

Cowlitz PUD Watt Watcher's Guide

Sept. 1, 2015

MAJOR APPLIANCES

<u>Appliance</u>	<u>Constraints</u>	<u>Average Watts</u>	<u>kWh/ Use</u>	<u>Hours/ Month</u>	<u>kWh/ Month</u>	<u>Cost/ Month</u>
Heat Pump (Heat & A/C)	14 times/day (year-round)	4500	0.150	209	939	\$66.60
Electric Heat (& Aux.Heat)	14 times/day (6 months/year)	7000	0.233	215	1,505	\$106.70
Fan (Furnace)	14 times/day (year-round)	490	0.011	209	102	\$7.25
Air Conditioner (1 Room)	15 times/day (6 months/year)	1340	0.045	218	194	\$13.78
<u>Electric Car Charging</u>						
240 volt Charging Station	4 hours, 6 days/week	5300	15.9	104	413	\$29.31
120 volt Charging Outlet	9 hours, 6 days/week	1800	16.2	234	421	\$29.86
<u>Stove</u>						
Oven (Conventional)	12 hours/month	3500	9.7	15	42	\$2.98
Self-cleaning feature alone	1 time/month	3500	3.5	1	3.5	\$0.25
Range Top (6" element)	10 minutes, 3 times/day	1600	0.27	15	24	\$1.70
Range Top (8" element)	10 minutes, 1 time/day	2100	0.35	10	10.5	\$0.74
Hot tub - Fiberglass	13 days/month (2 hours/use)	2760	41.4	26	538	\$38.16
Hot tub - Dry Wood	13 days/month (2 hours/use)	2760	66.2	42	861	\$61.05
Hot tub - Uninsulated	13 days/month (2 hours/use)	2760	113.2	71	1,471	\$104.30
Water Heater	90 gallons/day at 120°	4500	4.5	90	405	\$28.71
<u>Washing Machine</u>						
Hot Wash/Warm Rinse	30 gallons hot water/load	5050	7.30	15	146	\$10.35
Hot Wash/Cold Rinse	22 gallons hot water/load	5050	5.50	15	110	\$7.80
Warm Wash/Warm Rinse	25 gallons hot water/load	5050	6.18	15	124	\$8.76
Warm Wash/Cold Rinse	12 gallons hot water/load	5050	3.25	15	65	\$4.61
Cold Wash/Cold Rinse	0 gallons hot water/load	550	0.55	15	11	\$0.78
Clothes Dryer	15 one-hour loads/month	4800	3.60	15	72	\$5.10
Dishwasher (with Drying)	6 days/week	1400	3.6	26	109	\$7.74
Dishwasher (without Drying)	6 days/week	1400	1.2	26	36	\$2.58
Refrigerator	20 cu.ft. frost-free	615	0.01	240	148	\$10.46
Refrigerator	24 cu.ft. ENERGY STAR	1270	0.01	60	76	\$5.40
Freezer	20 cu.ft. frost-free	440	0.01	340	106	\$7.49
Freezer	20 cu.ft. conventional	351	0.01	250	84	\$5.97
Well Pump	4 hours/day(Family=4) 1.5HP	1500	0.75	120	180	\$12.76
Well Pump	2 hours/day(Family=2) 1.5HP	1500	0.75	60	90	\$6.38

KITCHEN APPLIANCES

<u>Appliance</u>	<u>Constraints</u>	<u>Average Watts</u>	<u>kWh/ Use</u>	<u>Hours/ Month</u>	<u>kWh/ Month</u>	<u>Cost/ Month</u>
Blender	20 seconds, once/day	300	0.002	0.17	0.050	\$0.004
Coffee Maker-Drip	60 pots/month	1500	0.18	8	10.5	\$0.74
Coffee Maker-Percolator	60 pots/month	600	0.12	12	7.2	\$0.51
Crockpot	32 hours/month	100	0.80	20	3.2	\$0.23
Electric Knife	5 minutes, 1 time/week	92	0.008	0.36	0.033	\$0.002
Food Dehydrator	36 hours/month	500	1.80	24	18	\$1.28
Food Processor	12 minutes/month	370	0.006	0.20	0.074	\$0.005
Frying Pan	12 hours/month	1150	1.06	12.00	13.8	\$0.98
Garbage Disposer	40 seconds, 4 times/day	445	0.02	3	0.59	\$0.04
Hot Water Dispenser	65 hours/month (1 gallon/day)	750	1.63	65	49	\$3.46
Microwave Oven	20 minutes/day	1500	0.50	8	15	\$1.06
Mixer (Standing)	6 minutes, 1 time/week	225	0.023	0.43	0.097	\$0.007
Mixer (Hand)	3 minutes, 3 times/week	120	0.006	0.65	0.078	\$0.006
Toaster Oven	6 hours/month	1200	0.83	8	7.2	\$0.51
Toaster (two-slice)	3 minutes, 2 times/day	1100	0.06	2	3.3	\$0.23
Trash Compactor	30 seconds, 1 time/day	400	0.003	0.25	0.10	\$0.007

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PERSONAL APPLIANCES

<u>Appliance</u>	<u>Constraints</u>	Average Watts	kWh/Use	Hours/ Month	kWh/ Month	Cost/ Month
Hair Dryer	15 minutes, 1 time/day	1200	0.3	7	9	0.64
Hair Curlers	15 minutes, 1 time/day	400	0.1	7.5	3	0.21
Curling Iron	15 minutes, 1 time/day	40	0.01	7.5	0.3	0.02
Electric Shaver	4 minutes, 1 time/day	15	0.001	2	0.03	0.002
Electric Toothbrush	5 minutes, 2 times/day	1.1	9.2E-05	5	0.0055	0.0004

HOUSEHOLD APPLIANCES

<u>Appliance</u>	<u>Constraints</u>	Average Watts	kWh/Use	Hours/ Month	kWh/ Month	Cost/ Month
Lights (Incandescent)	5 lights (7 hrs/day/bulb)	75	2.25	180	67.5	4.79
Lights (Compact fluorescent)	5 lights (7 hrs/day/bulb)	18	0.54	180	16.2	1.15
Air Cleaner (Tabletop)	9 hours/day	16		270	4.32	0.31
Dehumidifier	4 hours/day	250	1	121.6	30.4	2.16
Electric Blanket	4 hours every night	177	0.708	120	21.24	1.51
Electric Clock	continuous	2	0.002	720	1.44	0.10
Electric Lawnmower	1 time/week	1200		4	4.8	0.34
Fans (Built-in ceiling)	6 hours/day	60	0.36	180	10.8	0.77
Fans (Built-in Exhaust)	1 hour/day	200	0.2	1	0.2	0.014
Fans (Portable)	30 hours/month	66	0.066	30	1.98	0.14
Fish Tank (pump,light & heater)	light & heater intermittent	130		140	18.2	1.29
Garage Door Opener	3 times/day	350	0.35	90	31.5	2.23
Heating Pad	2 hours/month	65	0.065	2	0.13	0.009
Iron	4 hours/month	1000	1	2	4	0.28
Sewing Machine	4 hours/month	75	0.075	4	0.3	0.02
Space Heater	4 hours/day	1300	5.2	121.6	158.08	11.21
Vacuum Cleaner	6 hours/month	630	0.63	2	3.78	0.27
Water Bed (King at 95°)	9 hours/day	400	3.6	273.6	109.44	7.76

HOME ELECTRONICS

<u>Appliance</u>	<u>Constraints</u>	Average Watts	kWh/Use	Hours/ Month	kWh/ Month	Cost/ Month
TV (Color: Plasma)	7 hours/day	301	2.107	210	63.21	4.48
TV (Color: LED)	7 hours/day	101	0.707	210	21.21	1.50
TV (Color: Standard TV)	7 hours/day	186	1.302	180	39.06	2.77
TV (B&W)	7 hours/day	45	0.315	210	9.45	0.67
DishTV HR-DVR	continuous (phantom)	33	0.033	720	23.76	1.68
VCR	2 hours/day	30	0.0036	60	1.8	0.13
Stereo	4 hours/day	50	0.024	120	6	0.43
Radio	7 hours/day	15	0.105	210	3.15	0.22
Nintendo Wii	8 hours/day	19	0.152	240	4.56	0.32
PlayStation 3	8 hours/day	200	1.6	240	48	3.40
Xbox 360	8 hours/day	187	1.496	240	44.88	3.18
Computer	8 hours/day	565	4.52	30	135.6	9.61
Printer (Ink Jet)	16 minutes/day	25		8	0.2	0.01
Printer (Laser)	16 minutes/day	300		8	2.4	0.17
Slingbox	continuous (phantom)	9	0.009	720	6.48	0.46
Wireless Router	continuous (phantom)	7	0.007	720	5.04	0.36

For items not shown on this list, use the following equations to calculate the monthly electric cost:

$$\frac{\text{Average wattage of item} \times \text{hours used per month} \times \$0.0709^*}{1000} = \text{Monthly cost to operate}$$

Watt: Basic unit for measuring amounts of electricity

Kilowatt (kW): 1,000 watts, a convenient measure for typical amounts of electricity consumed.

Kilowatt hour (kWh): 1,000 watts delivered for one hour. This is how electricity use (not capacity) is measured.

Wattage: The amount of electricity used by an appliance.

***Electric cost:** Cowlitz PUD's residential electric rate is \$.0709 (7.09¢) per kilowatt hour as of November 2013.

Note: Each customer's costs will vary based on individual usage.