managing electricity at home

Northland Utilities
An ATCO and AltaLink Company

Helping Northerners make wise electricity choices

Many of us don't realize the intricate processes behind generating, transmitting and distributing electricity, but understanding just a little bit about how electricity is consumed can go a long way toward understanding how to be more efficient.

standby power

Just because you've turned "off" an electric device doesn't mean it has stopped using electricity.

Many devices continue to use electricity when turned off or not performing their primary function. This is known as standby power. It may also be referred to as phantom power or vampire power.

Typically, devices that use standby power have a remote control, internal clock, continuous display or charging function.

The five biggest users of standby power in a typical home are:

1. Digital cable box with personal video recorder (PVR) ($92.69/year in standby losses)
2. Subwoofer ($21.89/year in standby losses)
3. Audio mini-system ($19.20/year in standby losses)
4. Television (rear projection) ($13.49/year in standby losses)
5. DVD/VCR ($10.80/year in standby losses)

It's estimated that standby power accounts for up to 10% (90 kWh per month) of electricity usage in the average home. Here are some solutions to reduce or eliminate standby power in your home:

- Plug electrical devices into a surge protected smart power bar, especially computers and entertainment systems. Once you're finished using them, turn off the power bar. This eliminates standby power. Even better, purchase a power bar with a timer feature so you don't have to remember.
- Unplug devices that aren't in use—especially if you're going on vacation.
- Check the operations manual to make sure you're taking advantage of any energy saving features, especially on items such as your television or computer.

advances
in energy efficiency

Significant advances have been made in the energy efficiency of major electric appliances. The latest models of televisions, refrigerators, washing machines and even light bulbs use significantly less operating and standby energy.

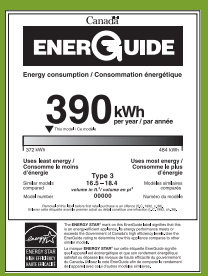
And while replacing everything may not be a viable solution, small changes you make today can save money in the future.

Consider upgrading these five appliances before others since they use the most electricity and will result in the greatest energy savings:

- hot water tank
- freezer
- refrigerator
- electric range
- washer

EnerGuide and ENERGY STAR®

The next time you are shopping for major appliances, look at the EnerGuide label to compare the energy consumption of similar models. The lower the kilowatt-hour rating, the less electricity the appliance uses. Look for the ENERGY STAR symbol to identify models that are the most energy efficient in their class.



The EnerGuide label indicates the annual amount of electricity used by an appliance and compares the energy performance to other models. The lower the number, the better, so use this as a comparison tool.

The international ENERGY STAR symbol, displayed alone or as part of the EnerGuide label, identifies major electrical appliances that meet or exceed technical specifications designed to ensure they are among the most energy efficient in their class, without compromising performance.

How to read the EnerGuide label:

1. The large number is an appliance's estimated annual energy consumption measured in kWh.
2. The shaded bar scale displays the energy consumption range for the appliance models of this type and size.
3. An arrow just above the bar scale shows where the appliance ranks relative to similar models. The closer to the lighter end of the scale, the better.

lighting
an easy way to reduce electricity

Lighting is an easy way to reduce electricity costs and there are many options available, from bulbs to dimmer switches.

Compact fluorescent light (CFL) bulbs last longer and use up to 75% less energy than incandescent bulbs – light-emitting diodes (LED) will save even more. Dimmer switches do more than create mood lighting. By allowing you to adjust light levels, dimmers will reduce electricity consumption.

The chart below identifies many common forms of lighting and a suggested energy-efficient retrofit option.

Please note: replacing fixtures, switches and other controls should be done by a qualified electrician. Before replacing bulbs, ensure they are the correct size, voltage and base type.

existing lighting	recessed fixture	track lighting	incandescent light bulb	under-cabinet lighting	outdoor incandescent light bulb
retrofit option	compact fluorescent light (CFL) bulb with reflector	install a dimmer switch	CFL bulb	light emitting diode (LED)	cold-rated CFL bulb or LED bulb

Use task lighting instead of lighting the entire room. For instance, turn on a desk lamp if you're reading or working at a computer and turn off the lights for the rest of the room.

by the numbers
electricity consumption

How much electricity do appliances and devices use?

Determine the wattage of each device and use this formula to calculate the cost per month:

Watts/1,000 x hours/day x days/month = kWh/month
kWh/month x $/kWh = $/month

For example, to determine the monthly cost of a 60 watt light bulb that is operated for eight hours each day, the calculation would be:

60W/1,000 x 8 hours/day x 30 days/month = 14.4 kWh/month
14.4 kWh/month x $0.30/kWh = $4.32

Your 60 watt light bulb is costing you $4.32 per month to operate for eight hours a day.

This formula will work for most household items that will draw the same amount of power 100% of the time. However, it does not apply to items that cycle, or draw different amounts of electricity at different times, such as a refrigerator. If you have any questions relating to an appliance's energy usage, please contact our office in **Yellowknife at 867-873-4865** or our office in **Hay River at 867-874-6879 (toll-free: 1-800-264-5313).**

Following is a breakdown of common appliances and devices in your home and their typical usage and cost. The operating cost is based on $0.30 per kWh and an average amount of time the appliance or device is used. This information is meant as a guideline only. For a more exact calculation, use the above formula with exact cost and usage data.

Watt (W): measure of energy
1,000 watts = 1 kilowatt (kW)

Kilowatt hour (kWh): measure of electrical energy used over a period of time.

kitchen

dishwasher

Based on 18 loads per month

type/year	monthly kWh use	monthly cost
ENERGY STAR (2010)	25	$7.50
standard (2010)	30	$9.00
standard (1997)	54	$16.20

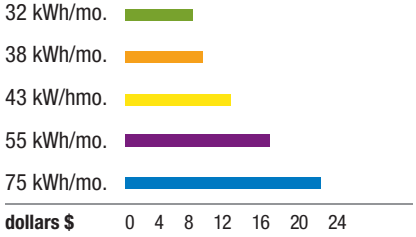
tip:

In addition to electricity savings, ENERGY STAR® dishwashers also reduce water consumption and water heating costs.

Run your dishwasher only when it's full and allow dishes to air-dry instead of using the heat cycle.

refrigerator

type/year	monthly kWh use	monthly cost
top-mounted (ENERGY STAR® - 2010)	32	$9.60
bottom-mounted (ENERGY STAR® - 2010)	38	$11.40
side-by-side (ENERGY STAR® - 2010)	43	$12.90
top-mounted (1997)	55	$16.50
side-by-side (1997)	75	$22.50



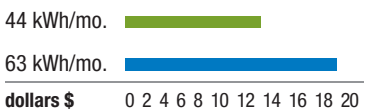
"top-mounted" = freezer on top, "bottom-mounted" = freezer on bottom

tip:

Do you have a second refrigerator? Unplug it when it's not needed! This may be your single largest waste of electricity, especially considering most secondary refrigerators are older models.

range

type/year	monthly kWh use	monthly cost
self-cleaning (2010)	44	$13.20
self-cleaning (1997)	63	$18.90

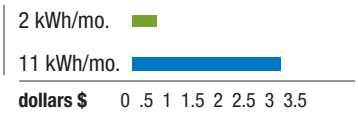


office

computer & LCD monitor

In use for two hours per day, in sleep mode for 22 hours per day

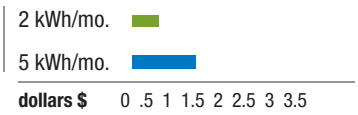
item	monthly kWh use	monthly cost
monitor	2	$0.60
computer*	11	$3.30



computer & LCD monitor

In use for two hours per day, off for 22 hours per day

item	monthly kWh use	monthly cost
monitor	2	$0.60
computer*	5	$1.50



*Based on computer no more than three years old.

tip: **For additional electricity savings during operation, reduce the brightness of your screen.**

basement

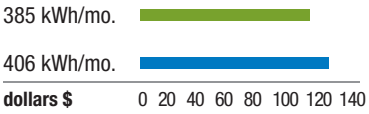
freezer

type/year	monthly kWh use	monthly cost
chest (ENERGY STAR)	30	$9.00
chest (2010)	33	$9.90
chest (1997)	44	$13.20

tip: The optimal freezer temperature for food preservation and energy efficiency is -18°C.

water heater

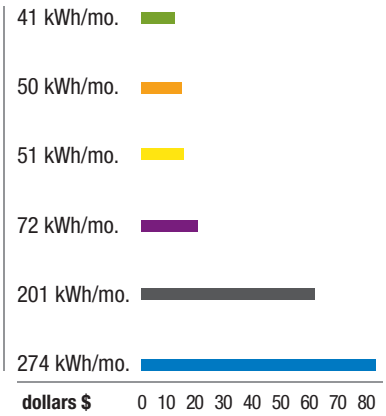
type	monthly kWh use	monthly cost
high-efficiency	385	$115.50
mid-efficiency	406	$121.80



tip: If leaving on vacation, set your water heater to vacation mode to save energy.

furnace fan

type	monthly kWh use	monthly cost
variable-speed D/C* motor - automatic operation	41	$12.30
energy-efficient A/C* motor - automatic operation	50	$15.00
variable-speed D/C* motor - continuous operation	51	$15.30
standard A/C* motor - automatic operation	72	$21.60
energy-efficient A/C* motor - continuous operation	201	$60.30
standard A/C* motor - continuous operation	274	$82.20

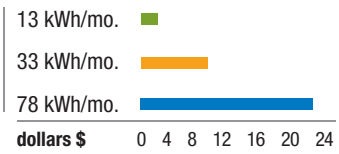


***D/C = direct current *A/C = alternating current**

washing machine

Assumes 33 loads per month

type/year	monthly kWh use	monthly cost
front load (ENERGY STAR - 2010)	13	$3.90
top load (2010)	33	$9.90
top load (1997)	78	$23.40



A front-loading ENERGY STAR washing machine uses 50% less water. It also has a high-speed spin cycle. This removes more water from clothes, which means less drying time.

Try drying one load immediately after the other to make the most of leftover heat. Use the sensor cycle on your dryer instead of the timed dry. It will prevent over-drying and use less energy.

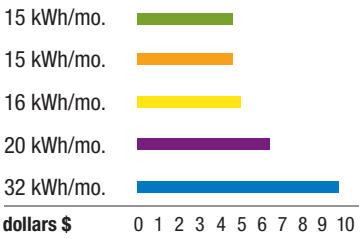
You may be surprised to see that we haven't included clothes dryers in our list. That's because there haven't been significant improvements in energy efficiency for dryers over the last 15 years, so the cost is still the same – roughly $0.65 per load.

entertainment

television

Based on television on for 5 hrs/day

type	monthly kWh use	monthly cost
plasma (42")	15	$4.50
liquid crystal display (LCD - 42")	15	$4.50
light emitting diode (LED - 46")	16	$4.80
CRT (old style TV - 30 - 36")	20	$6.00
projection TV (65")	32	$9.60



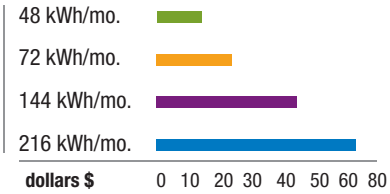
tip:

Televisions are among the highest users of standby power. Eliminate standby power by plugging your TV into a power bar and turning the power bar off when not in use.

others

car block heater

type/hourly use	monthly kWh use	monthly cost
400W for 4 hrs/day	48	$14.40
600W for 4 hrs/day	72	$21.60
400W for 12 hrs/day	144	$43.20
600W for 12 hrs/day	216	$64.80

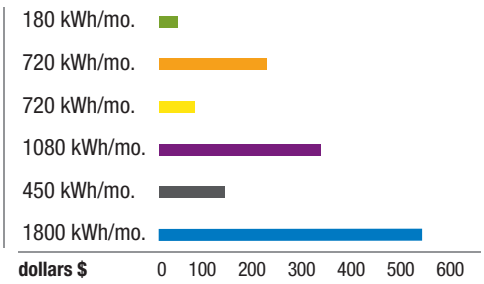


tip:

Car block heaters are not necessary at temperatures above -15°C. Even on the coldest days, a block heater only needs to be used for four hours. Use a timer so that you can conveniently and cost-effectively operate your block heater.

space heaters

type/hourly use	monthly kWh use	monthly cost
1000W for 6 hrs/day	180	$54.00
1000W for 24 hrs/day	720	$216.00
1500W for 6 hrs/day	270	$81.00
1500W for 24 hrs/day	1080	$324.00
2500W for 6 hrs/day	450	$135.00
2500W for 24 hrs day	1800	$540.00



tip:

During sunny winter days, keep blinds and window coverings open to allow the sun to warm your home, but close them at night. In the summer, keep your blinds and window coverings closed during the daytime to block out the sun and keep your home cool.

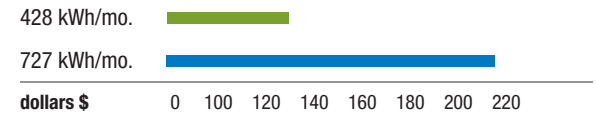
wise
energy choices

Based on the information in the previous charts, the following chart is a summary comparing some of the most efficient options with some of the least efficient options. The data is based on the same cost of $0.30 per kWh and is based on averages for major home appliances excluding water heaters, air conditioning and space heaters.

less efficient VS. more efficient home

overall operating cost

type	dollars per month
more efficient home	$128.40
less efficient home	$218.10



next steps

For more information contact:

Northland Utilities (Yellowknife) Limited
481 Range Lake Road
Yellowknife, NT X1A 3R9
867-873-4865

Northland Utilities (NWT) Limited
1-66 Woodland Drive
Hay River, NT X0E 1G1
867-874-6879
Toll-free: 1-800-264-5313

northlandutilities.com

Come down to our office Monday through Friday from 8:30 a.m. to 4:30 p.m. to speak with a customer representative for assistance.

Helping Northerners make wise electricity choices

Northland Utilities
An ATCO and AII Company

northlandutilities.com