

# OFF-GRID LOADS WORKSHEET - 11

Use this worksheet to determine the total energy in amp-hours per day used by all the AC and DC loads in your system.

### Calculate your AC loads

If there are no AC loads, skip to Step 5

1. List all AC loads, wattage and hours of use per week in the spaces provided. Multiply watts by hours/week to get watt-hours per week (WH/Wk). Add up all the watt hours per week to determine AC watt-hours per week. Use a separate sheet of paper if you need to list more loads than the space below allows

**NOTE:** Wattage of appliances can usually be determined from tags on the back of the appliance or from the owner's manual. If an appliance is rated in amps, multiply amps by operating voltage (120 or 240) to find watts.

Description of AC loads run by inverter	Watts	x	Hours/Week	=	Watt Hours/Week
Total Watt Hours / Week					

- 2. Convert to DC watt-hours per week. Multiply line 1 by 1.15 to correct for inverter loss. \_\_\_\_\_
- 3. Inverter DC input voltage; usually 12, 24 or 48 volts. This is DC system voltage. \_\_\_\_\_
- 4. Divide line 2 by line 3. This is total DC amp-hours per week used by AC loads. \_\_\_\_\_

### Calculate your DC loads

5. List all DC loads in the space provided below. If you have no DC loads, enter "0" in line 7 and proceed to line 8.

Description of DC loads	Watts	x	Hours/Week	=	Watt Hours/Week
Total Watt Hours / Week					

- 6. DC system voltage. Usually 12, 24, or 48 volts. \_\_\_\_\_
- 7. Find total amp-hours per week used by DC loads. Divide line 5 by line 6. \_\_\_\_\_
- 8. Total amp-hours per week used by AC loads from line 4. \_\_\_\_\_
- 9. Add lines 7 and 8. This is total amp-hours per week used by all loads. \_\_\_\_\_
- 10. Divide line 9 by 7 days. This is total average amp-hours per day that needs to be supplied by the battery. \_\_\_\_\_  
Enter this number on line 1 on the PV Array Design Worksheet on page 12, and on line 1 of the Battery Sizing Worksheet on page 99.