



10 STEPS TO TAKE BEFORE INSTALLING SOLAR



As your Touchstone Energy® cooperative, we want to be your source for energy and information. Since solar power generation is rapidly becoming more widely available, we put together this information to help answer questions you might have.

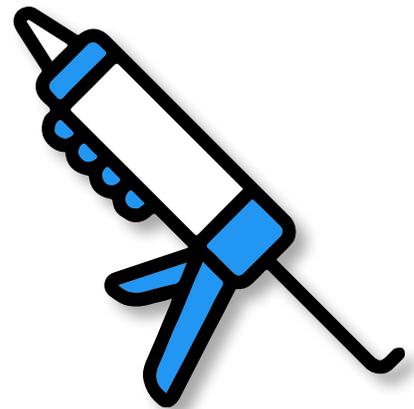
Contact us for more information about solar.

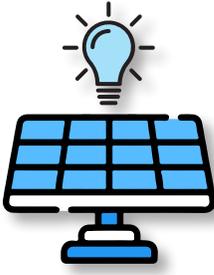
10 STEPS TO TAKE BEFORE INSTALLING SOLAR

As prices decline and technology improves, installing a residential solar system—also called a photovoltaic or PV system—makes sense for some consumers. However, even with these recent improvements in PV, it's important to find out the facts before committing to a purchase. Consider these points as you explore whether solar is right for your situation.

1. MAKE YOUR HOME MORE ENERGY-EFFICIENT BEFORE BUYING A SOLAR SYSTEM.

Performing energy efficiency upgrades around the home tend to have relatively quick ROIs. It is recommended that members first perform basic fixit projects in the home prior to installing solar, such as sealing all air leaks, then properly insulating the home. You can cut your energy costs immediately, and you'll also be able to reduce the size of the PV system you purchase. Your cooperative may offer a free energy audit to members or might be able to provide a list of qualified auditors in your area.





2. RESEARCH, RESEARCH, RESEARCH BEFORE INVESTING IN A SOLAR SYSTEM.

Your electric cooperative should be one of your first contacts. Experts at your co-op can answer basic questions, provide resource materials, direct you to reputable websites, and might also maintain a list of reputable contractors and other experts in your region.

3. UNDERSTAND HOW A SOLAR SYSTEM MESHES WITH YOUR COOPERATIVE'S SYSTEM.

Most solar systems are designed to provide you with a portion of the electricity needed, but won't provide 100 percent of your needs. At night and on cloudy days, and possibly at other high-energy-use times, you'll need more power than your PV system can produce. That means you'll still be connected to your cooperative's power lines. Because these systems are grid-connected, energy can flow both ways. Each utility—including your electric cooperative—sets appropriate policies and rates for connecting PV systems to their lines (the grid) and for possibly purchasing any excess energy your system might provide. As you begin to explore solar systems, be sure you ask cooperative experts about rate structures, the interconnection process, essential safety precautions, and any other connection-related details.



4. REVIEW YOUR CURRENT ENERGY USE SO YOU CAN DETERMINE WHAT SIZE PV SYSTEM TO INSTALL.

Your electric cooperative staff can help you review your past energy use, and help you determine how the projects you've undertaken to improve energy efficiency may help lower your future energy use. One pertinent bit of information that will be useful is looking at how your energy use fluctuates throughout the day. Having that information will help you determine—with expert assistance—the size and type of system best suited to your situation.

5. TALLY UPFRONT COSTS.

Most electric cooperatives do not sell, install, or maintain PV systems, so you will either purchase or lease a system from a contractor who is not a part of the cooperative. If you purchase a solar system, you will be the owner, and you'll be responsible for the purchase price, as well as ongoing maintenance and repair costs. If leasing is the option you prefer, you will pay less initially, but you'll likely have higher ongoing costs. In either case, it pays to spend time figuring out all of the expenses you'll be responsible for during the life of the system. These may include: installation (in addition to the price of the system), interconnection costs, insurance, taxes, and possibly others, too. If you are leasing, ask contractors about the length of the term, if the contract is transferrable to a new homeowner should you sell your home, potential for price increases, as well as the same questions you'd ask if you were to purchase a PV system. In the "credit" column of your price comparisons, look at any incentives, rebates, and tax credits offered for either a purchase or a lease. The age and condition of your roof may also factor into the upfront cost. If it is close to time to replace your roof, complete that before starting the process of seeking solar.



6. SEARCH FOR INCENTIVES, REBATES, AND TAX CREDITS.

Any financial incentives available will help reduce your investment costs. Opportunities vary by state and locale, and many have expiration dates. One database offering details is www.dsireusa.org. This site includes a clickable, interactive map, showing federal and state incentives, credits, exemptions, grants, loans, and rebates for residential and commercial/industrial projects. In addition, your electric cooperative staff and your contractor should have up-to-date details about incentives available where you live.

7. ACCEPT SHORT- AND LONG-TERM RESPONSIBILITIES.

If you purchase a PV system, you'll need to meet the requirements of your electric cooperative's interconnection agreement. That includes paying any costs of connecting to the cooperative grid. Local and/or state officials are responsible for conducting safety inspections, but it's your responsibility to notify them in advance about your installation. After the interconnection requirements are met, and the safety and integrity of your system are approved, your cooperative will take care of the connection to the grid. And, as the owner of the system, you'll be responsible for maintenance and system repairs. If you lease a system, your responsibilities will depend on the agreement you sign. Be sure you know and understand what your responsibilities are.

8. FOLLOW ALL SAFETY PRECAUTIONS.

Most solar systems are grid-connected. Because of the two-way flow of electricity, excess energy your PV system collects during the daytime flows into your cooperative's lines. This shoulders you with the responsibility for the safety of your cooperative line staff, others who may come in contact with a downed power line, and your cooperative's equipment. Improper connection and maintenance of your system may endanger people and the reliability of the grid.



9. CHOOSE A REPUTABLE CONTRACTOR/INSTALLER

Start with a list of options garnered from website research, your electric cooperative, local or state Better Business Bureaus, renewable energy associations, your state energy office, your state Attorney General's office, extension service staff, and any other local experts you can call on for assistance and advice. Contact at least a few of those contractors appearing on your list, especially if recommended by multiple state and local experts. Winnow your list after asking many questions checking out other installations the contractor has completed, comparing bids (get at least three), checking references, and thoroughly examining contracts. If possible, ask a contract specialist or lawyer to review the contract before signing. (See our fact sheet *Questions to Ask a Solar Contractor Before Signing a Contract*).



10. MAINTAIN GOOD RECORDS.

Keep files on your pre-purchase research and pre-installation data provided by your cooperative, as well as bids, contracts, inspection reports, maintenance records, and all other details you may need to refer to in the future. In addition, you'll want to know about system performance, so set up a system to track and compare your actual system performance with predictions provided by the contractor/installer.

This article was provided by Advanced Energy, a nonprofit energy consulting firm. For more information, visit www.advancedenergy.org.

**FOR MORE INFORMATION, VISIT
TOUCHSTONEENERGY.COM**