

Tools by Need

Energy

Looking for the biggest bang for your buck? Start introducing energy-conservation measures, and watch your savings grow. As one of the most significant costs for many businesses, energy is used mainly for lighting, heating, cooling and operating appliances such as refrigerators, ovens, washers and dryers. According to the Rainforest Alliance—a global organization working to protect biodiversity—energy is believed to be the second-highest operating cost for hoteliers, next to payroll.

Quick Start



Start saving money without any expenditure. Turn off the lights! Lighting typically represents a big chunk of your energy consumption. Begin by turning off lights in unused rooms. Take advantage of natural light during the day.

Computer-Based Lighting Control

Encelium, a multinational developer of energy-management and control systems for commercial buildings, recently upgraded 1,500 light fixtures in a University Health Network building in Toronto. The new system allows employees to dim a specific light or group of lights in their workspace via software on their desktop computer. Software-controlled motion sensors switch off lights in rooms once workers leave, while other sensors monitor natural light levels and automatically dim interior fixtures to save energy. The system cost about \$200,000, and it saves the organization \$47,000 in annual energy costs.

To learn more about this success story, check out the Government of [Ontario's Energy Efficiency Awards](#).

Compact Fluorescents, Halogens or Incandescent Bulbs?

Compact fluorescent light bulbs (CFLs) cost more than regular light bulbs, but can use 75% less electricity and last 10 times longer than incandescents. One compact fluorescent bulb can save you three times its cost in electricity. Halogen lighting has light output that is similar to a regular incandescent bulb but that uses up to 40% less energy. The wattage rating tells how much electricity a bulb consumes. For example, a 22-W CFL has about the same light output as a 100-W incandescent. Around 92 to 95% of the energy created by standard incandescent bulbs dissipates as heat; just five to eight percent creates light.

Alternative Power Suppliers

Several provinces now allow you to purchase your power from "green power suppliers" that utilize the existing grid. In doing so, you might pay a small premium on your electricity bills, but you will be supporting more sustainable choices and showing decision-makers that there is a demand for renewable energy.

Green Power

Before you sign up with a green power provider, it is important to understand how the business works. Unless you have a wind turbine attached to your establishment, you are not drawing green energy directly for your electricity needs. You will continue to draw power from the grid as you always have. However, by purchasing green energy credits, your green power supplier feeds a corresponding quantity of renewable power into your province's grid from renewable generation facilities such as wind farms. You continue to receive your conventional utility bill, and also receive one from your green-power provider.

Still wondering how it all works? Try out this fun little [energy game](#), courtesy of the Science Alberta Foundation, to learn more about renewable energy.

Top Four Tips for Conserving Energy in Lighting

1. Turn off lamps during the day when you can use natural light.
2. Use energy-saving compact fluorescent lights (CFLs) instead of incandescent and halogen light bulbs. You can find CFLs in all shapes and sizes for different purposes.
3. Install motion-sensor switches to illuminate seldom-used spaces-such as supply rooms and stairwells-only when they are occupied.
4. For outside lighting, use halogens or the new generation of LED lights, both of which use much less energy than standard incandescent lights. Where appropriate, install motion sensors to automatically turn on the lights when someone walks by.

Top Four Tips for Conserving Energy in Appliances

1. Choose appliances that carry the Energy Star rating. See the [Technology](#) section of this toolkit for tips on buying rated appliances.

Energy Efficiency

[EnerGuide](#) is a Natural Resources Canada program that helps consumers purchase the most energy-efficient equipment on the market. The majority of electrical appliances, heating and cooling systems and all new light-duty vehicles sold in Canada carry EnerGuide ratings. It's a great tool for you to compare the electricity and fuel consumption of products before you buy.

2. Turn off all idle computers and peripherals. At minimum, turn off the monitor-which is the same as turning off a 75-W light bulb, and represents about 60% of a computer's total power consumption.
3. Save your ironing for one session, as most of the power used is to initially heat the iron.
4. Wrap your hot-water tank with an insulating blanket and reduce energy losses by 25 to 40%.

Front-loading v. Top-loading Washing Machines

Although front-loading washing machines cost a little more than traditional top-loading models, they use about half the quantity of water per load. Further, front loaders force more water out of clothing and linens-reducing drying time and electricity consumption. Finally, front-loading machines are easier on laundry-they gently tumble items, rather than twist them around an agitator-and this in turn lessens premature wear.

Top Four Tips for Conserving Energy In Washing

1. Rinse in cold water. Hot or warm water will not make a difference in cleanliness.
2. Preserve the colour of clothes and energy by selecting cold or warm water for the wash cycle.
3. Looking to buy a new dryer? Choose a model with a moisture-sensing feature that automatically turns the machine off when clothes are dry. Better yet, invest in a clothesline and hang to dry.
4. Turn off the dishwasher when the wash cycle is complete, and prop open the door to let your dishes air dry.

Try This!

An Energy Star-qualified 2004 model refrigerator will save you more than 1,026 kWh of energy when compared with a 20-year-old refrigerator.

To strike a useful comparison, with each 100 kWh of savings, you can operate your dishwasher 40 times for free. So by upgrading your vintage refrigerator, you can run your dishwasher more than 400 times for nothing. That's more than a year of free dishwashing!

Top Four Tips for Conserving Energy in Fridges

1. Vacuum the refrigerator coils twice a year to increase efficiency.
2. Position your fridge five to 10 cm from the wall to allow for adequate airflow behind.
3. Defrost your freezer regularly to save energy and keep it working more efficiently.
4. Replace old refrigerators with a newer energy-efficient model. A 20-year old fridge uses 70% more energy than a contemporary model.

Case Study: Turning Down the Blue Flame in Salmon Arm

Salmon Arm Recreation Centre is located in the British Columbia city of the same name—a popular tourist destination on the shores of Shushwap Lake. The building's two natural-gas boilers generate warmth for space heating, pool water and hot water for showers and other domestic uses. After a comprehensive audit, the centre undertook a number of energy-efficient upgrades to reduce natural-gas consumption.

- ◆ A new control system fired the boilers at a rate matching load and outside temperature.
- ◆ Pool-area temperatures were set at the same level as the pool water. This reduced the evaporation rate from the pool and dropped the pool water-heating load accordingly.
- ◆ Operators set the system to adjust the nighttime temperature to 13°C in all areas except the pool; in active sporting areas, they reduced the temperature to 17°C.
- ◆ Technicians installed a new direct digital control (DDC) system at a cost of \$58,000.

Salmon Arm Recreation Centre used 32% less natural gas in 2002 over 2000, and saved nearly \$40,000. At that rate, the investment will be paid back in 18 months.

To learn more, check out [success stories at Terasen Gas](#).

Top Four Tips for Conserving Energy in Heating and Cooling

1. Remind your guests to turn off in-suite air conditioning units when they leave their rooms, and to close doors and windows when the air conditioner is operating.
2. Fans usually use very little electricity. Install ceiling fans to supplement or even replace air conditioning.
3. Caulk around windows, doorframes, sills and joints, and add weatherstripping between the fixed and movable sections of doors to keep your facility warm in cold climates and cooler in hot weather.

Try This!

Install a programmable thermostat for your water heater and save two percent on your heating bill for every 1°C that you lower the temperature.

4. Install your air conditioner in a shady location, if possible, to conserve electricity and to help the unit operate more efficiently. Other no- or low-cost techniques include strategically placing trees and shrubs to help shade the building, and keeping drapes and blinds closed during direct sunlight to help cool rooms. Check out the [Outdoor Environment and Landscaping](#) section of this toolkit for more great tips.

Try This!

Switch to a solar pool heater, which costs roughly \$3,000 to \$5,000, but can be a cost-effective purchase when you consider equipment, installation and fuel costs for a traditional heater.

Further References

Check out these organizations for more great tips and information on conserving energy and saving money.

[Toronto Hydro-Electric System Ltd](#)

[Natural Resources Canada: Grants and Incentives](#)

[Natural Resources Canada: Financial Assistance for Commercial and Institutional Organizations](#)

[Natural Resources Canada: Tips and Resources for Saving Energy](#)

[Natural Resources Canada: How Energy-efficient Appliances Can Save You Money](#)

[Saskenergy: Home Energy Tips](#)

[Ontario Ministry of Energy: Tips to Help You Conserve Energy and Save Money](#)

[Greenpeace Canada](#)