



PPAs & Solar Leases

A practical guide to understanding third-party solar ownership.



Table of contents

Glossary	3
Understanding solar financing: Are PPAs or leases right for you?	4
How solar panels and battery storage work	6
What is a Power Purchase Agreement (PPA)	11
What is a solar lease?	14
What is a prepaid lease?	17
Understanding the 48E Clean Electricity Investment Tax Credit	20
PPAs vs. leases: Side-by-side comparison	22
What you need to know about third party ownership	25
Questions to ask your installer	27
Frequently asked questions	30
Contact us	33

Glossary

kW — Kilowatt is a measurement of the size (power) of your system. 1 kW is 1,000 W (watts).

kWh — Kilowatt-hour is a measurement of the electricity (energy) produced by your system over time. The amount of kilowatt-hours produced by one kW of solar varies by location.

PPA (Power Purchase Agreement) — You pay per kWh for the energy the panels produce.

Solar lease — You pay a fixed monthly fee for the equipment, regardless of how much energy your system produces.

Solar export crediting — The policy that establishes compensation for any excess solar electricity that is exported onto the electric grid.

Net metering — A type of solar export crediting. Net metering ensures that solar homeowners earn fair credit for the electricity they generate. It allows you to accumulate excess energy credits and apply them at a later time. Depending on your utility's policy, excess solar electricity (in kWh) will be credited to your account. Under some utilities, you can earn up to a 1:1 credit on your bill for that electricity, or one that matches what you pay for the electricity you buy from your utility.

Escalator rate — Yearly percentage increase in your PPA or lease payment. Electricity prices have historically risen 2-3% a year, so you generally want to make sure that your escalator rate won't be higher than this. (See "Cost of Electricity" under our "How Solar Works" section for more.)

PPA and lease agreements can also have a fixed payment that does not escalate over time.

Fair Market Value (FMV) — The price you would pay at the end of your term if you choose to buy the system. (See "Fair Market Value" section for more.)

1

Understanding solar financing: Are PPAs or leases right for you?

Power Purchase Agreements (PPAs) and solar leases allow you to go solar without upfront installation costs while accessing solar energy and potential savings.



Thinking about solar?

PPAs or leases might be your path

Power Purchase Agreements (PPAs) or solar leases account for 45% of residential solar installations. This allows people to go solar without high upfront costs. Increasingly, batteries are available with solar PPAs and leases as well.

Is your home a good fit for solar?

Solar panels work best when grouped together, so you'll want to install them on a large, uninterrupted portion of the roof. Your home needs to receive direct sunlight on its roof without significant shading. Southern exposure is the best; however, east and west-facing roofs also work for solar.

How much does solar cost to purchase?

Costs vary based on your system's type and size. Solar is priced by the Watt. Nationally, costs for installation hover around \$2.50- \$3.50/Watt. The size of the average residential system falls between 4 kW (4,000W) and 8 kW (8,000W). Given the national average installation cost, a 4kW system will likely range from \$10,000 - \$14,000 and an 8kW system will range from \$20,000- \$28,000.

Why Some Homeowners Choose PPAs or Leases

- No upfront installation cost
- Immediate energy bill savings
- No maintenance responsibilities
- Predictable costs and long-term energy planning
- Access to solar, even if paying cash or financing with a loan isn't practical
- Get backup power (with batteries) without upfront cost, to use if the electric service goes out
- Reduce pollution
- Support local clean energy jobs

Curious about how solar installations work? Check out our [Go Solar Guide](#)

Be sure to check out our [Solar Owners Manual](#) for more information on what to know after going solar.

2

How solar panels and battery storage work

Solar panels turn sunlight into electricity for your home, while inverters make that energy usable and batteries can store extra power for later use.



How solar energy powers your home

PPA and leased systems use the same technology as a purchased solar system:

- 1 Sunlight becomes electricity**
Solar panels capture sunlight and convert it into direct current (DC) electricity.
- 2 Power becomes usable in your home**
An inverter converts direct current (DC) electricity generated by your panels into alternating current (AC) that your home appliances use.
- 3 Your home uses solar energy first**
Solar energy powers your home's immediate electrical needs before pulling electricity from the grid.
- 4 Extra solar can go back to your neighbors**
If your system produces more electricity than your home uses, the excess may flow through your meter and back to nearby homes. Depending on where you live, you may earn a credit on your utility bill.
- 5 The grid fills the gaps**
At night or during cloudy weather, your home draws electricity from your utility as usual.
- 6 Batteries store extra energy (optional)**
If your system includes battery storage, excess solar energy can charge the battery so it can power your home later instead of pulling electricity from the grid.
- 7 Time-of-day electricity savings**
In areas where electricity prices change throughout the day, batteries can help you use stored solar energy during expensive periods and lower your utility bill.

Earning credit for extra solar energy

Sometimes, your solar system will generate more electricity than your home uses. That extra electricity goes out through your electric meter for your neighbors to use. Depending on where you live, you can earn credit on your utility bill for the electricity you don't use. This is called "solar export crediting." Solar export crediting allows you to offset your utility electricity consumption with the solar electricity your array produces.

NOTE

Extra solar electricity can be sent to neighbors and may earn credits on your utility bill.

Solar export crediting varies by state and by utility. These rules are different in how and when they calculate these credits. Net metering is a common type of export crediting. It is a billing mechanism that allows you to accumulate excess energy credits and apply them at a later time. Depending on your utility's policy, excess solar electricity (in kWh) will be credited to your account. In some utilities, you can earn up to a 1:1 credit on your bill for that electricity – in other words, the electricity you produce is equal in value to the electricity you receive from your utility.



In some states, such as California, the exported electricity is credited at a significantly lower rate than the retail electricity price. This is often referred to as "Net Billing". This can create challenges for Power Purchase Agreements and leases, as you might find yourself paying a fixed rate for solar electricity that is greater the value of the electricity you send back out. Depending on the policy, this export value might even vary at a particular time of day, day of the week, or time of year.

In these situations, using solar electricity directly in your home becomes the most valuable option. This is where batteries come into play. Having batteries will allow you to store more of the excess electricity you generate instead of sending it back out. Adding a battery allows you to protect your solar investment in places with a low solar export credit rate, especially if you have a PPA.

To learn more about export crediting, find our page [here](#).

Fair market value

Some solar leases and PPAs allow homeowners to purchase the system later at fair market value (FMV) instead of a pre-set price. Fair market value is determined by the solar company at the time of purchase, usually several years into the contract, and the final price may be higher than expected. Because of this uncertainty, it is important to consider how an FMV buyout could affect your long-term plans, including whether you may want to purchase the system later or sell your home before the agreement ends.

TIP

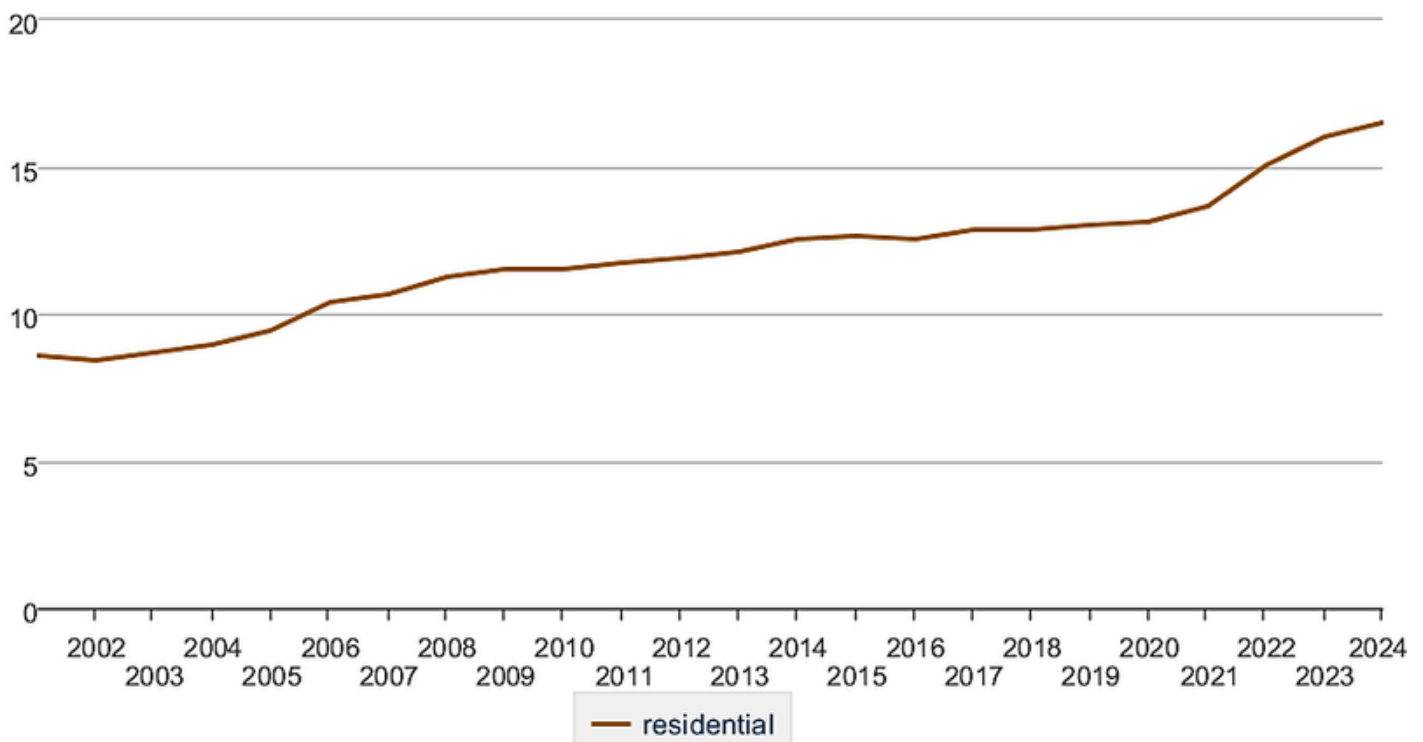
Ask your third-party solar provider how FMV is calculated and whether a fixed-price buyout is available.

Cost of electricity

Electricity prices have consistently increased across most regions of the U.S. According to the U.S. Energy Information Administration (EIA), residential electricity rates have risen steadily for decades.

Average retail price of electricity, annual

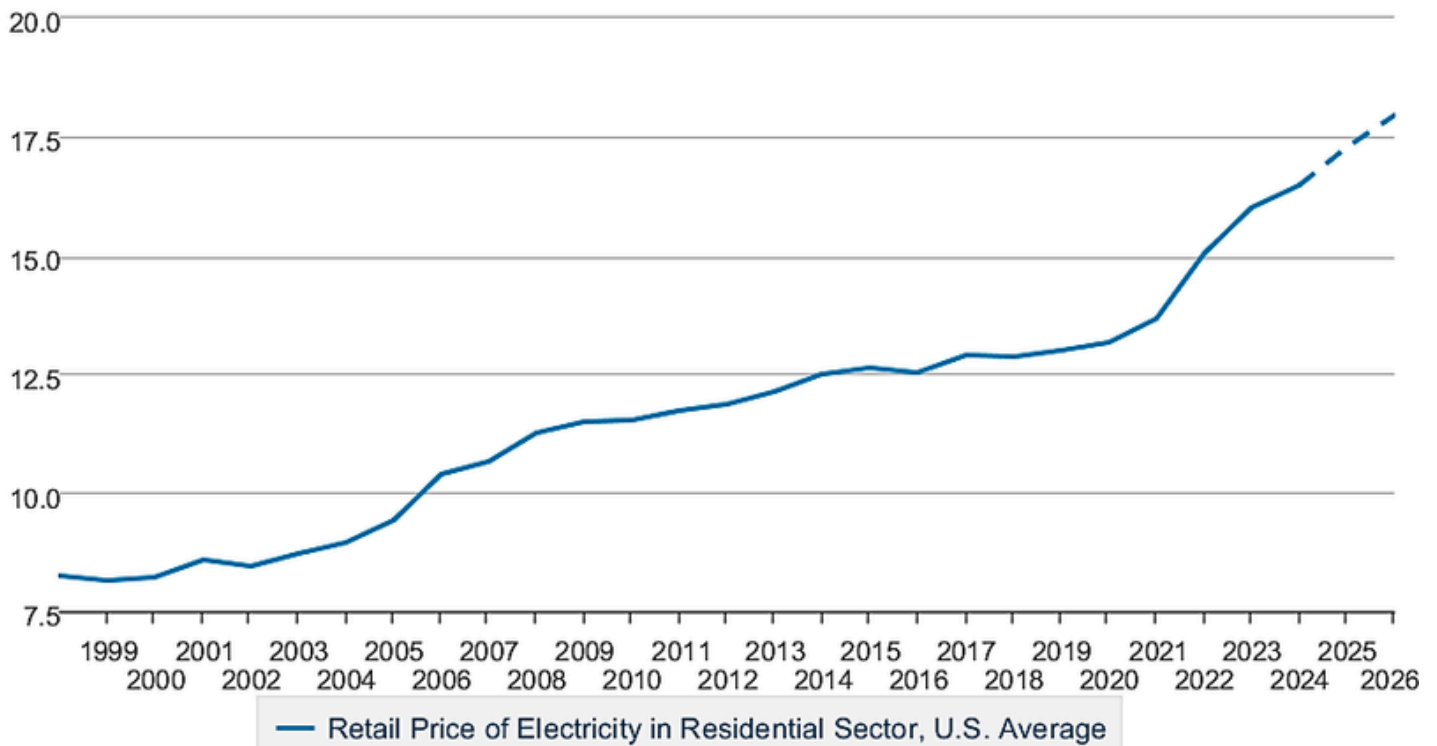
cents per kilowatthour



Data source: U.S. Energy Information Administration

Retail Price of Electricity in Residential Sector, U.S. Average

cents per kilowatt hour



Data source: U.S. Energy Information Administration

When you sign a PPA or lease, you lock in a price for solar electricity. Even if your agreement includes price escalators, you will have transparency into what you are paying over time. As utility rates rise, the cost you avoid paying the utility increases. This makes your solar electricity more valuable over time. This difference is the avoided cost. Ask what future utility rate increases were assumed in your savings estimate. Generally speaking, you will want to make sure that any TPO agreement escalators do not exceed 2-3%.



3

What is a solar PPA?

A Power Purchase Agreement (PPA) allows a solar company to install and own a system on your roof while you pay for the electricity it produces, often at a rate lower than your utility charges. This option lets homeowners access solar with little to no upfront cost while the provider handles maintenance and system performance.



How PPAs work

With a Power Purchase Agreement (PPA), a solar company installs solar panels on your roof at no upfront cost to you. Instead of buying the system, you agree to buy the electricity the panels produce. Your monthly payment is based on how much electricity the system generates, and the rate is often lower than what you would typically pay your utility company.

Under this arrangement, the PPA provider owns the solar system and is responsible for maintaining, repairing, and monitoring it throughout the contract term. The provider also receives the commercial federal tax credit (48E) and any other available incentives, including Solar Renewable Energy Certificates. These incentives are typically factored into the agreement and should help reduce your monthly payment.

Although the provider owns the system, you still benefit from the value of electricity exported to the grid. Because payments are based on the electricity your system produces, PPAs often do not include production guarantees.

NOTE

Most PPA contracts run between 15 and 25 years.

The federal tax credit for homeowners paying cash or financing with a loan ended in 2025, but commercial system owners can still claim a tax credit. See "Understanding the 48E Investment Tax Credit" for more information. Savings from incentives should be reflected in the pricing structure of the agreement.



Benefits of a PPA

A PPA can allow you to start saving on electricity costs from the first day without making a large upfront investment. Because the provider owns the system, they are also responsible for maintenance, repairs, and performance monitoring. This can make PPAs attractive if your primary goal is lowering your monthly electricity bill without taking on the responsibilities of system ownership.

If a battery is included as part of the system, it may also come with a full-length warranty that matches the contract period, rather than the more common 10-year battery warranty.

Potential drawbacks to consider

While PPAs can provide immediate savings, there are several factors to consider before signing a long-term agreement. Monthly payments may vary because they are tied to how much electricity the system produces. Most contracts also last 15–25 years, which can limit flexibility if you plan to move in that time.

Some agreements include annual price escalators that gradually increase the rate you pay for electricity over time. This can reduce the long-term savings compared to other financing options. Additionally, having a PPA on your home can sometimes complicate the home-selling process, since the new homeowner may need to assume the agreement or the contract must be bought out.



Because the system owner receives the financial incentives, participating in a PPA means you do not directly claim federal tax credits or other incentives.

PPAs can also be more complicated in states that do not have one-to-one net metering policies, such as California. In these situations, the credit you receive for exporting electricity may be lower than the rate you pay for the electricity your system produces. This means that using solar electricity directly in your home becomes more valuable than exporting it. Adding battery storage in these cases can improve savings by allowing you to store excess electricity and use it later instead of sending it back to the grid.

4

What is a solar lease?

A solar lease is similar to a PPA—you don't own the system—but you pay a predictable monthly fee rather than paying for electricity output.



How it works

With a solar lease, a solar company installs a solar system on your roof with little or no upfront cost. Instead of purchasing the system or paying for the electricity it produces, you pay a fixed monthly lease payment for the use of the equipment.

The leasing provider owns the solar system and is responsible for maintaining, repairing, and monitoring it throughout the length of the agreement. The provider also receives the commercial federal tax credit (48E) and any other available incentives, including Solar Renewable Energy Certificates. These incentives are typically reflected in the pricing structure of the lease and should help lower your monthly payment.



Although the leasing company owns the system, you can still benefit from the value of any electricity exported to the grid. Most solar lease contracts run between 15 and 25 years. Some agreements may include the option to purchase the system after a certain period, often beginning around year five.

Many solar leases also include production guarantees. These guarantees are designed to ensure the system performs as expected, and you may receive a credit if the system produces significantly less electricity than projected or is down for maintenance.

***The federal tax credit for homeowners paying cash or financing with a loan ended in 2025, but commercial system owners can still claim a tax credit. See "Understanding the 48E Investment Tax Credit" for more information. Savings from incentives should be reflected in the pricing structure of the agreement.**

Production guarantees are often strongest during the first year. If the guarantee extends longer, the expected production level may decrease gradually as the system ages. In some cases, this may result in monthly savings that are lower than the lease payment, particularly if the contract includes an annual price escalator.*

Benefits of a solar lease

A solar lease can offer you a predictable monthly cost while avoiding the upfront expense of purchasing a system. Because the leasing provider owns the equipment, they are responsible for ongoing maintenance, repairs, and system monitoring. This can make leasing a good option if you want to lower your electricity costs without taking on ownership responsibilities.

If a battery is included as part of the system, it may also come with a full-length warranty that matches the contract period, rather than the more common 10-year battery warranty.

Potential drawbacks to consider

While solar leases can simplify the process of going solar, there are several factors to consider before signing an agreement. Lease payments typically remain the same each month, even if the system produces less electricity than expected. Some contracts also include annual price escalators that gradually increase the payment over time, which can affect long-term savings.

Because the leasing provider owns the system, homeowners do not directly receive federal tax credits or other financial incentives associated with the installation. Additionally, having a lease attached to the property can sometimes complicate the process of selling your home, since the agreement may need to be transferred to the new homeowner or bought out.



5

What is a prepaid lease?

A prepaid solar lease allows a you to make one large upfront payment instead of monthly lease payments, while the solar company continues to own, maintain, and operate the system and claims any available tax credits and incentives.



How prepaid leases work

With a prepaid lease, the you make a large upfront payment for the right to use the solar system for the duration of the contract. This payment replaces the monthly payments that are typical in a standard solar lease. After installation, the solar system generates electricity for the home, which can help lower the household's electric bill.

Even though the you pay upfront, the third-party provider still owns the system and remains responsible for maintenance, repairs, and performance monitoring. The provider also claims available tax credits and other incentives associated with the system. In some cases, contracts may include an option for you to purchase the system later in the agreement, often beginning around year five.

For additional details about leasing structures, maintenance responsibilities, and contract terms, see the **"What Is a Lease?"** section.

Potential benefits

A prepaid lease can offer a lower total cost than a traditional monthly solar lease because you pay for the entire lease term upfront. Because the payment is made upfront, you do not have ongoing monthly solar payments while still benefiting from reduced electricity costs. The system owner remains responsible for maintenance and repairs, which can simplify long-term system management. Over time, this structure can provide predictable energy savings.

NOTE

Leases can be lower cost than purchasing since the system owner can benefit from taking depreciation and the commercial tax (48E) credit.

If battery storage is included as part of the system, it may also come with a full-length warranty tied to the contract period rather than the more common 10-year battery warranty.



Key considerations

A prepaid lease requires a significant upfront payment, which may not be feasible for everyone. Although many leases include production guarantees in case the system underperforms or stops functioning, paying the entire amount upfront can reduce your financial leverage if issues arise with the system owner. With a monthly lease for example, you may have the option to withhold payments while problems are resolved.

Savings from a prepaid lease can also depend on how long you remain in the property. Selling the home before the full benefit of the system is realized may lower the financial benefit of the lease.



Prepaid leases are generally structured so that the system owner can benefit from tax credits, depreciation, and other incentives. These financial advantages are typically built into the agreement to help lower the cost of your lease.

The federal tax credit for homeowners paying cash or financing with a loan ended in 2025, but commercial system owners can still claim a tax credit. See "Understanding the 48E Investment Tax Credit" for more information. Savings from incentives should be reflected in the pricing structure of the agreement.

6

Understanding the 48E Clean Electricity Investment Tax Credit

A federal tax credit available to companies that install clean electricity systems like solar and battery storage.



The 48E Clean Electricity Investment Tax Credit

The 48E Clean Electricity Investment Tax Credit is a federal incentive that supports clean electricity projects, including solar and battery storage systems. The credit is similar in value to the residential solar tax credit (25D) that many homeowners previously used to lower the upfront cost of installing solar. While the residential solar tax credit ended after 2025, the 48E commercial tax credit remains available for eligible clean energy projects.

Who can claim the 48E credit?

In third-party ownership models such as Power Purchase Agreements (PPAs) and solar leases, the solar company owns the system installed on the home. Because of this, the homeowner does not claim the tax credit directly. Instead, the company that owns the system receives the 48E tax credit.

Although homeowners do not receive the credit themselves, the financial benefit is typically reflected in the pricing of the agreement. The provider's tax savings are often built into the overall offer, which can help lower PPA rates or lease payments.

What do you need to know?

If you are considering solar through a PPA or lease, there is usually little you need to manage related to the 48E tax credit. It is the system owner's responsibility to ensure they qualify for the credit they are claiming.

One area that may affect you is equipment selection. Some requirements tied to the commercial tax credit may influence where providers source solar panels, inverters, or other system components. If the specific equipment used in your system is important to you, it is a good idea to ask your installer for details.

To learn more about how solar incentives work, visit:

<https://solarunitedneighbors.org/resources/incentives-for-going-solar>.

7

PPAs vs. leases: side-by-side comparison

A simple overview of how Power Purchase Agreements and solar leases differ in cost structure, savings, and availability.



Quick comparison: PPA vs. solar lease

Feature	Power Purchase Agreement (PPA)	Solar Lease
Monthly payment	Varies based on how much electricity the system produces	Fixed monthly payment
Who receives incentives	Solar provider receives the federal tax credit and other incentives	Solar provider receives the federal tax credit and other incentives
Maintenance and repairs	Handled by the solar provider	Handled by the solar provider
Best for	Homeowners who want to pay only for the electricity their system produces	Homeowners who prefer a predictable monthly payment
Potential savings	May be slightly higher than a lease depending on production and contract terms	Predictable and stable savings
Where available	Only legal in certain states	Available in most states

8

What you need to know about third party ownership

When signing a third-party ownership agreement, it's important to do the same level of due diligence as if you were purchasing a solar system outright. These agreements are long-term contracts. The details can have a major impact on your savings, flexibility, and future home sale.



Understanding third-party ownership

Best practices

Get multiple proposals

Comparing offers helps you spot differences in pricing, escalators, batteries, warranties, and contract terms.

Research the company

Check online reviews and ask for local references you can contact directly.

Avoid high-pressure sales tactics

Reputable companies will give you time to review documents, check references, and seek independent advice.

The biggest factors affecting your savings:

Your electricity price

- For PPAs: the price per kilowatt-hour (kWh)
- For leases: the monthly payment

The escalator

- Many PPAs and leases include an annual escalator that increases your price each year. Even a small escalator can significantly affect long-term costs.

Because these two factors are locked in for many years, it's important to understand how they compare to your current utility rates and how they may look 10, 15, or 20 years from now.

More information on consumer protection can be found here:

<https://solarunitedneighbors.org/resources/solar-rights-and-consumer-protection/>

NOTE

Be cautious of anyone pushing you to sign a contract immediately.





Questions to ask your installer

Before signing a PPA or lease agreement, take time to ask questions about contract terms, costs, maintenance, and long-term obligations.



Questions to ask your installer

Contract terms

- What is the contract length?
- Is there an annual escalator? If so, how much?
- What are my end-of-term options? (Buyout? Renewal? Removal?)
- Is this contract for a PPA or a solar lease?
- The right to cancel the transaction lasts for at least three days from the date it is signed. How can I exercise my rights to cancel?

Installer out of business

- What does the contract say about the system owner going out of business?
- Will a new system owner need to abide by the same terms?
- Will the homeowner be contacted about a change in ownership of the system?

Performance

- What is the estimated annual production?
- How many kilowatt-hours per month would this system produce on average?
- How does that compare to my current electricity usage?
- Does the company guarantee production? And if so, for how long?

Costs

- What will my monthly bill be in year one?
- What is the escalator rate?
- What will it be in year 10 with escalators?
- Are utility rate increases factored into savings estimates?
- Are there any fees or transaction costs that will be incurred at any time during the term of the lease? (examples: system repair, system removal/re-install for roof repairs)

- Are my estimated costs and potential savings based on assumptions such as my past usage, current electric rates, or something else?

Maintenance

- Who monitors and repairs the system?
- How quickly do they respond to issues?
- Are service guarantees specified for any needed repairs?
- What warranties or production guarantees are included?
- What options do I have to stop payment if the system is not repaired or replaced promptly?
- What happens if the system is damaged by a storm, fire, or natural disaster?
- What happens if the system needs repair, replacement, or removal?
- What happens if I need to replace my roof after the system is installed? How much will it cost to remove and reinstall the system?

Home sale

- Am I free to sell my home or do I need the system owner's permission? What are my options when I sell my home?
- Will you place a lien on my house? Can you explain the UCC-1 filing to me?
- What happens if I want to refinance my mortgage?
- Can the contract be transferred easily to a new homeowner?
- Are there fees to transfer the PPA or lease agreement to a new homeowner? Are there any other requirements or conditions for the new homeowner to take over the lease or PPA?

Questions to ask your installer

- Do I have to pay off the lease when my home is sold?
- Is there an early termination fee?

Exporting credits

- What is the expected exporting credit rate in my area?

Battery storage

- What is the warranty term on my battery system?
- Is the battery being used in a virtual power plant? If so, what is the minimum amount of energy that will remain in the battery at all times in case of an emergency?

Buyout options

- What is the earliest I can take over ownership of the system? (This will typically be no less than five years after you sign the agreement)
- Can you take ownership of the solar and battery (if you have one) at the same time?
- How will the system buyout value be calculated?
- What warranties will remain in place after you take ownership?
- Will I own the Solar Renewable Energy Credits (SRECs) the system generates after I take ownership?
- If the battery is enrolled in a virtual power plant, will it remain enrolled, and will I benefit directly once I take ownership of the battery?

Other

- How can I make sure that I am not leasing more solar panels than I need?
- Is there an impact on my property taxes?



TIP

Get it in writing. Make sure you receive copies of all estimates, contracts, and disclosures, and review the full terms before signing.

10

Frequently asked questions

Understanding common concerns about PPAs and leases will help you avoid surprises in the future.



Frequently asked questions

- **What should I expect if I need my roof replaced or repaired after installing solar panels? Specifically, how responsive will the installer be regarding time and costs for repairs and replacements?**
 - If your roof requires replacement or repair after the solar system has been installed, the homeowner generally must cover the costs of removing and reinstalling the solar system, unless the contract states otherwise. It's advisable to have your roof inspected before installing solar panels and, if necessary, to replace it beforehand.
- **In the event of a long-term grid outage (due to a hurricane, severe weather, or infrastructure failure), can payments be waived without penalty since there is no energy production (unless powered by a battery)?**
 - For PPAs, payments are typically based on energy production. So, if the system generates no power, your PPA bill may be very low or even zero. With leases, payments usually continue even during a grid outage. Payments are typically not waived unless explicitly stated in the contract. While a battery may provide limited power during outages, it usually does not suspend lease payments. Be sure to check your contract or consult your installer for clarification on these matters.
- **Is the policy for system repairs clearly outlined for issues such as monitoring failures, inverter failures, and damage to the solar panels?**
 - Most PPAs and leases should include information about monitoring and maintenance. Be sure to review the contract language for details on inverter failures, monitoring outages, and panel damage. Additionally, inquire about the expected response time for repairs. If there is a delay in service, will you receive credits for the loss of system performance?



Frequently asked questions

- **What is an escalator? What is a reasonable escalator amount?**
 - An escalator is an annual percentage increase in your PPA rate or lease payment. Most escalators range from 1%-3%, while others can be as high as 5%. Rates above 3% are generally not recommended, as they can quickly erode savings and potentially exceed future utility rates.
- **Who is responsible for any homeowner insurance policy requirements?**
 - The installer typically insures the panels against damage. The you usually only needs to notify your homeowners' insurance provider to ensure the system is covered for liability, though coverage for roof damage under the panels might fall under the your policy.
 - Your insurance premium will likely stay the same if the replacement value of your home with solar panels remains under your coverage limit.
 - Your insurance premium can increase if solar panels increase the replacement value of your home enough to exceed your coverage limit and you decide to adjust your coverage amount.
 - Be sure to contact your insurance provider before installing solar.
- **Will a lien be placed on the system?**
 - The installer typically places a UCC-1 lien against the system so the system cannot contribute to the appraised value of the property.





Get in touch with us

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