

How Solar Works



Sunlight can be directly converted into electricity using silicon cells. As sunlight shines upon the solar panels, the solar panel is able to convert those photons (particles of sunlight) into electrons of direct current ("DC") electricity. The electrons flow out of the solar panel and into an inverter and other electrical safety devices. The inverter converts that "DC" power (commonly used in batteries) into alternating current or "AC" power. AC power is the current that our grid and your appliances use when plugged into the wall outlet.

A net energy meter is able to roll backwards as you send electricity back onto the grid. Any solar energy that you do not use simultaneously with production will go back into the electrical grid through the net meter. At night or on cloudy days, when your system is not producing more than your building needs, you will consume electricity from the grid as normal. Your utility will bill you for the "net" consumption for any given billing period and provide you with a dollar credit for any excess during a given period.

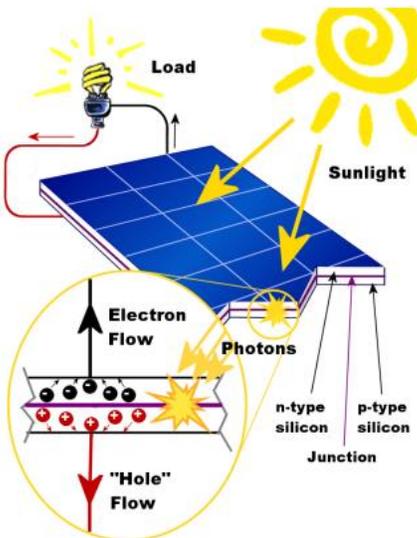
Solar Photovoltaic (PV) System Components

A PV system includes PV modules (groups of PV cells); an inverter to convert solar power from direct current (DC) to the alternating current (AC); wiring; and mounting hardware or a framework; a DC disconnect to disable the electrical system in the event of an emergency; a breaker for the system in your electrical breaker panel; and finally, a net meter provided by your electric utility.



Solar Cells

Solar cells are small, square-shaped panel semiconductors made from silicon and other conductive materials, manufactured in thin film layers. When sunlight strikes a solar cell, chemical reactions release electrons, generating electric current. Solar cells are also called photovoltaic cells or "PV cells" and can be found on many small electronics such as calculators.



PV System Installation, Maintenance, and Longevity

While PV systems are sophisticated electric systems, they have no moving parts and can last more than 30 years while requiring little to no maintenance at all. The components are designed to meet strict dependability and durability standards to withstand the elements. The best way to ensure and extend the life and effectiveness of your PV system is by having it installed and maintained properly. Most PV system problems occur because of a poor system installation.



The Size of Your Solar PV System

The size of your solar system depends on several factors such as how much electricity you use, the size of your roof, how much you're willing to invest, and how much energy you want to generate. Contact our Solar Energy Consultants to determine what type of system fits your needs.