



Choosing efficient refrigerators and dishwashers

FACT SHEET



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Your kitchen is a veritable hot spot of energy use. Refrigerators, microwaves, ranges, stoves, dishwashers and lighting are just some of the equipment that fills a modern kitchen. By far, the most important in terms of energy use, however, are your refrigerator and dishwasher.

REFRIGERATORS

Today's refrigerators are much more efficient than those made in the early 1990s. Federal efficiency standards that became effective in 1993 and 2001 have cut refrigerator energy use in half.

New refrigerators also offer more features and benefits. They chill food faster, offer electronic controls and sport convenient pull-out shelves. Improved defrosters help prevent freezer burn, and more precise temperature control means food stays fresh longer.



Choose the type of refrigerator carefully. Side-by-side refrigerators use much more energy than comparably sized top-freezer units. Bottom-freezer units use slightly more energy than top-freezers, but much less than side-by-sides.

Get the features that are right for you, but be knowledgeable about energy costs. Automatic icemakers and through-the-door water dispensers can increase operating costs 14 percent to 20 percent. Buying an ENERGY STAR qualified unit can help reduce these costs.

ANNUAL OPERATING COST			
REFRIGERATORS	TOP FREEZER (AUTO DEFROST)	SIDE-BY-SIDE (AUTO DEFROST)	BOTTOM FREEZER (AUTO DEFROST)
Typical 1970s model	\$331	\$422	\$371
Typical 1980s model	\$211	\$269	\$236
Typical 1990s model	\$90	\$114	\$94
Current federal standard	\$54	\$64	\$58
ENERGY STAR standard	\$45	\$53	\$47

Based on energystar.gov's Refrigerator Retirement Savings Calculator

Buying tips

You'll need to balance features, size, type and energy costs when you buy a new refrigerator:

Buy ENERGY STAR. Units marked with the ENERGY STAR are at least 20 percent more efficient than federal standards and provide the same features and benefits as non-qualifying models, like icemakers, side-by-side design and through-the-door water and ice dispensers—while using less energy.

Select size based on practicality and energy costs. Select a unit with sufficient storage space that fits in the available space, with room for air circulation. Bigger units use proportionally more energy, but you'll save if you can get rid of a second refrigerator by purchasing a larger unit that can handle all your needs.

Operating tips

Once you've bought your dream fridge, follow a few simple guidelines so that it saves the energy it was designed to.

- Keep the unit at reasonable temperatures. Set the refrigerator at 38°F and the freezer at 0–5°F.
- Maintain the seals.
- Make sure air can circulate around the coils.
- Locate the unit away from heat producing appliances such as stoves and dishwashers.

If you have an older refrigerator in your basement or garage, it could be costing you over \$100, per year to keep it running. That is a stiff price to pay to keep extra beverages cool. The U.S. Department of Energy recommends that consumers do one of the following:

- Retire and recycle pre-1993 refrigerators permanently.
- If you only need extra food storage around the holidays or special events, you could keep the old refrigerator but only plug it in when needed. Leaving it off for 10 months of the year can save nearly \$85.

FACTOID

A new ENERGY STAR qualified refrigerator uses less energy in one year than a 75-watt light bulb run continuously.



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- For families that truly need a second refrigerator year round, replace the old one with a new ENERGY STAR® unit and save over \$55 per year. Pick the smallest size to maximize savings. If you only need a little bit of extra space, a qualified compact refrigerator might be the best choice and you'll save even more—over \$70 per year.

DISHWASHERS

Dishwashers made since 1994 have reduced hot water use by about 30 percent, to 7 to 10 gallons per load. A new ENERGY STAR qualified dishwasher saves nearly 5,000 gallons of water per year, compared to washing dishes by hand.

ANNUAL OPERATING COST		
DISHWASHERS	GAS WATER HEAT	ELECTRIC WATER HEAT
Typical 1970s model	\$57	\$104
Typical 1980s model	\$43	\$77
Typical 1990s model	\$36	\$64
Current federal standard	\$35	\$42
ENERGY STAR standard	\$27	\$35
based on 264 loads per year and \$0.1068 per kWh		

Buying tips

Many dishwashers have an air-dry feature that saves energy by turning off the heating elements and using a small fan to circulate room air through the dishwasher to dry the dishes. Most also have several wash cycles, such as a short cycle that uses less water when the dishes aren't very dirty. New dirt-sensing technologies are also available.

Follow these guidelines to get the most for your money:

Look for the ENERGY STAR. ENERGY STAR qualified units—the most efficient models available—use 41 percent less energy than required by federal standards, primarily by using less hot water.

Buy a unit with a booster heater. Many dishwashers have an internal water heater that boosts the temperature to 140°F, the temperature recommended for the best cleaning results. This lets you keep your water heater at a lower temperature (120°F), saving energy and money.

Operating tips

Following a few operating guidelines will help you minimize the cost of washing dishes.

- Use the energy saving features. Choose the short cycle option if your dishes aren't too dirty. Select the air-dry feature as well.
- If your dishwasher uses a booster heater, check the hot water temperature. Lower the water heater temperature setting so it's no higher than 120°F.
- Don't pre-rinse dishes. Just scrape off extra food and liquids and put the dishes in the dishwasher. Don't waste hot water doing what the dishwasher is designed to do.
- Wash full loads. The dishwasher uses the same amount of water empty or full. Wait until you have a full dishwasher to conserve energy and water.
- Follow the manufacturer's instructions on proper loading of dishes for the best cleaning results.

FOR MORE INFORMATION

focusonenergy.com

Contact Focus on Energy to learn more about smart energy choices.

energystar.gov

The ENERGY STAR site provides information on energy efficient products that meet ENERGY STAR standards. Find out how much your old refrigerator is costing you by using the Refrigerator Retirement Savings Calculator.

aceee.org

The American Council for an Energy Efficient Economy maintains a current list of top-rated energy efficient appliances.



Rely on this logo to guide you to an energy efficient kitchen.

DO YOU OWN AN ENERGY WASTER?

Refrigerators

Here are four ways to tell if your refrigerator is an energy hog.

- It was made before 1993. Federal standards that became effective in 1993 and 2001 improved energy efficiency enormously. To find the date of manufacture, look for the nameplate inside the refrigerator. If you can't find the nameplate inside, the unit was probably made before federal standards came into effect.
- It's green, gold or brown. These units date back to the 70s and 80s, when refrigerators used much more energy than today.
- The unit runs all the time. It's probably broken. A properly operating refrigerator runs about half the time.
- It uses 220 watts or more when running. Borrow a watt meter from your local library to find out the operating wattage.

Refrigerators can last 30 years. If your unit wastes energy, consider replacing it with a new, energy efficient ENERGY STAR qualified unit.

Dishwashers

Big energy improvements were made in 1994. If your dishwasher is 10 years old or older, it's ready for replacement and you'll benefit from the energy savings and new features. Check the nameplate to find the manufacture date.