Palmetto

# Guide to going solar:

## Essential resources for homeowners who want to go solar, save money, and promote clean energy

Start your journey to better power with Palmetto's sales-free guide to going solar. We'll cover key concepts, investment options, qualifications, savings, and more.

2023 EDITION

TABLE OF CONTENTS

# Overview

As electricity prices increase, more people turn to solar as a potentially low-risk, high-reward investment. Homeowners looking to save money on their monthly and long-term energy costs may be able to do so by leasing or purchasing solar as a cleaner, cheaper solution to fossil fuels. If you're reading this guide, chances are you're at least open to the idea—and rightly so.

For many homeowners, solar offers a host of benefits: energy savings, access to credits and incentives, environmental peace of mind, higher home values, and independence from the utility grid with a battery storage system.

**The only question that remains: Is solar right for you?**

This guide is designed to educate homeowners on the costs and benefits of solar so they can make an informed, confident decision. Below, we will:

- Explain key solar concepts
- Outline the solar installation process
- Compare purchase and lease options
- Provide decision-making tips
- Share additional resources

While we are huge advocates for solar, we know it's not right for everyone and want to empower you with the knowledge to decide for yourself. So, without further ado, let's get started!

# Why solar makes sense today

There are many reasons people decide to go solar. Here are five of the most compelling:

## 01. Save money on your energy costs

Electric bill savings is the #1 reason people switch to solar, according to a 2022 Palmetto customer survey. It's no secret that people want to save on energy, and for many homeowners, solar provides a long-term, low-risk way to do so.

When do the savings outweigh the investment costs? Many homeowners want to know when they will reach their break-even point or payback date—when their total energy savings exceed their installation costs.

In the U.S., current estimated payback periods fall between 6 and 12 years, according to estimates from SolarReviews and the Center for Sustainable Energy. Actual savings and payback dates, if any, will vary based on several factors, including:

- The cost of electricity in your area
- The way your state or utility credits solar energy
- Your system size and cost
- The amount of energy you use
- The energy your system produces
- Eligibility for financial incentives
- Your chosen financing method

**6 to 12 years** Average solar payback period in the U.S.*

*Source: SolarReviews, Center for Sustainable Energy

# 02. Increase your home value

Numerous studies have demonstrated that solar panels can provide a significant return on investment when it comes time to sell your home. The real estate company, Zillow, conducted one such study and found that homes with solar panels sold for 4.1% more on average than comparable homes without. For the median-valued home, that translates to an additional $9,274.

**$9,274** Estimated increase in sale price for a median-value home with solar panels vs. a comparable home without.*

# 03. Generate emissions-free power

According to applied data from the EPA and EIA, the average U.S. home in 2021 used 10,632 (kWh) of electricity, which alone produced approximately 4.6 metric tons of carbon dioxide (CO2). This is equivalent to greenhouse gas emissions from 5,152 pounds of coal burned.

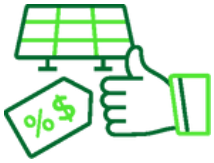
Solar can lower your home energy footprint by offsetting the energy that you source from fossil fuels through the grid. In turn, your solar panels help reduce the amount of greenhouse gases that enter the atmosphere.

**4.6 metric tons**

The estimated amount of CO2 that an average U.S. household produced through energy consumption in 2021.**

*Source: Zillow. **Source: EPA, EIA

# 04. Access tax credits and incentives



Solar credits and incentives have been a huge driver in the adoption of solar, and if you are eligible, these can represent significant savings when purchasing a solar energy system. One such credit, presently called the Residential Clean Energy Credit, has helped the U.S. solar industry **grow by more than 200x** since it was implemented in 2006, according to the Solar Energy Industries Association (SEIA).

For context, the Residential Clean Energy Credit is a federal incentive that allows eligible homeowners to deduct up to 30% of the total cost of their solar energy system from their federal tax liability in the year of installation. Other major incentives for eligible solar customers may include:

- State tax credits
- Cash rebates
- Solar renewable energy credits (SRECs)
- Performance-based incentives
- Tax exemptions

## 30% of system costs

The full potential value of the Residential Clean Energy Credit through 2032.

# 05. Increase your energy independence

Solar can also provide peace of mind for homeowners who want to know where their power comes from, as well as how it's sourced, produced, and billed. It's up to you, not the utility company, how you consume, produce, and save on power.

A solar energy system equipped with a battery can even provide backup electricity when power outages occur. Under the right circumstances, batteries can also provide significant savings.

Find more information about battery storage on page 25.

# Is solar right for me? Exploratory questions to ask yourself.

While the percentage of homeowners who can save money with solar has increased in recent years, it still isn't right for everyone. Here are a few questions you can ask yourself to determine your home's potential for solar.

## You might be a good candidate for solar if:

- You live in a solar-friendly state with high electricity rates
- You own your home
- You live in a single-family home
- Your roof is a solar-compatible material
- Your roof is less than 10 years old (or you're OK with upgrading your roof for solar)
- You're eligible to receive solar tax credits and incentives

## 01. Where do you live?

Your geographic location directly influences your potential for solar—but not always in the ways you might think. Solar is ideal for places like sunny California and Florida, but it can also be an excellent investment in states like New York, Pennsylvania, and Ohio. When a solar company asks for your address, they're looking for several things besides sunny weather:

- Your utility company and rates
- Approval requirements in your area
- Incentives in your area
- Solar policies in your area

These details help inform your solar project, including recommended system size and estimated savings potential. For reference, when this guide was written, Palmetto installed solar panels in 20 states.

# 02. How much do you spend on electricity?

The primary reason most homeowners go solar is to reduce their electricity costs. And while there are exceptions, a general rule of thumb is the more you spend on energy costs, the more you're likely to save with solar! To assess your potential savings, start with your electricity bill, namely the **cost of electricity** and your **monthly energy consumption**.

While you can, to an extent, control how much energy your home consumes, you can't always control how your local utility company prices electricity. That's why states with higher electricity costs generally have greater savings opportunities. That said, even in areas with low electricity costs, people may still benefit from solar.

States with the highest average electricity rates in 2021:

| | | | |
|---|---|---|---|
| #1 | Hawaii | 33.49 | cents/kWh |
| #2 | Alaska | 22.55 | cents/kWh |
| #3 | Massachusetts | 22.89 | cents/kWh |
| #4 | California | 22.82 | cents/kWh |
| #5 | Rhode Island | 22.30 | cents/kWh |
| #6 | Connecticut | 21.91 | cents/kWh |

# 03. Do you own your home, and what type is it?

To install solar panels on your roof, you need to know who owns the roof, what your HOAs solar policy is, and who has access. In most cases, you must own your home in order to purchase and install solar panels for your roof. Homeowners who share a roof with others—as in the case of a duplex, townhome, or multi-family home—may find it difficult to get on-site solar approved by the required jurisdictions.

Source: U.S. Energy Information Administration (EIA)

# 04.
# Is your roof suitable for solar?

Before designing your system, your solar provider may ask to survey your property in person or remotely through photos. Beyond your roof's size, angle, and orientation, we'll look at shading, estimated tree growth, materials, ventilation and drain pipes, and overall health to determine if your roof is suitable for solar. Because solar panel systems may last up to 30 years, it's important the roof beneath is in good condition and made of a suitable material for solar panels.

**Common roof types well-suited for solar panels include:**

- Composition shingle
- Corrugated metal
- Standing seam metal
- S-, W- and flat-shaped concrete tile
- Modified Bitumen
- Asphalt roll roofing
- EPDM rubber roofing
- TPO (thermoplastic polyolefin) roofing

**Roof types NOT typically well-suited for solar include:**

- Slate tile
- Wood tile
- Clay or terracotta
- Metal tile

# 05.
# How long do you plan to stay in your home?

While it is possible to remove and reinstall solar panels on a new home, if you plan on selling a home with solar panels, it's often preferable to sell the home with the panels in place. Solar panels have been shown to increase home values in the national real estate market.

If you choose to lease your solar panels, transferring your lease to the new homeowner may be possible. However, transferability and requirements may vary, so it's important you ask before signing your agreement.

# 06.
# Can you take advantage of solar incentives?[1]

Financial incentives can play a significant role in your return on investment when going solar. The most popular solar incentive many owners take advantage of is the Residential Clean Energy Credit. This is a federal incentive that allows eligible homeowners to deduct up to 30% of the total cost of their solar energy system from their federal tax liability in the year of installation.

Most people who purchase a solar panel system for their home can qualify for the credit. However, not everyone who uses solar may be eligible. To qualify for the Residential Clean Energy Credit, you must:

- Own your solar panel system
- Have your system installed on your primary or secondary residence
- Owe federal income taxes
- Have a new (not used) system installed

That said, a solar investment without incentives can **still make sense** for many homeowners. Homeowners who want the benefits of solar without the upfront investment may enter a solar lease or power purchase agreement (PPA) and save money on their electricity without the purchase costs (or access to purchase incentives).

More information on tax credits and incentives can be found on page 19.

# How solar works: Key terms and components

The sun is billions of years old, but only since the 1950s have humans been able to unlock its electricity-generating potential. Since then, solar panel manufacturing and performance have become increasingly efficient, resulting in greater savings and ease for the average homeowner. Here's how solar energy generally works today:

## 01. Sunlight contains an abundance of energy that we can harness

Ever wonder why humans get sunburnt? Sunlight contains a remarkable amount of energy (in the form of photons), and sunburns are caused by too much exposure to it. Solar panels work similarly, but instead of "burning" as our skin does, solar panels are designed to absorb sunlight and use it to generate a flow of electricity.

## 02. Solar cells harness the sun's energy to produce electricity

Solar panels are simply a collection of many tiny solar cells that use sunlight to create electricity! As the solar cells absorb energy, the atoms within get excited, and the movement of their electrons creates an electric current.

## 03. Electricity is converted into a usable form

Solar panels generate direct current (DC) electricity, meaning that it flows in one direction. However, our homes use a different type of electricity: Alternating current (AC). A device called an inverter transforms DC into AC electricity. Your electrical panel can then distribute this electricity throughout your home.

## 04. Your electric meter monitors your net energy usage

There will be times when you need more energy than your solar panels can produce, so you'll need to pull power from the electric grid. Your utility meter provides a safe and accurate way to monitor the flow of electricity into and out of your home.

When your panels generate more electricity than you need, any excess power can be fed to the grid. Depending on your utility provider, you may even earn credit for the excess energy your panels produce.

## AC/DC sound familiar?

The famous Australian rock band was named after the alternating and direct currents of electricity—the very same mechanism that solar panels use to produce energy. Electric!

More information can be found on page 21.

# What a typical solar process may look like

When installing a solar energy system, the installation itself is an important part of the overall process. Several things must happen both before and after the installation to ensure that the system design and financing options meet your needs and that your project meets local safety, building, and utility requirements.

A typical installation at Palmetto takes around 2 to 4 months from sale to power. However, your specific timeline may vary depending on your home, location, and provider.

## 01. Design and contract

After deciding which solar company you want to go with, you'll be asked to provide additional information to finalize your design and project details. Here are some basic requirements that we ask of our customers and why:

- **Your electricity bill** helps define your energy needs and grid connection, as well as rates, policies, and incentives in your area.
- **A survey of your home** helps to finalize your design. You'll be guided through a short series of questions and photo requests to collect the information we need.
- **Credit check** helps determine your eligibility for loan products if you choose to finance your solar energy system or if you sign a solar lease or PPA.
- **HOA information** helps us verify if your home is part of a homeowners association. If so, there may be additional requirements that govern the design and installation.

Once complete, we'd finalize your design and contract before you sign the required documents.

## 02. Requirements

Several organizations may oversee the size, placement, design, and installation of your solar energy system, including your local building department, utility company, and HOA (if applicable). With Palmetto, we help customers define their area's requirements and help secure required permits and approvals on their behalf. Other providers may have a different process.

## 03. Installation

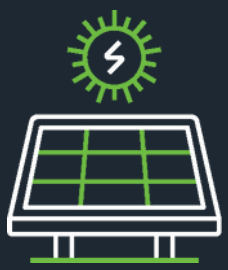
Once all permits and approvals are in place, your provider will be ready to install your system! Most installations that do not require any material roof work can be completed in 1-2 days.

## 04. Inspection

Inspections are required to ensure your system meets your area's safety regulations, laws, and codes. Some areas require an inspection during the installation, but all jurisdictions will require a final inspection before you can turn your system on.

## 05. Permission to Operate (PTO)

Once the inspection is approved, your solar provider will apply for what's called "Permission to Operate" or PTO from your utility company. PTO is separate from installation and is the final step before you can activate your system and start producing power. Typically, a representative will visit your home to ensure that your system meets safety and metering guidelines and install a new bi-directional energy meter to track how much electricity you generate and use.



## 06. Power!

Finally, you'll be able to activate your system! The process only takes about 10 minutes, and you can usually do it yourself.

# Factors that influence system design and performance

Many variables that impact solar energy system performance can (and should) be addressed in the solar design process. The goal is to match your system to your household's energy needs. Let's break down the key factors that impact system performance.

## System size

Surprisingly, system size cannot be measured by the number of panels or square footage alone. Instead, system size is calculated by multiplying the **number of panels** in your solar energy system by the **power rating** of each panel. Most solar panels installed today have a 300- to 400-Watt power rating.

Panels are also rated on **efficiency**. Today's high-efficiency solar technology averages a 15-20% efficiency rating across manufacturers. This means that 15-20% of the sun's energy will be converted to electricity. Both power rating and efficiency are variable, not fixed, measurements that can be used to map a system's long-term savings potential and health.

### Key Terms

**System size** relates to the amount of power a solar energy system is capable of producing under ideal sunlight and temperature conditions, typically in kilowatts (kW).

**Power rating** measures a solar panel's production under ideal sunlight and temperature conditions, calculated in Watts (400 Watts).

**Efficiency** measures a solar panel's ability to convert sunlight into electricity, typically as a percentage (i.e. 20% efficiency).

For example, a 10-panel system that uses 400-watt panels will have a system size of 4,000 watts or 4 kilowatts (kW). Under standard test conditions, a larger system will produce more power.

10 panels x 400 watts each

=

4,000 watts or 4 kilowatts (kW)

# System offset

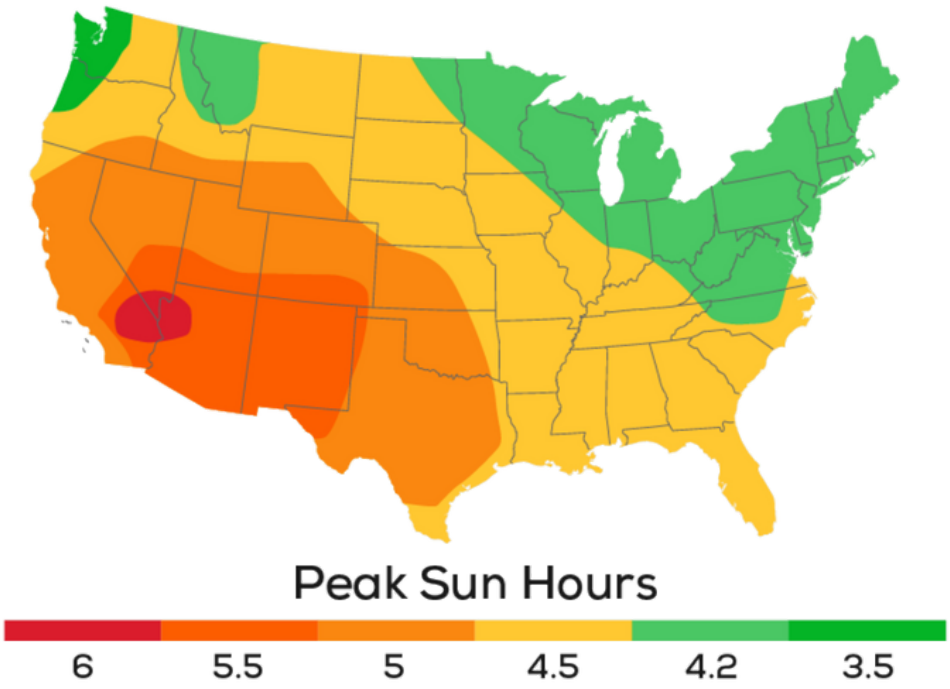
Offset measures the amount of electricity your solar panels generate relative to the amount of electricity your home consumes and is typically expressed as an annual percentage, like 75% or 90%. Many homeowners target 100% solar offset, but in terms of savings, it may not be necessary or ideal. In other words, a 75% offset doesn't equal having to pay only 25% of your current bill. It varies, depending on your utility, energy plan, and usage patterns.

To determine offset, a solar company might look at your utility bill over a 12-month period and analyze how you use energy, including when you use it, since certain utilities charge for energy based on the time of day. They may also consider any recent or upcoming changes in your energy usage, such as new appliances, electric vehicles, additional residents or family members, or working from home.

# Peak sun hours

When it comes to solar energy performance, your location may dictate how much energy your solar panels can produce and, thus, how large of a system your home may need. To evaluate solar performance by location, solar companies can use a measurement called **peak sun hours**—or the amount of time when the sun's rays are at their most powerful in a given area.

In the U.S., peak sun hours are highest in southwestern states like Arizona and New Mexico and lowest in the northernmost states. This simply means that homeowners who live in areas with low peak sun hours might need a larger system to achieve the same total power output.



# Roof pitch (steepness) and orientation

Solar panels perform best when the sun's rays strike solar panels at a 90° angle. In the U.S., solar panels generally perform best on south-facing roofs where the roof angle matches the latitudinal coordinates of your home. The further you are from the equator, the steeper the angle should be. For example:

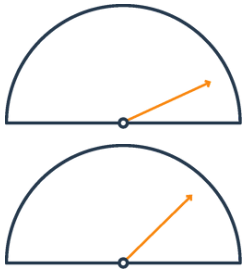
Depending on your roof and location, your solar installer may add support structures to increase or decrease the angle of your solar panels.

Miami, Florida

**25.7° N** north of the equator, will yield the best performance by mounting panels on a south-facing roof with a 25° pitch.

Portland, Oregon

**45.5° N** north of the equator, would benefit from an angle closer to 45°.



# Shading

Anything that blocks sunlight or casts shadows on your solar energy system will reduce the amount of energy your solar panels produce. While shading from nearby structures or buildings may be difficult to address, shading from nearby trees can often be mitigated by trimming or, in some cases, removing select trees.

# Irradiation

Irradiation is the sum of solar energy falling on a surface over a given period of time. Irradiation data typically accounts for peak sun hours, roof pitch, shading, local weather, and seasonality. High irradiation areas:

- Receive the most aggregate sunlight throughout the year
- Will produce the most electricity per solar panel
- Are ideal for panel placement


## What solar irradiation looks like

**At Palmetto, we use proprietary 3D LiDAR data and mapping software to calculate the solar irradiation for every square meter of a customer's roof across every hour of the year. This is what it looks like.**

# Variations in performance

Variations in production are normal and are usually accounted for in the design of a solar system. Some of the most common elements that influence day-to-day performance include:

- **Seasonality** - Solar performance is highest in summer and lowest in winter.
- **Temperature** - Solar panels perform best at lower temperatures.
- **Weather** - Rain helps remove dust and debris, while cloudy weather can temporarily decrease performance.
- **Snowfall** - Surrounding snow can increase production as light is reflected back to the panels, while snow on the panels will reduce performance.
- **Age** - While the average lifespan of solar panels is about 25 to 30 years, solar panel efficiency will gradually decrease over time.

## Tax credits and incentives[1]

Although the cost of solar has declined significantly, investing in solar can still be a big decision. Thankfully, many entities—including the federal government, states, cities, and utilities—offer incentives to make solar more affordable and accessible to eligible customers. While not an exhaustive list, let's review some of the most common incentives you might be eligible for.

# Residential Clean Energy Credit

Most people who purchase their system (meaning they pay cash or finance through a loan) may be eligible to receive the Residential Clean Energy Credit. This federal incentive allows eligible homeowners to claim up to 30% of the cost of their solar power system as a tax credit to offset their federal tax liability. The credit's full potential value will remain at 30% before beginning a phase stepdown in 2032. For instance, say that:

- Your eligible solar installation costs $20,000.
- You could be eligible to receive a $6,000 federal tax credit.
- If awarded, this credit may reduce your federal income tax liability for the tax year you installed your system.

# State-level tax credits and programs

In an effort to promote clean energy adoption, several U.S. states offer residents tax credits for going solar. These are in addition to the Residential Clean Energy Credit. Each state works differently, and not every state offers a tax credit. As of 2023, some of the states that offer solar credits include:

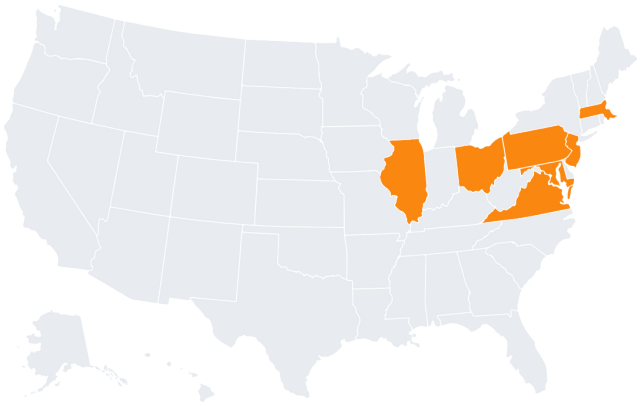
- Arizona
- Massachusetts
- New Mexico
- New York
- South Carolina

# Performance-based incentives

In some states, solar can potentially earn homeowners real cash payments. This is made possible by state-level incentives called **Solar Renewable Energy Credits** (SRECs). These programs allow solar owners to sell and trade their solar energy on the greater electricity marketplace through an intermediary company, like SRECTrade.

SREC prices can vary significantly by state due to frequent shifts in policy and behavior. An eligible SREC-market homeowner could generate 10-plus credits annually and earn anywhere from $10 to $100 for each credit sold. A handful of states and districts currently participate in the SREC marketplace:

- Illinois
- Maryland
- Massachusetts
- New Jersey
- Ohio
- Pennsylvania
- Washington D.C.
- Virginia



# Net metering and net billing

If you go solar, you may be eligible for net metering or net billing, depending on your area and utility provider. These unique billing setups allow solar customers to earn credits on their electricity bills for the excess electricity their panels generate and add to the grid. These credits can then be used to offset the cost of electricity that solar owners pull from the grid when they need more power than their panels produce, like at night.

There are several types of net metering, including net billing, which differs slightly in how solar owners are credited. The structure of each program can be determined by the state, city, and/or utility. A general understanding of the policy in your area (if applicable) and how that will impact your solar savings can help you decide if solar is right for you.

## How Net Metering Works

### Solar Panels

During the day, solar panels capture the energy from the sun and convert it into an electric current.

### Your Home

Homeowners either use this electricity or send the excess to the electric grid.

### Electric Grid

When you produce more solar energy than you need, it's sent to the grid. When you need more energy than your panels produce, you pull in energy from the grid.


### Inverter

An inverter converts electricity produced by solar panels (direct current) into a usable form in your home (alternating current).

### Electric Meter

The electric meter monitors your net usage: the difference between the electricity you use and the electricity that is produced by your solar panels.

# Tax exemptions

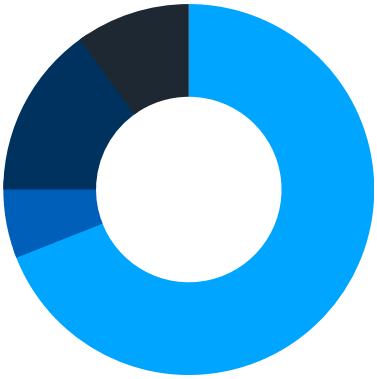
Solar owners may also be eligible for sales and property tax exemptions, depending on their state and eligibility. In general:

- **Sales tax exemptions** either reduce or eliminate any sales tax on the purchase of a solar energy system.
- **State property tax exemptions** help homeowners avoid property tax increases due to solar installation while allowing for an increase in property values.

# Compare solar power options

Financing plays a big part in the decision to go solar. Luckily, there are many ways to invest in solar, from an all-out cash purchase to solar-specific loans and even different leasing options, like power purchase agreements (PPA). Let's go over four of the most common.

## How Palmetto customers invest in solar energy



- **69% finance** their solar energy system with low monthly payments and options like no money down[2]
- **6% pay cash** and own their system outright before the electricity savings begin
- **15% enter a PPA** and pay only for the power their solar panels produce
- **10% lease** their solar system and pay a fixed monthly fee for access to solar energy savings

### Considering a solar loan? Top questions to ask:

- What are the loan terms and APR?
- What does the payment structure look like?
- Could there be a lien placed on my home or system?
- What happens if I want to refinance my home?
- What happens if I want to sell my home?

## Cash purchase

Paying cash for a solar energy system is the easiest way to maximize monthly savings from solar. Cash buyers own their system outright and can enjoy their monthly energy savings without a loan payment. Plus, system ownership is a requirement for most financial incentives, like the Residential Clean Energy Credit.

However, while cash may be the easiest path to savings, it requires significant upfront capital, as the entire cost of a system must be paid in full before it can begin generating power. Also, since the homeowner owns the solar panels, they are responsible for maintenance and upkeep.

## Solar loan

A solar loan allows homeowners to purchase solar panels outright and pay for them over time while benefiting from the monthly and long-term savings that solar panels can provide. A solar loan is typically paid back over 20 to 30 years, depending on the loan terms and system, though shorter loans are also available. Homeowners who choose to finance their solar energy system may also be eligible for financial incentives to help offset the cost of their system.

Like a cash purchase, homeowners who finance their solar panels own the panels and are responsible for their maintenance and upkeep.


# Solar lease

Solar leases are different from loans or cash in that the homeowner doesn't own the panels. Rather, the solar company installs and maintains the panels on the homeowner's property. In return, the homeowner pays a **monthly fee for the use of** the panels. Typical solar leases have a 20-25 year term, during which the homeowner benefits from the energy produced by the panels. At some point, the homeowner may have the option to purchase the system outright or renew the lease.

Solar leases are ideal for homeowners who 1) want to reduce their electricity bills, 2) don't want or have the means to purchase a system, 3) don't have enough tax liability, and/or 4) don't want to manage the maintenance and upkeep of their system.

Most solar leases are eligible for net metering or net billing credits on their utility bills. However, unlike cash and loan purchases, homeowners who lease solar panels are not eligible to receive tax credits, SRECs, or other financial incentives directly. Your solar provider (the owner) may be eligible for tax credits and incentives and can choose to leverage these savings to offer low-cost lease plans—like we do at Palmetto.

# Power Purchase Agreement (PPA)

A PPA is a financial agreement where the homeowner agrees to purchase the solar energy generated by the panels installed on their property at a predetermined rate. Unlike a solar lease, the homeowner does not pay for the **use** of the solar panels but instead pays for the **energy** produced by the system. The solar company owns and maintains the panels, and the homeowner benefits from the energy savings.

Like solar leases, PPAs typically have a 20-25 year term, during which the homeowner benefits from the energy produced by the panels. PPAs can also be a good option for homeowners who may not qualify for solar financing, lack the financial means to purchase solar panels outright, or don't have enough tax liability to take advantage of tax credits. PPAs, like leases, are likely eligible for net metering but are not eligible for solar purchase incentives like federal or state tax credits. It's at the discretion of the solar provider to leverage these savings in favor of the customer.

## Considering a solar lease or PPA? Top questions to ask:

- Does the lease/PPA price reflect any incentives in my area?
- Will my monthly payments increase over time?
- Could there be a lien placed on my home or system?
- What happens if my roof needs to be repaired or replaced?
- What happens if I want to:
  - Refinance my home?
  - Sell my home?
  - End the lease/PPA early?
  - Purchase the system?

# Which solar option is best for you?

As a homeowner, the best solar plan or investment is the one that's tailored to your home, energy needs, and financial goals. Let's compare the options we offer at Palmetto! (Note: This chart might not be true for all solar companies.)

| |  Cash Purchase |  Loan Purchase |  Solar PPA |   Solar Lease |
|---|---|---|---|---|
| OWNERSHIP | Purchase your system outright | Finance your solar system | Pay only for solar energy | Rent your solar panel system |
| BEST IF | You have the cash and want to maximize your savings | You have good credit and want more flexibility in payment | You want to lower your electricity bill and live in an area where solar performance varies seasonally | You want to lower your electricity bill and prefer a fixed monthly lease payment |
| INCENTIVES | Eligible for credits and incentives[1] | Eligible for credits and incentives[1] | Not eligible for credits and incentives | Not eligible for credits and incentives |
| PAYMENTS | Split payment schedule[3] | Low monthly loan payment | Low fixed rate for solar power | Low monthly lease payment |
| CREDIT CHECK | Not required | Required | Required | Required |
| UPFRONT COSTS | High upfront costs | Potential to invest with no money down[2] | Prepayment optional | Prepayment optional |
| EQUIPMENT AND DESIGN | High-efficiency panels; Custom solar design | High-efficiency panels; Custom solar design | High-efficiency panels; Custom solar design | High-efficiency panels; Custom solar design |
| MAINTENANCE | Service plans available | Service plans available | Service included | Service included |

# Battery storage: Yes or no?

You might consider adding battery storage to your system, depending on your situation. Batteries mainly provide backup power during an outage—a huge benefit. And in certain states (mainly California, Arizona, and Georgia), batteries may also provide additional electricity bill savings by supplementing power during peak demand when electricity prices are high.

That said, batteries can be expensive, and may not be feasible for all homeowners. So, should you get one? **It depends; here's why.**

Overall, battery storage provides increased energy independence from the grid and, like solar panels, may be eligible for financial credits and incentives, including the Residential Clean Energy Credit.1 Additionally, homeowners with time-of-use rates or net billing export credit policies may choose to leverage battery storage even further as a means for additional electricity bill savings by drawing power from their home battery during peak hours when electricity rates increase.

However, the cost of investment may actually reduce your overall financial savings, depending on your location, electricity rates and policies, and eligibility for incentives. Plus, battery storage is typically not offered through solar lease or PPA options. Ultimately, it's important to carefully consider the upfront costs, expected lifespan, warranty, and efficiency of a battery storage system before making a decision.

# Tips for making your solar decision

Besides the obvious (compare quotes, warranties, etc.), what else should you consider when weighing your solar options? Here are some suggestions that could help you decide with greater confidence and ease.

## Do your research

Before you go solar, take the time to learn how it works, understand the costs and benefits, and compare solar purchase vs. lease options to decide which might make sense for you. The good news is: You've already started your research with this guide!

In addition, many organizations and government agencies offer resources to read and consider, which we've added under the additional resources section on page 26. You may also consider:

- Asking friends and family who have solar about their experience
- Reading company reviews online
- Browsing solar questions and resources online **(click here to access ours)**

## Know your financial health and goals

Whether you purchase, finance, or lease a solar energy system, it's always best to go in prepared. Understanding your financial situation, including your **credit score** (if financing) or **eligibility for solar incentives** (if purchasing), can ultimately help you determine which solution is right for you. This can be achieved by meeting with a tax, legal, or accounting advisor.

## Gather questions specific to your situation

Reference the suggested questions outlined in this guide and come up with a list to ask your solar provider. Your solar provider should be able to explain their contract terms, address your concerns, and leave you feeling confident in your decision.

## Know what happens if your solar provider goes out of business

With stiff competition among an ever-growing number of installers, many solar companies have declared bankruptcy or stopped operating altogether. So what happens when your solar company is no longer around?

Depending on the size of the company, larger clean energy companies will sometimes come in and acquire existing customers. However, it's best to avoid complications by selecting a provider with a long-term reputation and history of being in business, like Palmetto.

# About Palmetto

Palmetto empowers homeowners to go solar and save money with innovative, full-service solutions that expand access to clean energy through better insights, savings, service, and support. Named “the most forward-thinking” solar company in the U.S. by *Solar Power World*, their data-driven, tech-first approach takes the guesswork out of going solar while their dedicated customer service has been recognized by thousands of customers for 12 years and counting. Start your journey to clean energy with a detailed savings forecast, sophisticated energy insights, comprehensive project management, and the intuitive Palmetto App—and power your solar installation with long-term savings and support.

**At Palmetto, clean energy is for everyone**

## Additional resources

**Department of Energy:**
Homeowner’s Guide to Going Solar

**Solar Energy Industries Association (SEIA):**
Residential Consumer Guide to Solar Power

**CNET:**
Solar Cheat Sheet Guide to Getting Solar Panels

**SolarReviews:**
The Ultimate Guide to Solar Energy

**Better Business Bureau:**
The Consumer’s Guide to Solar Energy

**Palmetto:**
Clean Energy Resource Center

# Glossary of Terms

**ELECTRIC GRID**
A complex network of transmission lines, generation facilities, and transformers that connects thousands of homes and businesses with on-demand power.

**IRRADIATION**
The measure of energy received by the sun in a given area over a given time period.

**NET ENERGY METERING AND NET BILLING**
Unique billing arrangements that allow solar customers to earn credits on their electricity bills for the excess electricity their panels generate and add to the electric grid.

**PEAK SUN HOURS**
The amount of time when the sun's rays are at their most powerful in a given area.

**PERMISSION TO OPERATE (PTO)**
The final step before you can activate your system and start producing power. PTO typically involves a representative who will visit your home to ensure that your system meets safety and metering guidelines and install a new bi-directional energy meter to track how much electricity you generate, use, and add to the grid.

**POWER PURCHASE AGREEMENT (PPA)**
A financial agreement where the homeowner agrees to purchase the solar energy generated by the panels installed on their property at a specified rate. The homeowner does not pay for the use of the solar panels but instead pays for the energy produced by the system. The solar company owns and maintains the panels, and the homeowner benefits from the energy savings.

**POWER RATING**
A solar panel's production under ideal sunlight and temperature conditions, calculated in Watts (e.g., 400-Watt solar panels).

**RESIDENTIAL CLEAN ENERGY CREDIT**
A federal tax incentive that allows eligible homeowners to claim up to 30% of the cost of their solar system as a tax credit to offset their federal tax liability.

**SOLAR PANEL EFFICIENCY**
A solar panel's ability to convert sunlight into electricity, typically as a percentage that changes over time. If a solar panel has a 20% efficiency rating, approximately 20% of the sunlight that hits the panel will be converted into electricity.

**SOLAR OFFSET**
The amount of electricity your solar panels generate relative to the amount of electricity your home consumes and is typically expressed as an annual percentage.

**SOLAR RENEWABLE ENERGY CREDITS (SRECS):**
Performance-based solar incentives that allow eligible solar owners to earn additional income from their solar energy generation through an intermediary company, like SRECTrade.

**SYSTEM SIZE**
The amount of power a solar energy system is capable of producing under ideal sunlight and temperature conditions, typically in kilowatts (kW).

**1**The content herein is for educational purposes only and should not be relied upon for any other use. Palmetto does not provide tax, legal, or accounting advice. Please consult your tax, legal, and accounting advisors to determine your eligibility for any incentives or credits.

**2**Financing options are subject to credit terms and approval. Payments vary and are dependent on factors such as system size, cost, APR, and personal credit. Savings are not guaranteed. For an illustrative loan sample, see Palmetto's **Truth in Lending Act Disclosure** for more information or visit: https://palmetto.com/legal/tila

**3**For more information on cash payment schedules, see Palmetto's **support center** or visit: https://palmetto.com/support/solar-financing

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