ENERGY EFFICIENCY & CONSERVATION GUIDE

niagara peninsula energy inc.
Your Local Utility

It's not just our future.

LED Bulbs Made Easy

Just Look for the ENERGY STAR®

- ★ Independently certified to deliver efficiency and performance.
- ★ Same brightness (lumens), 70–90% less energy (watts)
- ★ Lasts 15 times longer = big $ savings
- ★ Help protect the environment and prevent climate change

Only LED bulbs that have earned the ENERGY STAR label have been independently certified and undergone extensive testing to assure that they will save energy and perform as promised.

ENERGY STAR certified LED bulbs are available in a variety of shapes and sizes for any application—including recessed cans, track lighting, table lamps, and more. You can even find certified bulbs that are dimmable. **Use this chart as a guide to finding the right ENERGY STAR certified bulb for your light fixture and remember to always check the packaging for proper use.**

	BULB TYPES				
TABLE OR FLOOR LAMPS	STANDARD				
PENDANT FIXTURES	STANDARD	GLOBE	MR16	CANDLE	
CEILING FIXTURES	STANDARD	CANDLE			
CEILING FANS	STANDARD	CANDLE			
WALL SCONCES	STANDARD	GLOBE	CANDLE		
RECESSED CANS	MR16	SPOT	FLOOD		
ACCENT LIGHTING	MR16	SPOT			

BRIGHTNESS

For brightness, look for lumens, not watts. Lumens indicate light output. Watts indicate energy consumed. ENERGY STAR certified bulbs provide the same brightness (lumens) with less energy (watts). **Use this chart to determine how many lumens you need to match the brightness of your old standard bulbs.**

Standard Bulbs (Watts)	ENERGY STAR Bulb Brightness (Minimum Lumens)
40	450
60	800
75	1,100
100	1,600
150	2,600

COLOR/APPEARANCE

ENERGY STAR certified bulbs are available in a wide range of colors. Light color, or appearance, matches a temperature on the Kelvin scale (K). Lower K means warmer, yellowish light, while higher K means cooler, bluer light.

2200K 3000K 3500K 4100K 5000K 6500K

WARM COOL

Soft White, Warm White	Neutral White, Cool White	Daylight (think blue sky at noon)
Ideal for most indoor applications.	Good for kitchens and work spaces.	Good for reading.

EPA United States Environmental Protection Agency

ENERGY STAR is the simple choice for energy efficiency. For more than 20 years, EPA's ENERGY STAR program has been America's resource for saving energy and protecting the environment. Join the millions making a difference at energystar.gov/lighting.

Smart Meters and Time-of-Use Prices

Smart meters and time-of-use pricing can help you manage your electricity costs.

Ontario introduced time-of-use pricing to reflect the costs of producing electricity at different times of the day. There are three time-of-use periods:

Off-peak – when energy demand is low and less expensive sources of electricity are used.
Mid-peak – when the cost of energy and demand are moderate.
On-peak – when demand is highest and more expensive forms of electricity production are used.

In winter, electricity use peaks twice daily: when people get up in the morning and when they come home from work. In summer, electricity use tends to peak in the afternoon, when air conditioners are running on high.

Year-round, demand and electricity prices are lower overnight, and on weekends and statutory holidays — so these prices are always off-peak.

What can you do?

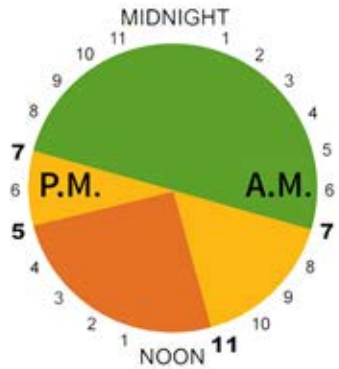
Smart meters track electricity use by the hour. Check your energy bill to see how you are using electricity now — then, shift activities to times when electricity is less expensive.

Learn more about your electricity bill with our Bill Tutorial.
www.energy.gov.on.ca/en/empowerme/bill/

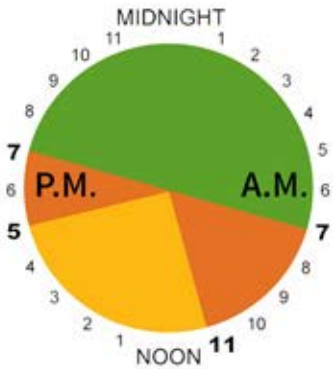
You may also want to explore new technology entering the market, including apps that help you understand and manage your home electricity use from wherever you are via your smart phone.

The Ontario Energy Board sets the time-of-use prices every May and November.

Summer - Weekdays
(May 1 - Oct 31)



Winter - Weekdays
(Nov 1 - Apr 30)



Weekends & Statutory Holidays

The little label that Helps!

Canada's EnerGuide program for energy-using products is a rating and labeling system that allows consumers to find the most efficient product in their class. It provides verified data about a product's energy performance.

EnerGuide applies to major household appliances and many heating and cooling products.

EnerGuide labeling is a requirement of Canada's Energy Efficiency Regulations which set minimum energy performance standards for specified products and equipment. The Regulations stipulate whether the label is mandatory, how it should be displayed and what elements it must contain.

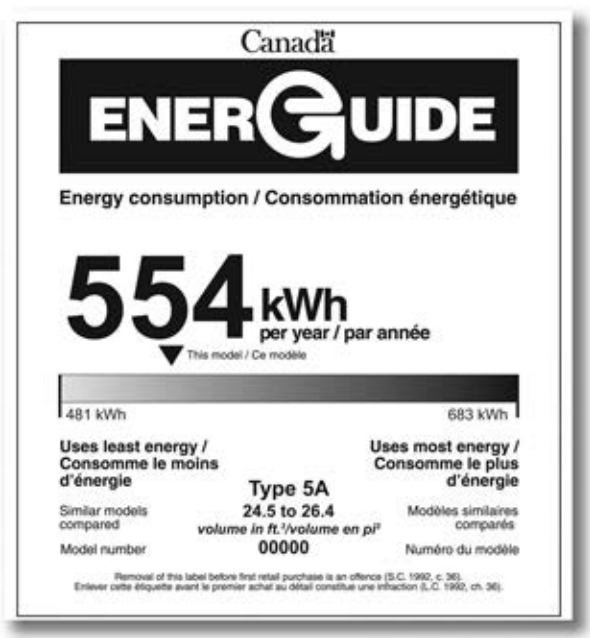
The EnerGuide label provides data for that model's annual energy consumption (kilowatt hours) and a scale for similar models.

EnerGuide labels for major appliances and room air conditioners are administered by Natural Resources Canada and mandatory under the Energy Efficiency Regulations.

EnerGuide for heating and cooling equipment: The EnerGuide label provides that model's AFUE/SEER rating, EE rating or FE rating, and a scale for similar models. These ratings are technical industry ratings for performance and efficiency.

Appliances

A lot of the electricity consumed in an average home is used by the six major appliances: refrigerator, freezer, electric stove/oven, dishwasher, clothes dryer and washer. Using EnerGuide you can choose the most efficient model when shopping for new appliances.



Kid Power!

Teach your kids about saving energy at www.ecokids.ca or www.kilowattway.ca

How much is a **kilowatt-hour?**

Electronics help keep us on time, make a cell phone call, cook our meals, and provide entertainment. They're deeply integrated into our daily lives – have you ever considered the electricity used to power them?

Here's what one kilowatt-hour can do for you:

ieso
Connecting Today.
Powering Tomorrow.

Microwave
20 bags
of buttery popcorn

Watch
3 episodes
of your favourite show
on your ***Plasma TV***

10 episodes
of your favourite show
on your ***LED TV***

Escape for
6 hours
of action-packed gaming
on your ***LED TV***

Watch
600
two-minute online cat videos
#cutenessoverload

A cyclist exerts
1 kWh
of energy to bike from
London to Guelph
at 20km/h

*A kilowatt-hour is a unit of energy that represents the amount of work done over an hour. It is the amount of energy needed to power a **20 watt** LED light bulb for **50 hours**.*

WINTER TIPS

Helpful ways to prepare your home for an energy-saving winter

Eliminate drafts and leaks. Inexpensive weather stripping will help seal your doors and windows against winter. To check for leaks, light a couple of incense sticks and walk around your home on a cold, windy day, close to outside windows and doors. If the incense sticks glow or the smoke from them moves, you may need to install new weather stripping in those areas.

Simple Fix. Electric wall plugs and switches on outside walls can let a lot of cold air in, too, but are even easier to fix. Go to your local hardware store for simple-to-install, pre-cut foam gaskets that fit behind the switch plate.

Check your attic. If your home is more than 10 years old, it may not be up to current standards of energy efficiency. If you have less than 150 mm (15 cm) of insulation in the attic, you should install more.

Help your furnace. Replace your furnace air filter as recommended by the manufacturer. A clean filter will help your furnace work better, use less energy and last longer.

Replace your furnace. If it's time to replace your heating and cooling system, look for an ENERGY STAR® -certified model: it could help you save up to $325 a year in heating and cooling costs.

Light the way with LEDs. Winter means more hours of darkness, but with ENERGY STAR® -certified LED light fixtures and bulbs, you can keep your indoor and outdoor lights on without worrying about increased energy costs.

Program your home. Install a programmable thermostat and set it to 20°C (68°F) when you're home and 16°C to 18°C (61°F to 64°F) while you're asleep or at work.

Wrap your tank. A blanket around your electric hot water tank can help save you anywhere from 4 to 9% on your water-heating costs.

Close your curtains. Closing your curtains at night helps keep warm air where you want it: inside. Opening them during the day allows the sun to heat up your house.

A heavy-duty outdoor timer will automatically turn your holiday lights on and off. Less hassle; more energy savings.

SPRING TIPS

Spring cleaning leads to Spring savings

Air it out – Install a clothesline or drying rack in your back yard and get that fresh spring breeze to dry your laundry. Hardware stores have a great selection that are easy to install. No outdoor space? Try an indoor drying rack.

Make your windows work – Insulated drapes come with thermal fabric and are available in many fashionable colours and patterns. Using them can keep your home cool.

Let the sun shine in – Clean your windows to help fill up your house with more sunlight and less power. Also, Daylight Savings Time starts in March, so you can keep the lights off well into the evening.

Filter out winter – Spring is the ideal time to change or clean your furnace and air conditioner filters, which have been collecting dust all winter. Cleaning the filters will help them run more efficiently.

Don't duck out of cleaning your ducts – If you haven't done it for a few years, getting your ducts cleaned can improve air quality and help your heating, air conditioning and ventilation systems operate efficiently.

Time to change the air conditioner? – Don't wait until the hottest day of the summer. Stay cool with a new air conditioner with a high energy efficiency rating.

Keep the refrigerator cool – If your fridge is coughing and wheezing, it's probably wasting energy and on its last legs. Getting a new ENERGY STAR®-rated fridge or freezer may save you up to $125 a year in electricity costs.

Fan out – Air conditioners will kick in and out when thermostat settings give them the signal that the temperature is too high or low. Fans are designed to circulate air to maintain room temperature at a consistent level at the hottest times of the day. You'll save energy, money and wear-and-tear on your air conditioner by using a fan more often.

Avoid overfilling your fridge, which decreases air circulation and makes it work harder and less efficiently.

SUMMER TIPS

Simple Tips to save energy around your home this summer

If you run a ceiling fan at the same time as your air conditioner, you can set your thermostat 2°C higher and feel just as cool – cutting your energy use by as much as 10%. If you don't have a ceiling fan yet, now is a great time to get one.

Go energy-efficient with a new air conditioner. Higher efficiency means more savings.

Use a programmable thermostat to set the temperature to 25°C (77°F) when you're at home, and 28°C (82°F) when you're away.

Remember to check your air conditioner's air filter regularly and clean or replace it as needed. This simple effort can lower your air conditioner's energy consumption by 5 to 15%.

Upgrade your indoor and outdoor lighting to energy-efficient LEDs. LEDs last up to 15 times longer, produce no excess heat and are 75 to 90% more energy efficient than incandescent bulbs.

Draft-proofing your home doesn't just help keep the cold out: it helps keeps the cold in too. Adding weather-stripping to doors and windows can ensure that cool air stays where you want it to: inside your home.

Trees are not just for lounging under on a hot day. By planting deciduous trees on the south side of your home, you can screen your home from 70 to 90% of the hot summer sun and reduce your air conditioning cost by as much as 15%. Open your windows first thing in the morning to let cool air in, but close them and draw your blinds later, before the sun gets hot. Your home will retain much of the cool morning air.

Dry your clothes the old-fashioned way: on an outdoor clothesline! The sun is free and the fresh air will make your clothes smell great.

Do you have an outdoor pool? Good landscaping can help there, too. Trees, shrubs or fences around your pool help shelter it, which can substantially reduce how much heat your pool loses on cool days, and how much you have to pay to re-heat it.

Most air conditioners will cool your home at the same rate, no matter how low you set the temperature. Setting your unit at 18°C (64°F) won't cool your house faster, but will cost you more.

Close as many doors leading to your air-conditioned space as possible to keep cool air in.

FALL TIPS

Easy ways to make sure your energy costs fall along with the leaves

The lazy days of summer are over too soon, giving way to falling leaves and getting kids off to school. Fall also brings falling temperatures. All of a sudden, your thoughts may turn to preparing yourself for the heating bills just around the corner.

There are a lot of quick and easy things you can do to get your home ready for the fall and hopefully reduce energy use and save on energy costs. Here are a few tips to cover the basics of preparing your home for the fall and help you save money by conserving energy:

Change your filter – The fall is the perfect time to change your filter so your furnace is operating as efficiently as possible. A dirty filter not only makes your furnace work harder and consume more energy, but it also allows more dust, bacteria and other nasty things in the air to circulate through your ventilation. There are a lot of filter options for all price ranges, including low-cost fiberglass filters, more effective electrostatic filters, and top-rated HEPA (high-efficiency particulate air) filters often found in medical clinics and long-term care facilities.

Get your windows ready for the wind – Don't wait for the first frost. While the weather is still reasonably mild, make sure you install your storm windows to keep your home warm. You may need to clean dirt from the grooves and it could take a bit more time and elbow grease than you might expect. If you have older windows and frames that get drafty, it may be a good time to install new, more energy efficient ones.

Keep out the cold with weather stripping – Go through your house to check for drafty spots near doors and windows and apply some weather stripping or caulking to keep the cold air out. Hardware and home-care stores will have a wide variety of easy-to-install stripping.

Light your way to savings with new bulbs – As the daylight hours shrink, your light use will increase. Take the opportunity to replace incandescent lighting with energy-saving LED. ENERGY STAR® qualified LED bulbs can last up to 15 times longer than incandescent bulbs.

Inspecting and changing your furnace filter every three months can increase operating efficiency.

ENERGY STAR® in Canada

ENERGY STAR® symbol

The ENERGY STAR® initiative is a voluntary partnership between the Government of Canada and industry to promote energy efficiency. ENERGY STAR® is helping Canadians save money on energy bills, increasing the competitiveness of our commercial, industrial, and institutional sectors, and helping us fight climate change.

Simply by looking for the ENERGY STAR® symbol, Canadians can easily identify energy efficient products, new homes, and industrial facilities. Commercial, industrial, and institutional sector organizations can use ENERGY STAR® tools to benchmark and manage their energy performance.

24 HOURS OF SAVING ENERGY AND PROTECTING THE CLIMATE

Start saving the planet!

Here are some simple tips to help you save energy and protect the climate throughout the day.

6AM
Make sure to keep the refrigerator door closed as you prepare your morning meal.

7AM
Open up the drapes if there is a morning chill in the air. Take advantage of the sun's warmth and give your heater a break.

8AM
Turn off all lights and fans before you leave the house.

11AM
Take the ENERGY STAR Pledge at energystar.gov/pledge to learn how small steps can make a big difference.

12PM
Heading to lunch? Use the power management settings on your computer and monitor to make sure both sleep while you're away.

1PM
Check to see if there are any air vents you can easily unblock. It takes a lot more energy to pump air into a space if the vents are blocked.

4PM
Purchase ENERGY STAR certified light bulbs to replace incandescent bulbs in your home.

5PM
Stop by and pick up groceries for dinner at an ENERGY STAR certified grocery store.

6PM
After dinner, run your dishwasher with a full load. You'll save water and energy.

7PM
Throwing in a quick load of wash? Wash laundry with cold water whenever possible.

9PM
Take a 10-minute shower instead of a bath and save water and money on your heating bill.

11PM
Use a programmable thermostat to adjust the temperature (and save energy) while you're sleeping.

ENERGY STAR

Transportation

Behave yourself

Small changes in driver behavior can have big impacts on fuel economy. By breaking bad habits like jackrabbit starts, speeding, aggressive driving, and carrying unnecessary cargo, drivers can reduce fuel use by 10% to 20%.

Don't sit idle

An idling vehicle gets 0 km/l. Yet drivers in North America waste billions of liters of fuel every year by running their engines while going nowhere. Reducing idling time has many benefits, including reductions in fuel use, fuel costs, emissions, noise, and engine wear.

- **Use mass transit**
- **Carpool**
- **Walk or bike**
- **Plan all your errands for one trip**
- **Don't carry extra weight**

- **Keep your engine tuned**
- **Check your tire air pressure**
- **Consider buying a hybrid or electric vehicle**
- **Try to avoid rush hour**
- **Accelerate smoothly**

Vacations

are a time when you can relax a bit, forget about the little stresses of life, and spend some quality time with your families. However, people are often in such a hurry to pack and get out of town, they forget to prepare their home so that their electricity usage goes down while they are away.

Heating and Cooling

You shouldn't set the thermostat for 22°C (72°F) when there is no one there to enjoy it. Instead, during the hot summer months, the thermostat can either be set for 29°C (85°F) or turned off completely.
In the winter, the thermostat should be set around 10°C (50°F) to keep appliances and pipes from freezing.

Electronics and Appliances

Even with the home empty and the television and major appliances turned off, they are still using electricity. Before the family leaves, someone should walk around the home and unplug every unnecessary appliance and electronics. This doesn't just include the television, lamps, and entertainment center. Small electronics like electric razors, coffee pots, digital clocks, and cell phone chargers all drain energy when plugged in.

Blinds and Curtains

Lower the blinds and close the curtains when leaving for vacation. This simple act will keep heat from coming in during the summer and letting heat out during the winter. If the furnace is on and set to a lower temperature, lowering the shades and closing the curtains helps to slow the rising or lowering of the temperature in the home.

Refrigerators

The refrigerator is the electronic equivalent of a large V-8 engine, consuming electricity like a high-performance car. An extended vacation gives you the opportunity to get rid of the food in the fridge, clean it a bit, and unplug it. If the house is vacant for only a few days, it's not worth the trouble to unplug the device, as much of the food will still be good upon return.

WHILE AT WORK!

• Shut doors and close curtains

Heating or cooling the whole house can be expensive. Where possible, shut doors to areas you are not using and only heat or cool the rooms you spend the most time in.

Make sure your curtains or blinds seal your windows properly, and keep your curtains closed at night, and during the day when there is a heat-wave. And open in the winter days to let in warming sunlight.

• Set your thermostat

In winter, heating can account for over 30% of your bill. Set your thermostat between 18°C (64°F) and 20°C (68°F). Every degree above 20°C (68°F) can add 10% to your heating bill. In summer, set your thermostat to 26°C (78°F) or above.

• Run your fridge efficiently

Your fridge is always on, making it one of your most expensive appliances. Make sure the door seal is tight and free from gaps so cold air can't escape. An ideal fridge temperature is 4°C to 5°C (39°F to 41°F) and an ideal freezer temperature is -15°C to -18°C (5°F to 1°F) . If you have a second fridge or freezer, only turn it on when you need it.

• Save energy in the kitchen

Thaw frozen food in your fridge to reduce cooking time. When you are cooking, use the microwave when you can – it uses much less energy than an electric oven. If you use the stove, keep lids on your pots to reduce cooking time. Use the economy cycle on your dishwasher and only run it when it's full.

STANDBY POWER

Standby Power – when "off" sometimes means ON

Most household electronic devices draw power 24 hours a day, 7 days a week even when turned "off". These devices continue to use electricity to operate features such as clocks, timers, touch pads and displays, or to receive signals from networks or remote controls.
Standby power, also known as "leaking electricity," "vampire power" and "phantom loads", amounts to at least 5% of the electricity used in the average Canadian home. Doesn't sound like much? It's enough to operate your fridge for a year!

Battery chargers (used by products such as cordless phones, handheld devices and tablets) and external power supplies (used by products such as laptops) also draw power when they are plugged in – even when the device they power is fully charged or disconnected. Many electronics and network-connected products, such as television (TV) set-top boxes and smart appliances, are always awake, waiting to receive or send information.

The only way to guarantee that an electronic device is not drawing power is to unplug it from the outlet or plug it into a power bar that can be turned off. But there is a lot more you can do!

• If you regularly use several chargers (e.g. for power tools, laptops or mobile devices), consider creating a "charging station" where all of the chargers are plugged into a single power bar. This will allow you to easily monitor their use and turn them all off at once.

• Use a "smart" power bar, also known as an advanced power strip, which leaves on the devices that must remain powered, while turning off devices you aren't using with one easy flick of a switch.

• Look for the ENERGY STAR® or ENERGUIDE label whenever you buy new electronics or appliances. This will help identify the most energy efficient products, which reduce energy use even in standby mode.

SEVEN WAYS TO MAKE YOUR HOME A SAFE-ZONE

Every year in Ontario close to 110 kids under 15 end up in the emergency room because of an electrical injury. More than half are under the age of five.

THE GOOD NEWS: ALL ELECTRICAL SHOCKS ARE PREVENTABLE

While electricity is a necessity of everyday living, we can teach our children about the dangers of electricity and help prevent shocks and burns by doing these simple home fixes:

1. **If an outlet has a missing or broken cover plate, replace it** immediately. Outlet covers create a barrier between children and exposed wires.

2. **Install tamper-resistant (TR) receptacles to protect younger children from shocks.** They have special shutters that cover the plug slots and help prevent little fingers or objects from going into the outlet.

3. **Keep cords away from little hands and mouths.** Small kids often want to explore new things by putting them in their mouths.

4. **Teach older children how to plug in and unplug safely.** Never overload outlets by plugging in too many cords. Use an approved power bar that has surge protection instead. When it's time to unplug, don't yank cords from the wall. This can damage the appliance, the cord and the outlet.

5. **If a cord is frayed, replace it.** Tape won't protect from a shock. Extension cords – which should only be used temporarily – are prone to cracking and fraying, which can lead to a shock or fire.

6. Water and electricity can be a lethal mix. **Install Ground Fault Circuit Interrupters** (GFCIs) – the ones with the reset button – in any room with water (i.e. bathrooms, kitchens and laundry rooms) to help protect from a shock.

7. If you have electrical work that needs to be done in your home, **hire only a Licensed Electrical Contractor for the work.**

If you or someone you know receives a shock, seek medical attention.

For more tips, visit: www.esasafe.com

Electrical Safety Authority

What are Alternative Energy Sources?

Alternative energy encompasses all those things that do not consume fossil fuel. They are widely available and environmentally friendly. They result in little or almost no pollution. There are several alternative energy projects running in various countries to reduce our dependence on traditional fossil fuels.

Some examples that are being used or developed to create a greener future:

Solar Energy
Wind Energy
Geothermal Energy
Hydroelectric Energy
Biomass Energy
Ocean Energy
Hydrogen Energy

The Carbon Footprint

What is a carbon footprint? Here is an easy definition:

A carbon footprint is defined as: The total amount of greenhouse gases produced to directly and indirectly support human activities, usually expressed in equivalent tons of carbon dioxide (CO2).

It's not what you use, it's what you leave behind.