

POWER PACKAGES - SIZING A RENEWABLE ENERGY SYSTEM

Step-4

SOLAR CALCULATIONS. Locate the general area of your home on the map below. The amount of sun-hours indicated will be used to size your solar array.



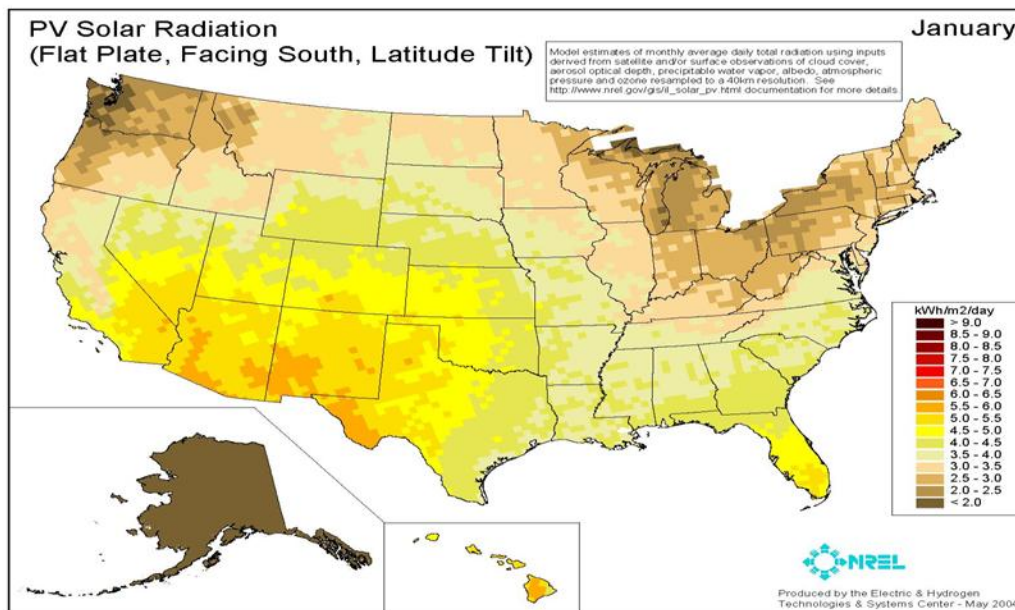
Example: Home Kilowatt hour requirement: 10 (10,000 watt-hours daily)

Your location: 4.5 Kwh minimum 10,000 divided by 4.5 = 2,222 watts

This is the theoretical normal array size to provide 100% of your homes power from sunlight. As this will be greatly oversized in the summer, (in most locations below the 45th parallel), we typically downsize the array by 1/3 to 1/2 - giving us an average array size of 1000 -1200 watts capacity.

*Chart shows worse case scenario for winter output.

* Cost estimated at \$5000 - \$6000 for the average array size shown above.



Step-5



CONSIDER ADDING WIND GENERATION TO YOUR SYSTEM. Consult local or state agencies for wind studies conducted in your area, however, we have found that nearly everywhere there is enough wind to operate some of the smaller Southwest Wind power turbines including the Air-X, H-40 and H-80 units. These are small units and can be installed nearly everywhere with few exceptions. Expect to get a minimum of 2-4 kilowatt-hours from a wind generator.

* Cost estimated at \$2500.00 for the average small wind generator.

Step-6



SITE YOUR SYSTEMS. Find the best location for your Power Package, solar panels and wind generator. These basic rules apply for systems as designed by Planetary Systems, Inc.:

1. Locate the Power Package in a clean, dry area, with the ability to maintain 50 degrees F, and within reach of your house power panel. It is best to locate the system in a mechanical room, if available, so that all your services are in the same area.
2. Locate the solar panels-preferably on a pole mount and within 100' or less from the system for easy access or on a roof if snow loads are not too heavy.
3. Locate the wind generator in a site with adequate wind (6+mph avg.) and at least 60 ft. from your house plus 80 ft. from any trees over 60 ft. tall.

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