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REAL-TIME FEEDBACK

Your Key to
Electricity Savings



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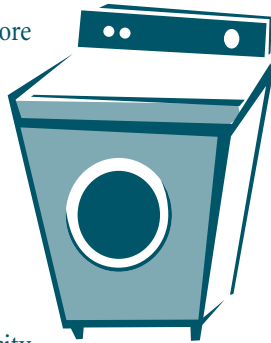
Canadians spend hundreds of dollars a year on electricity to light their homes, to power appliances and electronics and, in some cases, to provide air conditioning, space heating and water heating. As electricity rates continue to rise and awareness of the environmental impacts of energy consumption grows, more and more homeowners are looking for ways to cut back on their power consumption.

But where to begin? Utility statements do a good job of telling us how much electricity is used every billing cycle, but they do not list the time of day electricity is consumed or what equipment affects power consumption the most. To take control of how much electricity you use, you need to know when, where and how electricity is consumed in your home. After all, you cannot manage what you cannot measure.

How does real-time feedback work?

Real-time feedback may be the answer Canadians are looking for. Simple, inexpensive devices that measure electricity consumption on a minute-to-minute, hour-to-hour, day-to-day or month-to-month basis are available. The devices provide the information required for smart energy decisions. The rest is up to you!

Real-time feedback devices provide instantaneous feedback about a household's electricity consumption. They can tell you how much electricity is being consumed at a particular time, as well as the consumption throughout a day or month. A real-time feedback device can also show the impact of individual electricity-using equipment on overall consumption – simply turn equipment on or off and watch your consumption go up or down.

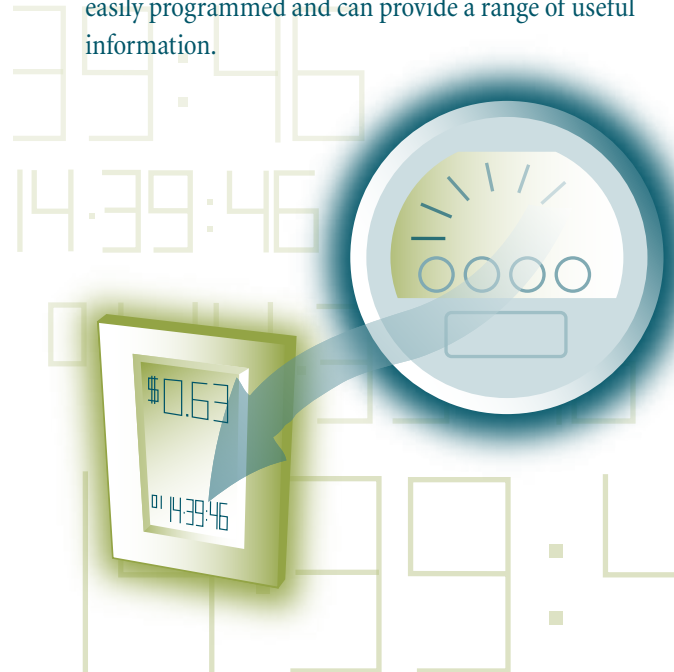


Real-time feedback devices typically have two components: a transmitter unit and a display unit.

The transmitter unit measures the amount of electricity being used by the household at a particular time and collects and transmits this information to the display unit. Communication between the transmitter and display unit is usually wireless, although some devices are hard-wired or are plugged into an existing electrical outlet. The transmitter may be located near the electrical panel or the utility meter. Some advanced (smart) meters available in Canada have a wireless transmitter that sends information to the utility and the homeowner.

Real-time feedback devices are sold in retail outlets, but can also be bought online, directly from the manufacturer.

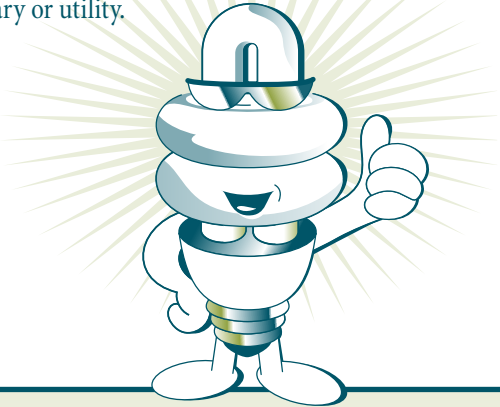
The display unit is typically small and can be placed almost anywhere in the home. Some devices have multiple display units, and others are portable and can be carried from room to room. The display units are easily programmed and can provide a range of useful information.



Most real-time feedback devices provide basic information about the amount of electricity currently being consumed within the home, as well as total monthly consumption, noted in kilowatt hours and dollars. Some devices provide additional details, such as the amount of carbon dioxide emissions (the principal greenhouse gas [GHG]) that can be attributed to your household. Certain devices can interface with a personal computer, thus enabling the user to review stored data and send it to other programs to track electricity consumption and costs.



Another form of real-time feedback is a device that measures the power consumption of a specific household product (but not the entire household) during a set period. Such a device could be used, for example, to calculate the cost of operating a second refrigerator. The device is plugged into an electrical outlet and the equipment to be measured is then plugged directly into the device. These devices can be purchased or may be available on loan from a local library or utility.

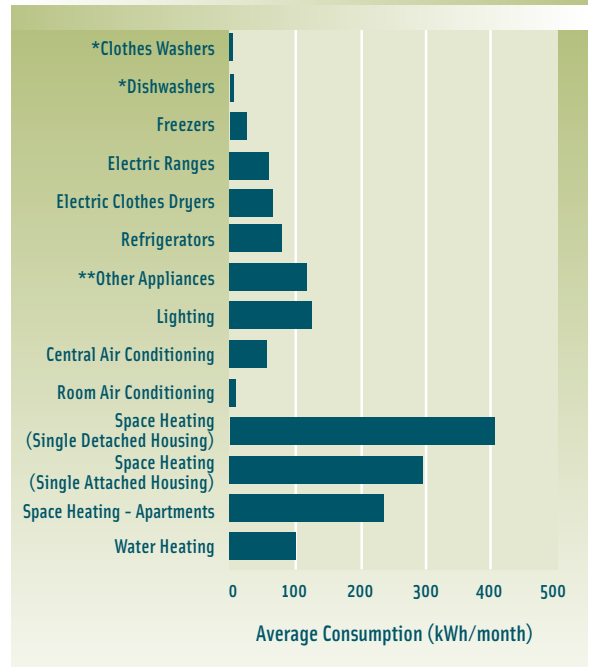


If every household in Canada replaced just one standard incandescent bulb with an ENERGY STAR® qualified compact fluorescent light (CFL), Canadians would save more than \$73 million in energy costs each year and reduce GHG emissions by 397 000 tonnes – equivalent to taking 66 000 cars off the road for a year.

What can real-time feedback do for you?

Real-time feedback makes electricity consumption more visible to the homeowner – providing information about both the amount of electricity being used and the time of use. Using this information, homeowners can make more informed decisions about how to reduce consumption by reducing their use of certain equipment (such as air conditioners), eliminating unnecessary equipment (such as second refrigerators) or otherwise changing household habits.

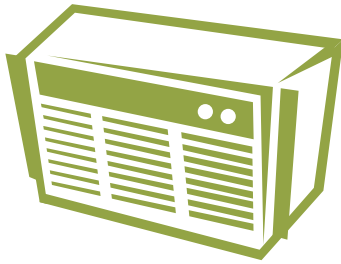
Average Residential End-Use Electricity Consumption



* Does not include electricity required to heat water

** Other Appliances includes small appliances such as televisions, video cassette recorders, digital video disc players, radios, computers and toasters.

Pilot projects across Canada showed that in some households in which a real-time feedback device was installed, homeowners took action that resulted in electricity savings ranging from 5 to 20 percent per household. Savings of this magnitude can quickly repay the cost of the real-time feedback device, which can range from \$150 to more than \$350. Some manufacturers recommend installation by a licensed electrician, which can add to the overall cost of the unit. Other models can be installed by the homeowner.



Reducing your electricity consumption can also save money in other ways. By reducing overall demand for electricity, particularly during peak hours, Canadian homeowners can help utilities avoid importing or purchasing additional electricity supplies and avoid or delay the cost of building new generating capacity – costs that inevitably are passed on to the consumer.

From an environmental perspective, the benefits of reduced energy consumption are clear. A portion of the electricity used in Canada is generated by burning fossil fuels (e.g. coal and natural gas) – a process that generates harmful GHGs that contribute to climate change. The less power these facilities are required to produce, the lower their emissions of GHGs.

Generating stations that use fossil fuels also emit other pollutants that contribute to smog. Reduced electricity consumption means cleaner air and a healthier environment.



Simple strategies for reducing electricity consumption

Want to take control of your household's electricity use and costs? These simple strategies show how easy this can be:

- Use energy-efficient lighting products – and turn off lights when you leave the room. ENERGY STAR qualified compact fluorescent lights (CFLs) use up to 75 percent less electricity and last 10 times longer than regular incandescent lights.
- Even when they are turned off, many types of equipment continue to use energy. Plugging several pieces of equipment into a power bar and then switching off the bar when the equipment is not needed will eliminate this standby power use.
- Buy energy-efficient appliances, heating and cooling equipment, home office equipment, etc. Simply look for the ENERGY STAR symbol.
- Limit your use of appliances. For example, wash only full loads of clothes and dishes, and dry clothing outdoors in the warmer weather.

Natural Resources Canada's Office of Energy Efficiency has fact sheets and other information to help your household reduce its electricity consumption. Visit the Web site at oee.nrcan.gc.ca or call 1-800-387-2000 for free publications.

It is your move

Real-time feedback devices can provide the information you need to save electricity, save money and help the environment – but it is up to you to take action.

Knowing where, when and how your home uses electricity is only the first step. More importantly, you must be willing to change your day-to-day habits to achieve the real benefits of real-time feedback. In other words, it is your move!

For more information about how you can reduce your electricity consumption, contact your local utility or visit its Web site. For more information about using energy efficiently around the home, visit oee.nrcan.gc.ca.

