

# Power Consumption Reference Guide

In order to design an alternative energy system you'll have to first determine your estimated electrical needs. **Use the chart below to estimate the wattage of appliances you not sure of.** Knowing how much energy you intend to use is the starting point for any system design. Needless to say, you definitely should use only the most efficient appliances and use them in the most efficient manner in order to keep your initial costs down.

The size (and cost) of any renewable energy system depends on:

- 1) The amount of power required (in watts).
- 2) The amount of time the power is required (in hours).
- 3) The amount of sun hours/ wind power hours available (insolation) at your location.

You can control the first two items!

Go through your average day in your mind and determine what electrical items you use and how many HOURS they will be used on an average. Use the Power Consumption Reference Guide below for estimating wattage requirements for many appliances. For a more accurate estimate, read the label or owners manual for power rating on your appliance or use one of the clamp-on type amp-meters. If an appliance is rated in amps, multiply amps by operating voltage (120 or 240) to find watts.

## An Example List for an average day

Please note your actual power consumption useage will vary

Activity	Item	Watts	Hours	Watt Hours
Showering	Blow dryer	1000	.1	100
Breakfast	Blender	300	.05	15
Refrigeration	Refrig 12cf DC	70	18 (avg)	1260
TV	19in color	85	3	255
Internet	Computer	200	2	400
Entertainment	CD Stereo	35	3	105
Dinner	Microwave	1000	.2	200
Reading	Compact Fluorescent Light	16	3	48
Daily Total	Watt Hours per Day =			7675 Watt hours



Remember these are estimated averages-your appliance may differ greatly-please check your own equipment.

<b>Appliance Type</b>	<b>Watts/Hour</b>	<b>Appliance Type</b>	<b>Watts/Hour</b>
Coffee pot (10 cup)	1200	VCR -Off/Play	10/27
Coffee pot (4 cup)	650	CD Player	35
Toaster	1050	Stereo	10-300
Popcorn popper	250	Clock Radio	2
Blender	300	AM/FM car tape	8+
Microwave	600-1500	Satellite dish	30+
Waffle iron	1200	CB radio	5
Hot plate	1200	Electric clock	3
Frying pan	1200	Dishwasher	1200-1500
Sink waste disposal	450	Sewing machine	100
Washing machine - automatic - manual	920 300+	Vacuum cleaner - upright - hand	300-1100 100
Clothes dryer - electric - gas heated	4000 300-400	Radio telephone - receive - transmit	5 40-150
Iron	1000	Furnace blower	300-1000
Garage door opener	350	Ceiling fan	10-50
Table fan	10-250	Electric blanket	200
Blow dryer	1000+	Shaver	15
Waterpik	100	Electric mower	1500
Computer - laptop - pc - printer- inkjet/laserjet/dotmatrix	20-50 80-220 50/600/180	TV - 25" color - 19" color TV or monitor - 12" b&w	150 70-140 20
Lights - 100w incandescent - 25w compact fluor. - 50w DC incandescent - 40w DC halogen - 20w DC compact fluor.	100 28 50 40 22	Compact fluorescent incandescent equivalents - 40watt equiv. - 60watt equiv. - 75watt equiv. - 100watt equiv.	11 16 20 30
Hedge trimmer	450	Weed eater	500
1/4" drill	250+	9" disc sander	1200
1/2" drill	450+	3" belt sander	625-1000
1" drill	800	12" chain saw	1100-2400
7 1/4" circ. saw	1200+	14" band saw	1100-1800
8 1/4" circ. saw	1800	Typewriter	80-200
Air conditioner (energy hogs) - room - central	1000+ 2000-5000	Refrig/freezer - 20cf (15 hours) - 16cf (13 hours)	540 475
Sunfrost (figure running 7hrs/day typically) - 16cf DC - 12cf DC	112 70	Freezer (figure running 10hrs/day typically) - 14cf ff (15) - 14cf (14)	440 350