

A HOMEOWNER'S GUIDE TO GOING SOLAR



What you need to know for a successful solar energy installation.

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THE BASICS

Solar is a pretty simple process. However, there are a few things you should know about how it works and the regulations surrounding the electricity it generates.



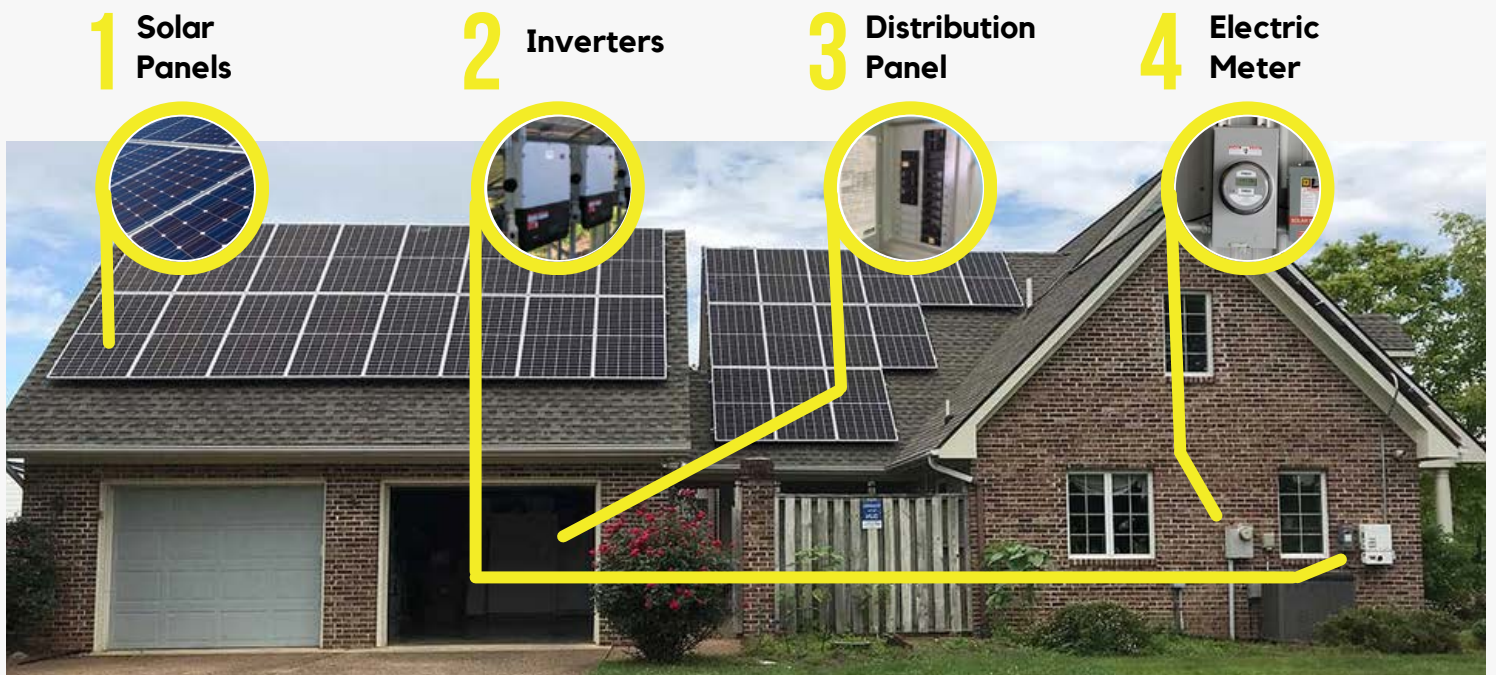
HOW A SOLAR SYSTEM WORKS

A solar energy system can transform energy from the sun into electricity. But how does a solar panel take something as ordinary as sunshine and turn it into something that can power our 21st-century lives?

SOLAR COMPONENTS

There are four main parts that comprise a solar system. Here's what each piece of equipment does.

- Solar Panels**
Placed in a sunny spot on your roof, ground mount, or carport, solar panels will create direct current (DC) electricity from sunlight.
- Inverters**
The DC electricity flows from the panels to the inverter(s). Here, the electricity will be transformed into alternating current (AC) electricity, which is what your home and devices use.
- Distribution Panel**
The AC electricity flows from the inverters to your distribution panel. From there, it will be sent to your outlets as you use it. Excess electricity is sent to the grid.
- Electric Meter**
The meter is used to measure the flow of electricity to and from the electricity grid.



LEARN MORE

[Read More: How Does a Solar System Work?](#)



NET METERING & AGGREGATE METERING

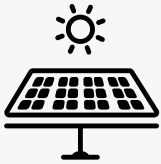
Net metering is, more or less, free energy storage via the utility grid. It's a billing mechanism that's pretty invaluable when it comes to your system's payback. If you have multiple utility meters, aggregate metering is also key.

WHAT IS NET METERING?

Solar panels only produce electricity when the sun is shining, but you need electricity regardless of the weather. So what do you do when your solar system isn't producing? With net metering, you can draw electricity previously generated by your solar system off the grid for free.



1



Your system generates more energy than your home is currently using. The extra electricity goes to the grid.

2



The utility then sells it. In return, they credit your account for each kWh uploaded.

3



When your system isn't producing, you can use those credits to power your home for free.

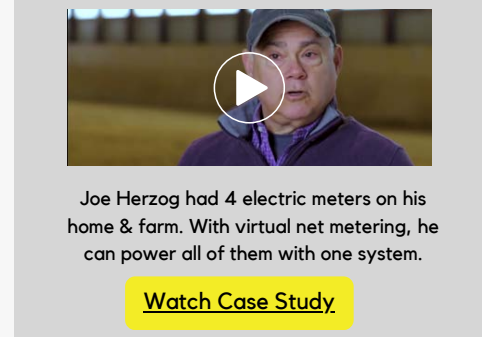
METER AGGREGATION

If you have multiple electric meters, you may be eligible for aggregate metering, or virtual net metering. This lets you offset electricity usage on any meter or building with the power generated from a solar system connected to another meter. However, policies vary by utility and by state.



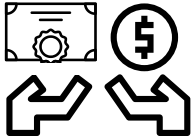
WHERE IS IT AVAILABLE?

Most states mandate that utilities provide net metering. Elsewhere, solar producers are compensated at the lesser wholesale rate, or by unique compensation methods, similar to New York's VDER Value Stack. Meter aggregation's availability also varies by utility and by state.



SELLING SOLAR RENEWABLE ENERGY CREDITS

On top of tax savings and free electricity, solar renewable energy credits (SRECs) may be another way to put money in the pockets of solar system owners. Find out what they are and how they work.



WHAT ARE SRECS?

Solar system owners earn one credit, or one SREC each time their system generates 1,000 kilowatt-hours (kWh) of energy. Those credits can then be sold on the SREC market to utility companies looking to meet their government-imposed renewable energy standard. If they don't purchase enough SRECs, they'll have to pay a fine.



WHERE ARE THEY AVAILABLE?

SRECs are available in some states across the country. In the Mid-Atlantic, Maryland, New Jersey, Pennsylvania, Ohio, Virginia, and Washington D.C. have SREC markets. Some states allow out-of-state systems to sell SRECs in their markets, and others only allow SRECs generated in their state to be sold in their market.



HOW MUCH MONEY CAN I MAKE?

The price of SRECs varies based on market conditions. It's a balance between how many SRECs there are with how much clean energy a utility is required to produce. The more SRECs you produce and the higher their price, the more money you'll earn.

As a benchmark, a 10 kW system will generate 12 SRECs a year. SREC prices can fluctuate from \$20 to up to \$400 (though prices that high are not typical). That means you could earn anywhere from a couple hundred to a few thousand each year.

HOW SRECS WORK



You get an SREC for each 1,000 kWh generated.



You sell those SRECs at market price.



The earnings go right to your pocket.



[Watch Video](#)

LEARN MORE

[Read More: Your Guide to SRECs](#)



HOW MUCH SUNLIGHT DO YOU NEED?

Solar panels need sunlight to make power, and the more, the better. But there are some pretty common things that can stand between the sun and your panels, like trees, buildings, and weather.

SOURCES OF SHADE

Trees, buildings, hills, mountains, and even powerlines can reduce how much electricity your system produces. If these items cast a shadow on even just a part of your panel, that panel's output can be reduced by 33% to even 100%.

Before installation, your installer should do a shade assessment analysis with specialized tools to ensure shade won't interfere with your system's energy production.

[Read More: Do You Get Enough Sun?](#)

CLOUDS & RAIN

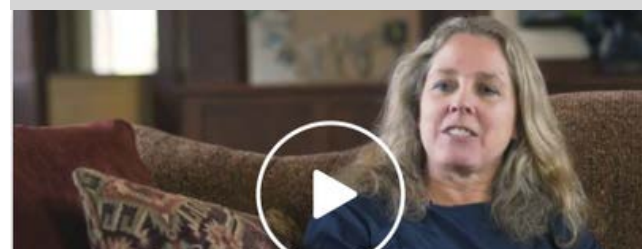
Climate also has an impact on your system's production. If your home is located in a particularly cloudy or rainy area, solar panels will produce less energy.

However, solar has proven itself time and time again in the dreariest climates. The fix for this is to install a few extra panels to make up for lost production. It has a modest impact on costs but can have a huge impact on electricity savings.

[Read More: Weather's Impact on Production](#)



[Watch Video](#)



This Pennsylvania home offsets nearly all its electricity with solar, and will reach payback in 14 years.

[Watch Case Study](#)

WHAT ABOUT SNOW?

If snow accumulates on your panels, they will block out sun and reduce production. However, panels warm up quickly, and snow often melts or slides off your panels shortly after a storm.

With our Triple Ten production guarantee, you don't need to worry about snow or clouds. If your system production falls short, we will send you a check for the difference.





PRICING & PAYBACK

Greatly reducing your monthly expenses with free, clean energy makes solar sound pretty great. But how much is it going to cost?

The following pages will give you an idea. But it's not all about costs. We'll also show you how much money solar can save you.



HOW MUCH DOES SOLAR COST?

Solar is not a one-size-fits-all solution. Your system will be uniquely designed for your needs, goals, and budget. As a result, the cost will be determined by several factors. We can, however, give you a ballpark estimate.

FACTORS THAT IMPACT PRICE

- Size**
Larger systems cost more, but they can also save you more. The more free electricity the system generates, the faster the system will reach payback.
- Incentives**
The federal tax credit helps homeowners recoup 30% of a system's cost. There may also be additional incentives on a state or local level.
- Equipment**
From top-of-the-line to budget brands, there's a wide range of equipment available to suit every project.
- System Type**
Roof mounts tend to cost less than ground mounts.

ROOF-MOUNTED SOLAR COSTS FOR HOMES

Grab your electric bill, find your monthly average, and use the chart below to find out what a system sized for your home can cost.

Average Monthly Electric Bill	System Size (kW)	Total Cost Before Incentives	Cost After Incentives
\$60	5 kW	\$26,480	\$18,536
\$120	10 kW	\$38,960	\$27,272
\$180	15 kW	\$53,285	\$37,299

Consider this: without solar, the average homeowner will spend \$30,000 to \$58,000 for electricity over 30 years. (Most solar panels are guaranteed for 25-30 years, meaning your system should last at least that long).

LEARN MORE

[Read More: How Much Does Solar Cost?](#)



COST-SAVING INCENTIVES & THE PAYBACK

Governments like when homeowners install solar. That's why they offer so many cost-saving incentives that make the initial investment easier. And with these incentives comes a better return and faster payback for your solar investment.

FEDERAL INVESTMENT TAX CREDIT

The federal investment tax credit reduces your system's cost by 30%. You'll get that money back in the form of a credit on your taxes. This credit can be carried forward for 12 years until it's fully used.

[Read More: Tax Credit](#)

STATE INCENTIVES

Some states offer additional incentives to homes going solar, like grants, tax exemptions, and more.

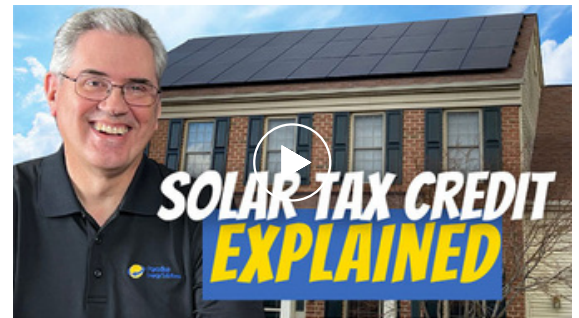
[Read More: State Incentives](#)

SRECS

Solar Renewable Energy Credits, or SRECS, are an extra way you can earn money with solar. For each 1,000 kWh you produce, you get one credit. That credit can be sold off to help utilities meet renewable energy production goals. However, they're not available in every state.

[Read More: SRECs](#)

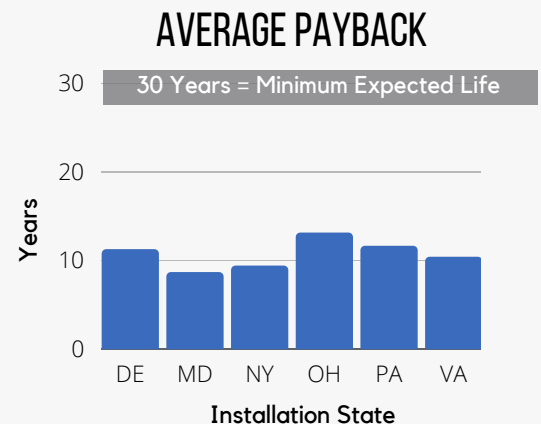
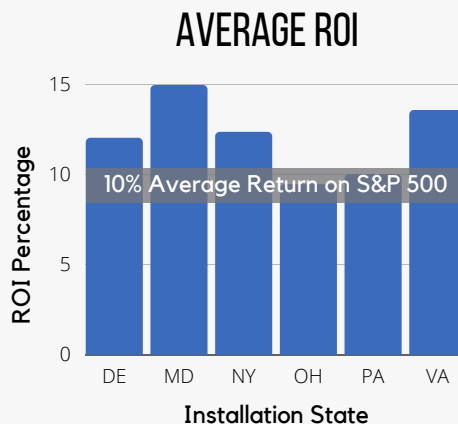
Learn more about the tax credit.



IS SOLAR A GOOD INVESTMENT?

By reducing installation costs, incentives help sweeten the return on your investment in solar.

The charts to the right show the average return and payback period for systems we've installed across the Mid-Atlantic.



SOLAR OWNERSHIP VS LEASING

Solar ownership is when you pay for the project through cash or financing. Solar leases are when a second party pays for and installs the system on your land or home. In return, you purchase the electricity the system generates.



OWNERSHIP

- + You'll get all the incentives from going solar, like the 30% tax credit and SRECs.
- + The electricity your system generates will be 100% free for you to use.
- + Your solar system will increase your property value.
- × You'll have to pay for installation costs.
- × You'll be responsible for maintenance.



LEASE

- × The leasing company gets the tax credits and other incentives.
- × You'll still have to pay a monthly electric bill. Plus, the lease agreement also has escalators that make the payment more expensive over time.
- × Your lease will stay with your property, meaning if you sell, you'll have to find a buyer willing to assume your solar lease.
- + You won't have to pay for the initial upfront costs to install the system.
- + Your leasing company is responsible for maintenance, not you.

HOW IT WORKS

OWNERSHIP



Work with an installer to design your own system.



With the help of incentives, you pay for your system.



You get free electricity for the life of the system.

LEASE



Sign a lease allowing a developer to install a system on your property.



The developer install their system on your property at no cost.



You pay the developer each month for electricity.

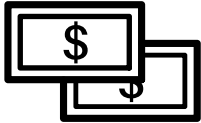
LEARN MORE

[Read More: Ownership vs Leasing](#)



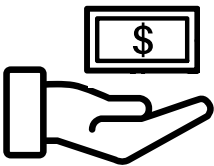
SOLAR FINANCING

Solar systems, which can pay for themselves in just a few years, can be a valuable asset for any home. However, they do require a substantial upfront investment. Here are a few common methods of financing.



CASH

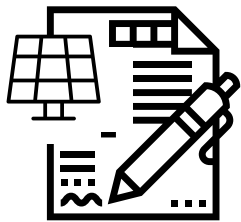
Cash is often the ideal way to pay for a solar system. It positions you as the owner and gives you 100% of the benefits from solar—from the electricity savings to the tax savings, and more—with no interest payments. However, not everyone has enough available capital to install solar, and that's okay. There are other options.



LOAN

You don't need to have cash on hand to reap the benefits of solar system ownership. Lending institutions recognize the power and stability of an investment in solar, and typically offer loans with great terms.

A similar option is a capital lease, which is different from a "solar lease." They provide the capital, and you'll still receive the benefits of ownership. Once it's paid off, you're the owner. They typically have shorter terms than conventional loans.



PPAS & LEASES

If you don't have the finances to own your own system, you can still go solar. Power Purchase Agreements (PPAs) and solar leases put solar on your property for no upfront costs. However, you won't be the owner of the system, and you won't get the tax benefits or free electricity. Instead, a leasing company will pay for and own the system. In exchange, you'll purchase the power generated by the system to power your home. It typically starts out at a lower rate than your utility.

WHICH IS BEST FOR YOU?

It all comes down to your cash flow, credit, and tax liability. If you owe enough in taxes to take advantage of the 30% tax credit, and you have the money or credit to pursue ownership, that typically offers the best return. If not, leasing can be a great alternative.

[Read More: Learn More About Solar Financing](#)



MAINTENANCE COSTS

Solar panels are a fairly hands-off investment that requires little regular maintenance. However, there are still some instances where a professional may need to work on the system.

HOW OFTEN WILL THEY NEED MAINTENANCE?

Your solar panels likely won't need regular maintenance or upkeep.

Unless your solar PV system has bad parts, was installed incorrectly, or outside factors damage the system, little maintenance is needed. Leading inverter brands have warranties that cover the first 10 - 25 years. Solar panels from leading brands will be guaranteed for around 25 or 30 years. Even solar batteries come with warranties, though they are often much shorter than panels' and inverters'.

WHAT WILL MAINTENANCE COST?

With the right installer and equipment, little to nothing.

The true cost of a solar system repair can vary widely. But if you buy quality parts covered by warranties and you work with an installer willing to stand behind their work, you won't pay much. Manufacturer warranties cover components, and some installers offer workmanship warranties.

HOW DO I KNOW IF I NEED MAINTENANCE?

Keep an eye on your production monitoring software.

Most systems will come with an app or website that shows your system's production. If there is a drop in production unrelated to weather, it may be time for a service call. Here at Paradise Energy, we include average maintenance costs in the cash flows that come with our quotes. This will give you a clear picture of the impact maintenance could have on your system's payback.

HOW TO MAINTAIN YOUR OWN PANELS

Sit back, relax, and pay ridiculously low electric bills.

Cleaning dust and dirt off your panels can, in some instances, be worth it. However, regular rain showers do enough to keep most panels clean. And when it comes to snow, just about everyone in the industry recommends it's not worth clearing it off. Performing either of these tasks with the wrong equipment or approach could damage panels and void their warranty. Reach out to trusted professionals only. Ideally, the improved production should make up for the cost of hiring a professional.

HOW DO I AVOID EXPENSIVE MAINTENANCE BILLS?

Paradise Energy's Triple Ten Guarantee keeps your investment safe.

Going solar with Paradise Energy means your system will be protected by our Triple Ten Guarantee. This is above and beyond your equipment warranty. It guarantees your system's production, comes with expert system monitoring, and protects you against any workmanship issues for ten years.



LEARN MORE

[Read More: Learn more about the added security of our Triple Ten Guarantee](#)



PROPERTY VALUE & TAXES WITH SOLAR

A solar system is a valuable asset for your home. It's a means of producing your own free electricity, making your property more valuable in the eyes of potential buyers. But does this mean you'll pay more in property taxes?

SOLAR ADDS VALUE TO YOUR PROPERTY

When you install a solar system, your home becomes more attractive to potential buyers. Instead of inheriting a typical electric bill with their new house, they'll get their own means of producing electricity for free.

With the option to pay less for monthly electricity, potential buyers will fork up more money to get their hands on your home.



WILL YOUR PROPERTY TAXES INCREASE?

The vast majority of homeowners will not see an increase in their property taxes from solar.

32 states have specific tax exemptions preventing a tax increase for the value solar panels add to buildings. If you live in one of the 18 states that do not have a specific exemption, you probably still won't see an increase in taxes.

While solar does increase the selling value of your property, it isn't necessarily included in the value of the property itself. Solar panels are securely installed and built to last on your property for at least 25 to 30 years. But technically, they're a removable item and aren't a permanent part of your property.



LEARN MORE

[Read More: Solar's Effect on Property Values](#)

[Read More: Will Solar Increase Your Taxes?](#)





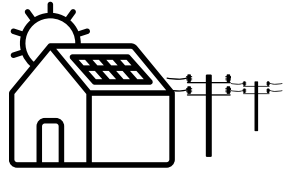
SYSTEM DESIGN

Each solar system is custom designed to suit your specific home. We'll take into account your financial goals, how much electricity you'd like to produce, and any aesthetic considerations to ensure your system suits all your needs.



GRID-TIED VS OFF-GRID SOLAR

There are two types of solar systems: those that are connected to the utility grid (grid-tied) and those that are independent (off-grid systems). Both have a time and a place, but most homes install grid-tied systems.



GRID-TIED

- + If your home has access to electric utility hookups, you can install a grid-tied system.
- + You'll never be without power as long as the grid is working. You'll pull energy from the grid at night or when the weather isn't favorable for solar.
- + You can, but don't have to, install batteries to store electricity.
- × Grid-tied systems won't produce electricity when the grid goes down. You'll need a storage system or a traditional generator.
- × You'll still be a utility customer, meaning you'll still see some (small) customer charges on a bill.



OFF-GRID

- × If your home is remote and without access to grid electricity, you may have to go off-grid.
- × If your system stops producing and you run out of stored electricity, you'll have to go without.
- × You'll spend *a lot* of money for a battery system.
- + If the electricity grid goes down in your area, your system will continue to produce electricity and you won't be affected at all.
- + You won't be a utility customer, meaning you won't get an electricity bill.

THE VERDICT:

Grid-tied systems are better for homes because installing a solar energy storage system large enough to meet your energy needs is far too cost-prohibitive. You can still offset 100% of your power needs with a grid-tied system for a fraction of the cost. Click below to learn more about grid-tied and off-grid solar.

[LEARN MORE](#)

[Read More: Grid-Tied vs Off-Grid Solar](#)



ROOF MOUNTS & GROUND MOUNTS

Solar panels can be installed on roofs or as free-standing structures on land. The installation that's best for your home depends mostly on the area you have available, your preference, and your budget.

TYPE

PROS

CONS

ROOF MOUNTS



- Optimizes unused space
- Tends to cost less
- Suitable for most roof styles
- Most roofs maintain their warranty
- Out-of-the-way and won't take up yard space.

- May require roof penetration
- Could require a new roof before installation
- Future roof maintenance would be difficult
- Adds weight to your roof

GROUND MOUNTS



- Installation location is flexible; can be placed where there's a lot of sunshine or is out-of-the-way
- May give you more space for a larger system
- No roof penetrations needed
- Easily accessible for maintenance
- Can get ideal orientation and tilt for optimal solar production

- Installation costs may be higher
- Will take up space in your yard
- Easier access for unauthorized visitors
- Will require mowing & maintenance to control grass & plant growth underneath

WORRIED ABOUT YOUR ROOF?

With a ground-mounted system, you'll have to give up some of your yard to install panels. But roof-mounted systems allow you to take advantage of otherwise unusable space.

But can your house's roof support the added weight of solar? In many cases, yes. **Before installation, an architect or structural engineer will evaluate the building to ensure it can support the panels.**



LEARN MORE

[Read More: Roof Mounts vs Ground Mounts](#)

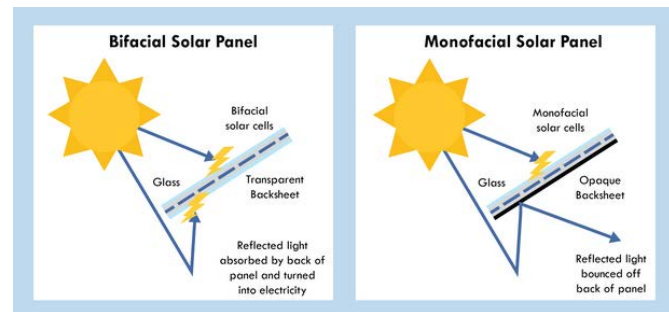


CHOOSING THE RIGHT PANELS

There are a few different options when it comes to solar panels. Some of these options are strictly aesthetic, and some will determine performance.

MONOFACIAL VS BIFACIAL PANELS

These are the two main types of solar panels. Monofacial panels produce from the top side of the panel only. These are great for roof mounts or on a surface with low albedo. Bifacial solar panels have energy-producing solar cells on both sides of the panel. These are great for ground mounts or tilted roof mounts with a reflective surface underneath.



BACKSHEET & FRAME COLOR

Most panels come with a white backsheet and silver frame. However, some brands offer models with black backsheets and black frames. The latter option tends to be more expensive but can blend into dark roofs more easily, giving it an aesthetic edge.



White Backsheet



Black Backsheet

PANEL SIZE

Solar panels come in two different sizes: 60-cell and 72-cell. Overall, 72-cells tend to be more economical, as they'll generate more electricity per panel. This makes them the preferred option for many agricultural solar systems.



72-Cell Panel



60-Cell Panel

OUTPUT RATING & EFFICIENCY

The output rating represents how many watts of electricity the panel can generate. Higher wattages mean more electricity, but this comes at a higher cost. Efficiency is the percentage of electricity it produces with the energy it receives. More efficient panels produce more electricity but are also more expensive.



LEARN MORE

[Read More: Picking the Best Solar Panels](#)



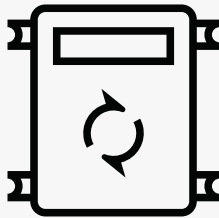
PICKING THE RIGHT INVERTER

The main difference between inverters is the level on which they convert power. Some do so in groups of panels called strings, and others convert power on a panel-by-panel basis. There are pros and cons to all types of inverter.

STRING-LEVEL VS MODULE-LEVEL CONVERSION

String inverters operate on a string or grouping of several solar panels. Each solar panel in a string can only produce as much electricity as the lowest-producing panel in that string. Microinverters and optimizers, however, work on a module-by-module basis, meaning the output of one panel won't impact the output of another. While these are more efficient, they will cost more.

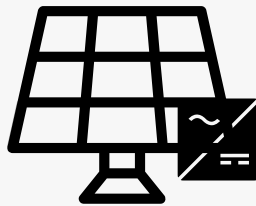
1



String Inverters

These are often the most common and cost-effective option. However, they're not the most efficient. Each panel will only provide as much electricity as the lowest-producing panel in that string.

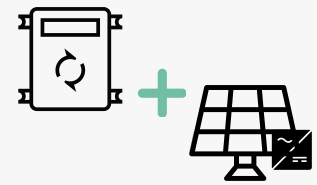
2



Microinverters

Microinverters are installed on each solar panel and allow them to produce their maximum amount of electricity, unaffected by others. However, they do tend to be more expensive.

3



String Inverters + Optimizers

This combination gives you the ease of string inverters and module-level optimization. String inverters are installed, but optimizers will be installed on each panel to allow for panel-level optimization.

WHICH IS BEST FOR YOU?

String inverters are typically more economical. However, module-level optimization improves efficiency, especially if your system will be shaded.

[Read More: What's the Best Inverter Type?](#)





THE INSTALL PROCESS

Installing a solar system should be a fairly hands-off and easy process that won't interfere with your day-to-day life. Your installer will take care of all the heavy lifting.

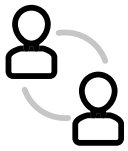
Here's more on what to expect, how to find the right team to work with, and how to evaluate your proposals.



6 STEPS TO FREE ENERGY

No one needs another complex task added to their day-to-day schedule. Thankfully, installing a solar system is relatively hands-off and can be completed in six simple steps.

1



Custom Evaluation

You'll meet with a consultant to discuss your questions and energy goals.

2



Detailed Quote

After 2-3 days, you'll receive a quote detailing costs, ROI, & payback.

3



Signed Contract

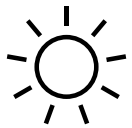
If you decide to move forward, you'll sign a contract & discuss the nuts & bolts, preparing for construction.

4



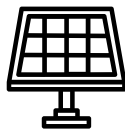
Paperwork & Permits

We'll finalize the details & take care of all the paperwork, permits, & materials.



Free Electricity

Once your project is completed in a few days or weeks (depending on size) you'll start generating free electricity!



Construction Begins

The project will proceed with little to no disruptions to your home, & we'll keep you updated on everything.

5

6

LEARN MORE

[Watch: Sizing a Solar System](#)



HOW TO PICK THE RIGHT INSTALLER

Finding the right solar installer is essential. A solar system is a 30+ year investment, and it's important to find a company that will partner with you, stand behind their work, and be around to honor any warranties.

Reviews

You can learn a lot about a company from their customers. Look at reviews on Google and Facebook. Ask the company for references. Look to others for recommendations. This gives you a glimpse at how the company treats customers and handles challenges.

Experience & Longevity

You want to partner with a company that has a history of quality and reliability. Spend time researching past projects. Make sure they're certified by leading solar industry organizations. NABCEP is the leading certifying organization and SEI provides excellent training for solar professionals.

Warranties

Many panels come with 25- or 30-year warranties. Inverters come with warranties that range from 10 - 25 years, depending on the make and manufacturer. Look for an installer that goes above and beyond the manufacturers' warranties to guarantee their work and the energy production of the system. These warranties are important for protecting and providing predictability for your investment.

The Team

Ask who would be working on your project. Full-service solar installers have in-house team members that complete every step of the project. Other companies use subcontractors. These people may not have the certifications and experience that a full-service solar installer will have

Company Values

The values and mission statement give you a glimpse into the DNA of a business and offer a gauge of how you'll be treated as a customer. Find a company that has a vision that aligns with your values.



LEARN MORE

[Read More: Choosing the Right Installer](#)



EVALUATING A SOLAR PROPOSAL

Don't let the complexity of solar system estimates overwhelm you. Understanding these 10 items when reviewing and comparing your proposals will help you make the best decision when it comes to your solar installer.

● **Size & Location**

A system's size is based on your energy consumption and the number of panels required to meet your energy demands. It should also be clear where the installer intends to place the system.

● **Components & Equipment**

A list of components should include the quantity, brand, and watts of the solar panels; the quantity, and brand of the inverters; and in some cases, the quantity and brand of the optimizers.

● **Cost & Incentives**

Your proposal should have a cost and incentive summary, including the total cost of the system, savings incentives, and the net cost of the system. You should also see the long-term cash flow.

● **Environmental Impact**

Your proposal should include the expected amount of your energy the system will offset, along with its environmental impact.

● **Payment Terms**

The payment terms should be clearly defined in the proposal.

● **Warranties & Guarantees**

Most solar proposals will include two types of warranties: manufacturer warranties for equipment, and warranties from the installer.

● **Project's Scope**

The proposal should detail what is included and what isn't, as well as provisions for any unforeseen costs.

● **Project's Schedule**

Make sure the proposal includes a schedule that details the process, with dates, from the time you sign to the time the system is energized.

● **Electric Rate Inflation**

Most solar proposals will show you your electric savings. The challenge, however, is predicting the cost of electricity in the future. Many installers include an escalator reflecting energy cost inflation.

● **Investment Analysis**

You should see a long-term, cumulative cash flow analysis. Unlike other investments, solar has a rapid return in the early on and tapers off at the end of the payback period, making it an attractive investment.

LEARN MORE

[Read More: Evaluating a Solar Proposal](#)





QUICK SOLAR REFERENCES

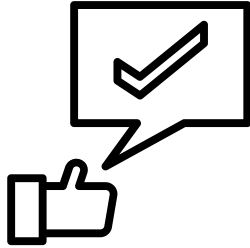
Sometimes we need only the vital information, and we need it fast.

This section distills essential solar information down to just two pages.



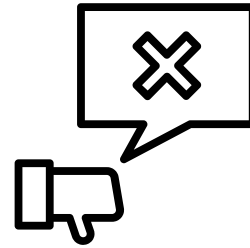
THE PROS & CONS OF SOLAR

There's good and bad to just about everything. Before making a decision, it's important to be aware of both sides. That way, you can be sure you're doing what's right for your home today and well into the future.



PROS

- + Saves you money by drastically reducing your monthly electricity bill.
- + Protects your finances against rising electricity rates.
- + Saves money on taxes and allows you to recover a large portion of installation costs in the first year.
- + Solar saves you money with little or no regular maintenance or inputs from you.
- + Your home is going green by switching to an emissions-free energy source.



CONS

- ✗ Unless you invest in energy storage, you will lose power along with other utility customers when the grid goes down.
- ✗ Installing a solar system requires upfront capital or access to financing in order to save money long-term.
- ✗ Your system won't produce electricity unless the sun is shining. You'll need to use net metering credits or purchase energy from the grid when this happens.
- ✗ Ground-mounted panels may take up some of your yard.

LEARN MORE

[Read More: Solar's Pros & Cons](#)



8 SOLAR TERMS YOU NEED TO KNOW

Throughout your research, you may come across a few unfamiliar terms. The following pages have easy-to-understand definitions of some common jargon to help you along your way.

SOLAR MODULE

The more common name for a solar module is "solar panel." When solar panels are connected to a roof, this creates a solar array, more commonly called a solar system.

PHOTOVOLTAICS

You may hear the word photovoltaic or PV when someone is discussing solar energy. Photovoltaics translates to 'light electricity' and is the method of creating electricity from solar (sun) radiation through the use of solar modules.

INVERTER

Solar panels generate direct current (DC) electricity with energy from the sun. However, our devices and equipment mostly use alternating current (AC) electricity. Inverters take the DC electricity generated from the panels and turn it into AC electricity.

NET METERING

Net metering is the agreement between a utility and a solar-producing consumer that allows the consumer to buy and sell electrical credits as needed. If the solar system produces more than the house is using, the energy is transferred to the utility by means of an electrical credit. If it is not producing, electricity can be drawn from the grid by spending a credit.

KILOWATT (KW)

This is the rate at which power is used or produced. Solar arrays are rated in kilowatts, which is the amount of electrical power that would be produced at any specific point in time at standard test conditions (STC).

KILOWATT-HOUR (KWH)

The volume of power that is used or produced. One kWh is the amount of energy a 1,000 W item would use (or produce) if it ran for 1 hour continuously.

INTERCONNECTION

The interconnection is the physical connection between the electrical grid and your solar array. It's most often achieved with wires that nearly attach to your system and run underground to the utility connection.

SOLAR MODULE DEGRADATION

Over many years, the performance of solar panels begins to degrade, causing them to be less efficient. This degradation is caused by exposure to the elements and normal wear on the solar panel. Panel degradation is to be expected with solar modules. Each manufacturer specifies the expected degradation and warranties of the panels based on these degradation expectations.

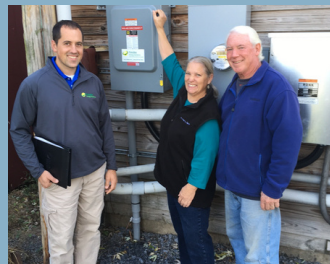


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