

## Instructions for Hotwire's Energy Assessment Worksheet

### 120 volt AC appliances:

1. Set up a chart like Hotwire's DC chart but for your AC appliances.
2. List your AC appliances with the manufacturer's stated power usage in watts.
3. Next to each appliance and watt-usage, note your daily use in hours (1.5 for 1-1/2).
4. Calculate your daily use in amp-hours with the following formula:

$$\frac{\text{hours x watts}}{120 \text{ volts}} = \text{amp-hours at 12 volts}$$

### DC power consumption:

1. Complete the information on Hotwire's chart to estimate your daily power consumption. Each DC appliance on the list has an approximate power value in amps. If your appliance is not on the list, add yours in the spaces provided and refer to the owner's manual for power consumption.
2. Multiply the number of amps for each appliance times the number of hours the appliance is in use.
3. Add up the amp-hours consumed by all appliances.

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Once you know your estimated daily amp-hour consumption, you'll be better able to develop a system to replace that power into your batteries.

A simple rule of thumb with solar modules is this:

Divide the watt number by 3 for low latitudes (or 4 for higher latitudes) to get a ballpark figure of how many amp-hours you can reasonably expect during the course of a sunny day.

For example, a single 75 watt solar module can replace about 25 amp-hours into your batteries on a sunny day in Florida or the Caribbean. If you have three 75 watt solar modules, for a total of 225 watts, you could replace 75 amp-hours to your batteries in a sunny Southern day.

If you have a single 80 watt solar module in Newfoundland, you could expect to replace 20 amp-hours to your batteries on a sunny day. With four 100 watt solar modules, for a total of 400 watts, you could replace 100 amp-hours to your batteries on a sunny Northern day.

So, look at your total amp-hour consumption, multiply by 3 (south) or 4 (north) to determine how many watts of solar power you'd need to replace what you're using.

**OR.....consider adding a wind generator if your power consumption is high and you will be in a locale with sufficient wind.**

***Questions? Want help or advice?***

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