Operating Costs and Your Power Bill

This guide will help you better understand your electricity costs and provide the first step in managing the costs in your home.

Your electricity bill is made up of three main components: a customer charge, an energy charge, and a variable delivery charge. You can reduce your energy costs by reducing your electrical consumption. In addition, any reduction in energy costs will result in corresponding savings in your variable delivery costs.

The costs listed in this publication are intended to be a guide only and are based on average use and an energy cost of $0.05/kW.h. Your actual cost may vary depending on the specific energy price you pay, the type of appliance you own and the way you use your appliances. To determine your energy cost, check your power bill or call your energy supplier.

Using This Guide

We have divided this guide into two parts:

- A checklist of typical appliances and equipment used by residential consumers and the average operating costs for each.
- An energy consumption look-up table.

Instructions

Using the checklist inside this guide, record the estimated cost for each of the appliances in your home under the column titled "Your Estimated Cost."

This can be done using one or more of the following methods:

1. Use the average costs provided.

2. Adjust the average cost to more closely reflect your usage. Example: In the checklist, the average cost of using a Nintendo game is listed as $0.46 per month based on using it 3 hours per day. If you use yours 6 hours per day, double the average price shown to $0.92.

3. Use the look-up table on page six of this guide for a more precise estimate based on a particular appliance. To use the look-up table, you will need to know the horsepower or wattage of the appliance and the amount of time it is used.

When you are finished, you will have a list of the appliances you use and the estimated monthly cost. By analyzing your list, you can begin to see where your electricity dollars are being spent. You can start identifying ways to lower the cost by:

- Reducing the amount of time an appliance or piece of equipment is used;
- Choosing to use lower cost technologies or methods; or
- Choosing to use appliances differently (i.e. a microwave or toaster oven in place of a conventional oven).

For more information
contact ATCO Energysense
at 310-SAVE (7283) or go online
at www.atcoenergysense.com

Legend:

Appliances and equipment that generally consume large amounts of electricity. Reducing the consumption of these items will have the largest impact on your bill. When purchasing these appliances and electronics, look for the EnerGuide and Energy Star labels. Items with these labels are more energy-efficient, which makes better economic sense for you.

▸ Items marked are thermostatically controlled, which means they cycle on and off to maintain a constant temperature. These appliances are not "on" all the time and therefore use less energy per hour.

* Note: 1 horsepower (1 hp) = 746 watts.
Typical wattage = HP x 746 ÷ efficiency.

Bath and Bedroom

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Bathtub Spa (Whirlpool Tub) (excluding water heater costs)	750/11.3	30 min/day	0.57	
▸ **Blanket** (double)	200/48.0	8 hrs/day	2.40	
Hair Dryer (hand held)	1,000/5.0	10 min/day	0.25	
▸ **Heating Pad**	60/1.9	8 hrs/wk	0.10	
▸ **Hot Tub** 300 gallons at 41°C (106°F)				
a) Water Heating (if electric)				
• indoor	N/A/150.0	N/A	7.50	
• outdoor	N/A/225.0	N/A	11.25	
b) Pumping*				
(1/2 hp. Pump)	549/131.8	8 hrs/day	6.59	
(68% efficient)	—/395.3	continuous	19.77	
▸ **Water Bed Heater** set at 29°C (85°F)				
• room temperature 24°C (75°F)	400/90	cycling	4.50	
• room temperature 18°C (65°F)	400/180	cycling	9.00	

Heating and Cooling

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Air Cleaner				
• electronic (on furnace)	40/28.8	continuous	1.44	
• portable/tabletop	33/8.9	9 hrs/day	0.45	
▸ **Air Conditioner**				
• central (24,000 Btu/h)	2,000/180.0	3 hrs/day	9.00	
• split ductless (24,000 Btu/h)	850/76.5 2,570/231.3	3 hrs/day 3 hrs/day	3.83 11.57	
• window (12,000 Btu/h)	1,000/90.0	3 hrs/day	4.50	
Air Purifier	90/64.8	continuous	3.25	
Fans				
• attic	375/56.3	5 hrs/day	2.82	
• ceiling	80/57.6	continuous	2.88	
• exhaust (kitchen)	85/5.1	2 hrs/day	0.26	
• portable	200/18.0	3 hrs/day	0.90	
Furnace Fan* (1/3 hp.)				
▸ **a) Standard Motor** (51% efficient)				
• normal cycling	488/60.9	1,500 hrs/yr	3.05	
• continuous operation	488/355.5	8,760 hrs/yr	17.78	
▸ **b) High Efficiency Motor** (73% efficient)				
• normal cycling	340/42.5	1,500 hrs/yr	2.13	
• continuous operation	340/248.2	8,760 hrs/yr	12.41	
Heat Tape (12 ft. @ 7W/ft.)	84/60.5	continuous	3.03	
Humidifier				
• on furnace	10/3.0	cycling	0.15	
• portable/ultrasonic	60/10.8	6 hrs/day	0.54	
Space Heater	1,500/270.0	6 hrs/day	13.5	
Baseboard Heater	2,500/450.0	6 hrs/day	22.50	
▸ **Water Heater**				
• standard	4,500/118.0	per person	5.90	
• energy efficient	4,500/112.0	per person	5.60	

Entertainment and Office

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Answering Machine	12/8.8	continuous	0.44	
Aquarium	190/18.7	continuous	0.94	
Clock	2/1.4	continuous	0.07	
Computer				
• central processing unit	60/10.8	6 hrs/day	0.54	
• monitor	60/10.8	6 hrs/day	0.54	
• ink jet printer				
– idling	17/3.1	6 hrs/day	0.16	
– printing	78/2.3	1 hr/day	0.12	
• laser printer				
– idling	170/30.6	6 hrs/day	1.53	
– printing	780/23.4	1 hr/day	1.17	
Fax Machine	300/8.1	4 times/day	0.41	
Nintendo Game	100/9.2	3 hrs/day	0.46	
Radio	75/4.5	2 hrs/day	0.23	
Stereo	100/6.0	2 hrs/day	0.30	
Television – Colour				
• solid state	200/36.0	6 hrs/day	1.80	
• instant on feature	30/21.6	continuous	1.08	

Kitchen Appliances - Large

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Dishwasher (excluding water heater costs)				
• normal/ heat cycle on	1,500/18.0	1 load/day	0.90	
• normal/ heat cycle off	1,500/10.0	1 load/day	0.50	
Freezer				
a) Chest – Manual Defrost				
• older model (16 cu.ft.)	–/84.0	continuous	4.20	
• energy efficient model (15 cu.ft.)	–/37.0	continuous	1.85	
• energy efficient model (19 cu.ft.)	–/44.0	continuous	2.20	
b) Upright – Manual Defrost				
• older model	–/107.0	continuous	5.35	
• energy efficient model	–/47.0	continuous	2.35	
c) Upright – Auto Defrost				
• older model	–/198.0	continuous	9.90	
• energy efficient model	–/68.0	continuous	3.40	
Microwave Oven	700*/23.9	30 min/day	1.20	
* Input wattage is 1600W				
Range				
• large element	2,400/36.0	1 hr/day*	1.80	
• small element	1,300/19.5	1 hr/day*	0.98	
• oven (self-cleaning)	3,200/24.0	1 hr/day	1.20	
• oven (non self-cleaning)	3,200/32.0	1 hr/day	1.60	
• convection oven	3,500/41.0	1 hr/day	2.05	
• broil	3,600/3.6	1 hr/mo.	0.18	
• self clean cycle	4,000/5.9	once/mo.	0.30	
* on medium heat				
Total (average)	**–/62-75**		**3.10-3.75**	
Refrigerator				
a) Manual Defrost (10-12 cu.ft.)				
• older model	–/100.0	continuous	5.00	
• energy efficient model	–/45.0	continuous	2.25	
b) Frost Free (20 cu.ft.)				
• older model	–/140.0	continuous	7.00	
• older model side-by-side	–/170.0	continuous	8.50	
• energy efficient model	–/64.0	continuous	3.20	

Kitchen Appliances - Small

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Breadmaker	600/13.3	once/day	0.67	
Broiler (portable)	1,500/1.5	1 hr/mo.	0.08	
Coffee Maker				
• brew cycle	1,500/4.5	6 min/day	0.23	
• warm cycle	60/1.8	1 hr/day	0.09	
Convection Oven (portable)	1500/15.0	1 hr/day	0.75	
Corn Popper	850/0.85	15 min/wk	0.04	
Deep Fat Fryer	1,500/1.5	15 min/wk	0.08	
Electric Grill (indoor)	1,500/12.0	2 hrs/wk	0.60	
Food Dryer/Dehydrator	875/9.6	8 hrs/wk	0.48	
Food Processor	690/1.4	30 min/wk	0.07	
Frying Pan	1,200/4.0	2 hrs/wk	0.20	
Griddle	1,200/1.2	30 min/wk	0.06	
Hot Plate	1,250/2.5	2 hrs/mo.	0.13	
Kettle	1,500/7.5	10 min/day	0.38	
Pressure Cooker	1,300/5.2	1 hr/wk	0.26	
Slow Cooker				
• low	75/2.4	8 hrs/wk	0.12	
• high	175/5.6	8 hrs/wk	0.28	
Toaster (2 slice)	1,200/3.0	5 min/day	0.15	
Toaster Oven	1,400/6.4	2 hrs/wk	0.32	
Waffle Iron	1,200/1.2	2 hrs/mo.	0.06	
Water Cooler				
• cold only	115/15.3	4.5 hrs/day	0.77	
• hot/cold	138/18.6	4.5 hrs/day	0.93	

Laundry/Utility

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Clothes Dryer	6,000/80.0	34 loads/mo.	4.00	
Iron	1,000/4.0	1 hr/wk	0.20	
Sump Pump	135/24.3	6 hrs/day	1.22	
Vacuum Cleaner				
• portable	650/1.3	2 hrs/mo.	0.07	
• built-in	1,440/2.9	2 hrs/mo.	0.15	
Washer (excluding water heating costs)				
• automatic	500/8.5	34 loads/mo.	0.43	
• portable (twin tub)	300/5.1	34 loads/mo.	0.26	
Water Distiller (2 gal./day)	1,200/144.0	4 hrs/day	7.20	
Water Softener	5/3.6	24 hrs/day	0.18	

Lighting

Christmas Lights				
a) Exterior				
• 7W (25 bulbs/string)	175/21.0	4 hrs/day	1.05	
• 5W (25 bulbs/string)	125/15.0	4 hrs/day	0.75	
• 0.6W miniature (35 bulbs/string)	21/2.5	4 hrs/day	0.13	
b) Interior				
• 5W (15 bulbs/string)	75/9.0	4 hrs/day	0.45	
• 0.3W miniature (35 bulbs/string)	10/1.2	4 hrs/day	0.06	
Compact Fluorescent				
• 23W	23/2.8	4 hrs/day	0.14	
• 20W	20/2.4	4 hrs/day	0.12	
• 15W	15/1.8	4 hrs/day	0.09	

	Typical Wattage/ Average kW.h Use per month	Estimated Use	Estimated Average Monthly Cost	Your Estimated Cost
Incandescent				
a) Standard				
• 100W bulb	100/12.0	4 hrs/day	0.60	
• 60W bulb	60/7.2	4 hrs/day	0.36	
b) Reduced wattage (krypton)				
• 90W bulb	90/10.8	4 hrs/day	0.54	
• 52W bulb	52/6.2	4 hrs/day	0.31	
Fluorescent Tubes				
• 2 @ 40W tube fixture (magnetic ballast)	95/11.4	4 hrs/day	0.57	
• 2 @ 34W tube fixture (magnetic ballast)	81/9.7	4 hrs/day	0.49	
• 2 @ 32W tube fixture (T-8) (electronic ballast)	64/7.7	4 hrs/day	0.39	
• 15W single tube fixture (magnetic ballast)	21/2.5	4 hrs/day	0.13	
• 2 @ 75W tube fixture (8 ft.) (magnetic ballast)	172/20.6	4 hrs/day	1.03	
Floodlight				
• 150W incandescent	150/18.0	4 hrs/day	0.90	
• 90W halogen (PAR)	90/10.8	4 hrs/day	0.54	
• 75W incandescent	75/9.0	4 hrs/day	0.45	
• 45W halogen (PAR)	45/5.4	4 hrs/day	0.27	
Sunlamp	250/7.5	1 hr/day	0.38	
Security Lighting				
• mercury vapour	175/21.0	4 hrs/day	1.05	
• high pressure sodium	100/12.0	4 hrs/day	0.60	

Outdoors

Battery Charger	700/0.7	1 hr	0.04	
Car Battery Blanket	100/12.0 –/24.0	4 hrs/day 8 hrs/day	0.60 1.20	
Car Block Heater	600/72.0 –/144.0	4 hrs/day 8 hrs/day	3.60 7.20	
Car Interior Warmer	850/102.0 –/204.0	4 hrs/day 8 hrs/day	5.10 10.20	
Garage Door Opener	350/31.5	3 times/day	1.58	
Garden Tools				
• edger	480/1.0	2 hrs/mo.	0.05	
• hedge trimmer	290/1.2	4 hrs/mo.	0.06	
Lawnmower	1,200/4.8	1 hr/wk	0.24	
Power Tools				
• chain saw	1,380/2.8	2 hrs/mo.	0.14	
• circular saw	1,150/2.3	2 hrs/mo.	0.12	
• drill	287/0.6	2 hrs/mo.	0.03	
• jigsaw	287/0.6	2 hrs/mo.	0.03	
• table saw	1,380/2.8	2 hrs/mo.	0.14	
• sander	287/0.6	2 hrs/mo.	0.03	
Snow Blower	1,200/2.4	2 hrs/mo.	0.12	
Yard Light				
• mercury vapour	175/52.5	10 hrs/day	2.63	
• high pressure sodium	100/30.0	10 hrs/day	1.50	

For other appliances and equipment not specifically listed, use the energy consumption look-up table on page 7.

Energy Consumption Look-up Table

Use the table below to customize and estimate the monthly consumption of equipment and appliances you use that are not listed in this guide. Once you have determined the consumption, you can calculate the cost using the instructions listed on the next page.

To use the table:

1) Estimate the total daily operating hours of the appliance or equipment.

2) Find the closest daily operating time on the bottom of the table.

3) Find the closest wattage or hp* rating on the left side of the table.

4) The number in the table that intersects is the approximate monthly energy consumption.

The appliance or equipment will have a nameplate with one of the following electrical specifications.

Watts (W) – The maximum power rating of the appliance or equipment.

Horsepower (hp) – Output power rating of a motor (1 hp = 746 Watts).

Amps (A) – This is the current rating and is easily converted to Watts. To convert Amps to Watts multiply amperage by the line voltage. If the equipment or appliance is plugged into a standard electrical outlet, multiply Amps by 120 (assuming the line voltage is 120VAC).

Example: If the nameplate says 50A then (50A X 120VAC = 6000W).

Please note that the nameplate rating is a *maximum rating*. The actual operating Watts, hp or Amps may be lower. (often only 50% to 80% of the nameplate rating)

Monthly Energy Consumption (kWh)

hp	Wattage									
5	5000	25.0	75.0	150.0	300.0	600.0	900.0	1200.0	1800.0	3600.0
3	3000	15.0	45.0	90.0	180.0	360.0	540.0	720.0	1080.0	2160.0
2 1/2	2500	12.5	37.5	75.0	150.0	300.0	450.0	600.0	900.0	1800.0
2	2000	10.0	30.0	60.0	120.0	240.0	360.0	480.0	720.0	1440.0
1 1/2	1500	7.5	22.5	45.0	90.0	180.0	270.0	360.0	540.0	1080.0
1	1200	6.0	18.0	36.0	72.0	144.0	216.0	288.0	432.0	864.0
3/4	1000	5.0	15.0	30.0	60.0	120.0	180.0	240.0	360.0	720.0
1/2	500	2.5	7.5	15.0	30.0	60.0	90.0	120.0	180.0	360.0
1/3	300	1.5	4.5	9.0	18.0	36.0	54.0	72.0	108.0	216.0
1/5	200	1.0	3.0	6.0	12.0	24.0	36.0	48.0	72.0	144.0
1/8	100	0.5	1.5	3.0	6.0	12.0	18.0	24.0	36.0	72.0
–	50	0.2	0.8	1.5	3.0	6.0	9.0	12.0	18.0	36.0
–	25	0.1	0.4	0.8	1.5	3.0	4.5	6.0	9.0	18.0
–	10	0.0	0.2	0.3	0.6	1.2	1.8	2.4	3.6	7.2
–	5	0.0	0.1	0.2	0.3	0.6	0.9	1.2	1.8	3.6
		10 min.	**30 min.**	**1 hr.**	**2 hr.**	**4 hr.**	**6 hr.**	**8 hr.**	**12 hr.**	**24 hr.**

* hp ratings are approximate and are based on partial motor loading and estimated efficiencies

1. Instructions for calculating your monthly energy consumption:

To find your monthly energy consumption for an electrical appliance or piece of equipment, take the equipment wattage (W) and divide by one thousand, multiply by hours of use per day times days per month. This will give you an estimate of kilowatt-hours used per month.

W/1000 * hr/day * day/month = kWh/month

Example: Baseboard Heater

2500W/1000 * 6 hr/day * 30 day/month = 450 kWh/month

Calculation: ________ W/1000 * ________ h/d * ________ d/mo = ________ kWh/mo

2. Instructions for calculating energy costs based on consumption:

To find your monthly cost, take the energy consumption that applies (kWh) and multiply by your energy costs. An example is provided below.

kWh/mo * $/kWh = $/mo

Example: Baseboard Heater

450 kWh/month * $0.05/kWh = $22.50/month

Calculation: ________ kWh/mo * $ ________ /kWh = ________ /mo

Appliance: ____________________

Energy Consumption Calculation: ________ W/1000 * ________ h/d * ________ d/mo = ________ kWh/mo

Energy Cost Calculation: ________ kWh/mo * $________ /kWh = ________ /mo

Appliance: ____________________

Energy Consumption Calculation: ________ W/1000 * ________ h/d * ________ d/mo = ________ kWh/mo

Energy Cost Calculation: ________ kWh/mo * $________ /kWh = ________ /mo

Appliance: ____________________

Energy Consumption Calculation: ________ W/1000 * ________ h/d * ________ d/mo = ________ kWh/mo

Energy Cost Calculation: ________ kWh/mo * $________ /kWh = ________ /mo

Appliance: ____________________

Energy Consumption Calculation: ________ W/1000 * ________ h/d * ________ d/mo = ________ kWh/mo

Energy Cost Calculation: ________ kWh/mo * $________ /kWh = ________ /mo

The Next Step

Now that you know how much it costs to operate your appliances and equipment, you may want to take some steps to save energy. For further assistance, contact our trained energy analysts at ATCO EnergySense.

We're Here to Help

Our team of dedicated professionals is ready and waiting to assist you with an energy evaluation to help you:

- ***save money on energy costs***
- ***become more energy efficient***
- ***contribute to improving the environment***

Expert advice and tools for homes, businesses and institutions. Call us toll-free in Alberta at:

310-SAVE (310-7283)

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