

Your solar guide to green power



**Become a
solar power
expert!**

Part One: Let's Talk Solar

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- Net Metering
- SRECS

Part Two: How we help you on your way to solar savings

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Part two: How we help you save



What type of system is right for you?

There are three basic types of solar systems:

- 1. Grid-tie**
- 2. Grid-tie with battery backup**
- 3. Off grid**

- 1. Grid-tie** systems are the most basic and most frequently installed type of solar system. A grid-tie system generates power for your home or business, and, depending on the usage, the system will either be supplemented by the grid or will send energy back to the grid when generating more than your usage requires.

2. **Grid-tie with battery backup** systems will draw power stored in a battery to power up critical loads in the event of a grid blackout. In normal situations, the solar power is used to power the house and charge the solar battery. Leftover energy goes back to the grid. Or, if the house uses more power, it is supplied from the grid. This will keep the battery topped off and you and your family secure.



3. **Off-grid systems** are, as the name indicates, not connected to the grid, relying completely on the sun and the solar battery for your power needs. The system will be designed to meet those needs. Most of these systems are installed in small to mid-sized houses, cabins, and in remote locations where the utility cannot connect.

No matter where you are in your journey to a greener future, there will be a solution, as there is for everyone. More and more Americans are choosing the security of a battery backup system to keep their families safe. Belmont Solar started out with off-grid, as we have a lot of off-grid applications in our area. After eighteen years of installing solar, we have grown into a full-service solar business, designing and installing grid-tie, grid-tie with battery backup, and off-grid systems.

How to Choose a Trusted Solar Installer

Finding the top solar panel company is important for your home or farm. In recent years, there's been a swell of companies trying to cash in on the popularity of solar. They are in it for the short-term profit and lack the experience needed for designing and installing systems in a variety of contexts. For your property, you want to choose a solar company that is committed to helping you find a system that's right for you.

- **Determining your solar needs**

Are you looking to power a remote location? Or do you want a system that meets your whole home's power needs? Determining the scope of your project will help you choose a solar provider that will meet your specific needs.

Top solar companies specialize in certain applications, like off-grid remote locations or on-grid home systems. They might also be better equipped to serve a single category of installation, focusing on home, business, or agriculture needs. Find a reputable company that has been installing systems like your project for years.

The best solar panel company can assist you in figuring out your specific solar needs. They will visit your property, evaluate potential locations for panels, and point out any potential issues that might affect the installation. Using your current electric bills,

they should also calculate the size of a system you'll need to meet your needs.

- **Keep it local**

Every state and municipality has different laws, regulations, and rebates for installing solar panels. Local solar companies have worked on homes and farms in your area, so they know the rules to follow and what rebates and tax incentives you may qualify for. They also know about your area's climate and weather patterns, so they will be able to get the most out of your new system. Another plus is that a local provider is easier to reach if there is ever a concern with your new solar system.

- **Ask questions**

For many, solar energy is still a relatively new and unknown technology. If you are going to depend on a solar system to meet your power needs for the next 20 years, you should know everything you can about the system and solar technology.

You should want a solar installer that is knowledgeable about solar technology, and is willing to share that knowledge with you. The best solar companies earn a certification from the North American Board of Certified Energy Practitioners® (**NABCEP**®), which requires a minimum of 58 hours of training and a rigorous examination.

A good solar installer should be able to explain to you how your new solar system works. This shouldn't be a sales pitch; instead, the installer will patiently explain how the system generates power and show you important controls and features of your system.

- **Why should you choose Belmont Solar?**

For the last 20 years, homeowners and farmers across south-central Pennsylvania have trusted Belmont Solar for their solar needs. We've installed hundreds of off-grid and hybrid solar systems of all sizes, including battery backup, and we can custom design a solar system for your home's needs. If you want a knowledgeable, top-quality solar company to introduce you to solar technology, **contact Belmont Solar** today.

How to evaluate and compare solar proposals

Start off by making sure the proposals are of similar content. Your situation is determined by your energy usage, your quest for energy security (battery or no battery), financing or no financing, and physical restrictions of your location. If a proposal is too far off from your situation, review the communication between you and the installer.

Some tips:

1. The size of the system is given in Kilo Watt's or KW. An average system will be between 5 and 15 KW and is usually determined by your energy usage and the size of your roof.
2. Most home owners will try to eliminate their utility bill and offset their usage by 100 % and usually a little more. When you discuss your goals with the installers, make a list of these goals and use this list as a guide line in your conversations with them.
3. For many customers, the environmental impact is increasingly the motivation for going solar. Your proposal should clearly indicate the CO₂ reduction and in some cases will state the number of trees planted, cars taken off the road, or barrels of oil not consumed.
4. An important fact in the solar world is the payback time of your investment. This number includes your electricity savings, SREC's revenue, and federal and state incentives, and will give you an estimate on when you will start making money on the energy you produce. This involves predicting the cost of electricity, which we

know will increase. Assuming the increase will parallel inflation, we can look at historical inflation data to make a prediction.

5. The proposal should include a list of components and equipment needed, along with their brand names.
6. Your installer will include two types of warranties—warranties from the manufacturer, by component, and workmanship warranties from the installer.
7. The size, equipment, components, and type of system define the scope of the system. If considering multiple proposals, make sure the scope of each one is well defined and similar enough to the others to be realistically comparable.



8. Look for a summary and detailed analysis of financial facts. The best proposal is the proposal you can understand easily. Look carefully at the summarized financial analysis—the details of how your money is spent and how the returns are explained. The overall view should include pricing after discounts and incentives. Estimations of the payback period, the ROI (return on investment), and the savings over the productive life of the system (usually 25 years).

9. The proposal should have a clear overview of the steps of the project, detailing the installer's action items and your financial obligations by date.
10. The "fine print" is never the fun part of any agreement between parties, but remember that friends remain friends when they make good agreements and write down the details. A well-written agreement should be clear and easy to understand. Make sure the details are summarized, to provide an overview, but also spelled out precisely in the document. Avoiding fine print can lead to costly miscommunications for both the installer and the customer.

Belmont Solar's Process

By following these steps, your project can proceed smoothly and easily, giving you great satisfaction in the end.

- ▶ **Pre-qualification:** In this stage, we explore with you what type of solar installation would best meet your needs. We do so by looking at your home, the orientation of the home in relation to the sun, trees on your property and around your home, your expectations concerning the investment, your expectations for energy security, and financing options.
- ▶ **Preliminary design:** With today's technology, we can zoom in to view your house from space and design a system that will come very close to the final design. This allows us to give you an insight into the amount of power you can install and the approximate costs of the system, without

leaving our office. **This service is free!** We want to invest in you as a customer just as much as you want to invest in us as professionals.

- ▶ **Site-assessment:** Luckily, although amazing technology exists, the human touch is still critically important. We need to assess the building structure, the state of the current electrical system, and other solar technical aspects for our final design.
- ▶ **Final design:** Once the site assessment is done, we can include the finishing touches in our quotation and give you a design and financial proposal that accurately represents your future installation.
- ▶ **Signed agreement:** The old saying is true– “Friends stay friends when they write things down.” We work together on producing a solid agreement, and once in agreement, we can move forward towards securing permitting and the actual installation.
- ▶ **Down payment of \$2,000:** This is your first commitment to us, to get us started with preparation and submission of the paperwork. Some people think of this as “red tape,” but rest assured; this is our responsibility, and we have the experience and connections to get this behind us quickly.
- ▶ **Permitting and utility interconnection:** Here is where we take care of the “red tape” for you. We approach the townships and your electrical utility. Expect some delay, depending on your region. Some regions are very quick to respond, but this could possibly take two to six weeks.

- ▶ **Sixty percent downpayment and start of installation:** This stage involves a substantial deposit on materials, and is the point at which we ask you to make a contribution towards that deposit. Once the deposit has been made, the excitement begins! You will see the Belmont Solar trucks pull up to your property, and installers will start the work.
- ▶ **Test and completion:** Once the installation is finished, we test and make sure all work is verified, operating correctly, and carefully inspected. In this stage, the company's owner, Ben Zook, will follow his **"PEN" principle: Performance, Education, and Neatness.** Once you are satisfied and happy, your system is ready to be turned on.
- ▶ **Final payment:** Once your system is ready, inspections are done, and the system is approved, final payment is due, as per the agreement.
- ▶ **Setting up monitoring and SREC's:** In this step we set you up with the software to monitor the system performance. Live and in realtime your app will show the hourly performance. Belmont Solar works together with SRECTRADE Inc. this is the company that acts as the intermediate between you and the state. They will take care of the selling of the SREC's and will transfer the credits to your bank account.
- ▶ **Free energy out of thin air:** If you could capture all the energy the sun gives us in one hour, you could power the entire earth for a year. Unfortunately, we are not there yet, but we do what we can to get us there. Renewables, including solar, wind, hydropower, biomass, and geothermal accounted for 13% of the total US energy used in 2019. You are now part of this movement and you can be proud of it!