



use energy-efficient appliances in your home

overview

In the market for a new major appliance? Learn about the energy-efficient features to look for, and how to use the ENERGY STAR® symbol and EnerGuide label when shopping for a new appliance. Plus you'll learn the electricity costs of the home appliances you already have and Power Smart tips you can use to save money.

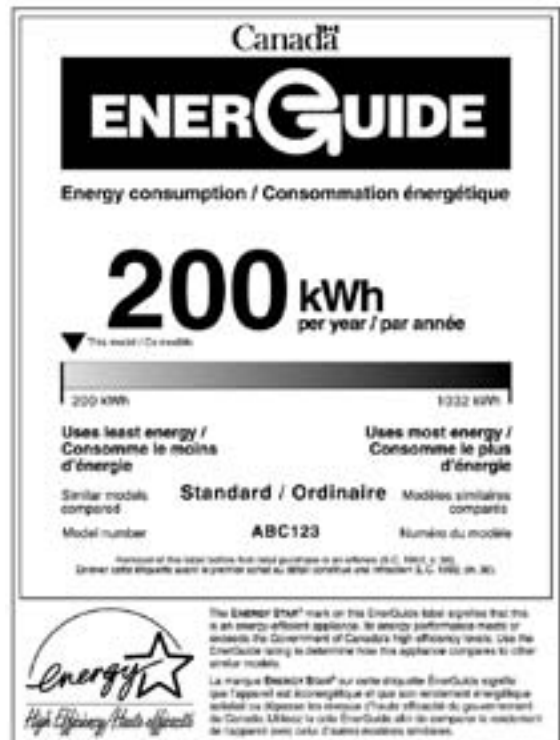
It's Power Smart to buy ENERGY STAR®

Look for the ENERGY STAR symbol on the most energy-efficient refrigerators, freezers, dishwashers and clothes washers.

While EnerGuide tells you how much energy the appliance uses, ENERGY STAR tells you which are the most energy-efficient.



and identifies specific models that meet or exceed premium levels of energy efficiency. The ENERGY STAR symbol may even appear on an EnerGuide label:



EnerGuide and ENERGY STAR – a winning team

The international ENERGY STAR symbol complements another important energy efficiency initiative: Canada's EnerGuide Program. EnerGuide allows you to compare the energy efficiency of the many different models of household appliances or heating and cooling products sold in Canada. Before a major household appliance can carry an EnerGuide label, the appliance must be tested for its energy performance. These tests establish how much energy the appliance consumes under average conditions and whether it meets minimum energy-efficiency standards set out by the Energy Efficiency Act.

For some of these products, ENERGY STAR goes one step further

How to read the EnerGuide label

Number

The large number is an appliance's estimated annual energy consumption, which is measured in kilowatt hours (kWh) per year.

The label on page 1 indicates that the appliance model number ABC123 uses 200 kWh per year under typical home use conditions.

Bar

The shaded bar scale displays the energy-consumption range for appliance models of this type and size. The figure at the left end of the scale indicates the lowest energy-consumption rating; the figure on the right indicates the highest.

Arrow

An arrow just above the bar scale shows where the appliance ranks relative to similar models.

ENERGY STAR® Symbol

The ENERGY STAR symbol accompanies the EnerGuide label only on appliance models that achieve premium levels of energy efficiency, based on specific criteria endorsed by Natural Resources Canada (NRCan).

Type

The type indicates the size range of appliances in the same category. When comparing appliances, it's important to compare models of the same type. That way, you're comparing "apples" to "apples".

Two "price tags"

Although energy-efficient appliances sometimes cost more initially, the energy savings on your electricity bill can often make up for the high initial cost. One way to look at whether purchasing energy-efficient appliances makes sense for you is to think of the appliance as having two price tags. The first price tag is the price that you will pay to purchase the appliance. The second price tag is the cost to operate the appliance over its lifetime. When both are considered, what seemed like a good deal in the store may end up costing you a lot to operate.

Consider the total cost

An appliance's life-cycle cost is the most realistic measure of its true cost, because it takes into account the purchase price and the operating cost. Operating costs could easily equal the original cost of the appliance, so it is important to find an appliance that will cost the least to operate and still meet your needs. The green box below shows you simple calculations to estimate the actual long-term cost of an appliance.

Step 1 Cost of energy x kWh per year = estimated annual energy cost

Note: The cost of energy equals 7¢ per kWh and you'll find the kWh per year number on the EnerGuide label. Example: 0.07 x 200 kWh = \$14

Step 2 Purchase price + (average lifespan x estimated annual energy cost) = Total life-cycle cost

Step 3 Total life-cycle cost ÷ average lifespan = average annual expense for appliance

ENERGY STAR appliances

Appliances that have the ENERGY STAR symbol offer many advantages.

Refrigerators

- Exceed minimum Government of Canada energy efficiency standards by at least 15 per cent.
- Are better insulated, have high efficiency compressors and improved heat transfer surfaces.
- Have more precise temperatures and defrost mechanisms.

Freezers

- Standard-size freezers must exceed minimum Government of Canada energy efficiency standards by at least 10 per cent.
- Compact freezer models must exceed minimum Government of Canada energy efficiency standards by at least 20 per cent.

Clothes washers

- Use 35–50 per cent less water than traditional models, saving 60 to 80 litres of water per load.
- Use at least 50 per cent less energy per load than other washers.
- Have sensors that prevent energy waste by matching water needs to the size of each load.
- Have advanced high-speed motors that reduce the length of spin cycles and remove more water from clothes, so less time and energy are needed for drying.

Dishwashers

- Achieve energy efficiency levels that are at least 25 per cent higher than the minimum regulated standard in Canada.
- Save energy by using improved technology and less hot water.
- Feature sensors that calculate the required length of washing cycles and the appropriate water temperatures needed to clean each load.
- May have built-in heating elements that save water-heating costs.

Other major appliances

Here are some buying tips and energy-efficient features to look for when purchasing other major appliances.

Dryers

- Choose a full-size dryer that has a moisture sensor to prevent over-drying. This sensor will trigger an automatic shut-off when clothes are dry.
- Look for the perma-press or "cool down" cycle, which will shut off heat during the end of the cycle, saving energy.



Ranges

- Consider models with a self-cleaning oven, as they have more insulation, resulting in greater efficiency. If you clean your oven only two or three times a year, a self-cleaning unit will likely save energy compared with a regular oven.
- Look at purchasing a convection oven. With heated air continuously circulated around food, the even heat distribution and temperatures mean faster cooking times.
- If you are a cook who likes to peek in the oven, buy a model with a window.

Comparing Operating Costs

	Average kWh used each year (kWh)	Average kWh used each month (kWh)	Monthly cost at 7/kWh (\$)
Refrigerator and freezer			
• Old refrigerator (10 cu. ft.) with manual defrost	479	40	2.80
• ENERGY STAR labelled manual defrost refrigerator (10 cu. ft.)	295	28	1.96
• Old frost-free refrigerator-freezer (16-18 cu. ft.)	1044	87	6.09
• ENERGY STAR auto-defrost refrigerator-freezer (16-18 cu. ft.)	450	38	2.66
• Old chest-type freezer manual defrost (12-15 cu. ft.)	658	55	3.85
• ENERGY STAR chest-type freezer (12-15 cu. ft.)	326	27	1.89
• Old upright freezer manual defrost (12-15 cu.ft.)	992	83	5.81
• ENERGY STAR upright freezer manual defrost (12-15 cu.ft.)	524	44	3.08
Cooking			
• Electric range: (usage varies widely)			
— manually cleaned oven	784	65	4.55
— self-cleaning oven (1 cleaning/month)	754	63	4.41
• Microwave oven (30 min./day at full power)	218	18	1.26
• Electric frying pan (12 times per month)	140	12	0.84
• Coffee maker (40 times/month)	117	10	0.70
• Toaster oven (12 hours/month)	250	21	1.47
• Dishwasher (energy to heat water)			
— using dry cycle (1 time/day)	270	22	1.54
— without dry cycle (1 time/day)	120	10	0.70
Laundry			
• Dryer (1 load/day)	910	76	5.32
• Top-loading washer (33 loads/month, including electrically heated hot water)	881	73	5.11
• Front-loading washer (33 loads/month, including electrically heated hot water)	264	22	1.54
• Iron (2 hours per week)	104	9	0.63
Lighting			
• Four 100-watt incandescent lamps, lit for 5 hours every day	730	61	4.27
• Two 40-watt fluorescent lamps in a fixture, lit for 5 hours every day (provide light equal to four 100-watt incandescent lamps)	146	14.5	1.02
• Two energy-efficient, 34-watt fluorescent lamps in a fixture, lit for 5 hours every day (provide light equal to two 40-watt fluorescent lamps or incandescent lamps totalling 400 watts)	124	10.3	0.72
• Two 32-watt T8 fluorescent lamps in a fixture, with electronic ballast lit for 5 hours every day (provide light equal to two 40-watt fluorescent lamps or incandescent lamps totalling 400 watts)	116	9.7	0.68
Entertainment			
• Colour TV, solid state (5 hours/day)	364	30	2.10
• Stereo (3 hours/day)	109	9	0.63
• Clockradio (3 hours/day)	4	0.3	0.02
Computer			
• Computer & monitor (8 hours every weekday)	189	16	1.12
• Laser printer standard (8 hours every weekday)	282	24	1.68
Personal care and comfort			
• Waterbed (any size)	1,200	100	7.00
• Portable space heater (1,000 watts)	600	50	3.50
• Electric blanket (double size)	120	10	0.70
Recreation			
• Spa (7-foot, above ground, Lower Mainland climate, 1 hour/day, 1.5 horsepower, 2-speed motor, including water heating and pumping costs). No cover	19,000	1600	112.00
• With rigid 2-inch foam cover	7,800	650	45.50
Other			
• Furnace fan	1,200	100	7.00
• Vacuum cleaner (4 times/month for 1 hour)	36	3	0.21
• Lawnmower (4 to 5 times/month for 1 hour)	52	4	0.28
• Car warmer (600 hours/year in 4 months of seasonal use)	508	127	8.89
• Block heater (600 hours/year in 4 months of seasonal use)	450	112	7.84
Electric water heating			
• Standard electric water heater (Energy Factor = 0.86):			
— for a household of 2	2,408	200	14.00
— for a household of 4	4,816	400	28.00
• Energy-efficient electric water heater (Energy Factor = 0.92):			
— for a household of 2	2,251	188	13.16
— for a household of 4	4,502	375	26.25

No-cost Power Smart operating tips

Appliance manuals are often the best place to start learning how to operate appliances as energy-efficiently as possible. They'll also give tips on how to prolong the appliance's life. Here are some additional no-cost Power Smart tips for you to use once you've purchased your appliance.



Cooktops and ovens

- Use small appliances such as a microwave, slow cooker, electric kettle or toaster oven as an alternative when possible.
- Use pots and pans with tight-fitting lids and match pots to the size of the cooking element.
- Make sure that the bottoms of your pots and pans are smooth and flat. Food will cook faster and you'll use less energy when the pots make full contact with the cooking element.
- Keep the drip pans under conventional burners clean. Don't line them with aluminum foil; this may reflect too much heat and damage the element.
- Use the self-cleaning feature while the oven is still hot from baking. This uses less energy than if you start with a cold oven.
- Keep pre-heating to a minimum and keep the oven door closed during use.
- Look through the window instead. You lose 20 per cent of the heat each time you open the oven door.
- Make sure your oven's door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the seals.

Clothes washer and dryer

- Clean the lint trap in the clothes dryer after each load. Reducing the air flow through the clothes increases drying time.
- Use the moisture sensor setting if you have it, and avoid overdrying, which wastes energy, sets wrinkles and causes clothes to wear out more quickly.
- Always do full loads.
- Take clothes out of the dryer promptly and fold or hang them to prevent wrinkling and the need to iron.
- A high-speed spin cycle in the washer will remove excess moisture from the clothes and reduce drying time in the clothes dryer.
- Air dry clothes whenever possible. It saves energy and gives clothes a fresh-air smell.

- Studies show that clothes rinsed in cold water come out just as clean as those rinsed in warm, so go cold! You'll save money on your water-heating bill. There are detergents now being formulated to dissolve better in cold water.

Refrigerators and freezers

- Set your fridge and freezer to the recommended temperatures: fridge to 2–3° C (35° F –37° F) and freezer to –18° C (0° F). You can put a thermometer in the fridge and freezer to check the temperature, and adjust settings as needed.
- Defrost a manual-defrost freezer when the ice thickness reaches half a centimetre, or the width of a pencil.
- Avoid using the microwave oven to defrost food. Instead, thaw it in the fridge. This is safer than leaving food out on the counter top and contributes to the fridge's cooling.
- As always, the easiest way to conserve is to keep the door closed.
- Don't force your freezer to work harder than necessary. Don't place it near a heat source, such as a radiator, heating vent, washer, dryer, furnace, etc.
- Check to make sure the lid or door is properly sealed. To do this, close the door on a piece of paper and then try to remove the paper. If it slides out or moves easily, adjust the door or replace the seal (try this test in a number of places).

Dishwasher

- Air-dry dishes in the dishwasher or use the economy setting.
- Only run full loads.

Small appliances

- Empty or change the vacuum cleaner bag regularly. The vacuum has to work harder if the bag is too full.
- Use cold water when running your garbage disposal. This saves hot water and solidifies grease, which is then ground up and washed down the drain.

For more Power Smart information call:

Lower Mainland..... 604 431-9463

Elsewhere in B.C..... 1 877 431-9463

www.bchydro.com

Conservation is the first and best way to help meet B.C.'s future electricity needs.

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