

Frequently Asked Questions About Residential Solar Systems

SunWize is a system fabricator and distributor of solar electric products. SunWize does not sell directly to the consumer nor do we perform residential system installations. We distribute our products through a national network of renewable energy dealers. Our dealers provide you with complete customer service including system design, product selection, costs and installation. Visit our [Incentives Page](#) for links to the Federal and State Energy offices or visit www.dsireusa.org for information about your State's incentives and Federal tax credits to help reduce the cost of your system.

We recommend reading the following questions and answers to help you decide if a solar electric system is right for you.

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How does a residential solar electric system work?

The solar cells in the modules convert the sun's energy into a DC electrical current. This DC current flows into an inverter which changes the DC electricity to AC electricity in order to run household appliances. The AC electricity flows into your electrical service panel to supply power to your home. If your system produces more electricity than you use, the excess electricity is re-routed to your utility line and, in states with net metering laws, is sold to the utility. The utility provides power at night and during the day when your electrical demand exceeds what your solar system produces. During a power outage, your solar system automatically shuts down unless the system includes battery backup.

Will my system work at night and on cloudy days?

Your system will not work at night because solar modules need sunlight to produce power. Solar modules will still produce power on a cloudy day although they will probably only produce about half as much as under full sun.

Will my solar system make hot water?

Our solar modules convert sunlight into electricity to operate appliances, lights and other devices and will not heat water. SunWize does not sell solar thermal panels or systems used for water heating.

Can my solar electric system generate heat for my home?

SunWize solar power systems are only designed to provide electricity to run your lights, appliances and other electric devices in your home and will not convert the sun's light into heat. SunWize does not sell or design passive solar systems for heating your home.

How do I know if my home is suitable for a solar electric system?

Solar electric systems are a viable power solution for most homes. SunWize systems are engineered for roof or ground installations in almost any location of the United States where direct sunlight is available. You'll need an unobstructed area of about 120 square feet for a small system, and up to 1,000 square feet for a large system. The site must be free from shading because of the wiring design of a solar module. If any portion of the module is shaded, the entire module power output is lowered. A south-facing roof area is ideal, but a west- or east-facing roof can still produce approximately 90 percent of the power of a south-facing roof.

Where are solar electric modules installed?

Solar modules can be ground mounted or roof mounted. Roofs can be asphalt shingled or steel. If your roof shingles will need replacement in a few years, it would be wise to replace them before the system is installed.

Can I install the system myself?

No. Systems must be installed by a qualified electrical contractor or solar installer.

How much will a system cost?

Currently(8-06), the installed cost for a system averages between \$9.00 and \$11.00 per watt. However, many states or utilities offer rebate and tax credit programs which may lower your cost by up to 50%, saving you thousands of dollars. Visit www.dsireusa.org for information about your State's incentives and Federal tax credits that can help reduce the cost of your system.

I'm planning on building a new house, when is the best time to install a system on my roof?

Before laying the roof, you can install flashable mounting brackets that provide the highest level of protection from leakage.

What size system do I need to produce enough electricity to run my house?

The system size depends on your average electrical usage, climate, roof angle and many other factors. As a rough guide, multiply your average daily electrical demand in kilowatt-hours by 0.25. The result is the approximate size of solar array, in kilowatts, needed to meet your electrical demand. We recommend using the [SunWize Solar Design Guide](#) to more accurately determine your electrical needs and the size of your system.

Will a system produce enough energy to cover all my electricity needs?

The amount of power produced by a system varies depending on the size of the system, your geographic location and climate and whether the system has a battery backup. You certainly can buy a system large enough to cover all of your electrical needs. However, a solar electric system does not need to provide all of the electricity you require to be of value. A system displacing an average of one-quarter to one-half of your average demand reduces your electric bill. With battery backup, a system can deliver uninterrupted power to critical loads during utility outages for days or weeks. Reducing your electricity by 40 to 50 percent is typically the most cost-efficient approach for home solar power.

How long will my solar power system last?

Most solar modules show little degradation over many years of operation and carry a 25 year manufacturer's warranty. They typically have a 50+ year life expectancy. This makes solar power a highly reliable source of power. Batteries in a backup system may need replacement in five to 10 years.

What maintenance does the system require?

We recommend that your installer perform a system check once a year, just to make sure everything is performing as it should. The modules usually don't require any more maintenance then hosing them off two or three times a year.

Do I need a building permit?

In most areas a permit is required. Your qualified installer will know how to obtain the necessary permits from your local government.

Do I need approval from my homeowners' association?

If you belong to a homeowners' association, consult your covenants for details. Many states prohibit homeowners' associations from restricting solar devices.

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

The local utility has rules and procedures that must be followed to connect any generator to the grid safely and legally. Your dealer will help you with the documentation and procedures.

Can I be totally independent from the utility?

Our grid-tied solar electric systems are designed to interconnect with existing utility service. Off-grid systems must be custom designed by a qualified solar power installer.

I would like to learn more about a solar electric system for my home. [Go here . . .](#)

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For further information contact SunWize at: 1.800.817.6527 or email by using this [Link](#).

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