



Frequently Asked Questions:

How much space does the system need?

A typical solar electric PV system requires about 7 to 8 square feet for each dollar of your electric bill. This figure varies depending upon your electric rates; since PV systems are modular they can be installed in increments. A Solar Domestic Hot Water (SDHW) system is typically 27- 64 square feet.

Do the panels need to be mounted on my roof?

Panels are often mounted on the roof, but can also be mounted on the ground. Ground mounts are great if the house is shaded, or if dormers or other obstructions limit available space on the roof.

Do the panels need to face south?

South is best, but panels installed facing southeast or southwest still generate a very high percentage of possible power. It is usually more effective (and more attractive) to install the panels in the same plane as the roof direction, rather than build an awkward mount to angle them.

Are the panels fragile?

No. While the panels are made of tempered glass, it is quite strong. They pass hail tests, and PV panels are regularly installed in arctic and ocean conditions.

How much solar electric power do I need to power my home?

Each home is different, and the amount of electricity you use is very dependent upon your lifestyle, how your home was built, and your appliances. As part of our services, we work with you to reduce your electrical consumption in easy ways. Please refer to our Energy Savings Ideas.

How much power does the system produce?

Systems come in all sizes, and produce as much or as little power as required. Many systems produce a portion of the home's required power, leaving room for additional conservation or generation in the future. SDHW systems typically provide 50-75% of your hot water needs.

How long will the system last?

The PV panels have a 25 year power warranty from the manufacturer. The rest of the system has a 5 year warranty in most areas. Inverters can have warranties up to 10 years. The SDHW system I installed on my parents house in 1977 still works today, only the tank and anti freeze have been changed in 30 years.

What happens when the utility has a power outage?

Most PV systems are “clean power” systems, without batteries. These systems do not generate power when the utility is out for safety reasons. If backup power is desired, a battery system can be added. This increases the complexity and cost.

Do I need batteries with the system?

Batteries are only required if you want backup power when the utility is out of service or have no utility service. Without batteries, a PV system has no way to store power.

What is Net Metering?

Net Metering is the regulatory ability to get credit for electricity you generate with solar energy and send backwards through your utility meter. Exact provisions vary with each state, but the effect is to allow you to generate excess power during the day and ‘sell it’ to the utility.

How does the power get stored?

In a Clean Power, non-battery system, power is not stored. It is either used immediately in the house, or sent backwards through the meter, creating a credit. If storage is needed, large batteries and other equipment are added to the system.

What happens if the panels get covered by snow?

Solar electric panels need sunshine to generate power. While some sun does make it through several inches of snow, little electricity is generated when the panels are covered with anything. Most power is made during clear sunny days. Our estimates take that into account.

Do I need to install a new roof before the solar panels are installed?

Solar panels will last many years (over 25). Because of this, we want the roof to be in decent condition, as it does not make sense to remove and reinstall the panels after only a few years. However, after the panels are in place, they will greatly reduce the wear on the roof by blocking ultraviolet rays, keeping most snow and ice off the roof, and keeping anything from hitting the roof. Most installations do not require a new roof prior to installation.

What happens if the panels are shaded?

PV panels should be installed in areas where they get significant shade-free sun every day, ideally from 9AM- 3PM. Even small amounts of shade can very significantly reduce the output. Our designs and installations also seek to minimize the impact of any shade issues through selection of the proper equipment and good engineering. SDHW collectors are more tolerant of shade than PV panels.

Do I need to clean the panels periodically?

In this part of the country, there is sufficient rain to clean the panels. However, if you are in a dusty area (very near a busy dirt road, very urban area, etc.) you may see a performance gain from cleaning the panels. If necessary, a hose stream is usually sufficient for cleaning. Do not walk on or over the panels to clean them. Do not use metal, hard, or abrasive methods for cleaning. Do not spray water on the panels when they are very hot.

Does solar work for commercial buildings?

PV solar works well on office buildings, retail buildings, schools, and government facilities, anywhere electricity is used can use solar electricity. SDHW is best employed where significant amounts of hot water are used, particularly during the day. Laundry, restaurant, motel and school facilities are excellent examples.

Are there incentives for buying solar electricity?

There are many incentives for purchasing solar.

Some common incentives include:

- Federal Tax credits are currently 30% of the system cost, details can be provided.
- Stable energy cost
- Higher resale value for my property
- Take action on climate change / global warming
- Clean electric generation
- Take care of my children's world
- Create secure electricity supply
- Political statement for a renewable energy future
- Strongly dislike buying electricity from the utility
- Feeling of empowerment
- Sending electricity back to the utility (net metering) is cool
- Solar energy just makes sense
- Backup power for utility outage
- Remote site with no electric service

Individual states, including Massachusetts, have some form of funding to decrease the upfront cost of PV systems. Please contact us for more details.

If I sell my property, what effect does solar have on the sale price?

Energy conservation and renewable generation adds value to a home. Surveys have shown that for every \$1,000.00 saved per year, \$20,000.00 is added to a home's value. Solar energy can be one of the best home improvement investments you make.

How long does it take to install a solar energy system?

Typical residential systems take from 2 to 5 days to install. Systems mounted on the ground and systems with batteries are more complex, and may take longer. Most of this time is spent outside your house, so there is little disturbance to you. Commercial systems may take several weeks to install, depending upon size and type of installation.