## **Electricity Use Evaluation Report**

File number: Your Reference no



The results of your electricity use evaluation shows that your house consumes about 39240 kWh per year. The average consumption for a similar type of house is 37360 kWh per year. If you follow all of the recommended equipment upgrades in this report, you can reduce your electricity consumption by up to 2.1%, saving up to 842 kWh per year.

In addition, the evaluation shows that additional savings may be possible if you are able make behaviourable changes in how equipment is used or controlled. These behavioural savings are estimated at up to 4.2% of total usage, or 1654 kWh per year.

These findings are based on a review of the use of all the products that consume electricity in your home, calculating how much electricity each one consumes per year, identifying opportunities to save electricity and estimating the potential electricity savings after these measures are implemented.

The recommendations to save energy are summarized on the following page, followed by a detailed description of how electricity is used in your home.

Notice: If you notice any discrepancies with the above description of your home, contact your service organization immediately.

Service Organization:	Your Audit Co.	Certified Energy Advisor:	
Telephone:	555-123-8765	U.R. Name	
Date of evaluation:	March 29, 2010	Date of report:	September 30, 2010

## SUMMARY OF ELECTRICITY SAVING MEASURES

Based on the information collected on the electrical products and usage in your house, the following recommendations are made to help you save electricity:

<b>Recommended Electric Equ</b>	uipment Upgrades
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Usage Area	Retrofits	Incentives	Potential for Savings in Usage Area Max=5 Stars	Potential Savings (kWh per year)
Major Appliances	Consider replacing old appliances with energy efficient ones		*	81
Lighting	Replace high-use incandescent lamps with compact fluorescent lamps		****	205
Air Conditioning	Replace existing air-conditioning equipment with a new Energy Star rated unit		****	197
Domestic Hot Water	Replace existing electric water heater with a new, efficient unit		**	359
			Total	842

#### **Possible Savings from Behavioural Changes**

Usage Area	Behavioural Change	Incentives	Potential for Savings in Usage Area Max=5 Stars	Potential Savings (kWh per year)
Major Appliances	Unplug and recycle secondary refrigerators and freezers		****	640
Major Appliances	Use an outdoor clothes line to dry clothes (savings based on displacing 25% of dryer loads)		****	229
Home Entertainment Equipment	Use power bars to disconnect equipment when not in use (savings based on 50% reduction in standby power)		****	228
Office Equipment	Use power bars to disconnect equipment when not in use (savings based on 50% reduction in standby power)		***	101
Pumps, Pools, Spas	Install Timers or controls to reduce pump operating time		****	456
			Total	1654

### ELECTRICITY USAGE SUMMARY

The following chart illustrates where electricity is consumed in your home.



The various coloured areas show the relative amount of energy consumed in each category, which have been labelled:

- 1. Major appliances;
- 2. Lighting;
- 3. Domestic water heating;
- 4. Air conditioning;
- 5. Space heating; and,
- 6. Supplemental space conditioning; and,
- 7. "Other" uses.

The "other" uses are broken down further in the column on the right, which represents energy consumed by the following:

- 1. Home entertainment;
- 2. Office and communication equipment;
- 3. Pumps, Pools, Spas; and,
- 4. Other Miscellaneous.

### DETAILED ANALYSIS OF ELECTRICITY

#### MAJOR APPLIANCES: 3,934 kWh per year, or 10.0% of total Electricity Used

The major appliances in your home are listed below, showing the approximate age and the estimated energy consumption based on the use indicated during the audit. The last column indicates the amount of energy that can be saved by replacing the appliance with a new, energy efficient unit.

Major Appliance	Number in Use	Age (of primary unit if more than one) (years)	Annual Consumption - all units (kWh per year)	Est'd. savings by replacing primary unit (kWh per year)
Refrigerator	2	2	1140	78
Freezer	1	3	276	3
Clothes washer	1	2	56	0
Electric clothes dryer	1	2	916	
Dishwasher	1	2	406	
Electric range	1	2	971	
Microwave oven	1	2	169	
Totals	8		3934	81

Based on the findings and on the estimated savings, the following recommendations are made:

#### **Refrigerators, Freezers and Wine Coolers:**

A survey of your home indicated that there are currently 2 refrigerators with an estimated energy consumption of 1140 kWh per year and 1 freezer with an estimated energy consumption of 276 kWh per year .

The main refrigerator in you home is estimated to be 2 years old. Typical life expectancy for a refrigerator is about 17 years.

The freezer in you home is estimated to be 3 years old. Typical life expectancy for a freezer is about 21 years.

If it is possible, energy savings can be realized by unplugging and recycling the extra refrigerator found in your home. Potential savings are estimated at 640 kWh per year.

#### Dishwashers

The dishwasher in you home is estimated to use about 406 kWh per year.

Your dishwasher is estimated to be 2 years old. Typical life expectancy for a dishwasher is about 13 years.

#### **Clothes Washer and Dryer**

The clothes washer in you home is estimated to use about 56 kWh per year of electricity.

The front loading clothes washer is about 2 years old. Typical life expectancy for a clothes washer is about 14 years.

The clothes dryer in you home is estimated to use about 916 kWh per year of electricity.

Your clothes dryer is is about 2 years old. Typical life expectancy for a clothes dryer is about 18 years.

If it is possible, energy savings can be realized by using an outdoor clothes line to dry clothes when the weather is fine. For example, if you dried 25% of the loads on a clothes line, your energy savings would be 229 kWh per year.

#### Stove, Oven and Microwave

The electric range in your home uses an estimated 971 kWh per year of electricity. It is about 2 years old. Typical life expectancy for an electric range is about 18 years.

The microwave oven in your home uses an estimated 169 kWh per year of electricity, and is about 2 years old. Typical life expectancy for a microwave oven is about 13 years.

#### LIGHTING:

The amount of electricity used by your household for lighting is estimated at 857 kWh per year. The type of lighting, and number of lamps found in the survey of your home are listed below:

Lamp type	Lamp count	Energy Used	Approx. Fraction of Lighting Provided
INDOOR LIGHTING	(# of Lamps)	(kWh per year)	% of Lighting
Incandescent	13	257	21
Halogen	29	393	21
Fluorescent	24	154	58
Other	0	0	0
Indoor Lighting Subtotals	66	805	100
OUTDOOR LIGHTING	(# of Lamps)	(kWh per year)	
Incandescent	1	5	
Halogen	0	0	
Fluorescent	2	47	
Other	0	0	
Garden Lights	0	0	
Outdoor Lighting Subtotals	3	53	
Household Totals	69	857	

Indoor lighting uses an estimated 805 kWh per year, or about 94% of the electricity used for all lighting. The most common type of indoor lighting found in your home is halogen, and provides approximately 21% of your indoor lighting requirements.

The outdoor lighting on your property uses an estimated 53 kWh per year of electricity, or about 6% of the electricity used for all lighting.

Replacing heavy-use incandescent lamps with compact fluorescent lamps (CFLs) or replacing incandescent fixtures with ENERGY STAR fixtures will reduce both energy consumption and significantly increase lamp life.

Incandescent lamps use about 262 kWh per year. The energy saving potential in your home is estimated at up to 205 kWh per year.

#### DOMESTIC WATER HEATING: 3460 kWh per year, or 8.8% of total Electricity Used

A survey of your home indicated that domestic hot water is provided by an electric water heater. This water heater uses about 3460 kWh per year of electricity.

Your electric water is about 10 years old. Typical life expectancy is about 12 years. Consider replacing your old water heater with a new, efficient one. Estimated savings are 359 kWh per year.

## SPACE HEATING & VENTILATING 26,550 kWh per year, or 67.7% of total Electricity Used EQUIPMENT:

The primary space heating system in your home is an electric forced-air furnace. The space heating and ventilating systems uses about 26550 kWh per year of electricity.

#### AIR-CONDITIONING: 753 kWh per year, or 1.9% of total Electricity Used

Your house is equipped with central air conditioning.

The central air conditioner has an efficiency ratio (SEER) of 10, and is estimated to use about 753 kWh per year of electricity. The unit is 10 years old.

Should you replace your air-conditioner with a new, similar-sized ENERGY STAR certified model, you are expected to save about 197 kWh per year.

# SUPPLEMENTAL SPACE424kWh per year, or1.1%of total Electricity Used

Supplemental space conditioning equipment includes devices such as portable heaters, portable fans, ceiling fans, humidifiers and dehumidifiers. These devices are estimated to consume about 424 kWh per year of electricity.

#### "OTHER" ELECTRIC LOADS: 3,256 kWh per year, or 8.3% of total Electricity Used

'Other' Electric Loads include *Home Entertainment Equipment* (TVs, set-top boxes, DVD players, game controllers, etc.), *Office and Communications Equipment*, (computers, printers, portable telephones, chargers, etc.) *Pumps* (pool, whirlpool and sump pumps), various *Other Miscellaneous Devices* (coffee makers, toasters, grill, vacuum cleaners, garage door openers, water softeners, security systems, etc).

'Other' equipment in your house consumes a total of 3256 kWh per year in, as broken out in the following table:

Other Equipment Sub-Category	Est'd Total Power Usage	Est'd Stand-by Power Usage	Potential Savings
	(kWh per year)	(kWh per year)	(kWh per year)
Home Entertainment	914	456	228
Office & Communication	666	201	101
Pumps, Pools, Hot-tubs, Spas	912	0	456
Other Miscellaneous Equipment	763	26	not applicable*
Totals	3255	683	785

\* **Note:** The "*Other Misc. Equipment*" category includes items such as garage door openers and central vacuum cleaner units, and is generally not suitable for disconnection as a means of reducing stand-by power.

#### Stand-by Power

Many electronic products such as TVs, set-top boxes, VCRs, DVD and Blu-Ray players, game controllers, etc. consume electricity even when they are in the "off" or "stand-by" settings. The reason is that some of the functions in these electronic devices require power continuously to operate the remote-control functions, memory and indicating displays and clocks. Other devices such as battery chargers for telephones, laptops, etc. consume power not only when the equipment is in use or charging, but also consume some power (although at a lower level) when the equipment is off but the charger is still plugged into the power outlet. Although these devices draw relatively little power when left plugged in, the fact that these devices are often left plugged in most of the time results in a significant 'stand-by' usage of electricity over the year.

Based on the inventory of equipment in your house, the total stand-by power consumption is estimated to be 700 kWh per year, or 2 % of the total household electricity usage. The majority of stand-by power, 683 kWh per year, is used by the 'other equipment' sub-category.

The home entertainment equipment in your house consumes approximately 914 kWh per year, including standby power requirements of 456 kWh per year.

To reduce or eliminate standby power losses, consider using a 'power bar' with an on-off switch for home entertainment equipment that does not have to be re-programmed every time it is unplugged. Estimated savings are 228 kWh per year, assuming a 50% reduction in this stand-by power usage.

Office and Communication 666 kWh per year, or 1.7% of total Electricity Used Equipment

The office and communication equipment in your house consumes approximately 666 kWh per year, including stand-by power usage of 201 kWh per year.

Where possible, use a 'power bar' with a switch on computers, printers, scanners, routers, etc., or unplug power adapters when not in use. Estimated savings are 101 kWh/year, assuming a 50% reduction in this stand-by power usage.

Pumps, Pools, and Spas912kWh per year, or2.3%of total Electricity Used

This sub-category of equipment includes devices such as sump pumps, well-water pumps, and pumps and electric heaters associated with swimming pools, hot tubs and spas. A survey of your home indicates that equipment of this type is present, and uses about 912 kWh per year of electricity.

Power consumption of some circulating pumps can be lowered by installing a timer or other controls to reduce operating time while maintian the overall functionality. Assuming you could reduce pump operating times by 50%, your savings potential is estimated at 456 kWh per year.

Other Miscellaneous Devices 763 kWh per year, or 1.9% of total Electricity Used

"Other Miscellaneous Devices" include various small kitchen appliances, other miscellaneous appliances and devices (hair dryers, clocks, etc), and other items such as garage door openers, central vacuum cleaners, etc.

These "other miscellaneous devices" are estimated to use 763 kWh per year in your home.

#### **GENERAL RECOMMENDATIONS**

The following Electricity Saving Tips may help you minimize the amount of electricity that your household uses. Review the list, and implement as many of the energy saving Tips that will fit with your lifestyle.

#### TIPS FOR REDUCING ELECTRICITY USAGE

Household Device	Action or Recommendation
Air Conditioners and Fans	Air conditioners should be cleaned, tuned, recharged or serviced by a qualified professional every 2-3 years.
	Clean air filters periodically.
	Close all windows and doors when the air conditioner is operating.
	Close or adjust the air registers for unoccupied rooms.
	Improve wall and attic insulation to minimize the amount of heat entering the house.
	Minimize indoor humidity by showering in the evening.
	Minimize interior heat gain by replacing old inefficient appliances with modern ones, and by converting incandescent lights to energy efficient ones.
	Seal air ducts to minimize air losses.
	Use a programmable thermostat to increase the air temperature when leaving the house.
	Use ceiling fans to circulate air and produce the wind chill effect of natural cooling.
	Use ceiling fans to offset having to use air conditioners and/or to improve air distribution.
	Use shade trees and shrubs with awnings and trellises to minimize heat gain from the sun.
Consumer Electronics and	Look for the EnergyStar™ mark when making purchase decisions.
Home Office Equipment	Unplug Devices not in use is the simplest way to save electricity. Be on the lookout for unconnected chargers that are plugged into wall sockets.
	Use Power Bars to quickly disconnect multiple devices and power supplies in a single step. Note: Programmable Devices like TVs, cable/satellite boxes and video players/recorders should have a separate power bar and generally turned off during extended absences.
Cooking Appliances	Avoid covering the oven racks with foil as this prevents the convection heat from circulating efficiently.
	Consider defrosting frozen food in the refrigerator to save on cooking time.
	Match the pot/pan Size to the Element Size and avoid using smaller pots and pans on larger cooking elements.
	Use flat bottomed sturdy pots and pans as they have better contact with the stove element and generally require less energy to heat.
	Use high conductive (e.g. copper bottom) pots and pans for the stovetop, and glass or ceramic pans in the oven as they use less energy to heat up, and generally result in more evenly cooked food.
	Where possible use smaller appliances for smaller portions (for example toaster ovens for single servings)
<u>Dishwashers</u>	Avoid under loading or overloading dishwashers.
	Consider using the "no heat" dry mode to dry the dishes.
	Look for EnergyStar™ rated models and Energuide™ labels when making purchase decisions.
	Use the dishwasher wash cycle that is most appropriate for the nature of the load being cleaned.

Electric Hot Water Heaters	Consider using an insulating jacket for electric hot water heaters installed prior to 2004.
	Insulate hot water pipes with pipe wrap.
	Lower water temperature to 50°C. Caution: Legionella bacteria can build up rapidly inside the hot water tank at temperature settings below 46°C.
	Reduce hot water requirements by using low flow faucet aerators and showerheads.
Lighting	Consider using light colour wall paints for improved reflection.
	Replace Incandescent lights with compact fluorescent ones.
	Turn off the lights when the room is unoccupied.
	Use LED holiday lights which come in a variety of styles and colours and consume considerably less energy than traditional incandescent holiday lights.
	Use natural daylight where possible for reading, work and other activities around the house.
	Use occupancy sensors, timers and light dimmers for improved light level control and energy savings.
	Use task lighting to concentrate the light when and where it is needed and rely less on ceiling and floor lights.
Refrigerators	Check door seals and gaskets for leaks.
and Freezers	Consider manually defrosting freezers when ice builds up along the interior walls coils.
	Consider removing items and unplugging secondary refrigerators and freezers that are seldom used.
	Cover and label food items for quick identification in order to minimize the amount of time the
	If the refrigerator has a built in heater to prevent moisture condensation, the feature can
	generally be turned off during colder months when humidity levels are generally lower.
	Let hot foods cool before putting them into the refrigerator or freezer.
	Look for EnergyStar™ and Energuide™ labels when purchasing refrigerators and freezers.
	The refrigerator temperature should be kept between 2°C and 4°C. If there is a separate temperature adjustment for the freezer, it should be set for between -17°C to -15°C.
	Where possible, locate the refrigerator or freezer away from direct sunlight or other heat sources like stoves and dishwashers.
Thermostats	For electrically heated homes or rooms, turn down the temperature by a few degrees at night and during absences.
	Turn up the temperature setting for air conditions during nights and absences.
	Use programmable thermostats to manage heating and cooling requirements based on your household schedule and occupancy patterns.
Washers and Dryers	Avoid under loading or overloading washers and dryers.
	Clean the dryer lint filter after each load.
	Consider using an outdoor clothes line to dry items, weather permitting.
	Look for the EnergyStar™ mark for washer purchase decisions.
	Use cold water for rinse cycles.
	Use the "Auto Dry" feature instead of a timer to ensure just enough drying of items.
	When buying a dryer, look for a model that senses dryness & automatically shuts itself off.
	Where applicable, dry multiple loads in quick succession to benefit from the dryer's residual heat.
	Where possible, use cold water for wash cycles instead of warm or hot water.

#### ADDITONAL INFORMATION RESOURCES

Here are some additional information resources, which you may find useful as you develop a plan to minimize the amount of electricity used in your household.

Information Resources	Weblink	Telephone		
Federal Programs and Services				
ecoEnergy	http://ecoaction.gc.ca/ecoenergy-ecoenergie/retrofithomes-renovationmaisons-eng.cfm	866-506-6804		
EnerGuide Appliance Directory	http://oee.nrcan.gc.ca/publications/infosource/pub/appliances/2007/index.cfm			
EnergyStar™ Appliances	http://oee.nrcan.gc.ca/energystar/english/participants/library/major_appliances.cfm			
Canada Mortgage and Housing Corporation	http://www.cmhc-schl.gc.ca/en/co/			
	Provincial and Territorial Home Energy Programs and Services			
Arctic Energy Alliance	http://www.aea.nt.ca/	867-920-3333		
City of Edmonton GHG Reduction	http://www.co2re.ca/	780-944-2673		
Efficiency New Brunswick	http://www.efficiencynb.ca/enb/1610/Existing-Homes-Energy-Efficiency-Upgrades- Program	866-643-8833		
Hydro Quebec	http://www.hydroquebec.com/residential/energuide/index.html	800-790-2424		
LiveSmart BC	http://www.livesmartbc.ca/homes/h_rebates.html	866-430-8765		
Manitoba Home Audit Program	http://www.hydro.mb.ca/news/releases/news_07_04_20.shtml	888-624-9376		
Nova Scotia Energy Rebate	http://www.yourenergyrebate.ns.ca/	800-670-4357		
Ontario Home Energy Savings	http://www.homeenergyontario.ca/stripes_en.asp	888-668-4636		
Ontario Power Authority	http://everykilowattcounts.ca/residential/	877-797-9473		
PEI Energy Efficiency Loan/Grant Programs	http://www.gov.pe.ca/oee/	877-734-6336		
Powerwise	http://www.powerwise.ca/			
Saskatchewan EnerGuide for Houses	http://www.saskenergy.com/Saving_Energy/energuide.asp	800-567-8899		