

Appliance Energy Use Guide

Kitchen	Usage	kWh usage	kWh/month	Cost
BBQ Grill	6 hours/month	1.35/hour	8.1	
Broiler	3 hours/month	1.5/hour	4.5	
Coffee Maker	30 pots/month	0.375/pot	11.25	
Deep Fat Fryer	5 hours/month	1/hour	5	
Dishwasher	30 loads/month	1/load	30	
Electric Griddle	13 hours/month	1.47/hour	19.11	
Garbage Disposer	1 hour/month	0.67/hour	0.67	
Microwave	15 hours/month	1.5/hour	22.5	
Slow Cooker/'Crock-Pot'	12 hours/month	0.2/hour	2.4	
Toaster	20 times/month	0.111/use	2.22	
Toaster Oven	6 hours/month	1.2/hour	7.2	

Food Storage	Usage	kWh usage	kWh/month	Cost
Refrigerator: side by side (1987-1992)	24 hrs/day, 7 days/wk	0.147/hour	106	
Refrigerator: side by side (1993-2000)	24 hrs/day, 7 days/wk	0.094/hour	68	
Refrigerator: side by side (After 2000)	24 hrs/day, 7 days/wk	0.075/hour	54	
Refrigerator: top freezer (1987-1992)	24 hrs/day, 7 days/wk	0.104/hour	75	
Refrigerator: top freezer (1993-2000)	24 hrs/day, 7 days/wk	0.076/hour	55	
Refrigerator: top freezer (after 2000)	24 hrs/day, 7 days/wk	0.056/hour	40	
Refrigerator: bottom freezer (1987-1992)	24 hrs/day, 7 days/wk	0.147/hour	106	
Refrigerator: bottom freezer (1993-2000)	24 hrs/day, 7 days/wk	0.094/hour	68	
Refrigerator: bottom freezer (after 2000)	24 hrs/day, 7 days/wk	0.068/hour	49	
Freezer: upright with manual defrost (1987-1992)	24 hrs/day, 7 days/wk	0.082/hour	59	
Freezer: upright with manual defrost (1993-2000)	24 hrs/day, 7 days/wk	0.058/hour	42	
Freezer: upright with manual defrost (After 2000)	24 hrs/day, 7 days/wk	0.05/hour	36	
Freezer: upright with auto defrost (1987-1992)	24 hrs/day, 7 days/wk	0.121/hour	87	
Freezer: upright with auto defrost (1993-2000)	24 hrs/day, 7 days/wk	0.094/hour	68	
Freezer: upright with auto defrost (After 2000)	24 hrs/day, 7 days/wk	0.081/hour	58	
Freezer: chest (1987-1992)	24 hrs/day, 7 days/wk	0.058/hour	42	
Freezer: chest (1993-2000)	24 hrs/day, 7 days/wk	0.040/hour	29	
Freezer: chest (After 2000)	24 hrs/day, 7 days/wk	0.038/hour	27	

Electronics	Usage	kWh usage	kWh/month	Cost
Cable Box	4 hrs/day, 7 days/wk	0.02/hour	2.4	
Computer and Monitor	4 hrs/day, 7 days/wk	0.17/hour	20.4	
Cordless Telephone	24 hrs/day, 7 days/wk	0.003/hour	2.16	
DVD Player	4 hrs/day, 7 days/wk	0.017/hour	2	
DVR	4 hrs/day, 7 days/wk	0.03/hour	3.6	
Gaming Console (varies by model)	4 hrs/day, 7 days/wk	0.02-0.178/hour	2.4-21.36	
Printer	10 min/day, 7 days/wk	0.07/hour	0.35	
Satellite Dish	4 hrs/day, 7 days/wk	0.01389/hour	1.7	
Stereo	1 hr/day, 7 days/wk	0.06/hour	1.8	
Television: Standard	4 hrs/day, 7 days/wk	0.15/hour	18	
Television: Plasma	4 hrs/day, 7 days/wk	0.339/hour	40.7	
Television: LCD	4 hrs/day, 7 days/wk	0.214/hour	25.7	
Television: LED (46")	4 hrs/day, 7 days/wk	0.11/hour	13.2	
Television: Rear Projection	4 hrs/day, 7 days/wk	0.21/hour	25.2	
Wireless router	24 hrs/day, 7 days/wk	0.007/hour	5	

Lighting	Usage	kWh usage	kWh/month	Cost
60-watt bulb	4 hours/day/7 days/wk	0.06/hour	7.2	
CFL (13-15 watts)	4 hours/day/7 days/wk	0.013/hour	1.56	
CFL (25 watt--equivalent of 100 watt incandescent)	4 hours/day/7 days/wk	0.027/hour	3.2	
LED (6-8 watts)	4 hours/day/7 days/wk	0.006/hour	0.72	

General Household

	Usage	kWh usage	kWh/month	Cost
Clothes Dryer	20 loads/month	2.3 kWh/load	46	
Clothes Washer: standard top loading	20 loads/month	2.1 kWh/load	42	
Clothes Washer: front loading	20 loads/month	1.4 kWh/load	28	
Vacuum Cleaner	2 hrs/month	0.62/hour	1.24	
Water Heater (average for 4 people)	1800 gallons	3.75/hour	450	

Heating and Cooling

	Usage	kWh usage	kWh/month	Cost
Portable Space Heater (1,500 watt)	8 hrs/day, 7 days/wk	1.5/hour	360	
Window Air Conditioner (12,000 btu/hour)	8 hrs/day, 7 days/wk	1.6/hour	384	
Air Cleaner (ionizer)	24 hrs/day, 7 days/wk	0.07/hour	50	
Humidifier	8 hrs/day, 7 days/wk	0.12/hour	28.8	
Dehumidifier	12 hrs/day, 7 days/wk	0.6/hour	216	
Fans-Portable	3 hrs/day, 7 days/wk	0.0296/hour	2.664	
Fans-Ceiling	8 hrs/day, 7 days/wk	0.0778/hour	18.672	
Electric Blanket	8 hrs/day, 7 days/wk	0.1/hour	24	
Heated Mattress Pad	8 hrs/day, 7 days/wk	0.04/hour	9	

Miscellaneous

	Usage	kWh usage	kWh/month	Cost
Aquarium	24 hrs/day, 7 days/wk	0.06/hour	43.2	
Blow Dryer	10 min/day, 7 days/wk	0.67/hour	3.36	
Clock	24 hrs/day, 7 days/wk	0.002/hour	1.44	
Curling Iron	10 min/day, 7 days/wk	0.07/hour	0.35	
Garage Door Opener	24 hrs/day, 7 days/wk	0.006/hour	4.32	
Hot Tub	24 hrs/day, 7 days/wk	0.35-0.56/hour	252-403	
Iron	12 hrs/month	1.1/hour	13.2	
Swimming Pool Pump (1 HP)	8 hrs/day, 7 days/wk	1/hour	240	

Farm Miscellaneous

	Usage	kWh usage	kWh/month	Cost
Aerated Septic System	24 hrs/day, 7 days/wk	0.38/hour	274	
Electric Fence			0-7	
Engine Block Heater: 500-watt	240 hrs/month	0.5/hour	120	
Engine Block Heater: 800-watt	240 hrs/month	1/hour	240	
Engine Block Heater: 1500-watt	240 hrs/month	1.5/hour	360	
Engine Block Heater: 2500-watt (diesel engine)	240 hrs/month	2.5/hour	600	
Heat Tape: 6'	24 hrs/day, 7 days/wk	0.05/hour	36	
Tank Heater (varies by wattage and location)			40-300	
Farm Motor: 10 HP	1 hr/day, 7 days/wk	7.46/hour	224	
Water Pump: 1/3 HP	60 hrs/month	0.33/hour	19.8	
Water Pump: 1 1/2 HP	60 hrs/month	1.5/hour	90	

Phantom Loads

	Usage	kWh usage	kWh/month	Cost
Cell Phone Charger	24 hrs/day, 7 days/wk	0.001/hour	0.72	
Computer in Sleep Mode (varies by model)	24 hrs/day, 7 days/wk	0-0.006/hour	0-4.32	
Digital Cable Box	24 hrs/day, 7 days/wk	0.035/hour	25.2	
DVD Player	24 hrs/day, 7 days/wk	0.001/hour	0.72	
Gaming Console (varies by model)	24 hrs/day, 7 days/wk	0.003/hour	0.36	
Instant-on TV	24 hrs/day, 7 days/wk	0.028/hour	20.16	
Microwave Oven with Clock	24 hrs/day, 7 days/wk	0.008/hour	5.76	
Satellite Cable Box	24 hrs/day, 7 days/wk	0.012/hour	8.64	
Stereo with Remote Control	24 hrs/day, 7 days/wk	0.008/hour	5.76	
Stove with Electric Ignition	24 hrs/day, 7 days/wk	0.014/hour	10.08	
VCR	24 hrs/day, 7 days/wk	0.014/hour	10.08	
Wall Cube Power Supply (AC Adapter/charger)	24 hrs/day, 7 days/wk	0.006/hour	4.32	

How to Estimate Energy Use and Cost

The wattage of appliances (equipment) and the amount of operating time can vary greatly. The following information will show you how to determine where the energy dollars are going in your home.

STEP 1

Since the cost of electricity is determined by the number of kilowatt hours (kWh) used during a billing period, the first step is to determine your average cost per kilowatt hour.

$$\frac{\$ \text{ amount of electric bill}}{\text{kWh used}} = \text{Average kWh Cost}$$

EXAMPLE

$$\frac{\$154}{1400 \text{ kWh}} = \$0.11 \text{ per kWh}$$

Check with your local electric cooperative for current rate.

STEP 2

Since the wattage of an appliance (equipment) determines the electrical usage per hour, the second step is to determine the wattage.

The wattage of an appliance is found on the serial plate. But it is possible that the electrical requirements will be expressed in volts and amperes, rather than watts. If so, multiply **volts** by **amperes** to obtain **wattage**; e.g. 120 volts x 12.1 amperes = 1,452 watts.

Example of Serial Plate

MICROWAVE OVEN

AMPS	12.1	VOLTS	120
HERTZ	60	WATTS	1452
FORM NO.	000000	MODEL NO.	00000
CODE	0	SERIAL NO.	0000

STEP 3

Use the formulas shown in the following examples to estimate usage and cost.

A light uses 100 watts and is left on 15 hours. How many kWhs are used and what does it cost?

$$100 \text{ watts} \times 15 \text{ hours} \times \frac{1 \text{ kW}}{1,000 \text{ watts}} = 1.5 \text{ kWh used}$$

Your cost = 1.5 kWh X \$0.11/kWh = \$0.165 or 16 1/2 cents

A microwave oven uses 1,450 watts and is used for 30 minutes. How many kWhs are used and what does it cost?

$$1,450 \text{ watts} \times 0.5 \text{ hours} \times \frac{1 \text{ kW}}{1,000 \text{ watts}} = 0.725 \text{ kWh or } 0.73 \text{ kWh used}$$

Your cost = 0.73 kWh X \$0.11 = \$0.083 or 8 cents

STEP 4

To find your daily cost for electricity, divide your bill by the number of days in your billing period.

$$\text{EXAMPLE } \frac{\$154}{30 \text{ days}} = \$5.13 \text{ which is your daily cost}$$

To find the daily cost for electricity per person in your family, divide the daily cost by the number in your family.

$$\text{EXAMPLE } \frac{\$5.13}{4} = \$1.28 \text{ per person per day}$$