

COST ESTIMATES

FOR USING ELECTRIC AND GAS APPLIANCES



OVERVIEW

Appliances can make up about 20 percent of a home's energy consumption. In this booklet, you will learn how to figure your costs and find cost estimates for common household appliances. We have estimated how much energy each appliance may use in an average home with average usage. **If you would like more detailed information, try completing our free online home energy audit at www.midamericanenergy.com/homeaudit.**

HOMECHECK® ONLINE AUDIT

When you take our HomeCheck Online audit, you will be asked a series of questions about various aspects of your home and the appliances you use. Based on your answers, you will be provided with low-cost or no-cost ways to make your home more energy efficient, as well as options that will take some investment. To help you make the best decisions for your budget, you also will be provided information regarding potential savings vs. your initial investment cost.

Here are just a few of the many features offered by the HomeCheck Online audit:

- Appliance calculators that will help you determine how much it costs to run your appliances.
- Appliance calculators that will show you how much you can save by replacing old appliances with energy-efficient models.
- An online report designed especially for your home to help you save energy and money.
- Tips on how to improve your heating and cooling systems.
- Tips on how to improve your home by using energy-efficient lighting products.
- A comparison of your energy bills for the past year to the average home of similar size.



HOW TO FIGURE YOUR COSTS

FOR ELECTRIC APPLIANCES

It's easy to estimate the impact of an electrical appliance on your bill by following these steps:

1. Find the rating of the appliance in watts.
2. Divide the watts by 1,000 to get kilowatts per hour (kWh).
3. Figure the cost per kWh – Divide your bill's total electric charges by the number of kWh on that bill. (For example, if your electric charges were \$90 that used 1,000 kWh, your average cost per kilowatt-hour would be $(\$90 \div 1,000 = \$.09)$, or 9 cents.)
4. Multiply kWh by cost per kWh ($\$.09$ is the cost per kilowatt hour used in this booklet) to find the operating cost per hour.

For example:

A hair dryer with a 1,500 watt rating and an electric cost of \$.09 per kWh would be:

$$\frac{1,500\text{w}}{1,000} = 1.5 \times \$.09 = \$0.135 \text{ per hour}$$

(or about \$.03 per 15 minutes)

If the wattage rating isn't listed, you can figure it if you know the amps and volts.

$$\text{Amps} \times \text{volts} = \text{wattage}$$

Example: A freezer consumes 4.2 amps on a 120-volt circuit, so $4.2 \times 120 = 504$ watts

FOR GAS APPLIANCES

1. Find the rating of the appliance in BTU per hour.
2. Divide the BTU rating by 103,500 (BTU/therm) to find therms required per hour.
3. Multiply therms by cost per therm to find operating cost per hour.

For example:

Find continuous operating cost per hour of a 35,000 BTU gas grill with gas cost of \$.90 per therm:

$$\frac{35,000}{103,500} = .3382 \text{ therms}$$

$$= .3382 \times \$.90 = \$.30 \text{ per hour}$$

(or about \$.15 per half hour)

NOTES:

COST ESTIMATES – ELECTRIC

What does it cost to run a refrigerator all day or wash a load of clothes? The charts here illustrate operating costs of many electrical appliances in your home at a typical usage rate. Not all of your appliances have the same wattage rating listed here, nor will your usage be the same. The information here can be used as a guideline for figuring costs.

Note: The numbers in this brochure are for illustration purposes only and are based on the estimated usage and cost factors shown. The actual cost of operating any appliance may differ from these estimates due to varying energy costs, manufacturer specifications, usage patterns and other operating conditions.



LARGE APPLIANCES (Applying average rate of \$.09 per kWh)				
	YEAR PURCHASED	ENERGY CONSUMPTION	USAGE	COST PER DAY
Refrigerator - Side-by-Side	1987-1992	1,270 kWh/yr	24 hours/day	\$0.313
Refrigerator - Side-by-Side	1993-2000	817 kWh/yr	24 hours/day	\$0.201
Refrigerator - Side-by-Side	After 2000	643 kWh/yr	24 hours/day	\$0.159
Refrigerator - Top Freezer	1987-1992	899 kWh/yr	24 hours/day	\$0.222
Refrigerator - Top Freezer	1993-2000	658 kWh/yr	24 hours/day	\$0.162
Refrigerator - Top Freezer	After 2000	479 kWh/yr	24 hours/day	\$0.118
Refrigerator - Bottom Freezer	1987-1992	1,270 kWh/yr	24 hours/day	\$0.313
Refrigerator - Bottom Freezer	1993-2000	821 kWh/yr	24 hours/day	\$0.202
Refrigerator - Bottom Freezer	After 2000	586 kWh/yr	24 hours/day	\$0.144
Freezer - Upright w/manual defrost	1987-1992	707 kWh/yr	24 hours/day	\$0.174
Freezer - Upright w/manual defrost	1993-2000	506 kWh/yr	24 hours/day	\$0.125
Freezer - Upright w/manual defrost	After 2000	434 kWh/yr	24 hours/day	\$0.107
Freezer - Upright w/auto defrost	1987-1992	1,038 kWh/yr	24 hours/day	\$0.256
Freezer - Upright w/auto defrost	1993-2000	819 kWh/yr	24 hours/day	\$0.202
Freezer - Upright w/auto defrost	After 2000	691 kWh/yr	24 hours/day	\$0.170
Freezer - Chest	1987-1992	499 kWh/yr	24 hours/day	\$0.123
Freezer - Chest	1993-2000	352 kWh/yr	24 hours/day	\$0.087
Freezer - Chest	After 2000	327 kWh/yr	24 hours/day	\$0.081
Clothes Washer-Standard Top Loading	1979-1993	2.6 kWh/load	1 load/week	\$0.033
Clothes Washer-Standard Top Loading	After 1993	2.1 kWh/load	1 load/week	\$0.027
Clothes Washer-Front Loading	1979-1993	1.7 kWh/load	1 load/week	\$0.022
Clothes Washer-Front Loading	After 1993	1.4 kWh/load	1 load/week	\$0.018
Clothes Dryer		2.3 kWh/load	1 load/week	\$0.030
Dishwasher		2.8 kWh/load	1 hour/day	\$0.036
Cooking Range		1,000 watts	1 hour/day	\$0.090
Oven		2,300 watts	1 hour/day	\$0.207

SMALL APPLIANCES (Applying average rate of \$.09 per kWh)

	ENERGY CONSUMPTION	USAGE	COST PER DAY
Air Corn Popper	1,400 watts	5 min/day	\$0.010
Blender	300 watts	5 min/day	\$0.002
Bottled Water	300 watts	24 hours/day	\$0.074
Broiler	1,500 watts	15 min/day	\$0.034
Can Opener	100 watts	1 min/day	Negligible
Deep Fryer	1,000 watts	24 min/day	\$0.036
Drip Coffee Machine	1,500 watts	15 min/day	\$0.034
Electric Fry Pan	1,200 watts	30 min/day	\$0.054
Electric Knife	95 watts	10 min/day	\$0.001
Espresso Machine	360 watts	10 min/day	\$0.005
Garbage Disposer	750 watts	2 min/day	\$0.002
Instant Hot Water Dispenser	160 kWh/year	24 hours/day	\$0.039
Microwave	1,500 watts	15 min/day	\$0.034
Percolator Coffee Machine	600 watts	25 min/day	\$0.023
Slow Cooker	200 watts	6 hours/day	\$0.108
Stand Mixer	100 watts	5 min/day	\$0.001
Toaster	1,100 watts	6 min/day	\$0.010
Toaster Oven	1,200 watts	15 min/day	\$0.027
Trash Compactor	400 watts	20 min/day	\$0.012

HOME CARE APPLIANCES (Applying average rate of \$.09 per kWh)

	ENERGY CONSUMPTION	USAGE	COST PER DAY
Central Vacuum	1,000 watts	60 min/week	\$0.013
Electric Lawn Mower	1,500 watts	60 min/week	\$0.019
Hand Held Vacuum	300 watts	15 min/week	\$0.001
Vacuum Cleaner	650 watts	60 min/week	\$0.008

ELECTRONICS (Applying average rate of \$.09 per kWh)

	ENERGY CONSUMPTION	USAGE	COST PER DAY
Answering Machine	1 Watts	24 hours/day	\$0.002
Cable Box	20 Watts	4 hours/day	\$0.007
Computer and Monitor	170 Watts	4 hours/day	\$0.061
Cordless Telephone	2.8 Watts	24 hours/day	\$0.006
Fax Machines	175 Watts	1 hours/day	\$0.016
Home Copiers	115 Watts	10 min/day	\$0.002
Printer	45 Watts	10 min/day	\$0.001
Satellite Dish	15 Watts	4 hours/day	\$0.005
Stereo	60 Watts	1 hours/day	\$0.005
Stereo, Desktop	15 Watts	1 hours/day	\$0.001
Stereo, Portable (boom box)	7 Watts	1 hours/day	\$0.001
VCR	11 Watts	2 hours/day	\$0.002
Video Games	195 Watts	2 hours/day	\$0.035
Wireless router	7 Watts	24 hours/day	\$0.015
Standard TV	150 Watts	4 hours/day	\$0.054
Plasma TV	339 Watts	4 hours/day	\$0.122
LCD TV	213 Watts	4 hours/day	\$0.077
Rear Projection TV	211 Watts	4 hours/day	\$0.076
DVD Player	17 Watts	4 hours/day	\$0.006
DVR	33 Watts	4 hours/day	\$0.012

COMFORT APPLIANCES (Applying average rate of \$.09 per kWh)

	ENERGY CONSUMPTION	USAGE	COST PER DAY
Ceiling Fans	75 watts	2 hours/day	\$0.014
Dehumidifiers	350 watts	2 hours/day	\$0.063
Electric Air Cleaners	50 watts	3 hours/day	\$0.014
Humidifiers	75 watts	2 hours/day	\$0.014
Portable Fans	30 watts	3 hours/day	\$0.008
Space Heater	1,500 watts	3 hours/day	\$0.405
Whole House Fans	360 watts	1 hours/day	\$0.032



MISCELLANEOUS (Applying average rate of \$.09 per kWh)			
	ENERGY CONSUMPTION	USAGE	COST PER DAY
Aquarium	550 kWh/yr	24 hours/day	\$0.136
Automobile Block Heater	350 watts	1 hours/day	\$0.032
Clock	18 kWh/yr	24 hours/day	\$0.004
Clothes Iron	1,100 watts	30 minutes/day	\$0.050
Curling Iron	90 watts	10 minutes/day	\$0.001
Doorbell	44 kWh/yr	24 hours/day	\$0.011
Electric Blanket	100 watts	4 hours/day	\$0.036
Electric Heat Tape	900 watts	2 hours/day	\$0.162
Garage Door Opener	53 kWh/yr	24 hours/day	\$0.013
Gutter Heater	900 watts	2 hours/day	\$0.162
Hair Dryer	700 watts	10 minutes/day	\$0.010
Home Security System	30 watts	16 hours/day	\$0.043
Outdoor Electric Grill	1,800 watts	1 hours/day	\$0.162
Waterbed Heater	250 watts	4 hours/day	\$0.090

POOLS & PUMPS (Applying average rate of \$.09 per kWh)			
	ENERGY CONSUMPTION	USAGE	COST PER DAY
Pool Heater: electric resistance	50,000 watts	6 hours/day	\$27.00
Pool Heater: heat pump	12,000 watts	6 hours/day	\$6.480
Pool Pump: Size = 3/4 hp	750 watts	6 hours/day	\$0.405
Pool Pump: Size = 2 hp	2,000 watts	6 hours/day	\$1.080
Spa	11,000 watts	6 hours/day	\$5.940
Sump Pump	60 watts	1 hours/day	\$0.005
Well Pump: Size = .5 hp	300 watts	2 hours/day	\$0.054
Well Pump: Size = 1.0 hp	600 watts	2 hours/day	\$0.108
Well Pump: Size = 2.0 hp	1,200 watts	2 hours/day	\$0.216

COST ESTIMATES – GAS

What does it cost to dry a load of clothes or cook a turkey in the oven? The chart below illustrates operating costs of common natural gas appliances in your home at a typical usage rate. Not all of your appliances have the same BTU usage, nor will your usage be the same. The information here can be used as a guideline for figuring costs.

Note: The actual cost of operating any appliance may differ from these estimates due to varying energy costs, manufacturer specifications, usage patterns and other operating conditions.

GAS APPLIANCES (Applying rate of \$.90 per therm)			
	AVERAGE BTU USAGE	USAGE	COST PER DAY
Yard Light	2,000	24 hours/day	\$0.42
Range (cook top)	9,000	1 hour/day	\$0.08
Range (oven)	25,000	1 hour/day	\$0.22
Water heater (40 gal.)	38,000	4 hours/day	\$1.32
Furnace	75,000	12 hours/day	\$7.83
Gas Log	75,000	4 hours/day	\$2.61

