

*Keep the power in your pocket
with this electricity audit report
from*

envirocentre

Ottawa's most experienced non-profit agency for delivering energy-efficiency services

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METHODS AND ASSUMPTIONS

Your electricity consumption is based on the Account History found on your power bill. We use your bills between the spring and fall to provide the most accurate estimate that does not include any space heating. The average household consumption in Ontario, presumably based on a family of two adults and two children, is estimated by the Ministry of Energy to be about 850 kWh per month and by the Ontario Energy Board to be under 1,000 kWh per month. The federal EnerGuide for Houses program assumes 750 kWh per month, excluding space and water heating.

It is no longer easy to say exactly how much electricity costs in Ontario as it now depends on how much you are using per month and will soon be affected by when you use it. That is why – for the purposes of this report – EnviroCentre uses an average price of **14 cents per kWh** for both the power itself and all the other charges that are added to your bill. Bear in mind that electricity prices are now adjusted on May 1 and November 1 of every year to reflect more accurately the real costs of providing power.

Lowering your electricity bill often requires a conscious effort to conserve electricity by changing behaviour and by using the most energy-efficient, cost-effective appliances and equipment available. If you have an electric hot water tank, this not only means that your tank and pipes are very well insulated and you have low-flow showerheads and faucets but your family takes short showers and doesn't let hot water run down the sink while washing dishes. It means using fans instead of air conditioners whenever possible and airing the house out at night but closing it up during summer days to keep the hot, humid air out. As you can see, it means combining energy-efficient technologies with energy-efficient behaviour.

DISCLAIMER

The information and recommendations provided by EnviroCentre, including any estimated savings, were based on a visual inspection of your home, its electrical equipment, any information you provided on your use of electricity, and the advisor's best judgment given the information and time available. Please note that EnviroCentre identifies only potential savings and makes no guarantee about actual savings, partly because the advisor was unable to measure the actual consumption of your equipment or the way you and your family really use electric space or water heaters, ventilation and/or air conditioning equipment, appliances, lights and other devices. Remember that the way your family does things in your house can have a big impact on the actual consumption of electricity and other forms of energy.

If you have any questions concerning the recommendations in this report, please contact EnviroCentre or check out our website. Finally, please note that this report does not provide an analysis of heat loss due to poor insulation levels or air leakage, nor is it a home inspection that evaluates the structural integrity, safety or health of your residence.

(2011 April)

Our assessment indicates that your electricity consumption averages **878 kWh/month** without space heating. Although family size and behaviour can make a big difference, your consumption, compared to about 850 kWh for the average household in Ontario, is:

Close to average - so you could probably reduce your consumption by about 10%. See what we recommend below and make sure that you share this report with other members of your household as you will need their help to save energy and money.

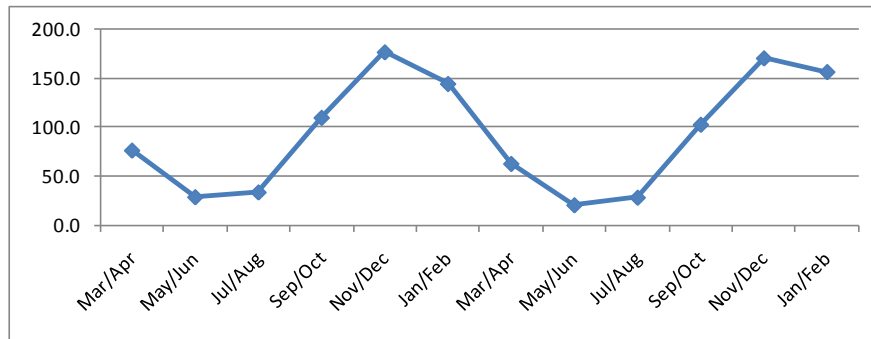


Fig. 1: This chart shows your average daily kWh for the past two years.

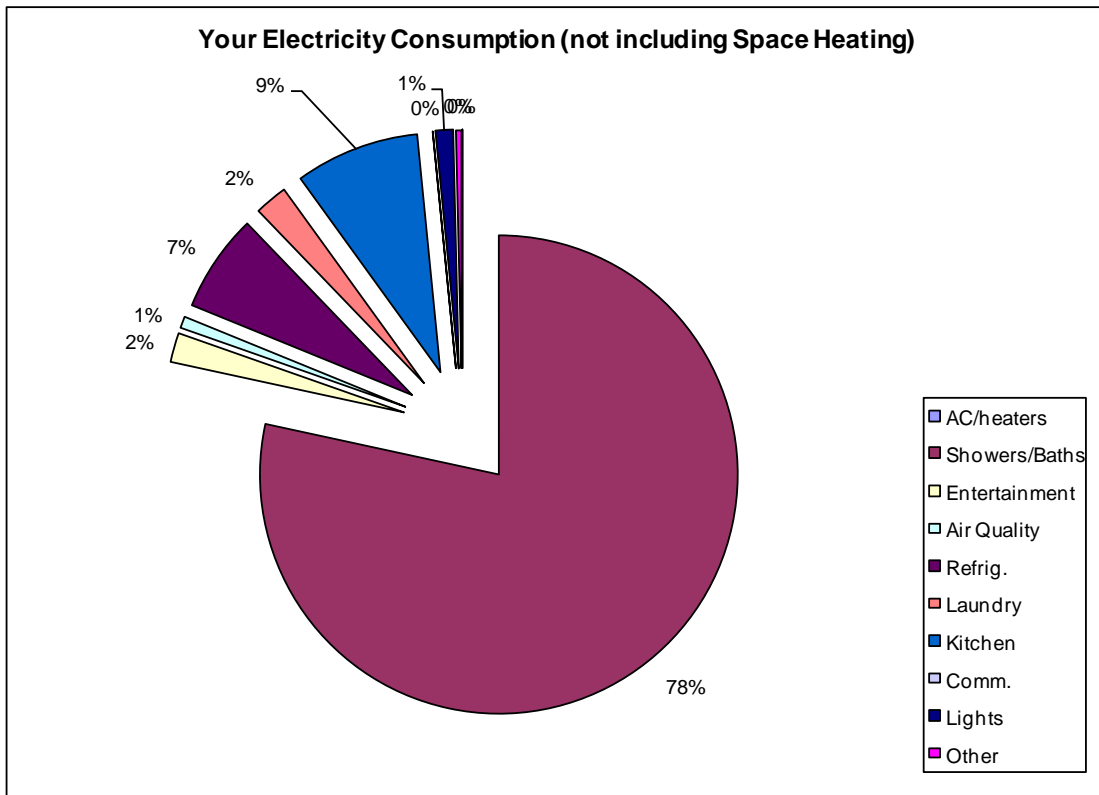


Fig. 2: This chart shows the average breakdown in electricity consumption for your Household, excluding space heating.

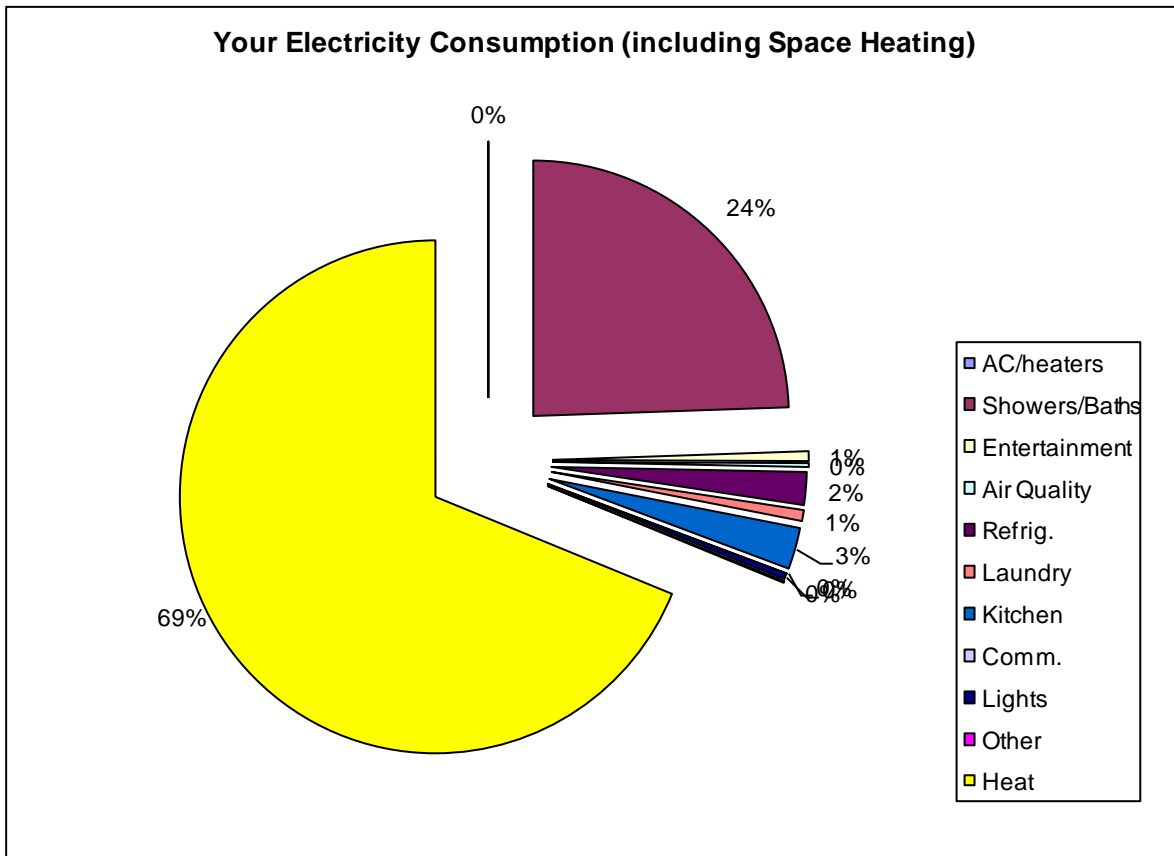


Fig. 3: This chart shows the average breakdown in electricity consumption for your Household, including space heating.

Your monthly electricity consumption and potential savings

| | Appliances | You | Upgrade | Savings | How? - See Below |
|-----------------|--------------------------|----------|----------|-----------------|---|
| Total | | | | \$ 55.46 | |
| Kitchen | Fridges | \$ 8.17 | \$ 8.17 | \$ - | 18 cu ft Energy Star fridge |
| | Freezers | \$ - | \$ - | \$ - | 12 cu ft Energy Star freezer |
| | Cooking/Boiling water | \$ 0.31 | \$ 0.31 | \$ - | Microwave or toaster oven when possible |
| Laundry | Dishwasher | \$ 10.03 | \$ 5.19 | \$ 4.84 | Energy Star model |
| | Clothes washer | \$ 1.18 | \$ 1.15 | \$ 0.03 | One load every 2 days, Energy Star |
| Hot Water | Clothes dryer | \$ 1.55 | \$ 0.78 | \$ 0.78 | Increased Clothesline/Drying rack use |
| | Baths and Showers | \$ 85.12 | \$ 42.56 | \$ 42.56 | 10 min. showers, using 1.3 GPM head |
| Entertainment | Standing Loss | \$ 11.20 | \$ 5.60 | \$ 5.60 | R3 tank blanket |
| | TVs | \$ 1.64 | \$ 0.65 | \$ 0.98 | LCD Screen, 2 hours/day |
| Communications | Satellite dish/Cable box | \$ - | \$ - | \$ - | Turn off when not in use |
| | Computers, peripherals | \$ - | \$ - | \$ - | LCD Screen, 2 hours/day, unplug |
| Lighting | Exterior | \$ 0.15 | \$ 0.13 | \$ 0.02 | CFL bulbs |
| | Interior | \$ 1.31 | \$ 0.66 | \$ 0.66 | CFL bulbs |
| Heat/Cool Units | Electric heaters | \$ - | \$ - | \$ - | Lower thermostat setting 5C |
| | Air conditioning | \$ - | \$ - | \$ - | Raise thermostat setting 5C |

To enable us to determine the best ways to reduce your consumption of electricity, this report takes into consideration a number of factors (size and composition of your household, the number and use of appliances in your home, etc) in order to compare the average consumption with what appears to be the case in your home.

To get actual measurements of your electricity consumption, a watt meter can be installed on your fridge, freezer or other devices which cycle on and off. Monitoring the device for an extended period of time (at least 24 hours) can provide an average rate of electricity consumption. After checking fridges and freezers, you can use the meter to measure the consumption of any appliance you can plug into a normal outlet.

Bear in mind that most government energy ratings, be they for cars or appliances, are based on design and size, not location and use. Such ratings are very useful at the point of sale because they provide comparative data, but the watt meters provide actual data based on where your appliance is located and how it is used. A heavily-used fridge with dirty seals and coils, sitting in a sunny corner near a radiator, could consume far more than its official rating.

RECOMMENDATIONS

- You heat with electricity. The amount that you spend on heat could be cut in half by converting to an **air-source heat pump** or a furnace that runs on natural gas or propane. A heating energy audit of your house would help you choose the best ways to reduce you heating bills.
- The electric hot water tank is costly. You are paying \$30 to \$50 per bill just to keep the water hot in it plus usage. Consider installing a tank blanket to reduce your standby losses.
- Replace all lights that you use often with compact fluorescent bulbs, which are not expensive and will provide some small savings. For lights that are left on all the time, consider investing in LED bulbs, which are more expensive but last for years and will provide even more savings.

HOT WATER

After space heating and cooling, water heaters are usually the biggest user of energy in the home, accounting for about 20% of total energy consumption. Part of this energy is wasted through standby heat loss and waste hot water. Standby heat loss is usually heat lost through tank walls and water piping, but fuel-fired tank water heaters also lose more than 20% of their heat up the chimney. Waste hot water represents energy down the drain because this energy-rich water leaves your home after use, while cold water from outside comes directly into the tank.

There are several strategies to reduce and conserve hot water energy, including low flow shower heads, efficient clothes washers and dishwashers, better tank insulation or improved equipment, and drain water heat recovery systems that preheat incoming tank water with heat from outgoing drain water.

Your water heater uses electricity as an energy source. Although more efficient than those powered by gas or oil, electric tanks usually cost more to run because electricity is a more costly form of energy. The standing losses are about 18% for these tanks, which can be cut in half by adding insulation.

KITCHEN

Refrigerator:

Less than 20 years old, it is probably pretty efficient because new manufacturing standards kicked in about 20 years ago. Find out exactly how efficient it is before deciding to replace it by checking the watt meter and recording the result on the back page.

Dishwasher:

Less than 20 years old, make sure you run full loads and use the eco function if there is one. Remember that 90% of the energy used is for hot water, so select the cycle with the lowest temperature and shortest time. You can also save if you hand wash dishes in an efficient manner.

Using an **electric stove** adds to your electricity bill but there are no easy solutions to reduce consumption on the stovetop. Most stoves on the market have very similar energy ratings except for the expensive magnetic induction models, which work almost

like microwaves and are safer to use. Visit the website address at the end of this report for more suggestions.

LAUNDRY

Because you do not use your washing machine very often, it does not make sense to invest in a new model unless it breaks down, but you could see some savings by using cold-water washes.

A **clothes dryer** is inherently inefficient so the best way reduce its cost is not to use it. An indoor drying rack and an outdoor clothes line are by far the most economical way of drying clothes. It is better for the environment, your clothes and eliminates electrical consumption. You'll also benefit from better humidity levels during the winter by using a drying rack indoors.

ENTERTAINMENT/COMMUNICATION

- Many computers, TVs and other entertainment devices use electricity even when they are turned off. We call this waste of power the '**Phantom Load**'.
- If you have lots of entertainment, communication, or office devices with DC adaptors and instant-on features, consider hooking them up to a power bar with surge protection. That way you'll protect these devices and be able to turn them on when you need it.
- Turn off your computer, or at least its monitor, when it is not in use.
- Laser printers use a lot of power even when they're idle, so only turn it on only when you're ready to print.

SPACE HEATING AND COOLING

Electricity provides at least part of the energy in any heating system, so your power bills will increase with Time-of-Use metering in Ontario. That is because the price of electricity is more expensive during weekdays, and even higher for a few hours of peak periods around noon in the winter and late afternoon in the summer. However, it will cost less to heat your home at night and on the weekends.

Your best option is to reduce your need for heat or cooling, by increasing insulation and air sealing levels while maintaining good mechanical ventilation.

You can also save by turning the heat down when you don't need it, keeping windows closed and dressing warmly in the winter. If you lower your thermostat by 1°C, you will

reduce your heating costs by 5%! In summer, use air conditioning wisely: dress lightly and use a set temperature no lower than 26°C.

LIGHTING

Lighting, especially on the exterior, is one of the easiest areas to reduce your consumption. Compact fluorescent bulbs (CFLs) use only 25% of the electricity of traditional bulbs and have a longer life span. LEDs use only about 6%, have an even longer life span, but cost more. The best bulbs to replace are ones that are used the most.

HOT WATER

Providing hot water uses energy in many ways – at sinks and showers, for dish and clothes washing. If your hot water is heated with electricity, visit the website address at the end of this report for more suggestions. We also suggest installing an insulating blanket, energy-efficient showerheads and aerators, and insulation on water pipes at the tank.

MORE SAVINGS SUGGESTIONS:

Check out the Province of Ontario's energy conservation website:

<https://saveonenergy.ca/Consumer/Efficiency-Tips---Tools>

FOR FUTURE CONSIDERATION:

If you have not already done so, having a heating energy audit done on the entire building from basement to attic is a great way of finding out where your heat is going, and how best to improve the situation, including estimated savings. Please contact us at EnviroCentre for more info, or to book a visit.