



Valley Home Builders Association

GREEN BUILDING

Building sustainable quality of life.



Energy Alternatives: Solar PV

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Get to know a solar PV home...

Solar power dates back to the 1850's when Auguste Mouchout successfully powered a steam engine with solar energy. Since then there have been innumerable advances in solar power and solar energy collection. In 1954, Bell Laboratories invented what we know today as a solar cell.

Using photovoltaic (PV) principles, the cell collects light energy and converts it into pure electricity for your home. Costs have gone down too. From about \$1500/watt to about \$8!

There are a great deal of resources for solar power. Here are some local groups to contact:

- Focus On Energy: focusonenergy.org
- Midwest Renewable Energy Association: the-mrea.org
- Wisconsin Energy Initiative: wi-ei.org

What about costs?

Solar power requires a great deal of investment up front. Assuming a cost of about \$8-10/watt, a 5kW system would run about \$40-50,000 without incentives. Unless your home uses very little electricity, this will not power your home entirely. Systems can be as large as you like, however the costs go up the larger the system.

After you get past the up front installation it will be smooth sailing. With a 5kW system, the average home owner can save 30-50% on their electric bill every month. If your home is build extremely efficiently this can jump to 70-100%. Plus the electric company will pay you if your system is large enough!

The better news is that Wisconsin supports solar power. Value added by a solar power system is tax-exempt.



According to FindSolar.com, Outagamie County rates as a "good" location for solar power, which is right in the middle of their scale. The area has a solar rating of 4.295kWh per square mile per day. To put that in perspective, the average midwest household (according to Dept. of Energy estimates) uses 10,930kWh of electricity per year. That translates to about 30kWh per day. So a small solar array can't keep up with that amount of load.

Before installing a Solar PV system, get a solar site energy assessment. While you can get the kilowatts listed above under ideal conditions, you may have solar obstructions, such as trees, that will limit your solar exposure. Also look into possible incentives in your area to limit your up front costs.