labelled programmable thermostat, which keeps your house at certain temperatures at certain times of the day without you having to constantly change the setting manually.

Benefits

Energy Star programmable thermostats can cost from about \$30 to a few hundred dollars, but they pay for themselves by helping you to save up to 30 percent on heating and cooling bills. (In the winter, set the thermostat as low

as comfortably possible when you're home and at 62 degrees when you're asleep or away from home. If you have central air conditioning, you can keep your house warmer than normal in the summer when you're away and lower the thermostat to 78 degrees when you're at home.)

Things to consider

There are several different kinds of programmable thermostats, from electromechanical to digital to light sensitive, and you should use care in choosing one. When shopping for a new thermostat, bring the brand and model number of your old one. Check if the programmable thermostat you're considering is battery powered or if it draws power from the low-voltage electrical control circuit. Battery-powered thermostats will prevent the clock from being disrupted when the furnace cycles on and off.

Also, make sure the programmable thermostat is compatible with the electrical wiring found in your current home and ask if you can install it yourself or if you should hire an electrician or contractor. Look for a device that allows you to temporarily override the setting without deleting the present program, so you can immediately change room temperature if you need to. Programmable thermostats should be easily accessible for reprogramming, but keep the device out of direct sunlight, drafts, doorways, skylights and windows.

Clothes Washer

Buy an Energy Star clothes washer. It uses up to 50 percent less water and energy per load than other washers.

Benefits

Your yearly savings could be \$100 or more, depending on local energy and water rates and the amount of laundry you do.

Things to consider

Horizontal axis washers (usually front-loading machines) generally are more efficient than vertical-axis machines (top loaders). They use much less water than top loaders, and they spin faster, which leads to bonus savings because your clothes require less drying time.

Since heating water accounts for most of a washer's energy use, look for washers that have multiple water-temperature settings as well as multiple water-level options. Also, look for washers with a pre-soak option and a "suds saver" option, which reuses wash water from one load of lightly soiled clothes.

Washers come in capacities from about 1.6 cubic feet to 3.1 cubic feet, with a typical large-capacity washer at 2.7 cubic feet. The more laundry you do, the bigger the washer you want. Remember, a fully loaded washer is most efficient— but don't overload it.

In most instances, warm water and cold water with pre-soaking and proper detergents, will wash clothes just as well as hot water. Always use cold-water rinses. To save heating costs, turn your water heater down to 120 degrees.