

Home & Environment

Saving Energy and Money Appliances

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The average single family household spends \$1,900 for their utility costs per year. Appliance usage makes up a large amount of this cost, typically up to 14 percent of a household's energy demand. ENERGY STAR–approved appliances are designed for efficient energy use and can reduce energy as well as other household bills.

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Appliances

Appliances are designed to save time and money, but if an appliance is not in itself energy efficient or is operated improperly it could be wasting money. Ensuring that you have an ENERGY STAR–approved appliance is one solution; another is the proper operation, location, and maintenance of appliances. The largest energy using appliances in your household are the refrigerator, freezer, washing machine and dryer, dishwasher, stove, and microwave oven.

Refrigerator

A refrigerator can use almost \$100 worth of electricity a year. Use the following practical ways to reduce its impact on your energy bills.

- Keep the refrigerator out of direct sunlight or if it must be located against an exterior wall, choose one that does not receive direct sunlight to reduce the energy needed to keep the contents cool.
- Allow sufficient room behind, above and below the refrigerator; at least

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When you see the ENERGY STAR logo on a product, you know that it is an energy efficient product. The ENERGY STAR logo can be found on a wide variety of products including appliances, computers and electronics, heating and cooling equipment, lighting and fans, and even plumbing equipment. For more information about

ENERGY STAR visit the website at <http://www.energystar.gov/>.

Refrigerators with the freezer on top are more energy efficient than side-by-side refrigerators.

2 inches allows sufficient air movement, keeping the condenser coils cool and prolonging the life of the refrigerator.

- Make sure that the refrigerator is not located near any heating elements such as the stove or dishwasher.
- Make sure that your refrigerator door seals are airtight. Check the seal by placing a piece of paper between the door and body, then shutting the door and removing the paper. If the paper comes out easily the hinge or seals may need adjustment or replacing.
- Allow hot foods to cool before placing them in the refrigerator, and cover all liquids and foods as the moisture they release makes the refrigerator work harder.
- Keep your refrigerator around 37 degrees F and your freezer at 5 degrees F to keep your food at the appropriate temperature and avoid wasting energy on over-cooling.
- Remove any frost that accumulates.
- Instead of microwaving a frozen item to thaw it, remove it from the freezer the night before you intend to use it and place it in the refrigerator to thaw. This practice saves energy from not microwaving and reduces the amount of work your refrigerator has to do by using the cold released by the food as it thaws rather than using energy to cool the contents of the fridge.



When shopping for a refrigerator, there are a couple of things to keep in mind. Refrigerators with the ENERGY STAR label use at least 20 percent less energy than the current federal standards require. Models with an automatic moisture control feature reduce the cost of operation of the refrigerator by preventing the need for heating elements in the unit to remove condensed moisture from the outside of the refrigerator. Refrigerators with the freezer on top are more energy efficient than side-by-side refrigerator/freezers.

Freezer

If you use a stand-alone freezer, use the following methods to reduce energy use.

- Make sure the seal on the door of your freezer is airtight.
- Keep a stand-alone freezer in a cool place, such as the basement or garage.
- Maintain the temperature at 0 degrees F for long-term storage; otherwise keep the temperature at 5 degrees F.

Washer and Dryer

Washers and dryers can use almost \$80 worth of electricity each year. For a top-loading washer, 90 percent of that is used in heating water. The following methods will help reduce the cost of operating your washer and dryer.

- Use cold water whenever possible when washing clothes.
- Wash full loads or, if you cannot, set the water level setting to an appropriate level.
- Make sure that your clothes have gone through a full spin cycle. The less water in your clothes the less energy your dryer uses.
- Clean out the lint filter in your drier after every use.

- Use the moisture sensor, if your machine has one, to stop the dryer when the clothes are dry and prevent over drying.
- Use a drying rack or clothesline to dry clothes.

When shopping for a washing machine, look for an ENERGY STAR–approved machine as it uses half the energy of regular washers and usually half the water as well. Also look for a dryer that has a moisture sensor that can turn off the dryer when your clothes are dry. This feature saves energy and extends the life of your clothes.

Dishwasher

Dishwashers use close to \$50 worth of electricity per year, most of which is used to heat water. The following simple guidelines will help you save on both energy and water costs.

- Do not rinse your dishes unless food is dried or burned on; instead, scrape large food items off and just place the dish in the dishwasher. Modern dishwashers are made to remove food debris.
- Make sure to remove fats, oils, and grease (FOGs) from your dishes and pans before washing; they can clog drains and reduce the effectiveness of your dishwasher.
- Only wash full loads.
- Let your dishes air dry by either using the air-dry switch on the dishwasher or by propping the dishwasher door open slightly.

Stove and Oven

An electric range and oven can cost over \$50 in electricity per year to operate. To help reduce its impact on your bills, make the following changes.

- Cover the pot when boiling water. The water will boil faster and use less energy.

- Keep burners and reflectors clean. They will be more efficient, cook faster, and save you money.
- Make sure to match your burner to your pot size. If you use a burner that is too large for the pot you are using, heat and energy can be wasted. Using a 6-inch pot on an 8-inch burner wastes 40 percent of the energy that the burner is generating.
- Use a toaster oven or microwave instead of the oven for small meals. A toaster oven only takes a third to half as much energy to heat up as an oven.
- If using a natural gas range, make sure your flames are blue. Yellow flames mean gas is being wasted and your range may need to be serviced.

When purchasing a new stove or oven be aware that there are currently no ENERGY STAR–approved models because there is not a large discrepancy in energy usage between models. When buying a new stove or oven look for the Energy Guide label; it will give you an estimate for the annual costs of operating the appliance. When buying a natural gas stove, look for a model that has an electrical ignition system instead of a pilot light. A pilot light is constantly using natural gas, but an electric ignition system only uses energy when you light the stove.

Microwave Oven

Microwave ovens typically cost less than \$20 a year to operate. They can use as much as 80 percent less energy than a conventional oven and do not add additional heat to the home, saving on cooling costs in the summer. With this large energy savings, small meals and leftovers should be cooked in a microwave oven. Be aware that microwave ovens are not approved by ENERGY STAR as there is not a large variation in the amount of energy consumed between models.

ENERGY STAR–approved
dishwashers use 41 percent
less energy than the
federal standard and use
less water as well.

Shopping for Appliances

You should understand some general concepts before shopping for a new appliance. These concepts include understanding the “total cost” of an appliance, what an ENERGY STAR label means, and how to read an Energy Guide label.

Total Cost

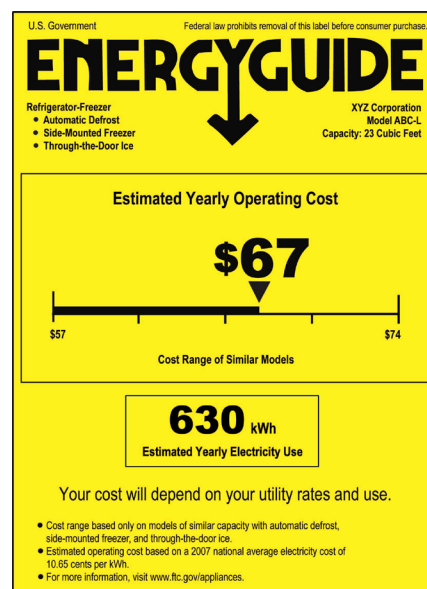
The total cost of an appliance is not just the price you pay when you purchase the appliance, but also includes the cost of using the appliance throughout its lifetime. Think of the total cost of the appliance as being three price tags. The first price is how much the appliance is to take home, the second price is how much it will cost to use the appliance over its life, and the third price is the total of the previous two. The life span of an appliance can be up to 20 years, so choosing an appliance that is less expensive to operate can save you money in the long term, even if the initial cost is higher.

ENERGY STAR

Buying an ENERGY STAR–approved appliance can contribute to significant savings over the lifetime of the product, so be sure to look for the ENERGY STAR label when shopping for a new appliance.

Energy Guide Label

Energy Guide labels can be found on all major appliances including refrigerators, refrigerator/freezers, freezers, water heaters, dishwashers, clothes washers, room air conditioners, and furnaces. The program is run by the U.S. Federal Trade Commission and gives an estimate of the appliance’s annual operation costs and its energy usage.



Energy Guide labels allow you to compare operating costs between models of an appliance, making you a better consumer and saving you and your household money each year. However, remember: Just because an appliance has an Energy Guide tag doesn’t mean it is an ENERGY STAR–approved appliance.

Sources

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- eXtension.org. 2010. How to Select Home Appliances that Save Energy and Money. Available at http://www.extension.org/pages/How_to_Select_Home_Appliances_that_Save_Energy_and_Money (accessed 12 mar. 2010). www.eXtension.org.

**Average Life
Span of Appliances**
Dishwasher - 10 years
Washing machine - 11 years
Refrigerator - 14 years
