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FAQs About Residential Solar Power

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Can I have a solar electric system on my house and still be connected to city power?

Absolutely. In fact, we carry systems which are designed as "on-grid" systems, meaning that they are specifically designed to interconnect with utility power.

Can I be totally independent from the utility?

If you are already connected to the utility, there is no reason to disconnect. Being connected to the grid means you can have consistent electric service without the cost and hassle of batteries, plus it allows you to take advantage of the state rebates and net metering.

If you have, or are thinking of building, a home which is off-grid or remote from existing power lines, you can certainly make your own electric power using solar energy. In many cases this can be more cost effective than running utility power lines to the property.

Does a solar power system make hot water?

No. Solar electric cells and modules convert sunlight into electric current to operate appliances, motors and pumps, and other devices that need electric power. People often confuse solar electric products with solar thermal panels that involve water circulating through tubes to be heated by the sun for swimming pool water heating.

Can I generate heat for my home with a Residential Solar Electric System?

No. Our solar power systems are designed to provide electricity to run your lights, appliances, and any other electric devices in your home. Other solar technologies are designed to turn the sun's light into heat instead of electricity.

How do I know if a Residential Solar Electric System would work on my home?

Solar electric power works for most homes. You need to have an area on your roof or in your yard which receives unobstructed sunlight for most of the day, all year. Some roof configurations or other site factors can make installation more difficult or costly. Feasibility is best determined by a professional site assessment.

What happens to a Grid-tied solar system in a power outage?

In the standard system, power is not available to the home during a power outage, even if the sun is shining. If you are particularly worried about power outages, a battery storage system can be added to your grid-tied solar system, however this is generally not recommended because batteries add up front cost and maintenance to the system, and decrease efficiency, lowering pay-back potential. A small conventional fuel generator is another backup option.

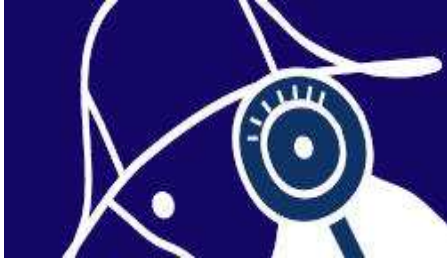
What do the terms ON-GRID, GRID-CONNECTED, GRID-TIED and OFF-GRID mean?

On-grid, grid-connected or grid-tied means that your home is connected to a utility electrical grid, such as Southern California Edison, or PG+E. Solar electric systems can be designed as on-grid systems, meaning that they interconnect with existing utility service.

Off-grid means that your home is remote from power lines, and your appliances must be run by a conventional gas, diesel, or propane generator, or by a renewable energy system.

What is PV or Photovoltaics?

Photovoltaics (PV) is the technology at the heart of solar power. PV is a semiconductor-based technology used to convert light energy into direct current (dc) electricity, using no moving parts, consuming no conventional fuels, and creating no pollution. The solar cells that you see on calculators and satellites are photovoltaic (PV) cells or modules.



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How long has PV been around?

The photovoltaic effect was first recognized by Edmund Becquerel, in France, in 1839. Scientists made solar cells of selenium in the 1880s. And, modern PV technologies were developed at Bell Labs and RCA Labs in the mid 1950s.

What size system do I need for my house?

The size system you need depends on your power loads. If you wanted to completely replace your current electrical purchases from the utility with a PV system, the best thing to do is look at your kWh usage on your electric bills for a year and calculate an average. We can then size the system to produce all or nearly all of the annual household usage.

If you are building a new home, you could cut the annual electricity usage dramatically, by designing an energy efficient, well insulated home, and using high-efficiency appliances. This would drastically reduce the size of the system.

How are the panels mounted?

Modules can be mounted to an existing roof, on either the main house, a garage, or outbuilding, or to a fixed rack, shade structure, or tracker on the ground. If the array is mounted to the roof, a sturdy aluminum rack is used to secure the array to the rafters. Penetrations in the roof surface are then sealed to maintain its water proof properties.

Do I need a building permit?

Yes, a building permit should be obtained by your contractor prior to installation.

Do I need permission from the local utility to connect my solar system to the grid?

Yes. The local utility will have rules and procedures that must be followed to safely and legally connect any generator to the grid. These rules are generally based upon national standards to which our systems comply.

What happens in high winds or hail or snow?

Our roof mounting systems are designed to withstand 100-mph and higher winds. Modules are impervious to water and snow, and strength tested with a 1 inch steel simulated hail ball at 100mph impact.

What is net metering?

Net Metering is a method of crediting solar system owners for power they produce. In many parts of the country, customers must pay for power when their solar system is not producing (for example at night), but when their solar system produces extra power not used in the home, the electricity flows out onto the grid, and the power company gets to use it for free! However in some states, such as California, the state has required power companies to use annual net metering. This means that the power company must credit any extra power produced by the solar system to the customers account at the full retail electric rate. So if your solar system produces 10 extra kilowatt-hours today, you can use those 10 kilowatt-hours tonight, and pay nothing. You can also save the credits for future use for up to one year. Net metering does not mean that your utility company will write you a check for the excess power produced by your system.

Are there government incentives to bring the price down?

Yes. Rebates are offered by the California Energy Commission or local municipal utilities such as LADWP. State and Federal tax credits are also offered. These incentives are offered to residential and commercial customers.

How long will the system last?

The industry standard warranty for solar modules is 25 years. Expected useful life is in the range of 30 to 40 years. Other system components have varied lifetimes. Power electronics are the most sensitive components, and they are required to carry a 5 year warranty.