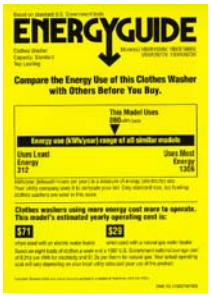
Appliances

When purchasing new appliances, make sure you look at the EnergyGuide label. Although these labels will not tell you which appliance is the most efficient, they will tell you the annual energy consumption and operating cost for each appliance so you can compare them yourself.



EnergyGuide labels show the estimated yearly electricity consumption to operate the product along with a scale for comparison among similar products. The comparison scale shows the least and most energy used by comparable models. The labeled model is represented by an arrow pointing to its relative position on that scale. This allows consumers to compare the labeled model with other similar models. The consumption figure printed on EnergyGuide labels, in kilowatt-hours (kWh), is based on average usage assumptions and your actual energy consumption may vary depending on the appliance usage.

EnergyGuide labels are not required on kitchen ranges, microwave ovens, clothes dryers, on-demand water heaters, portable space heaters, and lights.

Some appliances also may feature the EnergyStar logo, which means that the appliance is significantly more energy efficient than the average comparable model. For more information on the EnergyStar program, operated by the Department of Energy and the Environmental Protection Agency, visit the EnergyStar website at www.energystar.gov.

Refrigerators & Freezers
Refrigerators particularly have benefited from recent advancements in energy efficiency: the average refrigerator today is at least two to three times as efficient as the average model of 10 or more years ago.

Choosing a refrigerator and freezer
Buy the appropriate size for your needs. Too large a refrigerator, besides costing more than a smaller model, wastes space and energy. Too small a model leads to extra trips to the store. When faced with buying a second refrigerator, note that it is much less expensive to buy and operate one refrigerator than two smaller refrigerators.

Chest freezers are typically 15-20 percent more efficient than upright freezers because they are better insulated and cold air doesn't spill out when they are opened.

Manual defrosting refrigerators use less electricity than automatic defrost models, but they are not widely available in large sizes. Manual defrost models also must be defrosted on a regular basis to maintain their efficiency.

Manual defrost freezers are more common than automatic defrost models and generally do a better job of storing food. Since the freezer is opened less frequently than a refrigerator, frost builds up more slowly.

Features such as automatic icemakers and through-the-door dispensers can increase energy consumption and frequency of repairs.

Installation
Air must circulate freely around refrigerator/freezer condenser coils so they can give off heat. The unit also will fail to lose heat properly if it is located in direct sunlight or next to the dishwasher or stove/oven.

Although refrigerators and freezers should be located in a somewhat cooler area, during the winter they should be in heated space — at least 60 degrees Fahrenheit for best operation. Never locate an automatic defrost freezer in an unheated space.

Operation and maintenance
Consult your owner's manual for specific instructions. Remember, keeping the refrigerator in good condition, and cleaning the food compartments as well as the refrigerator coils, are major factors in the efficient operation of a refrigerator.
Temperature inside the refrigerator should be about 38 degrees Fahrenheit or a little lower; the freezer compartment should be about 0 to 5 degrees Fahrenheit. Place thermometers in each

compartment; if the temperature varies significantly from the thermostat settings, the refrigerator or freezer probably needs attention.

On manual defrost models; do not allow more than a quarter-inch of ice build-up in the freezer or freezer compartment before defrosting.

Try to avoid keeping old refrigerators in the garage or basement for extra storage since these older models consume much more electricity. If you must have a second refrigerator, turn it off when it's not in use. Be sure to chain the door shut or turn the door to the wall to make sure children can't climb in.

Many automatic defrost refrigerators have small heaters built into the walls to prevent moisture from collecting on the walls when humidity is high. Some models have a switch that allows you to turn the heaters off to reduce energy use during periods of low humidity when there is little frost build-up.

Make sure refrigerator and freezer doors shut tightly. Test by closing the door or doors on a piece of paper and then trying to remove it. If the paper pulls out easily, heat is leaking into the appliance and new seals are needed. Since new seals are not cheap, this may be a good time to evaluate whether to buy a new refrigerator or freezer.

Cleaning

Condenser coils are located in the back of older refrigerators and at the bottom of most new ones. They should be periodically cleaned with a vacuum or brush. Be sure to unplug the refrigerator when cleaning the coils. The coils on freezers also should be cleaned regularly.

Dishwashers

Automatic dishwashers should last a decade or more, here too, you often can save money by buying a newer energy-efficient unit.

Brand new units can be bought for $400 to $600, while repairs of various operating mechanisms typically run $150 and up. If your dishwasher is getting near the 10-year mark, a major repair may be a signal that other components are failing. It won't take many service calls to pay for a brand new unit.

Toilets

Unless you crack the porcelain, a toilet can easily last a lifetime. What will wear out are the flushing mechanisms comprised of moving parts. Leakage may occur from the wax ring seal by the floor, but that can be fixed short of replacement.

Toilets commonly are replaced for reasons other than malfunction. Water conservation is one. Modern toilets operate with 1.6 gallons per flush or less, compared with 3.5 gallons per flush for older standard models. Very old models still in use may use as much as 5 gallons or 7.5 gallons per flush. Depending on water and sewer rates, sometimes you can save money by replacing a toilet.

Bibliography

- Source: http://www.eere.energy.gov/consumer/
- City of Chicago, Department of Environment

- Grateful acknowledgement is given by the Department of Commerce and Economic Opportunity to the City of Chicago for the use of this document.