

Typical Residential Electricity Use and Cost



How to Determine the Cost of Running Appliances:

Wattage X hours used ÷ 1,000 = kilowatt hours.

Kilowatt hours X cost per kilowatt hour (i.e. \$0.07317 to \$0.10230) = Cost to Operate.

There are 720 hours in a 30 day month.

These figures based on Eugene Water & Electric Board residential electric rates in effect as of May 2011.

These calculations are not based on EWEB Green Power.

The calculations on this sheet assume a range of costs based on the tiers shown below.

| Appliances by Room | Approximate Average Wattage | Monthly Hours of Use | Monthly kWh | Approximate Cost to Operate |
|--|-----------------------------------|----------------------------|----------------|--------------------------------|
| Kitchen | | | | |
| Broiler | 1400 | 4 - 12 | 5 - 17 | \$0.37 - \$1.72 |
| Coffee Maker | 900 | 4 - 30 | 4 - 27 | \$0.26 - \$2.76 |
| Dishwasher (with Electric Water Heating) | 1300 | 8 - 40 | 20 - 102 | \$1.45 - \$10.43 |
| Dishwasher (with Non-Electric Water Heating) | 1300 | 8 - 40 | 10 - 52 | \$0.76 - \$5.32 |
| Food Freezer (15 Cubic Feet) | 750 | 200 | 150 | \$10.98 - \$15.35 |
| Food Mixer (Hand & Table) | 100 | 1 - 5 | 0.1 - 0.5 | \$0.01 - \$0.05 |
| Frying Pan | 1150 | 10 - 20 | 12 - 23 | \$0.84 - \$2.35 |
| Microwave Oven | 1000 | 5 - 30 | 5 - 30 | \$0.37 - \$3.07 |
| Range: Small Burner | 1250 | 20 | 25 | \$1.83 - \$2.56 |
| Range: Large Burner | 2100 | 20 | 42 | \$3.07 - \$4.30 |
| Oven (Self Cleaning Cycle Only) | 3200 | 0.5 - 1.5 | 2 - 5 | \$0.12 - \$0.49 |
| Refrigerator-Freezer Frost Free - 17 Cu. Ft. | 500 | 150 - 300 | 75 - 150 | \$5.49 - \$15.35 |
| Refrigerator-Non Frost Free - 13 Cu. Ft | 300 | 190 - 300 | 57 - 90 | \$4.17 - \$9.21 |
| Toaster | 1150 | 1 - 3.5 | 1 - 4 | \$0.08 - \$0.41 |
| Toaster Oven | 1250 | 2 - 24 | 3 - 30 | \$0.18 - \$3.07 |
| Lighting | | | | |
| 60 Watt Incandescent Lamp | 60 | 17 - 200 | 1 - 12 | \$0.07 - \$1.23 |
| Compact Fluorescent - 60 Watt Equivalent | 18 | 17 - 200 | 0.3 - 4 | \$0.02 - \$0.37 |
| Compact Fluorescent - 75 Watt Equivalent | 22 | 17 - 200 | 0.4 - 4 | \$0.03 - \$0.45 |
| Compact Fluorescent - 100 Watt Equivalent | 28 | 17 - 200 | 0.5 - 6 | \$0.03 - \$0.57 |
| Ceiling Fixture - 3 X 60 Watt Bulbs | 180 | 6 - 195 | 1 - 35 | \$0.08 - \$3.59 |
| Three-Way Lamp (Table Lamp) | 100 | 10 - 200 | 1 - 20 | \$0.07 - \$2.05 |
| Chandelier - 5 Lamp | 300 | 10 - 183 | 3 - 55 | \$0.22 - \$5.62 |
| Fluorescent - 2 Tubes X 4 Feet | 70 | 10 - 200 | 1 - 14 | \$0.05 - \$1.43 |
| Bedroom & Bathroom | | | | |
| Electric Blanket | 180 | 30 - 90 | 5 - 16 | \$0.40 - \$1.66 |
| Hair Dryer (Portable) | 1000 | 1 - 10 | 1 - 10 | \$0.07 - \$1.02 |
| Heating Pad | 65 | 15 - 30 | 1 - 2 | \$0.07 - \$0.20 |
| Water Bed Heater | 400 | 150 - 300 | 60 - 120 | \$4.39 - \$12.28 |
| Vent Fan | 150 | 30 | 5 | \$0.33 - \$0.46 |
| Laundry Room | | | | |
| Dryer | 5000 | 6 - 28 | 30 - 140 | \$2.20 - \$14.32 |
| Washer (with Electric Water Heating) | 500 | 7 - 40 | 33 - 196 | \$2.41 - \$20.05 |
| Washer (with Non-Electric Water Heating) | 500 | 7 - 40 | 4 - 20 | \$0.26 - \$2.05 |
| Iron | 1000 | 1 - 10 | 1 - 10 | \$0.07 - \$1.02 |
| Sewing Machine | 75 | 4 - 14 | 0.3 - 1 | \$0.02 - \$0.11 |
| Home Entertainment | | | | |
| Computer, Monitor & Printer | 200 | 25 - 160 | 5 - 32 | \$0.37 - \$3.27 |
| Stereo | 30 | 1 - 170 | 0.03 - 5 | \$0.00 - \$0.52 |
| Television | 80 | 60 - 440 | 5 - 35 | \$0.35 - \$3.60 |
| Video Cassette Recorder | 40 | 50 - 200 | 2 - 8 | \$0.15 - \$0.82 |

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There are 720 hours in a 30 day month.

| Appliances by Room | Approximate Average Wattage | Monthly Hours of Use | Monthly kWh | Approximate Cost to Operate |
|--|-----------------------------|----------------------|-------------|-----------------------------|
| Heating & Cooling | | | | |
| Air Cleaner (Room & Furnace) | 40 | 250 - 720 | 10 - 29* | \$0.73 - \$2.95 |
| Air Conditioner (Room) 6,000 BTU | 750 | 120 - 400 | 90 - 300* | \$6.59 - \$30.69 |
| Air Conditioner (Room) 9,000 BTU | 1050 | 120 - 400 | 126 - 420* | \$9.22 - \$42.97 |
| Air Conditioner (Central) 2.5 Tons | 3000 | 90 -180 | 270 - 540* | \$19.76 - \$55.24 |
| Dehumidifier | 350 | 120 - 720 | 42 - 252 | \$3.07 - \$25.78 |
| Electric Heater (Portable) | 1000 | 30 - 90 | 30 - 90 | \$2.20 - \$9.21 |
| Fan (Portable) | 115 | 18 - 52 | 2 - 6 | \$0.15 - \$0.61 |
| Furnace Fan Motor (Intermittent) | 350 | 160 - 415 | 56 - 145 | \$4.10 - \$14.86 |
| Furnace Fan Motor (Continuous) | 350 | 720 | 252 | \$25.78 |
| Water Heating | | | | |
| Water Heater - Typical Family of 4 | 4500 | 98 - 138 | 441 - 621 | \$32.27 - \$63.53 |
| Water Heater - Typical Family of 2 | 4500 | 66 - 92 | 297 - 414 | \$21.73 - \$42.35 |
| Outdoor - Miscellaneous | | | | |
| Hedge Trimmer | 125 | 4 - 8 | 0.5 - 1 | \$0.04 - \$0.10 |
| Hot Tub (Pump and Electric Heater) | 3000 - 12,700 | 30 | 90 - 381 | \$6.59 - \$38.98 |
| Weed Trimmer | 500 | 2 | 1 | \$0.07 - \$0.10 |
| Lawn Mower | 1500 | 2 - 4 | 3 - 6 | \$0.22 - \$0.61 |
| Swimming Pool Filter Motor - 1.0 HP | 1000 | 720 | 720 | \$52.68 - \$73.66 |
| Holiday Lights (1 string Mini Lights) | 40 | 120 - 360 | 5 - 14 | \$0.35 - \$1.47 |
| Holiday Lights (1 string Standard C-7) | 100 | 120 - 360 | 12 - 36 | \$0.88 - \$3.68 |
| Holiday Lights (1 string LED Lights) | 4 | 120 - 360 | 0 - 1 | \$0.04 - \$0.15 |
| Pond Pump | (varies) | 720 | 158 - 504 | \$11.56 - \$51.56 |
| Indoor - Miscellaneous | | | | |
| Ceiling Fan | 60 | 15 - 330 | 1 - 20 | \$0.07 - \$2.03 |
| Vacuum Cleaner (Portable) | 800 | 2 - 6 | 2 - 5 | \$0.12 - \$0.49 |
| Vacuum Cleaner (Central) | 1600 | 2 - 6 | 3 - 10 | \$0.23 - \$0.98 |
| 50 Gallon Aquarium Air Pump | (varies) | 720 | 79 - 252 | \$5.78 - \$25.78 |

* per season

These figures based on Eugene Water & Electric Board residential electric rates in effect as of May 2011. They are not based on EWEB Green Power. The calculations on this sheet assume a range of costs based on the tiers shown below.

| | | Residential Electric | |
|------------------|----------------|----------------------|---------|
| November - April | kWh | Charge per kWh | |
| | 1 - 800 kWh | \$ | 0.07317 |
| | 801 - 3000 kWh | \$ | 0.08990 |
| | above 3000 kWh | \$ | 0.10230 |
| | | | |
| May - October | | | |
| | 1 - 800 kWh | \$ | 0.07317 |
| | 801 - 1700 kWh | \$ | 0.08990 |
| | above 1700 kWh | \$ | 0.10230 |

Appliance Standby Power Consumption

Standby power (often referred to as "leaking electricity") is the power consumed by an appliance that appears switched "off," but is actually drawing energy. Anything with an external power supply (recharging wallpack), remote control, clock or digital display requires standby power. The standby power of different appliances and different brands of the same appliance vary considerably. Some of the most common leakers in our homes are TVs, VCRs, cable boxes, stereo systems, and telephone answering machines. Nationally, it is estimated that standby power use accounts for 5 percent of residential electricity use, or 50 watts per home. Homes with many remote-controlled and rechargeable devices can easily have over 100 watts of leaking electricity.

Leaking electricity is responsible for part of your monthly EWEB electric bill. You can save money on your electric bill by reading the energy consumption labels on appliances and disconnecting them when you are going to be away for a long time.

The table below contains estimates of the cost of standby power for a selection of common appliances. The list of appliances and their average wattage was compiled by the staff of Lawrence Berkeley National Laboratory. The lab's Standby Power Home Page is: <http://standby.lbl.gov/>

| Appliance Category | Appliance | Average Standby Wattage | Average Standby Cost for |
|---------------------|------------------------|-------------------------|---|
| | | | 720 hours per month at \$0.07317 to \$0.10203/kWh |
| Audio | Compact system | 9.7 | \$0.51 - \$0.71 |
| | Component System | 3 | \$0.16 - \$0.22 |
| | DVD Player | 4.2 | \$0.22 - \$0.31 |
| Battery | Battery Charger | 0.9 | \$0.05 - \$0.07 |
| | Lawnmower | 7.6 | \$0.40 - \$0.56 |
| | Power Tool | 2 | \$0.11 - \$0.15 |
| Home Automation | Garage Door Opener | 3 | \$0.16 - \$0.22 |
| Kitchen | Microwave Oven | 2.9 | \$0.15 - \$0.21 |
| Office | Computer | 1.7 | \$0.09 - \$0.13 |
| | Printer, Ink/BubbleJet | 5 | \$0.26 - \$0.37 |
| | Phone/Fax/Copier | 1.5 | \$0.08 - \$0.11 |
| Set-top Boxes | Internet Terminal | 10.6 | \$0.56 - \$0.78 |
| | Satellite System | 12.6 | \$0.66 - \$0.93 |
| Telephone Equipment | Answering Machine | 3 | \$0.16 - \$0.22 |
| | Cordless Phone | 2.6 | \$0.14 - \$0.19 |
| TV-VCR | Television | 5 | \$0.26 - \$0.37 |
| | TV/VCR | 7.6 | \$0.40 - \$0.56 |
| | VCR | 6 | \$0.32 - \$0.44 |
| White Goods | Range | 2.7 | \$0.14 - \$0.20 |

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| | | Residential Electric | |
|------------------|----------------|----------------------|---------|
| | | Charge per kWh | |
| November - April | kWh | | |
| | 1 - 800 kWh | \$ | 0.07317 |
| | 801 - 3000 kWh | \$ | 0.08990 |
| | above 3000 kWh | \$ | 0.10230 |
| May - October | 1 - 800 kWh | \$ | 0.07317 |
| | 801 - 1700 kWh | \$ | 0.08990 |
| | above 1700 kWh | \$ | 0.10230 |

Residential Light and Appliance Daily Electric Cost Worksheet

You can use the worksheet on the back to estimate the daily cost of your home lighting and appliance energy use. With this information you can make choices about your energy usage.

Instructions

1. List all lights (ceiling and freestanding) and appliances plugged into the electrical outlets in each room of your house in the first column.
2. Enter the watts of each light or appliance in the second column. Look on the rating label. Most appliances are rated by watts (w) (sometimes called "va"). If neither of these is shown, most rating labels will at least indicate Amps (a) and Volts (v). Calculate watts by multiplying the two together: Amps (a) x Volts (v) = Watts. If you cannot locate an appliance's electrical rating label, use the EWEB Typical Residential Electricity Use and Cost sheet to estimate the watts.
3. Enter the estimated hours per day the light or appliance operates in the "Hours per day" column.
4. Enter the electric rate you want to use to estimate your energy costs. Your electric rate will be the sum of the distribution charge and the power charge shown on your EWEB electric bill, currently:

| | <u>Tier 1</u> | <u>Tier 2</u> | <u>Tier 3</u> |
|---------------------|-------------------------|------------------------|------------------------|
| Distribution Charge | \$0.02887 | \$0.02887 | \$0.02887 |
| Power Charge | \$0.04430 | \$0.06103 | \$0.07343 |
| "Electric Rate" | <u>\$0.07317</u> | <u>\$0.0899</u> | <u>\$0.1023</u> |

The Tier 2 electric rate is used to estimate the example on the back.

5. Perform the calculations across each line and total your costs at the bottom.

Remember:

1. Electric use for lights and appliances is only a percentage of your total bill. Other uses, such as space and water heating typically represent the greatest portion of the bill.
2. Appliances do not use energy unless they are plugged in and turned on.
3. Any appliance with a remote control, clock, or programmable timer is always using some power, even when turned off. (See Appliance Standby Power Consumption, attached to Typical Residential Electricity Use and Cost.)



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Daily Electric Cost Worksheet

| | va | | Hours | | | | | | | | |
|-------------------------|-------|---|---------|---|------|---|------|---|---------|---|----------|
| Appliance or Light | Watts | X | Per Day | ÷ | 1000 | = | KWh | X | Rate | = | Cost/Day |
| Elec. Blanket * Example | 180 | X | 6 | ÷ | 1000 | = | 1.08 | X | 0.08990 | = | \$ 0.10 |
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