

Energy Efficient Homes: Appliances in General¹

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Quick Facts

- The average annual energy cost of a home is about \$1,900 and appliances are a major part of home energy use (ENERGY STAR®, n.d.).
- By using appliances with energy saving features, you can save up to \$80 in your energy cost every year (ENERGY STAR®, n.d.).
- Some utility companies even have buy-back programs for old appliances.

Let's face it—that 1980s refrigerator of yours may still keep your food cold, but it has to work awfully hard to do its job, it runs constantly, and you can feel the heat from its coils making your kitchen even hotter in the summer; and your aging laundry appliances aren't helping matters because you have to run your dryer for at least an hour and a half just to get your towels dry; then there's the steam rising from the dishwasher during its drying cycle and you find yourself wishing it had a no-heat-drying option button you could press as you wipe your brow and notch your air conditioning thermostat down a couple of

notches—your appliances are costing you money long after you've paid for them. Isn't it time they started paying you back for a change?

When shopping for appliances, remember that there are actually three prices involved. The first is the one everyone thinks of: the *purchase price*. The second price is for repairs and maintenance. But there's a third price, one that's just as important: the operating cost of the appliance. Operating cost will depend on the cost of fuel (kilowatt-hour, cubic foot, therm, etc.) in your region, how much you use the appliance as well the way you use it, and the overall energy efficiency of the appliance. Operating cost shows up on your utility bill each month for the life of the appliance: your refrigerator, for example, may operate effectively for 15–20 years; your dishwasher, about 10 years. You'll need to consider how any given appliance will affect your utility usage.

Naturally, you want your total expenditure to be as low as possible! But remember to think long term: an energy efficient appliance may have a higher purchase price—but your operating costs could be significantly lower, and often, the maintenance/repair

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costs on a new appliance can be lower, too. Check consumer advocacy print and Internet sources for information such as repair history and maintenance needs.

What should I look for when seeking an energy efficient appliance?

There are two key elements that you need to look for when you shop for an energy efficient appliance: the ENERGY STAR® logo and the *EnergyGuide* label.

What is an ENERGY STAR® logo?

ENERGY STAR® is a name of a joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) that aims to assist money savings and environmental protection by promoting energy efficient products and practices. Highly specific minimum standards and testing procedures of each type of product set the bar for meeting strict energy efficiency guidelines set by the EPA and DOE. If a product meets or exceeds the minimum standards, the product earns the ENERGY STAR® and can then be promoted as such (Figure 1).



Figure 1. Sample ENERGY STAR® logo for authorized products only Credits: <http://www.energystar.gov>

Typically, ENERGY STAR® qualified appliances use 10–50% less energy and/or water than their counterparts.

Do all type of appliances have ENERGY STAR® guidelines or specifications?

No, not all appliance types are eligible to earn the ENERGY STAR®. For example, you will not see a clothes dryer bearing the ENERGY STAR® logo

because there is little quantifiable difference in energy use between models. Currently, only the following six appliance types have ENERGY STAR® guidelines:

- Clothes washers
- Dehumidifiers
- Dishwashers
- Refrigerators and freezers
- Room air-conditioners
- Room air cleaners

However, manufacturers of these and many other appliance types must provide potential buyers pertinent information regarding a given product's energy consumption on the standardized *EnergyGuide* label.

What is the EnergyGuide label?

The *EnergyGuide* label (Figure 2) is a bright yellow tag that the Federal Trade Commission developed to help consumers more easily compare energy efficiency among similar products.

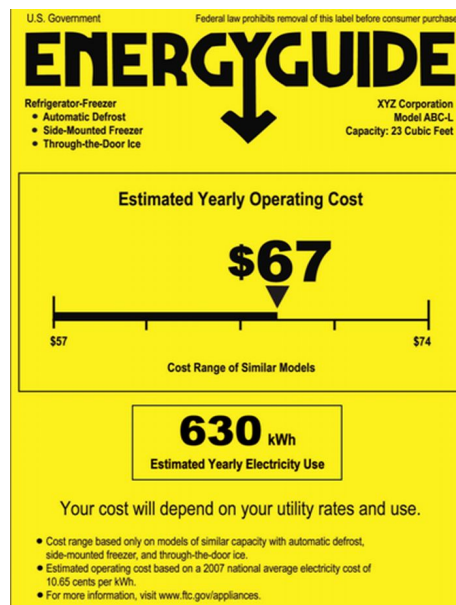


Figure 2. Sample *EnergyGuide* label Credits: <http://www.ftc.gov/opa/2007/08/energy.shtm>

Will I see the EnergyGuide labels on all products that use energy?

No, not all products are required to present the *EnergyGuide* labels. The Federal Trade Commission's Appliance Labeling Rule (implemented in 1980) requires the placement of the *EnergyGuide* labels on any new product in the following product lines:

- Refrigerators
- Refrigerator-freezers and freezers
- Dishwashers
- Clothes washers
- Central air conditioners
- Room air conditioners
- Water heaters (some types)
- Heat pumps
- Furnaces
- Lighting products
- Fluorescent lamp ballasts
- Plumbing products

What will the EnergyGuide label tell me?

EnergyGuide labels for appliances contain three key pieces of information. First, the labels show the energy consumption or energy efficiency rating of the appliance, as determined from standard U.S. Department of Energy tests. Second, some labels include a “range of comparability” indicating the highest and lowest energy consumption of efficiencies for all similar models. Third, labels for most appliances must provide estimated annual operating cost. Manufacturers arrive at this estimate by basing their calculations on figures published by the U.S. Department of Energy.

Remember, the *EnergyGuide* labels won't tell you the best appliance to buy, but they do provide a lot of information to help you in your decision making. They also help consumers assess the

trade-offs between the energy costs of their appliances and other expenditures.

Make sure you compare similar models with similar capacities. For example, comparing one top-loading clothes washer with another top-loader that handles the same sized batch of laundry will help you make a more informed decision than comparing models that lack such similarities.

Does an appliance with an EnergyGuide label also mean that it's ENERGY STAR® qualified?

No, just display of an *EnergyGuide* tag does not mean the appliance is ENERGY STAR® qualified. Some manufacturers are incorporating the voluntary ENERGY STAR® logo on their qualified appliance *EnergyGuide* labels, but if you don't see the ENERGY STAR® logo on the bright yellow *EnergyGuide* tag, investigate further—the ENERGY STAR® logo might be on the appliance itself, or perhaps the item hasn't earned the ENERGY STAR®.

What are some other, more general energy-saving tips for appliances?

If you want to keep your current appliances at their top efficiency, use the appliances as indicated in the product manuals, take care to avoid overrunning the appliances, and follow a regular maintenance schedule. When considering a new appliance, you can maximize your savings by also:

- determining how much energy a certain appliance uses by using the U.S. Department of Energy's Web site at http://www.eere.energy.gov/consumer/your_home/appliances/index.cfm/mytopic=10040;
- checking with your local utility company to see if they offer rebates or incentives for the purchase of energy efficient appliances (a rebate makes that energy efficient dishwasher or refrigerator an even more attractive buy, *and* some utility companies even pay you to turn in older working inefficient models);

- checking out the ENERGY STAR® Web site at http://www.energystar.gov/index.cfm?fuseaction=rebate.rebate_locator to determine if there are any special offers or rebates available from ENERGY STAR® partners; and for potentially more savings,
- visiting the Database of State Incentives for Renewables and Efficiency (DSIRE) Web site at <http://www.dsireusa.org/>.

Further Resources

American Council for an Energy-Efficient Economy. *Consumer Guide to Home Energy Savings: Online Guide* <http://www.aceee.org/consumerguide/>

Federal Trade Commission/Federal Register. April 11, 2008. *Rule Concerning Disclosures Regarding Energy Consumption and Water Use of Certain Home Appliances and Other Products Required Under the Energy Policy and Conservation Act (“Appliance Labeling Rule”); Final Rule.* <http://www.ftc.gov/os/2007/08/070807appliancerule.pdf>

University of Florida *Energy Efficient Building Construction in Florida*, SP 267, Gainesville, FL.

References

ENERGY STAR®. (n.d.) *Appliances*. Retrieved on May 22, 2008 from http://www.energystar.gov/index.cfm?c=appliances.pr_appliances.