



**Brooks Solar, Inc.**

*Solar power for People*

solar, wind, micro-hydro renewable energy systems  
design, installation, and service

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## Interested in solar energy? Some considerations:

First, invest in **conservation**. For every \$1 spent on conservation, \$3 to \$5 is saved in energy production. See our Conservation Checklist for details. We can conduct an energy conservation survey to identify ways you can save energy and money.

Second, consider **passive solar design** to reduce heating and cooling costs. Space heating and cooling average 50% of home energy use. A properly designed passive solar structure can use up to 90% less energy. We can provide consultation on ways to build or add passive solar space.

Third, consider a **solar hot water** heater. Water heating averages 20% of home energy use. A solar hot water heater can provide up to 90% of your hot water. If you are connected to the electric grid, check with you power company about low interest energy conservation loans for solar water heating systems. If you have a heated swimming pool, a **solar pool heater** can dramatically reduce your pool heating energy use. If you have an unheated pool, a solar pool heater can greatly extend your season of use. We can install a top quality domestic solar hot water heater or solar pool heater.

The most cost effective method of producing renewable energy is with a **micro-hydro** generator. If you are fortunate enough to have a good stream, a micro-hydro system can produce power for \$.03 to \$.05 per kilowatt hour (kWh.) New intake screens are available to eliminate intake clogging and concerns about impacting aquatic species. Micro-hydro systems are “non-consumptive” - removing water only for a short distance. And they do not alter the temperature, oxygen content, pH or other characteristics of the water. We can do a site assessment and install an appropriately sized turbine and generator for grid tied or stand alone situations.

**Wind power** is the next most cost effective renewable energy source (\$.12 to \$.25 per kWh.) You should have an average annual wind speed of 7mph or greater, and the wind system tower should be high enough so the bottom of the turbine blades are 30 feet above any obstacle within 500 feet. Tilt up towers make erecting and servicing a wind turbine much easier. Turbines are available that are very quiet. We can provide a site assessment and install a wind turbine to meet your needs, either grid tied or stand alone.

**Photovoltaics** (PV) panels, to produce electricity from the sun, are the most costly form of renewable energy (\$.25 - \$.35 per kWh.) More efficient and less expensive PV panels, controllers, and inverters are now available. For systems not connected to the electric grid, fixed arrays are recommended for best winter power production at least cost. For systems connected to the grid, tracker mounted arrays produce the most power year round. Building integrated panels allow asthetically pleasing and unobtrusive arrays. We can provide a site assessment and install an appropriate PV system, either grid tied or stand alone, to meet your needs.

**Fossil fuel generator** power, for comparison, is estimated to cost \$1/kWh.

If you are connected to the grid, ask your power company about low interest loans for renewable energy systems, and if they have a program to purchase power that you produce with a PV, wind, or micro-hydro system at Green Power rates (up to \$1.50 per kWh - considerably more than we pay for power.) If they don't have these programs, suggest they consider them. They can contact Chelan County PUD, 509-667-4216, for details about their SNAP (Sustainable Natural Alternative Power) program.

**Manufacturers we represent include:**

Bergey WindPower, Oklahoma (wind turbines and towers.) Brooks Solar is a Bergey Certified Dealer.

Uni-Solar Inc, Michigan (building integrated PV.) Brooks Solar is a Uni-Solar Certified Installer.

Heliodyne, Calif. (solar hot water systems and controls.) Brooks Solar is a Bonneville Power Administration "Bright Way" trained solar hot water heater installer.

SunWize, Lacey, WA (PV panels, inverters, trackers, etc.)

Ecosystems, Portland (solar pool heating systems)

Sun Ovens International, Illinois (solar ovens)

Dyno Battery, Seattle (deep cycle batteries)

Canyon Industries, Deming, WA (pelton wheel turbines)

Hydroscreen, Denver, CO. (water system intake screens)

Energy Systems and Design, New Brunswick, Canada (micro-hydro turbines)

African Wind Power, Zimbabwe (wind turbines and towers)

Shott Applied Power, Calif. (PV panels, inverters, trackers, etc.)

Warm Windows, Seattle (insulating window shades)