

Appliances

What are the key green issues?

- » **Energy Consumption:** The major life cycle impact of appliances, especially refrigerators, washers and dryers, dishwashers is not the design and manufacture of the product, but the energy (and, in some cases, water) consumed during its use.
- » **Resource Consumption:** Washing machines and dishwashers naturally use water for the cleaning process. If all U.S. households installed water-efficient appliances, the country would save more than 3 trillion gallons of water and more than \$18 billion dollars per year.
- » **Hazardous Substances:** Ozone depleting substances found in refrigerants, such as Chlorofluorocarbons (CFCs), also known as Freon, are used as coolants in older refrigerators, freezers and air conditioners in buildings and cars.
- » **Waste and End of Life:** Large appliances have long lives, typically 10 to 18 years. When the useful life of an appliance is over, the materials are still valuable, particularly the steel for scrap. Steel is the most abundant recyclable component in appliances. Many appliances are banned from landfills.

Myth Buster

While greener appliances that are highly energy efficient usually have a greater upfront cost, the ultimate energy savings over the life of the appliance more than offsets the extra initial cost.

Appliances include refrigerators, freezers, ovens, dishwashers, washing machines, dryers and combination washer dryers. They are commonly used in social housing, public administration offices and institutions. For example, fully equipped kitchens are often present in offices and in many public buildings such as schools, hospitals, and senior homes. Small appliances such as coffee machines, kettles and microwave ovens are not addressed in this product factsheet.



How do green appliances advance Government's strategic priorities?

✓ Reducing Energy Consumption and Resources

ENERGY STAR certified clothes washers use about 20 percent less energy and 35 percent less water than regular washers. They also have a greater tub capacity, which means you can wash fewer loads to clean the same amount of laundry. ENERGY STAR certified refrigerators use about 15 percent less energy than non-certified models. ENERGY STAR certified freezers are at least 10 percent more efficient than non-qualified models.

✓ Reducing Water Consumption and other Natural Resources

ENERGY STAR certified clothes washers use about 35 percent less water than regular washers. ENERGY STAR qualified dishwashers typically use one-third less water than non-qualified models in addition to saving energy. In state-of-the-art washing machines, sensors monitor the washing process to keep the use of energy, water and detergent to a minimum. Electronics control the washing process to achieve the best cleaning results with the lowest water and energy consumption.

✓ Reducing Unnecessary Waste and Recycling

The Refrigerant Management Canada (RMC) program is a voluntary industry-led extended producer responsibility (EPR) program across Canada to ensure the collection and environmentally sound destruction of ozone-depleting substances from commercial stationary refrigeration and air conditioning equipment that have reached their end-of-life. Some appliance dealers take appliances back. According to the US Environmental Protection Agency (EPA), using scrap instead of virgin materials — iron ore and coal — in making new steel reduces mining wastes by 97 percent, virgin materials use by 90 percent, air pollution by 76 percent, energy use by 74 percent and water use by 40 percent.

Recommended	Why is it important?	How do I know I am getting it?
<p>✓ Appliances shall meet the ENERGY STAR standard for energy efficiency</p>	<p>The ENERGY STAR label makes it easy to identify the best energy performers on the market in order to contribute to the energy efficiency goals of the province. Energy Star is a widely recognized standard that is applicable to the complete range of standard household and common appliances.</p>	   <p>The ENERGY STAR ecolabel is the most common third-party standard for energy efficient appliances in Canada. The ENERGY STAR Most Efficient designation identifies and advances products in the marketplace in a number of categories and recognizes the most efficient products among those that qualify for the ENERGY STAR symbol</p> <p>The EnerGuide label is a tool that helps you determine how much energy it takes to operate the model, compare the energy use of similar models, and estimate annual operating costs. Check the Choosing and Using Appliances with EnerGuide by NRCan.</p>
<p>✓ Appliances shall not contain hazardous substances</p>	<p>Hazardous substances to avoid include: Ozone Depleting Substances Bromine Flame Retardants PVCs</p> <p>Ozone depleting substances found in refrigerants are restricted in Canada but are still found in refrigerants manufactured before 1993. Flame retardants and PVCs (found in plastics) off-gas into the atmosphere contributing to smog, asthma and other health and environmental issues.</p>	<p>Site inspection at contract initiation and spot inspections thereafter to ensure volumes meet the size of bins.</p>
<p>✓ Suppliers shall take back used appliances; ensure used components are responsibly recycled</p>	<p>This service is known as 'extended producer responsibility (EPR).' It ensures proper disposal and also reduces the government's waste management costs.</p>	<p>Check for Suppliers who have EPR programs and work within the provincial stewardship program to provide guarantee for recycling.</p>
<p>✓ Removal of all packaging and responsible recycling of it</p>	<p>Ensuring that suppliers take back all packaging upon delivery and guarantee that it will be responsibly recycled will reduce time and costs for recycling those materials for government.</p>	
<p>✓ Equipment that requires the use of water shall be designed to minimize water consumption</p>	<p>Washing machines, dishwashers, etc. can be designed to minimize water consumption. To save even more water, look for a dishwasher with a low water factor. The water factor (WF) is the number of litres of water per cycle that the washing machine uses per litre of tub capacity.</p>	<p>ENERGY STAR qualified washing machines must have a Water Factor (WF) of ≤0.8 L/cycle.</p>

What else could I look for?

In addition to the minimum recommended criteria outlined above, there are stronger green attributes you can look for when making your purchasing decision.

Recommended	Why is it important?	How do I know I am getting it?
Appliances with sensing capabilities	<p>Washing machines with sensing technology to assess energy and water requirements based on load size will improve overall efficiencies.</p> <p>Soil sensors test how dirty dishes are throughout the wash and adjust the cycle to achieve optimum cleaning with minimum water and energy use.</p>	Check with suppliers if they offer this attribute.
ENERGY STAR front-loading washing machine	ENERGY STAR front-loading machines can cut water use by nearly 40 percent and electricity use up to 65 percent compared to a conventional top loader.	All suppliers today offer front-loading washing machines.
Designed to reduce operating noise	When sourcing sustainable appliances, organizations are specifying “low noise” design as a requirement to help improve health and safety issues related to noise.	Check with suppliers if they offer this attribute.
Reporting on carbon footprint	Appliance manufacturers are beginning to assess the carbon footprint of their products, which will give you another indicator for choosing a more environmentally preferable appliance.	Ask suppliers if they can deliver already or will in the near future report on the carbon footprint of their appliances.

Resources

- BC Hydro